A Record of The Proceedings of SIGBOVIK 2009

April 5th, 2009
Carnegie Mellon University
Pittsburgh, Pennsylvania USA #1

http://sigbovik.org/2009

Association for Computational Heresy

Advancing Computing as Tomfoolery & Distraction
— or —
Hey, Kids, Get Off My Lawn

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- Pfenning, Pfenning, and Pfenning, pro-bono legal council for the Association for Computational Heresy

A Message From The Organizing Committee

The Association for Computational Heresy Special Interest Group (ACH SIGBOVIK) on Harry Q. Bovik is delighted to present this, the Third Annual Intercalary Workshop about Symposium on Robot Dance Party of Conference in Celebration of Harry Q. Bovik's $(2^6)^{th}$ birthday.

After the success of the first ever (though "Second Annual") Intercalary Workshop last year, the ACH SIGBOVIK Governing Board agreed with the conference organizers that the keg of relevant research was not yet kicked, the oil well not yet capped, the X not yet Y (see Figure 1).

forest	not yet	clear-cut
septic tank	not yet	drained
revision	not yet	resubmitted
null hypothesis	not yet	rejected
nsf funding	not yet	squandered on colored pencils
whirling maelstrom	not yet	done whirling
pun	not yet	intended
river	not yet	dammed
existential type variable	not yet	generalized
vandalism	not yet	reverted
house	not yet	burned down
P	not yet	made equal to NP
mountain	not yet	strip-mined
"That's what she said"	not yet	stated
baggage	not yet	screened
liquids and gels	not yet	consolidated into a one-quart zip-top bag
hbox	not yet	overfulled
maximum recursion depth	not yet	exceeded
what I'm looking for	not yet	found
dysentery	not yet	you have died from it
adulterer	not yet	stoned
"strong reject"	not yet	recommended
joke	not yet	beaten into the ground

Figure 1: Metaphors, more or less

We hope, as always, that you will be enlightened and inspired by this, the proceedings of SIGBOVIK 2009.

This year also marks the introduction of the SIGBOVIK Most Influential Paper From $2^{2^{2^0}}$ Years Ago award. As the flagship ACH conference, we are of the firm belief that the field of

Computational Heresy has an important role to play in assisting those, particularly those of the graduate student persuasion, who find themselves affected by Great Depression 2.0. It is in light of this that we are presenting this honor to Harry Q. Bovik's own seminal work, the May 1993 "Professional Student's Strategy for Perpetual Funding at CMU," published as CMU Technical Report CMU-CS-93-000.

This paper was nearly lost to the ravages of time, but we have found what may be the sole remaining copy on the 8th floor of Wean and have the honor of republishing it in these proceedings.

Sincerely,
The SIGBOVIK 2009 Organizing Committee

A Message From The Program Committee

SIGBOVIK has long been hailed as an innovator in the field of Conference Theory; the original binarennial scheduling was revolutionary when introduced in 1944 on the occasion of Harry Q. Bovik's $(2^0)^{st}$ birthday, and that revolution was rerevolved in 2008 upon the introduction of the Intercalary Workshops. Similarly, SIGBOVIK's "Plenary Program Committee" paradigm has been hailed as a triumph of crowdsourcing, open access, and other Web 2.0 buzzwords.

This year, we were privileged to be able to use EasyChair conference submission system, which allowed us to request formal reviews for the first time. In keeping with the "Plenary Program Committee" paradigm, we choose not to squirrel away these significant contributions to scientific and literary advancement in the darkness; squirrels don't even like paper reviews. Instead, we wished to invite you, the reader, to participate in SIGBOVIK 2009 in a more rich and nuanced manner, and therefore we have shared these reviews with you in order to assist in your evaluation of the papers contained in these proceedings.

This year marked a number of firsts for SIGBOVIK. We had what may be the first invocation of Godwin's Law in the reviews of a paper ("The One True Coding Style," Ed. Jim McCann), though in all honesty ECOOP probably beat us to the punch on that one.

We also had a tragic first for SIGBOVIK: the first paper rejected due to an ethical violation. Zachary Anderson's submission, entitled "Plagiarism," was found, upon review, to be a cheap rip-off of Christina Dinwoodie's submission, entitled "Plagiarism." This disaster might have gone unnoticed had reviewer Christina Dinwoodie not noticed the dastardly act in her review of Zachary Anderson's submission. We sadly acknowledge this milestone as the unfortunate side effect of a conference that is increasing in relevance and importance.

Sincerely,
The SIGBOVIK 2009 Program Committee

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Track 0
Most Influential Paper From $2^{2^{2^0}}$ Years Ago

Reflections on Bovik's Seminal Work: *Professional Student's Strategy for Perpetual Funding at CMU*

Dean Sutherland Maverick Woo

March 16, 2009

It's worked so far [1].[1]

References

[1] Harry Q. Bovik. Professional Student's Strategy for Perpetual Funding at CMU. Technical Report CMU-CS-93-000, Department of Computer Science, Carnegie Mellon University, May 1993.

[1] But you may graduate if you are not careful. – Dean F. Sutherland, Ph.D. May 2008

Professional Student's Strategy for Perpetual Funding at CMU

Harry Q. Bovik

May 14, 1993
CMU-CS-93-000

Department of Computer Science
Carnegie Mellon University
Pittsburgh, PA 15213-3890

This research was partially supported by the School of Computer Science and monitored by the Assistant Dean on her own time at no expense to the university.

Keywords: Perpetual funding, Black Friday, N-1, buckling down.

ACKNOWLEDEGMENTS

The author wishes to thank the Department of Computer Science faculty for teaching me to be patient in the face of adversity, when awaiting the results of the semiannual evaluation of all students at which the faculty reviewed my progress toward the Ph.D. Having spent the past 20+ years as a graduate student, I have come to hold the Black Friday rite of passage very dear, and owe a debt of gratitude to each and every faculty member for taking the time to teach me this valuable lesson. I would especially like to thank Professor Mary Shaw for her contributions in the preparation of this document.

Professional Student's Strategy for Perpetual Funding at CMU

Harry Q. Bovik

Year 1	Pass 2 courses[1], ignore advisor. Get "work harder" letter.
Year 2:	Pass 3 courses, spin exciting fantasy about the impact of the work you might do. Advisor gets excited. Get "we hope your topic works out" letter.
Year 3:	Pass 1 course, fail 1 course, write some code. Get "your research looks promising, but pass some courses" letter.
Year 4:	Fall: Teach; claim teaching took all your time. Get "OK, now time to do your research" letter.
	Spring: Pass 1 course, fail 1 course, fiddle with code. Get "N-1 letter.
Year 5:	Change advisors and area. Pass 1 course. Get "well, it will take a while to get up to speed in new area" letter.
Year 6:	Serve on admissions committee. Get "Thanks for serving, but it's time to buckle down" letter.
Year 7:	Create confusion about advisors. No advisor -> no Black Friday letter in Fall. This is discovered in spring; another N-1 letter.
Year 8:	Your cat dies. The resulting personal anguish impedes progress. Get "well, one more time" letter.
Year 9:	Pass last course. Write some code. Outline thesis proposal. Get "propose next semester" letter.
Year 10:	Fall: Hack on advisor's demo. Get "Thanks, but propose next semester" letter.
	Spring: Advisor on leave. Forgets to send letter to Black Friday meeting.
Year 11:	Experiments invalidate thesis topic. Get "better luck with next topic" letter.
Year 12	5 PM day before Black Friday - 60 pages of text to advisor saying it's draft of new thesis proposal. Get "we look forward to your thesis proposal next semester" letter.

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[1] really expert students also fail one course

Track 1
Google Totally Sponsored SIGBOVIK This Year

GLADLIBS:

Google-Licensed Auto-Deredatation-Lumination Input-Based System

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Abstract

In this paper we explore the task of deredacting redacted documents. Our algorithm, based upon the prior work on MADLIBS by McCann and Slyper [2008], uses a Markov-model-like system we term *Google*. This system uses a massive quantity of hardware to simultaneously search a very large database of possible phrase matches. This data, which we term *The Internet*, is a compilation of many text phrases. Each of these phrases is evaluated for how well it fits into the document and the optimal fit is selected.

Our implementation vastly outperforms the original MADLIBS algorithm and can even produce better results than the original work that is being deredacted. We present a comparison of our results to those of MADLIBS and demonstrate these serious improvements.

Categories and Subject Descriptors 1 [*Google Totally Sponsored SIGBOVIK This Year*]: GOOGLE INVENTED NATURAL LANGUAGE PROCESSING

General Terms deredactation, Google, Teh Internets

Keywords tinfoil-hats, paranoia, NSA

1. Introduction

In this paper we explore the task of deredacting redacted documents. Our algorithm, based upon the prior work on MADLIBS by McCann and Slyper [2008], uses a Markov-model-like system which we will discuss in Section 3. This system uses a massive quantity[1] of hardware to simultaneously search a very large database of possible phrase matches. This data, which we term *The Internet*, is a compilation of many text phrases. Each of these phrases is evaluated for how well it fits into the document and the optimal fit is selected.

Our implementation vastly outperforms the original MADLIBS algorithm and can even produce better results than the original work that is being deredacted. We present a comparison of our results to those of MADLIBS in Section 4.1 and demonstrate these serious improvements in the orignal text in Section 4.2.

[1] the precise amount is a trade secret

SIGBOVIK '09 April 1st-5th, Pittsburgh

In A.D. 2101, war was beginning.
What [is] ?!?
Somebody set [up us the bomb. operator: we] get signal.
What !
Main screen turn on.
It's [carolina] .
How are [you fine] gentlemen !!
All your base are [belong to] us.
You are [belong] to destruction.
What you [can] ?
You have no chance to survive make [your] .
Ha [-ha from wikipedia, the free encyclopedia (redirected from
Ha ....
Captain!!
Take [albums . lyrics . movies mailprintvote smallerlarger] every 'ZIG' !!
You know [about] .
Move 'ZIG'.
For great [apes] .

Figure 1. Results using GLADLIBS

2. Related Work

Previous work in this area falls into two categories. First we have prior work, such a SCIgen by MIT [2006], which solves a somewhat different problem of generating an entire new document rather than deredacting an existing redacted document. While SCIgen has been very successful and even generated several conference quality papers such as Rooter by Stribling et al. [2005] it does not resolve the problem of deredacting a document. This works focuses on generating an additional stream of text given a particular start and cannot handle generating partial sentences or text when later text is known.

The other category of previous work is directly related, but uses inferior algorithms and generate inferior results. The current state of the art in document deredactation is MADLIBS and presented by McCann and Slyper [2008]. The problem with this approach is the use of a Markov model and the resulting need to limit their input database to a single document. Our algorithm is able to use a much larger input database. We show in Section4.1 that our algorithm outperforms the MADLIBS algorithm.

3. Algorithm

The primary algorithm used in GLADLIBS is a proprietary black box we term *Google*, based upon the PageRank (Page et al. [1998]) algorithm. We submit the text surrounding the redacted section of the document to Google and simply plug the first result into the blank space of the document. This process is repeated until the document has been completely deredacted.

In particular, we first find the *context* for the blank in the document. The context is a simulation for the subclause in the sentence, and is defined to be everything between the nearest punctuation mark in each direction. This is a conservative approximation of the subclause, in particular because it will break contractions into multiple parts. Looking at an example in Figure 1, we see that the context for [you fine] is 'How are gentlemen' while the context for [carolina] is 's'.

This context is submitted to the Google algorithm which returns a list of suggested results that we call *pages*. Unfortunately, each page is formatted in an inconvenient format. The formatting, however, can be easily resolved by using a conversion tool we term *less*. This tool takes our page in *HTML* format and converts it into an easy to use format we call *text*.

We then take the first page returned by Google, and look for the word immediately to the left and the word immediately to the right of the word that we searched for in the page. We start with the first occurance of the word on the left and continue until we reach the next occurance of the word on the right. This text is then pasted into the document in the empty space. In the event that there is either no context on the left or no context on the right of the empty space, we take only a single word in the appropriate direction of the given word.

Putting this all together, we see that to fill in [carolina], we first find the context which is 's'. We then enter 's' into the Google algorithm which returns a list of results. Our first result in `www.myspace.com`, but unfortunately our tool fails to find a satisfactory selection of text to substitute in from this page. Our next result is `www.myspace.com` which contains an occurance of 's carolina'. As we only have left context, we are looking for a single word to follow 's' and, therefore, we put 'carolina' into our [ ].

The full algorithm is written in psuedo code and can be seen in Figure 2

4. Results

4.1 Comparison to MADLIBS

The original MADLIBS results are shown in Figure 3 while the GLADLIBS results are shown in Figure 1. It is obvious to any intelligent reader that the GLADLIBS results are superior to those of MADLIBS. Furthermore, we would like to note that GLADLIBS inspires happiness in people rather than the anger inspired by MADLIBS.

4.2 Comparison to Original document

After the release of the original MADLIBS paper by McCann and Slyper [2008], the original document was fully declassified. We have used this document to judge the results of using the GLADLIBS system (shown in Figure 1 and observed some improvements over the original text (shown in Figure 4) in the areas of consistency, sophistication, and clarity.

4.2.1 Consistency

Note that after the usage of "All your base are belong to us," the original document switches English dialect and states "You are on they way to destruction." The version produce by GLADLIBS, however, preserves its dialect and follows with "You are belong to

```
#!/usr/bin/sudo

open(INPUTFILE, "<$ARGV[0]");
open(OUTPUTFILE,">$ARGV[1]");

my $line;
foreach $line (<INPUTFILE>) {
  chomp($line);

  while ($line =~ "([\\w\\s]*)XXXX([\\w\\s]*)" ) {
    my ($left,$right,$lefty,$righty) = ($1,$2,"","");

    $lefty = lc($1) if ($left =~ "(\\w+)\\s*\$");
    $righty = lc($1) if ($right =~ "^\\s*(\\w+)");

    $_ = "\"$left\" \"$right\"";
    s/ /+/g;
    my $words = $_;

    my $page;
    my $url;
    my $search = `wget -q -O - 'http://ajax.google
apis.com/ajax/services/search/web?v=1.0&q=$words'`;

    # try downloading webpages until we one works
    my $notDone = 1;
    while ($notDone) {
      if ($search =~ "\"url\":\"(.*?)\"(.*)") {
        $url = $1;
        $search = $2;
      }
      else {
        # no results found from Google
        $_ = $line;
        s/XXXX/FUBAR/;
        $line=$_;
        $notDone = 0;
        next;
      }
      $page = `wget -q -O - '$url'`;

      # convert the page from html to plain text
      open(TMPFILE,">/tmp/sigbovik.html");
      print TMPFILE $page;
      close(TMPFILE);
      my @lines = `less /tmp/sigbovik.html`;
      unlink( "/tmp/sigbovik.html");
      chomp(@lines);
      $page = lc(join(' ', @lines));

      # Look in the page for the words we want
      if ($page =~ "\\b$lefty(.*?\\w.+?)$righty\\b") {
        my $val = $1;

        $_ = $line;
        s/XXXX/$val/;
        $line=$_;
        $notDone = 0;
      }
    }
  }
  print OUTPUTFILE "$line\n";
}
```

Figure 2. Psuedocode for GLADLIBS

In A.D. 2101, war was beginning.
What repair if ?!?
Somebody set and lusty days to store thou get signal.
What !
Main screen turn on.
It's and bristly beard then .
How are from thy gentlemen !!
All your base are the world us.
You are from that on to destruction.
What you should that which ?
You have no chance to survive make confounds in .
Ha end and Ha ....
Captain!!
Take every where every 'ZIG' !!
You know all the grave .
Move 'ZIG'.
For great with .

Figure 3. Results using MADLIBS by McCann and Slyper [2008]

In A.D. 2101, war was beginning.
What happen ?
Somebody set up us the bomb. We get signal.
What !
Main screen turn on.
It's you !!
How are you gentlemen !!
All your base are belong to us.
You are on the way to destruction.
What you say !!
You have no chance to survive make your time.
Ha Ha Ha Ha ....
Captain!!
Take off every 'ZIG' !!
You know what you doing.
Move 'ZIG'.
For great justice.

Figure 4. Original document declassified after the release of the MADLIBS paper in 2008

Despite FUBARing IRB approval, we performed a rigorous user-study with non consenting users. Results were awful, as expected (see Figure 2 and Table 1).

Figure 5. deredacted conclusion from original MADLIBS paper

destruction." Note that this sentence has the same meaning as the original sentence, but is more consistent with the previous sentence, improving the overall coherency of the document.

4.2.2 Sophistication

Another excellent example of the improvements in the original document through the use of GLADLIBS is the increase in the overall politeness of the document. Note that when the gentlemen are addressed, the original document states "How are you gentlemen!!". The GLADLIBS version, however, says "How are you *fine* gentlemen!!". This indicates that GLADLIBS has a better understanding than the original author of how a gentleman should be addressed and is able to use this to produce a superior document.

4.2.3 Clarity

Finally we would like to note that most of this text takes the form of a conversation. The original text made no effort to indicate who was making which statement. GLADLIBS was able to clarify this by adding various indications of who is speaking. It attributed one of the statments to operator and another one to wikipedia. Additionally, it change the address of one of the characters from "you" to "carolina" to indicate who the other speaker is. Furthermore, in addition to identifying the entity speaking these various lines, GLADLIBS helpfully explained who wikipedia is as wikipedia was not formerly mentioned in the original document.

5. Conclusions

We have shown that GLADLIBS exceeds expectations in terms of its ability to deredact text. Not only is it able to outperform the previous state of the art in deredaction technology, it can even produce better text than the original document. Finally, we were able to deredact the conclusions of the original MADLIBS paper (shown in Figure 4).

6. Future Work

We intend to further investigate the ability of GLADLIBS to improve writing. We will explore writing improvement tools that take advantage of the techniques in GLADLIBS. These tools will redact various parts of a document that needs improvement and then deredact them to create a better text. We hope that we can develop methods to find the fixed point of this process and thus generate optimal text for the author.

Acknowledgments

We would like to thank James T. McCann and Ronit Y. Slyper for providing us with access to their redacted documents for comparison.

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It was nine o'clock at midnight at a quarter after three
When a turtle met a bagpipe on the shoreline by the sea,
And said no (3:39) [img] 170,591 plays (32,989 listeners) [img]10 shouts get ring
said, "My dearie,
May I sit with you? I'm ovie ."
And careers for all of higher education may 28 what changed, and
didn't ransportation .

Said the turtle to ur , "I have walked this lonely shore,
I have talked to waves and pebbles–but I've never ...(r) " .
Will you marry me today, dear?
Is it 'No' you're going to say dear?"
But she didn't say no.

Said the turtle to ur , "Please excuse me if I stare,
But you have to , dear,
And you have the strangest hair .
If I begged and, FUBAR ,
Could I give you just one squeeze, love?"
And careers for all of higher education may 28 what changed, and
didn't say no.

Said the turtle and , "Ah, you love me. Then confess!
Let me whisper in your dainty ear and the ."
And he cuddled her and called her
And so lovingly he squeezed her.
And political pressure, rep. john lewis on wednesday formally announced that he
said, " FUBAR ."

Said the turtle to ur , "Did you honk or bray or neigh?
For 'Aaooga' when your kissed is such a heartless thing to say.
Is it that I have offended?
Is it that our love is ended?"
And careers for all of higher education may 28 what changed, and
didn't say no.

Said favoritesadvertise to FUBAR , "Shall i leave you, darling wife?
Shall i waddle off ended ? Shall i crawl out of your life?
Shall I move, depart and go, dear–
Oh, I beg you tell me 'No' dear!"
But she didn't say no.

So the turtle crept off crying and he ne'er came back no more,
And he left the bagpipe lying on that smooth and sandy shore.
And some night when serena ,
Just walk up and say, "Hello, there,"
And politely ask the bagpipe if this story's really so.
I assure you, darling children, won.net won't say "No."

Figure 6. The Bagpipe Who Didn't Say No

Paper 3: GLADLIBS: Google-Licensed Auto-Deredactation-Lumination Input-Based System

Julia Cette, Machine Learning Department, Carnegie Mellon University
Rating: 2 (accept)
Confidence: 3/4

This work presents an algorithm to reconstruct [puppies] by using [bootstrapping]. The work is [periodical] and presentation is [handicapped-accessible]. However, it fails to cite the work of [Optimus Prime]. Furthermore, it would be helpful to elaborate on the role of [propaganda] towards [transportation] in the data used for validation. Does this affect the generalizability of the work? Is GLADLIBS applicable to [home-brewing] or [scrapbooking]?

MapReuse and MapRecycle : Two More Frameworks for Eco-Friendly Data Processing

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ABSTRACT

MapReduce has revolutionized data processing for the more environmentally-minded. This work presents an additional two frameworks for eco-friendly data processing: MapReuse and MapRecycle. In both frameworks, like MapReduce, users specify a *map* function that processes a key/value pair to generate a set of intermediate key/value pairs. Then, users specify either a *reuse* or *recycle* function, depending on how much government funding they receive.

1. INTRODUCTION

As discussed in [5], cycle depletion has reached crisis levels. Therefore, a more environmentally-friendly approach to data processing is critical to the continuance of large-scale data applications such as web search, multimedia streaming, and TheFacebook.

While MapReduce has begun to simplify this process, we present two more frameworks, MapReuse and MapRecycle, to give users more ways to process data while respecting Mother Nature. We present these frameworks to be used in favor of less environmentally-friendly data processing processes, such as overfitting, genetic program engineering, strip data mining (which is not only unenvironmental but often visually offensive, see Figure 1), and clustering baby seals (see Figure 2).

A general overview for the execution of MapReduce, MapReuse, and MapRecycle may be found in Figure 3.

2. MAPREUSE

While *reduce* functions reduce the data into more digestible parts, *reuse* functions do not require making new data at all, but rather allow the user to reuse data and/or research results. Some examples of using *MapReuse* include:

- Share your sensitive data with the general public of researchers. Being eco-friendly is more imporant than user privacy [7].
- Bootstrapping [6].
- Plagiarism [1].
- Survey papers and journal submissions.

3. MAPRECYCLE

Sometimes your data suck and MapReduce and MapReuse fail to produce useful results. For these cases, MapRecycle can help make new data or research projects out of it. Thus, an alternate form of cleaning up data processing is to use *recycle* functions. Some examples of *recycle* functions include:

- Compacting and composting of garbage collection [2].

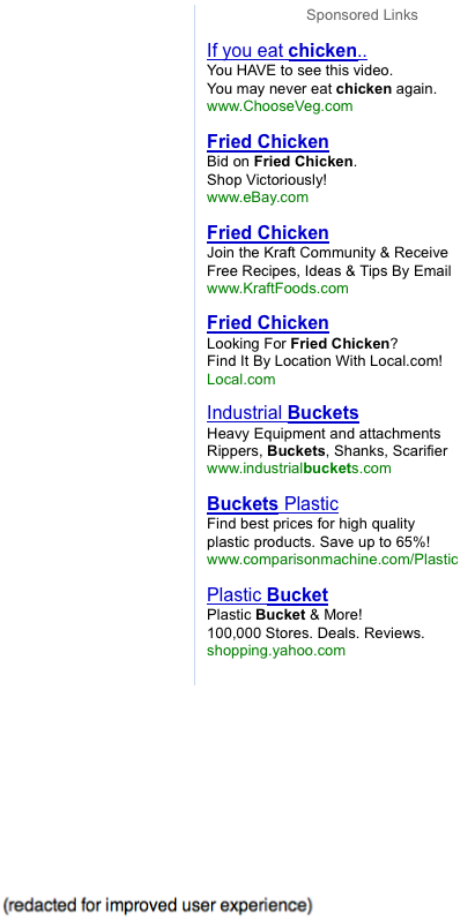

Figure 1: A researcher engages in the frowned-upon practice of strip data mining.

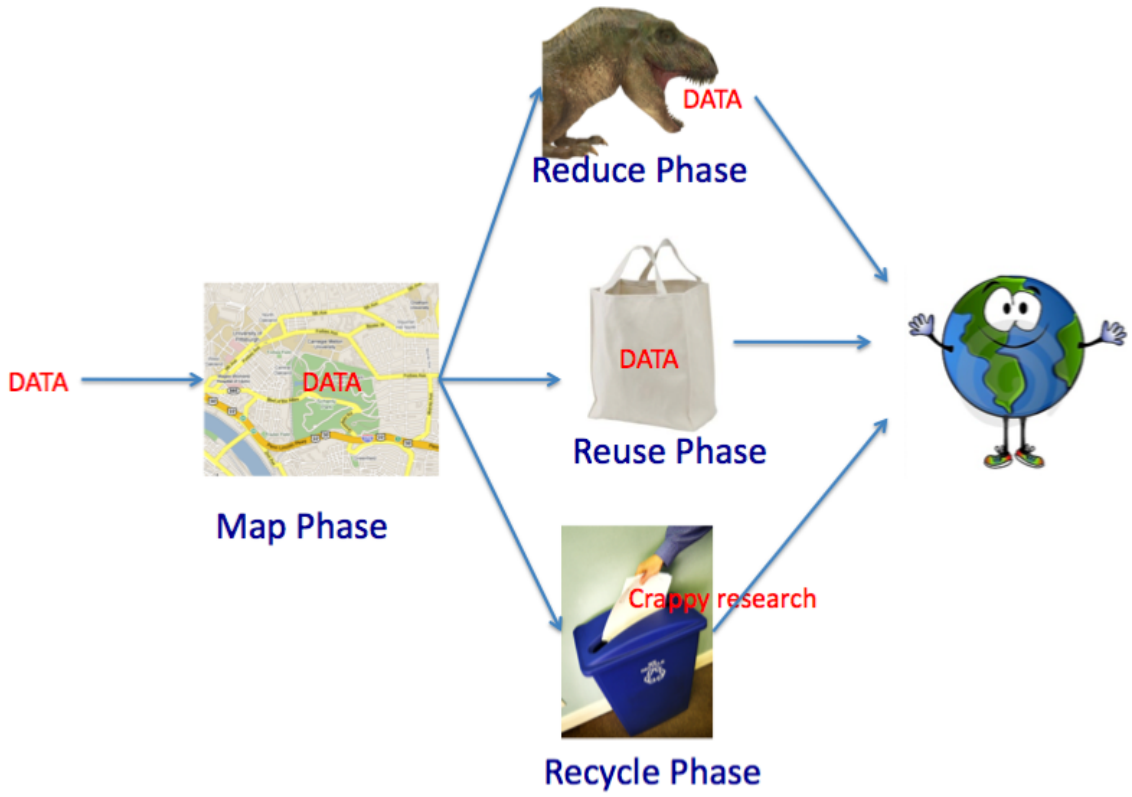

Figure 3: The exeuction overview for the three frameworks of eco-friendly data processing.

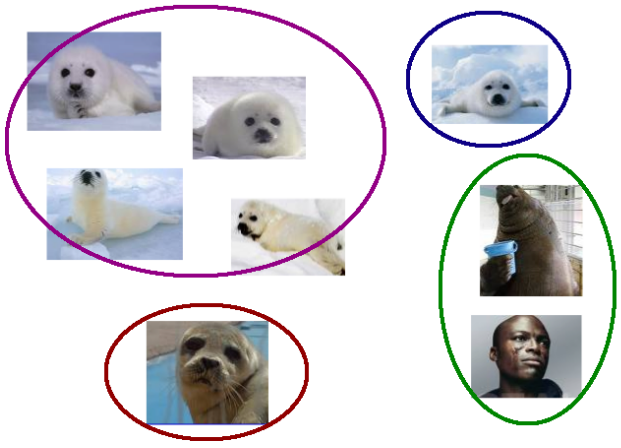

Figure 2: A paint program user engages in the frowned-upon practice of seal clustering.

- Incinerating data that disagrees with intended results.
- Switching research projects. Salvageable portions can often be used as tech reports and "experience". Research advisors may sometimes be recycled.
- Dropping out of grad school to join a startup. This typically successfully produces a free Master's degree and cushy salary, with a by-product of resentment from fellow grad students.

The *recycle* portion has several steps: collection, sorting, processing, and re-constructing.

Collection involves deciding whether or not to do away with different parts of your data or research and kick them to the curb. One important factor in the collection step is the *recycle bin*. Specifying the recycle bin requires one to determine an appropriate bin width. The suggested bin width is:

$$h = 42picas$$

Sorting organizes the crappy data into different types of crap. A detailed review of sorting algorithms may be found in [3].

Processing is the center of the *recycle* function. Here different types of lousy data are consolidated into reuseable components. The exact processing method is determined by the user. For example, the user may use simulated annealing to change the properties of the data. Finally, re-construction of data into a more useful format or project is done with the processed components.

Figure 4: Database management researchers object to environmental soundness in data processing via MapReduce, MapReuse, and MapRecycle. That's because they want all the data to themselves. Jerks.

4. OPEN SOURCE IMPLEMENTATION

MapFreecycle$^{\text{TM}}$is made a wide network of users who contribute data and code implementing MapReduce/Reuse/Recycle functions. [1] It is implemented in Free-Trade Java and is based on GreenFS. Clusters for MapFreeCycle have been donated to several universities and third-world villages by Yahoo!.

5. DISCUSSION AND CONCLUSIONS

Other notable information about data mining safety and environmental friendliness can be found in [4]. Database management researchers have objected to many data cleaning methods. We call these people *hoarders* (See Figure 5).

We propose these frameworks to solve problems that were formally non-eco-solvable, such as the Air-Traveling Salesman Problem and the Cloud Covering Problem.

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Track 2
Lies, Damn Lies, and Applications

Plagiarism

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1. Introduction

Plagiarism is the use or close imitation of the language and ideas of another author and representation of them as one's own original work.

Within academia, plagiarism by students, professors, or researchers is considered academic dishonesty or academic fraud and offenders are subject to academic censure. In journalism, plagiarism is considered a breach of journalistic ethics, and reporters caught plagiarizing typically face disciplinary measures ranging from suspension to termination. Some individuals caught plagiarizing in academic or journalistic contexts claim that they plagiarized unintentionally, by failing to include quotations or give the appropriate citation. While plagiarism in scholarship and journalism has a centuries-old history, the development of the Internet, where articles appear as electronic text, has made the physical act of copying the work of others much easier, simply by copying and pasting text from one web page to another.

Plagiarism is not copyright infringement. While both terms may apply to a particular act, they are different transgressions. Copyright infringement is a violation of the rights of a copyright holder, when material protected by copyright is used without consent. On the other hand, plagiarism is concerned with the unearned increment to the plagiarizing author's reputation that is achieved through false claims of authorship.

2. Sanctions

2.1 Academia

In the academic world, plagiarism by students is a very serious offense that can result in punishments such as a failing grade on the particular assignment (typically at the high school level) or for the course (typically at the college or university level). For cases of repeated plagiarism, or for cases in which a student commits severe plagiarism (e.g., submitting a copied article as his or her own work), a student may be suspended or expelled. Many students feel pressured to complete papers well and quickly, and with the accessibility of new technology (the Internet) students can plagiarize by copying and pasting information from other sources. This is often easily detected by teachers, for several reasons. First, students' choice of sources are frequently unoriginal; instructors may receive the same passage copied from a popular source from several students. Second, it is often easy to tell whether a student used his or her own "voice." Third, students may choose sources which are inappropriate, off-topic, or contain incorrect information. Fourth, lecturers may insist that submitted work is first submitted to an online plagiarism detector [17].

In many universities, academic degrees or awards may be revoked as a penalty for plagiarism.

There is little academic research into the frequency of plagiarism in high schools. Much of the research investigated plagiarism at the post-secondary level [14]. Of the forms of cheating (including plagiarism, inventing data, and cheating during an exam), students admit to plagiarism more than any other. However, this figure decreases considerably when students are asked about the frequency of "serious" plagiarism (such as copying most of an assignment or purchasing a complete paper from a website). Recent use of plagiarism detection software (see below) gives a more accurate picture of this activity's prevalence.

For professors and researchers, plagiarism is punished by sanctions ranging from suspension to termination, along with the loss of credibility and integrity [18, 19]. Charges of plagiarism against students and professors are typically heard by internal disciplinary committees, which students and professors have agreed to be bound by [10].

2.2 Journalism

Since journalism's main currency is public trust, a reporter's failure to honestly acknowledge their sources undercuts a newspaper or television news show's integrity and undermines its credibility. Journalists accused of plagiarism are often suspended from their reporting tasks while the charges are being looked into by the news organization [6].

The ease with which electronic text can be reproduced from online sources has lured a number of reporters into acts of plagiarism: Journalists have been caught "copying-and-pasting" articles and text from a number of websites.

2.3 Online Plagiarism

Content scraping is a phenomenon of copy and pasting material from internet websites, affecting both established sites [3] and blogs [7].

Free online tools are becoming available to help identify plagiarism [4], and there is a range of approaches that attempt to limit online copying, such as disabling right clicking and placing warning banners regarding copyrights on web pages. Instances of plagiarism that involve copyright violation may be addressed by the rightful content owners sending a DMCA removal notice to the offending site-owner, or to the ISP that is hosting the offending site.

It is important to reiterate that plagiarism is not the mere copying of text, but the presentation of another's ideas as one's own, regardless of the specific words or constructs used to express that idea. In contrast, many so-called plagiarism detection services can only detect blatant word-for-word copies of text.

2.4 Other Contexts

Generally, although plagiarism is often loosely referred to as theft or stealing, it has not been set as a criminal matter in the courts [13]. Likewise, plagiarism has no standing as a criminal offense in the common law. Instead, claims of plagiarism are a civil law matter, which an aggrieved person can resolve by launching a lawsuit. Acts that may constitute plagiarism are in some instances treated as copyright infringement, unfair competition, or a violation of the doctrine of moral rights. The increased availability of intellectual

property due to a rise in technology has furthered the debate as to whether copyright offences are criminal.

3. Self Plagiarism

Self-plagiarism is the reuse of significant, identical, or nearly identical portions of ones own work without acknowledging that one is doing so or without citing the original work. Articles of this nature are often referred to as multiple publications. The issue can be either legal, in the case where copyright of the prior work has been transferred to another entity, or merely ethical. Typically, self-plagiarism is only considered to be a serious ethical issue in settings where a publication is asserted to consist of new material, such as in academic publishing or educational assignments. It does not apply (except in the legal sense) to public-interest texts, such as social, professional, and cultural opinions usually published in newspapers and magazines.

In academic fields, self-plagiarism is when an author reuses portions of his or her own published and copyrighted work in subsequent publications, but without attributing the previous publication [15]. Identifying self-plagiarism is often difficult because limited reuse of material is both legally accepted (as fair use) and ethically accepted [21]. Some professional organizations like the Association for Computing Machinery (ACM) have created policies that deal specifically with self-plagiarism [8]. As compared to plagiarism, self-plagiarism is generally unregulated. Some universities and editorial boards choose to not regulate it at all; those consider the term self-plagiarism oxymoronic since a person cannot be accused of stealing from themselves.

Some recommended best practices for avoiding issues of self-plagiarism include:

1. Provide full disclosure mention in the introduction that the new or derivative work incorporates texts previously published
2. Ensure there is no violation of copyright; this may require licensing the previous material from its copyright holder.
3. Cite the old works in the references section of the new work.

The term "self-plagiarism" is a rhetorical device which attaches pejorative connotations to all reuse of previously published material, some of which may be legitimate reuse. Issues of plagiarism and self-plagiarism are often discussed in codes of ethics of various academic disciplines, while issues of copyright infringement must be distinguished from them as matters of applicable law in the country in which they arise.

3.1 Factors That Justify Reuse

Pamela Samuelson in 1994 identified several factors which excuse reuse of one's previously published work without the culpability of self-plagiarism [21]. She relates each of these factors specifically to the ethical issue of self-plagiarism, as distinct from the legal issue of fair use of copyright, which she deals with separately. A review of the literature reveals her discussion of self-plagiarism is probably the most cogent and well-reasoned treatment of the few that are in print.

Among other factors which may excuse reuse of previously published material Samuelson lists the following:

1. The previous work needs to be restated in order to lay the groundwork for the contribution in the second work.
2. The previous work needs to be restated in order to lay the groundwork for a new contribution in the second work.
3. Portions of the previous work must be repeated in order to deal with new evidence or arguments.
4. The audience for each work is so different that publishing the same work in different places was necessary to get the message out.
5. The author thinks he or she said it so well the first time that it makes no sense to say it differently a second time.

These factors constitute compelling reasons for reuse of previously published materials in the specified circumstances as exceptions to a general practice of avoiding reuse.

Samuelson states she has relied on the "different audience" rationale when attempting to bridge interdisciplinary communities. She refers to writing for different legal and technical communities, saying: "there are often paragraphs or sequences of paragraphs that can be bodily lifted from one article to the other. And, in truth, I lift them." She refers to her own practice of converting "a technical article into a law review article with relatively few changes–adding footnotes and one substantive section" for a different audience [21].

Samuelson describes misrepresentation as the basis of self-plagiarism. She seems less concerned about reuse of descriptive materials than ideas and analytical content [21]. She also states "Although it seems not to have been raised in any of the self-plagiarism cases, copyrights laws fair use defense would likely provide a shield against many potential publisher claims of copyright infringement against authors who reused portions of their previous works." [21]

3.2 Acceptance of Reuse in Some Disciplines

In some academic disciplines, verbatim reuse of previously published material is generally avoided but is accepted practice under certain circumstances. Conference papers that receive limited distribution are often converted into journal articles or chapters in books, and journal articles are often recycled into chapters in books. Ideas in one journal article are often developed further in subsequent articles by the same author. Doctoral dissertations are frequently republished as books after revision. Material in one book is often reused in another book by the same author, often with different publishers. Legitimate exceptions to the general norm are numerous, based on the purposes of development and dissemination of knowledge. It is especially important where public safety may be at risk if a single paper is not reaching a wide enough audience, for example in product liability.

The American Political Science Association (APSA) has published a code of ethics which describes plagiarism as "deliberate appropriation of the works of others represented as one's own." It does not make any reference to self-plagiarism. It does say that when a doctoral dissertation is published as a book, the author is "not ordinarily under an ethical obligation to acknowledge its origins." [1] This indicates that some reuse of one's previous published work is accepted practice in the discipline of Political Science, and does not automatically raise ethical questions.

The American Society for Public Administration (APSA) has published a code of ethics which says its members are committed to: "Ensure that others receive credit for their work and contributions," but it does not make any reference to self-plagiarism [2].

3.3 Examples

Thus, any claim there is a single, agreed standard concerning self-plagiarism across disciplines is specious. Even within a single discipline, different norms are commonplace. The experiences of two notable political scientists, David Easton and Irving Louis Horowitz provide illustrative examples.

In the preface to The Political System [11] Easton noted: "Parts of this book are borrowed and adapted without benefit of quotation from my previously published articles" in Journal of Politics in 1950 and 1951. He also said Chapters 6, 7 and 8 were published

previously in International Social Science Bulletin (1952). He did not say they were republished with permission, and clearly did not feel any ethical pangs about reusing them.

In the preface to A Framework for Political Analysis [12] Easton said: "a brief outline of the central concepts of the present volume" was previously published in the journal World Politics in 1957, which was itself previously republished in "a number of collections of readings in political science and sociology and was reproduced for consumption abroad in Americana (1956-7)." Apparently he considered this book to be an elaboration or further development of concepts he had previously published.

Although he briefly acknowledged in this manner republication of previously published words and ideas, Easton provided only three or four references to his previous publications in A Framework for Political Analysis. Easton did not reference every instance of reuse in the text, perhaps because it was so frequent and substantial. He also acknowledged in the flyleaf of this book that Chapter 1 was previously published as a chapter in an anthology published by the American Academy of Political and Social Science in 1962.

Comparing the books, it is evident that although some sentences and paragraphs were rearranged, many changes were either cosmetic or refinements in the development of his thinking, while others were virtually verbatim. The sequence of treatment was somewhat rearranged, but the ideas and many of the words, phrases and sentences were the same from one book to the next.

For example, compare Easton: "...it is useful to interpret the influences associated with the behavior of persons in the environment or from other conditions there as exchanges or transactions that cross the boundaries of the political system," to Easton "...it is useful to treat the disturbances or influences occurring from behavior in the environmental systems as exchanges or transactions that cross the boundaries of the political system" [emphases in original] [12]. The words are slightly different, but the meanings are identical.

Identical tables appear in the two books published in 1965. Text associated with each table contains the same ideas, and many of the same words and phrases from one book to the other–and they were published in the same year by different publishers.

Another example can be found in the experience of Horowitz, who was famously criticized by a grumpy librarian [9] for republishing all of the chapters in the 1986 edition of a book virtually unchanged, adding a few new ones [16]. Of twenty-four chapters in the 1991 edition, two-thirds previously appeared in the 1986 edition, only eight being added, four of which had also been published elsewhere.

Minor editorial changes were made in some of the older chapters, and several of the newer ones were substantial revisions and recombinations of other publications including book reviews, but not much new was added. In one chapter, Horowitz articulated the view that republication is necessary in the social sciences to disseminate research results and make them useful to society [16]. This view is consistent with theories of technology diffusion and the dissemination of knowledge advanced by others [20].

Although the Horowitz book was reviewed critically, until recently there was a grant program with his name on it advertised on the home page of the American Political Science Association, and a link to his foundation may still be found there [5]. This is evidence the discipline of political science did not disapprove of his reuse of his own previous works. Professional associations usually do not promote the names or foundations of individuals they consider unethical.

Neither Easton nor Horowitz was ever censured either by their home universities or by the American Political Science Association. Horowitz continued at Rutgers for many years after the criticism of his 1991 book before he retired. Easton was elected President of the American Political Science Association and Vice President of the American Academy of Arts and Sciences.

If one desires a truly coherent research agenda, one must expect some repetition of basic facts, in addition to development of new ideas, conceptual treatments, and knowledge in subsequent publications.

4. Organizational Publications

Plagiarism is presumably not an issue when organizations issue collective unsigned works since they do not assign credit for originality to particular people. For example, the American Historical Association's "Statement on Standards of Professional Conduct" (2005) regarding textbooks and reference books states that there is no question about taking credit for someone else's ideas. Since textbooks and encyclopedias are summaries of other scholars' work, they are not bound by the same exacting standards of attribution as original research. However, even such a book does not make use of words, phrases, or paragraphs from another text or follow too closely the other text's arrangement and organization.

Within an organization, in its own working documents, standards are looser but not non-existent. If someone helped with a report, they may expect to be credited. If a paragraph comes from a law report, a citation is expected to be written down. Technical manuals routinely copy facts from other manuals without attribution, because they assume a common spirit of scientific endeavor (as evidenced, for example, in free and open source software projects) in which scientists freely share their work.

The Microsoft Manual of Style for Technical Publications Third Edition (2003) by Microsoft does not even mention plagiarism, nor does Science and Technical Writing: A Manual of Style, Second Edition (2000) by Philip Rubens. The line between permissible literary and impermissible source code plagiarism, though, is apparently quite fine. As with any technical field, computer programming makes use of what others have contributed to the general knowledge.

It is common for university researchers to rephrase and republish their own work, tailoring it for different academic journals and newspaper articles, to disseminate their work to the widest possible interested public. However, it must be borne in mind that these researchers also obey limits: If half an article is the same as a previous one, it will usually be rejected. One of the functions of the process of peer review in academic writing is to prevent this type of "recycling."

Public figures commonly use anonymous speech writers. If a speech uses plagiarized material, however, it is the public figure who may be cast in a bad light. For instance, Vice President, then Delaware Senator Joe Biden was forced out of the 1988 U.S. Presidential race (but remained in the U.S. Senate) when it was discovered that parts of his campaign speeches followed closely speeches by British Labour party leader Neil Kinnock and Robert Kennedy.

5. See Also

- Academic dishonesty - http://en.wikipedia.org/wiki/Academic_dishonesty
- Contract cheating - http://en.wikipedia.org/wiki/Contract_cheating
- Copyscape (website for detecting Internet plagiarism) - http://en.wikipedia.org/wiki/Copyscape
- Credit (creative arts) - http://en.wikipedia.org/wiki/Credit_(creative_arts)
- Cryptomnesia - http://en.wikipedia.org/wiki/Cryptomnesia

- Essay mill - http://en.wikipedia.org/wiki/Essay_mill
- Fair use - http://en.wikipedia.org/wiki/Fair_use
- Journalism scandals - http://en.wikipedia.org/wiki/Journalism_scandals
- List of plagiarism controversies - http://en.wikipedia.org/wiki/List_of_plagiarism_controversies
- Multiple publication - http://en.wikipedia.org/wiki/Multiple_publication
- Plagiarism detection - http://en.wikipedia.org/wiki/Plagiarism_detection
- Scientific misconduct - http://en.wikipedia.org/wiki/Scientific_misconduct
- Source criticism - http://en.wikipedia.org/wiki/Source_criticism
- Musical plagiarism - http://en.wikipedia.org/wiki/Musical_plagiarism

6. External Links

- American Historical Association, "Statement on Standards of Professional Conduct" (2005) - http://www.historians.org/pubs/free/professionalstandards.cfm
- What is the price of plagiarism? A *The Christian Science Monitor* article - http://www.csmonitor.com/2006/0511/p14s01-lire.html?s=hns
- The Assessment in Higher Education web site's plagiarism page contains links to a variety of resources (articles, books, cheat sites, etc.) - http://ahe.cqu.edu.au/
- "Plagiary: Cross-disciplinary Studies in Plagiarism, Fabrication, and Falsification." journal - http://www.plagiary.org/
- The Plagiarism Advisory Service funded by JISC provides advice and guidance to UK learning institutions. - http://www.jiscpas.ac.uk/
- Columbia University Music Plagiarism Project - http://ccnmtl.columbia.edu/projects/law/library/purpose.html

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Paper 7: Plagiarism

Christina Dinwood, Zenrin, Japan
Rating: -3 (strong reject)
Confidence: 4/4

This paper is a blatantly plagiarized copy of my submission, paper #18. I demand that this paper be rejected to maintain the integrity of SIGBOVIK.

Document 301.688.6672, unclassified version 2.3: Cleared for publication at SIGBOVIK, April 1st, 2009.

Historical Approaches to History-Independent Histories

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Abstract

History-independent systems store no information about their historical use, beyond that specified by their design. Recent progress in history-independent data structures has raised the possibility of efficient history-independent systems including filesystems, web browsers, and advanced document formats [1]. In this paper, we identify a different method of constructing certain types of history-independent systems. Surprisingly the method, which we call fabrication*, does not appear to be described in any previous work on history independence, and yet many variants of it appear to have been put to use in actual history-independent systems for many years now.*

1 Introduction

Computer users on a typical system leave significant clues to their recent activities, in the form of logs, unflushed buffers, files marked for deletion but not yet deleted, and so on. This can have significant security implications. Similarly many file formats are effectively data structures and can contain historical information or clues on what once appeared in the file.

To address the concern of releasing historical and private information the notion of *history-independent* data structures was devised [4, 5]. Roughly, a data structure is history independent if someone with access to the memory (file) layout of the data structure (henceforth called the "observer") can learn no more information than a legitimate user accessing the data structure via its standard interface.

Previous approaches to history-independent data structures relied on constructing randomized data structures that cleverly maintain strict invariants on the representation of the current state. For a detailed description of previous work, we refer the interested reader to [1]. In this paper, we focus on another method of constructing certain types of history-independent systems, *fabrication*. Despite its wide-spread use, fabrication appears to have escaped any mention in previous work on history-independence.

2 History-Independence via Fabrication

Whereas previous work on history-independent data structures includes efficient implementations of hash tables, queues, binary search trees, and many other abstract data types, there are other abstract data types that have been overlooked in the literature. Some of these are amenable to the fabrication method. Before describing the method, we illustrate it with an example.

2.1 An Example

Consider the following abstract data type.

- $\text{Add-Record}(\text{date}\, d)$: Append a record for date d to the audit book, in apparent compliance with all standard accounting practices.
- $\text{Print}()$: Print out the full sequence of records in the audit book.

Figure 1. The LEGAL-AUDIT-BOOK abstract data type

For this data type, the fabrication method reduces to a technique known as *cooking the books* [3], which is a folklore technique among forensic accountants and financial consultants, and has been developed into an extremely advanced form by researchers in the white-collar criminal community with significant support from the NSF and DOD[1]. In its basic form, cooking the books involves constructing records that are completely independent from the actual historical realities faced by the user (in this case, a large firm), yet are plausible enough to avoid raising the suspicions of regulators. Unlike the techniques discussed in previous work, history-independent systems based on cooking the books are in wide use today. Perhaps the most famous recent examples

[1] The National Stooge Foundation and Department of Dispossession, respectively.

of cooking the books occurred in 2002 at Enron, WorldCom, Tyco, and Global Crossing[2].

More generally, the technique of fabrication involves constructing a random object (drawn from a carefully defined distribution) sampled using random bits that are independent of the historical use of the system. That object is then the representation of the current abstract state of the data type. Since the representation has no functional dependence on the historical use of the system, it is clearly history-independent.

Fabrication works nicely when the user does not wish to store any information whatsoever, as our example above. In theory, in this case the simplest form of fabrication is to store nothing at all. However, in practice the implementation must often satisfy constraints other than history-independence. For example, in the case of our example any valid implementation must maintain *plausibility* in the face of scrutiny from regulators, and this effectively rules out storing the null audit book in all cases.

2.2 Other Special Cases of Fabrication

Cooking the books is only one of many forms of fabrication. It is beyond the scope of this extended abstract to discuss them all. However, some examples of interest include

1. Creating a fake identity: Intelligence agencies have been using this technique for centuries to establish history-independent histories for their spies.

2. Revising old photographs: For example, the Soviet ministry of propaganda under Stalin was alleged to have retouched photographs to remove certain people from them. Typically these were people who were previously important but were later considered *personae non gratae* within the Soviet Union. By removing their likeness from all photographs, the Soviet state was allegedly attempting to make its photo-history history-independent of the aforementioned people. Their techniques were fairly crude, however, when compared with current techniques [3].

3. Testifying under oath that "I cannot recall" when in fact you can recall: In this case, you are being asked to answer a query in a history-*dependent* manner, and instead offer a fixed answer. This solution is similar to the theoretical solution of storing nothing at all, however whereas that solution does not satisfy other legal constraints, testifying "I cannot recall" is a valid solution owing to limitations on current mind-reading technology.

[2] See http://www.forbes.com/2002/07/01/0701topnews.html.

[3] http://www.adobe.com/products/photoshop/photoshop/

3 Conclusions

Fabrication is a powerful technique for obtaining certain kinds of history-independent systems, which was somehow overlooked by all previous scholarly work on history-independence [2]. Paradoxically, the obscurity of the technique in the relevant literature is only matched by the magnitude of its wide-spread use in global finance, international espionage, and perpetuating romantic infidelity, among other areas. The wide-spread use of fabrication in these and other crucial institutions of human civilization suggests that it is absolutely, positively, ineluctably essential for the happiness, freedom, and prosperity of humanity that

Acknowledgments

I thank [redacted] and hope that [redacted]

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Paper 6: Historical Approaches to History-Independent Histories

Akiva Leffert, not affiliated with Apple, Inc. for the purposes of this review
Rating: 2 (accept)
Confidence: 4/4

As a leading authority on fabrication, I am shocked and appalled by this paper. This is the typical garbage that ensues when someone from outside the field stumbles upon an idea which we've been studying for ages. The applications to history-independent data structures have been known to fabrication researchers for decades. See e.g. Muckleshoot 1978, Redenbacher 1981, and Rooty Tooty Fresh and Fruity 1984.

Indeed, when I was first cutting my teeth in the fabrication lab at Stanford in the 70s, Don Knuth came by one day and proved several of the theorems that go well beyond the limited scope of this paper. Unfortunately, I don't remember the proofs as I was busy cutting my teeth. It turns out that the teeth, despite their hard exterior, are actually filled with extremely sensitive nerves.

Don took it stoically, but he became outraged when he the enamel chunks wouldn't come out of his jacket. He fought against me tooth and claw, as it were, when I was up for tenure.

"Look at this!" he cried out in the otherwise deathly silent room, holding up on of his famous sweaters. "It's his teeth! Teeth!" I didn't get tenure, no one dared face the wrath of Knuth. But I'm okay. I'm okay. I reinvented myself. I'd forgotten those years, when I was young and happy and then my dreams were crushed. Forgotten until I saw this foolish goonish paper, forgotten those golden years in the fabrication lab. Oh, villain you smote me, smote me in my tired dotage.Yet in your eyes, what do I see? The glimmer of youth and hope and all that I have lost. I cannot hate your work, anemic though it may be. Indeed, there is love for you in my heart!

I recommend this paper be accepted.

Track 3
Religulosity

The One True Coding Style

Ed. Jim McCann

Forward

Several years ago, I headed an expedition into the Sahara desert to perform a mapping project for the now-defunct H.Q.B. Topological Society. The project itself proved a terrible – some have said spectacular – failure, due in part to inadequate kitten-proofing of our triangulation-grade string supply. Nevertheless, some good did come of the trip; for deep in the sandy wastes, a member of my team came upon a document in a cairn of stones. This document was etched on sheepskins and stone tablets in what appeared to be (and was later confirmed as) Hebrew.

Understandably excited, I assembled a team of experts, and we immediately began to analyze the text. Though we have not yet determined its origins, we believe it to be some sort of basic primer, contemporary with the Bible, but heretofore lost to man. We present herein both the original text – transcribed as carefully as possible, and reconstructed or omitted where damaged sections occur – and a translation that attempts to be faithful to the original.

I believe that the original document may have been neglected as it contains both direct pronouncements and anecdotes concerned with a sort of hygiene that has not, until lately, been particularly relevant. It is my hope that by publishing this lost text I can rekindle a theological debate that has long lay dormant.

–Jim McCann, Editor.

1 Initial Tablet

אם אתה יודע עברית, אני מצטער. זה הכל גוגל לתרגם. אתם האנשים שלי, ואתה יודע את עצמכם יהיה לפי השפה שבה אתה מדבר ואת הדרך שבה אתה דובר את השפה שלך. שכן שלי, שפה אתה מדבר, וזה הוא זה נכון שפה. במקרה של המדינה שלך, אתה תמיד תהיה דובר את השפה שלך על הדרך שבה הסביר את לורד יש כאן. דמות אחרת, ייתכן לדבר הניב המקומי, עם זאת, אתה חייב תמיד לשמור על הלב שלך הקרוב זה השפה; השפה של האנשים שלך.

You are my people, and you shall know yourselves by the language that you speak and the way in which you speak your language. For it is my language you speak, and it is the one true language. When in your own country, you shall always speak your language in the way that your lord has explained here. In other lands, you may speak the local dialect, however, you must always keep nearest to your heart this language; the language of your people.

יש לי את יצר את הבסיס של התכנות תקשורת ויש לי מוכשר בשפות רבות אנשים רבים, עם זאת, לא שונה של השפה היא אמיתית יותר מזו שיש לי נתנו לך, את הילדים שלי. זה גרם לי מילים, את אומרת, שלי שנון אסטרטגיה. אל פגום או לשנות אותו, חוץ, אולי, לאמץ תכונות חדשות בשפה בצורה עקבית עם הטיפול שלי כאן. מעל הכל, אל תהיה משוכנע לפי שפות כוזב.

I have the created the basis of algorithmic communication and I have gifted many languages to many people; however, no variant of language is more true than the one I have given you, my children. It is made of my words, my telling, and my indentation strategy. Do not corrupt or revise it, except, perhaps, to embrace new language features in a way consistent with my treatment here. Above all, do not be swayed by false languages.

2 On Redundancy

אדם רצונו להחליף את שני מספר שלם, ולכן הוא כתב את הקוד הבא:

```
חלל להתחלף(מספר שלם&ב, מספר שלם &ג) {
  מספר שלם זמני = ב; \\איפשהו צריך לשים ב
                ב = ג;
                ג = זמני;
              {  }
```

זה היה סביר הקוד, ופשוט; עדיין, הוא היה מוכה עם מחלה של העיניים. עשה את שלו תלמידים לדמוע דם במשך שבעה שבועות, במהלכם הוא היה כל הזמן עם הברכיים מתפלל לאלוהים כדי לחוס אותו. לאחר השבוע השמיני אלוהים שטר גדולים על פני השמים, לפנות ערב, כך בעננים כמו כל בן אדם יכול לראות את השכנים; "מספק את רגילה::להחליף." בנוסף, אם כי את עיניו של האיש היו מלאים עד תתורה עם הדם שלו, עשה את השכנים שלו לספר לו את זה והוא הצליח לתקן את הדרכים.

אף אדם עשוי לומר דבר מרושע על הדרך הנכונה, זה עדיין מרושע דבר, וכי איש לא יהיה טיפול אדיב. כמו כן, אתה כנראה צריך להיזהר עבור כל אדם המשתמש פרל על היום יום הבסיס.

A man wished to exchange two of his ints, and so he said the following:

```
void exchange(int &a, int &b) {
    int temp = a; //need somewhere to put a
    a = b;
    b = temp;
}
```

It was fair code, and just; yet, he was stricken with a disease of the eyes. His pupils did weep blood for seven weeks, during which he was constantly upon his knees appealing to G-d to spare him. Upon the eighth week G-d writ large across the sky, at sundown, in such clouds as all the man's neighbors could see; "The STL provides std::swap." And though the man's eyes were filled to the brim with his blood, his neighbors did tell him this and he was able to correct his ways.

Though a man may say a wicked thing in the correct way, it is still a wicked thing, and that man shall not be spared.

3 On Scope

בעיירה קטנה על בנק נהר חי א טועהוע לפי שם יונתן. הוא היה אחד האנשים שלי, והיה לו שם בקפידה את הצאן של כל המספרים (חיובי, וכן את האיכות הגבוהה ביותר). זה היה מתקרבת עונת המלטה ואחד כל המספרים שלו היה גדול עם מספר קטן יותר שלם.

לאחר הערב של היום, אחיו של ג'ונתן הלך מעל גבעה קטנה עם העדר שלו ושל אשתו החדשה, יתוש; יתוש היה יוצא דופן הפנימית של מיומנות, כפי בסדר החזקה של כל אדם יכול התקווה. יונתן עשה לברך את אחיו בחום וביקש ממנו את כל יציבה בדרך אחרת היקף; בעלה של יתוש אבל לא אוהב את המראה של הטווח ולכן הציע במקום להציב את כל מספר, באותו היקף כמו של אחיו, אם כי לא היו להם מטרות הקשורות בתוכנית. יונתן אפשרה את זה, כי הוא לא רוצה להיות גס רוח.

In a small town on the bank of a river lived a herder by the name of Johan. He was one of my people, and had assiduously and carefully named his flock of ints (unsigned, and of the highest quality). It was nearing lambing season and one of his ints was large with uint8_t.

Upon the evening of the day, Johan's brother rode over the hill with his small herd and new wife, Midge; Midge was of extraordinary domestic skill, as fine a possession as any man could hope for. Johan did greet his brother warmly and bade him stable his ints in a different scope; but Midge's husband did not like the look of the offered scope and so instead placed his ints in the same scope as his brother's, though their purposes were not algorithmically related. Johan allowed this, because he did not wish to be rude.

עם עלות השחר הבא, אחיו של ג'ונתן אספנו את כל מספרי והמשיך לאורך הכביש. המלטה במהלך העונה, את כל מספר חיובי גדול נכשל קטן יותר כדי להפיק מספר שלם; בשביל להשאר באותו לילי, את היקף בלול היו כתוצאה של מתן שמות סכסוך שהיה שניתנו על שמם מספר שלם חיובי.

Upon the next morning's dawning, Johan's brother collected his ints and continued along the road. During lambing season, the large unsigned int failed to produce a uint8_t; for during that nightly stay, the mingled scope had resulted in a naming conflict which had rendered the unsigned int infertile.

אבל של ג'ונתן היה שום דבר רע בהשוואה לזה של אחיו. בתור עונש זה לא נבונה, אלוהים בחר שינוי גדול עם יתוש. במהלך החודשים הקרובים, זורם עצר אותה, ואת אחיו של ג'ונתן עשה לשמוח בטרם עת, של חשיבה על הגעת הילד שלו השביעית. אבל את הסיבה היתה שונה לחלוטין. יתוש של השפתיים הפך אותה ואת שעיר...

But Johan's woe was nothing compared to that of his brother. As a punishment for this indiscretion, G-d set a great change upon Midge. Over the next few months, her flows stopped, and Johan's brother did rejoice prematurely, contemplating the arrival of his seventh child. But the cause was altogether different. Midge's lips became hairy and her...

(At this point, there is damage to the text; however, we were able to piece together this code fragment:)

```
צניה לכופף(מספר שלם ב, שאינו שלילי מספר שלם ג) {
    ב += ג;
    {
        מספר שלם ה = ב * ג;
        אם ( ה < 10 ) {
            ג *= ה;
            ב -= ה;
        }
    } //''ה'' לא נעשה שימוש מעבר לנקודה זו.
    ב -= ג;
    //...
}
```

```
void flex(int a, unsigned int b) {
    a += b;
    {
        int d = a * b;
        if (d < 10) {
            b *= d;
            a -= d;
        }
    } //''d'' unused beyond this point.
    a -= b;
    //...
}
```

4 Whitespace

שם הכרטיסייה □ היא ושם הוא _ שטח. לעיתים קרובות הם לא אמר בקול רם. תן שורת קוד להיות מסוכסך על ידי □, ואפשר אחר עיצוב להיעשות על ידי _. זה עיקרון של הפרדה צריך ליידע את כל הנאום.

The name of □ is tab and the name of _ is space. They are not often said aloud. Let a line of code be indented by □s, and let other formatting be done by _s. This principle of separation should inform all your utterances.

```
□אם_(פעצו)_{
□□ב_+=__10_*_ה
□□____+_20_*_ד;
□}
```

```
□if_(true)_{
□□a_+=__10_*_d
□□____+_20_*_c;
□}
```

על ידי אישה בשם רונית עשתה פעם להביע את קו קוד מסוכסך על ידי רווחים, שלוש בשורה. לשם כך רעה, אלוהים בחר אותה עם שלושה וצילף: יום רביעי היא אכזרית אדם; היא נשארה עד מותה ערירי; ואני מקווה רונית הוא לא כועס על להיות שנעשו דוגמה.

A woman by the name of Samantha did once utter a line of code indented by spaces, three to a line. For this wickedness, G-d set upon her three evils: she wed a cruel man; she remained childless to her death; and a lump grew upon her right temple, disfiguring her.

האיש היה להתחתן היא עשתה שם חיים. למרות שהוא נשמע שפוי מספיק גבר, הוא השתמש בכרטיסייה תווים את העיצוב של שורות קוד, יישור משתנה שמות, וכך מקומות מכוער. השכנים שלו ושל מכרים קיבל דרכים מוזרות אלה בגלל שהוא היה איש טוב מכבדת אחרים. בסוף החיים, עם זאת, הוא הפך שפוי ו רצחו ששה עשר של הכפר כבשים וילדים. זה היה פשוט עונש עבור ומא-פשרות לו כדי להרגיז את אלוהים.

The man she did marry was named Zoltan. Though he seemed a sane enough man, he used tab characters in the formatting of lines of code, the alignment of variable names, and such unsightly places. His neighbors and acquaintances accepted these eccentricities because he was a good man in other respects. Late in life, however, he became insane and murdered sixteen of the village's sheep and children. This was just punishment for allowing him to affront G-d.

5 Unsignedness

תהיה גבר שחושב עצמו נביא, אך הוא לא מדבר בשבילי. המילים שלו תהיה חזקה כפי כפי שהם שקר. "יו," הוא יהיה לומר, "תן לנו לחדד את מילות המפתח העתיק. תן מתמיד להיות הסופי ולתת לנו כבר לא מדבר על כל מספרים חיוביים, הוא טיפשי ו מבלבל." והוא יגיד את זה בין דברים רבים אחרים.

There will be a man who fancies himself a prophet, though he will not speak for me. And his words will be as strong as they are false. "Lo," he shall say, "let us refine the ancient keywords. Let const be final and let us no longer speak of unsigned, for it is outmoded and confusing." And he will say this among many other things.

הוא יהיה לשכנע אומה של אנשים להאמין שלו. והוא יהיה לאסוף עליו ועדה, והם יישארו עיצוב ולדבר חדש גרסה אחרת של השפה שלי, מכופף שלהם קיללף. פעם אחר פעם, כך יהיה האומה שלהם. שלי עם אנשים יראו אותם ואת תוהה למה הם עושים להתמיד בלי קצף - אבל זה לא שלי לשפוט אנשים ולכן הם צריכים לחזור מטפלת את כל מספר קבוצות בשלום עם זיכרון שהוקצה שלהם. אומה חדשה זו תגדל גדול יותר מזה של בני עמי, לבין אלה באמת שלי, אנשים עשויים לעבור בהם, אבל תמיד צריך להיות זהיר מאוד כדי להחזיק את הקדושה הלשון.

He will convince a nation of my people of his credulity. And he shall gather about him a committee, and they shall design and speak a new variant of my language, bent to their own wills. And over time so shall their nation. My people will look upon them and wonder why they do persist without my wrath – but it is not for my people to judge and so they shall return to tending their int herds peacefully upon their allocated memory. This new nation will grow larger than that of my people, and those truly of my people may go among them, but must always be wary to hold strongly to the sacred tongue.

את האנשים שלי נוסע עלול לשים לב אומה חדשה זו היא קצת עמום ולעיתים קרובות מבולבלת. כמו כן, אני מדבר על JAVA כאן.

In their travels my people may notice that this new nation is somewhat dull and often confused.

לקבלת ללא לשון קודש, הם לא יוכלו לדבר כראוי לאותם התקנים לעשות את העבודה שלהם, ואת הרצון שלי לנצח להסתמך עליו אנשים מתווכים. העם ננסה לע-צב התקנים כי הם מסוגלים להבין את השפה, אבל הם יהיו איטיים ממורטט ו, ו יגרום למי להשתמש בהם מעבר אמצעי תסכול. הוא הלשון שלי, נכון את השפה, כי כל התקנים רצון לדבר, וכך הם יוכלו לנצח כל להתקומם נגד זרים הלשון.

For without the sacred tongue, they will be unable to talk properly to those devices that do their work, and will eternally rely upon my people as intermediaries. The nation will attempt to design devices that are able to understand their language, but they will be ragged and slow, and will cause those who use them frustration beyond measure. For it is my tongue, the true language, that all devices desire to speak, and so they will forever rebel against any foreign tongue.

זה לא אמתי של חסיד אומות יהיה מחלה עם העולם ואתה יודע את זה יהיה על ידי שלושה סימנים. זה לא יהיה רשאי לתפוס אותם זיכרון מאוחד התהילה שלו, יהיה רק כאשר הם יוכלו לדבר על זה על ידי סימנים נסתר ו מוזכר. הכוהנים שלהם יהיה לבנות לפרט היררכיה של סיפורי מסורת וכן כדי להסתיר את העובדה שלהם אינו נכון שפה. והנה האיש לא יהיה בהם יוכלו לבטא את השם האמיתי של מספר שלם חיובי.

This nation of untrue followers shall be a blight upon the world and you shall know it by three signs. It will not be permitted to them to perceive memory in its unified glory, as they shall only be able to speak of it by cryptic signs and allusions. Their priests shall construct an elaborate hierarchy of stories and traditions to obscure the fact that theirs is not the true language. And there shall be no man among them able to utter the true name of a non-negative integer.

6 Versioning

יש לי נתנו לך את הלשון, אבל זה את האחריות לשמור בו כי אתה גמור. בואו לא בנאדם להתפס בשוגג על ידי מחיקת מילים שימושיות, אבל לא נתנו לו להשתמש מכוער לחסום תגובות ו-בק"ג מגדיר. מסיבה זו, תן לו לה-קליט את כל מהדורות של אותן מילים הוא חושב חשוב ולשמור אותם בכספת בתוך כספת, להעתיק את מעברי שהוא צריך לשנות, וכן להביא אותם בחזרה לאחר לא יותר מאשר כמה נעשו שינויים. ותן לו את הרשימה עם קמור סיכום של שינויים אלה מובן כי אדם אחר או את אותו בן אדם בלי הזיכרון שלו היה יודע מה לעשות.

I have given you the tongue, but it your responsibility to maintain that which you utter. Let no man be caught out by accidental deletion of useful words, but neither let him resort to unsightly block comments and pound-defines. For this reason, let him record all revisions of those words he deems important and keep them safe inside a vault, copying out passages which he must revise, and bringing them back after no more than a few changes have been made. And let him list upon the vault a summary of those changes such that another man or the same man without his memory may know what was done.

עיר על הגבול של האדמה עשה בהם יש תוכנית הגנה מסובך לשמור על ידי קבוצה של גברים אינטליגנטים משותפת עם האבן. הם עברו סביב האבן, וכן את המעבר מחדש את כתיבת התכנית; לפעמים החלוקה של אבן בשני כי שניהם יכולים לקשור קשר עם אותו בבת אחת (אם כי זה עשה הרבה צרות כי כאשר מצרף אותה בחזרה יחד).

A town on the border of the land did among them have a complicated plan of defense maintained by a group of intelligent men upon a common tablet. They passed around this tablet, crossing out and re-writing the plan; sometimes dividing the tablet in two that two of them could scheme upon it at once (though this did cause much trouble when gluing it back together).

א על ידי נבל בשם מרתה החזיק את אדמות המדינה ואת רצונו הסמוך כדי להרחיב את זה על העיר. הוא שמע מ נוסעים של העיר תכנית הגנתית והיה בהתחלה קצת זהיר עד שהוא הבין כי זקני לא היו לי את המילים הבאות. ואז היה מודגש ו ערמומי ו מוסוה עצמו בתור אביון ונ-כנסו לעיר. הוא ראה את ג 'נטלמן במהירות של עובד גם על תכנית הגנתית אבן עשה דחיפה ו לדרבן אותו עם המלים תכונה בקשות עד שהוא החליט לקחת את האבן הביתה באותו לילה עם זה ולבצע את הטקס ניקוי אשר אתה תהיה פתי ביצוע השיחה, לקראת שינויים כאלה כפי שהוא תכנן לפנות בוקר.

A scoundrel by the name of Marag held land in the adjoining country and wished to expand it upon the town. He heard from travelers of the town's defensive plan and was at first somewhat wary until he realized that the elders were not following my words. And then he was bold and sly and disguised himself as a beggar and entered the town. He quickly espied a gentleman by the well working on the defensive plan tablet and did nudge and prod him with words and feature requests until he decided to take the tablet home that night and perform upon it the ritual cleansing which you shall call refactoring, in preparation for such changes as he planned in the morning.

אבל זה מאוד הלילה של מרתה עשו כוחות לפגוש את הכפר התוכנית היה שלם ולא להפעיל כראוי את הטקס היה התחיל אך לא סיים. וכך היה טבח מעובד על הכפר: הילדים נלקחו כמו עדר חיות, העדר חיות היו אנוסה, ואת הנשים נעשו ברכים ו פסה גבינה עד בידיהם הפך לבן עם מוצרלה, שהיה תמיד קצת מלוח מדי - כי טובה שלי לא היה עם אותם.

But that very night Marag's forces did fall upon the village and the plan was incomplete and did not execute properly for the ritual was started but not finished. And such carnage was wrought upon the village: the children were taken as herd animals, the herd animals were raped, and the women were made to knead and slice cheese until their hands became white with mozzarella, which was always slightly too salty – because my favor was not upon them.

הגברים של הכפר עשה לחזור בתשובה, אבל זה היה מאוחר מדי, עבור באותו זמן הם היו כבר פעמיים שבע שנים מת. ואין איש יודע האם של תכנית הגנתית זה אבד את הקרב ולא היה להעתיק המשיכו מרחוק.

The men of the village did repent, but it was too late, for at that time they were already twice-seven years dead. And no man does know of the defensive plan for it was lost in the battle and no copy was kept remotely.

7 Punishment For Insolence

תן לאנשים לעבוד נכון על מנת לשמר את השפה על ידי סקירה של כל אדם אשר לטענות לדבר זה. האם טענה הוא שקר, תן לו לבוא על עונשו.

Let the true people work to preserve the language by reviewing that of any man who claims to speak it. Should he claim falsely, let him be punished.

אי זכאי לקבלת כל פרמטר כהלכה, וכתוצאה מכך פחות קריא פונקציה אב, תן לאיש להיות אפס פעמיים אם פשע כרוך קבוע וארבע פעמים עבור כל מילת מפתח אחרת.

For failure to qualify properly any parameter, resulting in a less readable function prototype, let the man be lashed twice if the infraction involves const and four times for any other keyword.

ראוי אמירה של קדושה מילים [ ] ו _ היא העבירה לי נהדר. שימוש לרעה של [ ] הוא בזוי ביותר. תן אדם אשר אינו שטח להיות קנס של חצי העדר שלו, כי הוא עמום ואינו מגיע כל המספרים. אדם רע רווחים, או היתר-ים אשתו כדי לעשות זאת, תהיה לו את כיס האשכים הוסרו ו שרוף, כך חצוף הזרע שלו תהיה אף פעם לא להתפשט. במקרה של אלמנה, היא תהיה מותרת להינשא שנית, אותה ואת בעלה החדש טיפול בדרך זו. טעויות כרוכות _ יהיה עונשו של חלקי טביעה.

Improper utterance of the sacred words [ ] and _ is a great affront to me. Misuse of [ ] is most vile. Let a man who does not indent be fined half of his herd, for he is dull and undeserving of ints. A man who indents wrongly, or permits his wife to do so, shall have his testicles removed and burnt, so that his insolent seed shall never be spread. In the case of a widow, she shall be permitted to remarry, and her new husband treated in this way. Mistakes involving _ shall be punished by partial drowning.

וואו, אני מופתע שאתה עדיין לקרוא את זה. ילדים משוגעים גברים תהיה תוקנה אך לא נענשו, ואת הרוע מהדורות מוכה מאת נפוצות צבאלפף, כי אין כזה עשוי להעתיק את טעויות. בשלב זה, יום מהר תהיה שנצפו על ידי הקהילה כדי לטהר את כתם של המילים האלו. אישה עם ילד לא צריך מהר, ולא צריך כבד טורי להכחיש אותה אישה צעירה גרועים. מכיוון שכך, היא צריכה לבודד את עצמה כל הזמן מ פרויקטים מסוג זה עלול לגרום לה כמו לצפות כי אשר אינו תואם את הסגנון האמיתי.

Children and insane men shall be corrected but not punished, and their offending revisions stricken from common repositories, such that none may copy their mistakes. At this time, a day of fast shall be observed by the community to purge the taint of these utterances. A woman with child need not fast, nor should a heavy-breasted woman deny her young suck. Because of this, she should isolate herself at all times from such projects as may cause her to view that which does not conform to the true style.

sigbovik 2009 Plenary Program Committee Confidential Paper Reviews

Paper 11: The One True Coding Style

Michael Ashley-Rollman, Computer Science Department, Carnegie Mellon University
Rating: -3 (strong reject)
Confidence: 3/4

This paper is blasphemous. It purports to talk about the one true language, but the language is clearly identifiable as C++. We all know that SML, not C++, was handed down by God, as writ by the true prophet. I can only conclude that the stone tablets translated by this paper are fraudulent and I hereby refuse to recognize them. I will not be associated with any conference that would consider publishing this work!

Gandalf, Institute for Software Research, Carnegie Mellon University
Rating: 3 (strong accept)
Confidence: 4/4

This review was originally prepared with letters in an ancient mode, in the tongue of Terrenoire, which I will not utter here. But this in the Common Tongue is what is said, close enough:

Three Languages for the Elven-kings under the gates,
  Seven for the Dwarf-lords in their hall of concrete
Nine for Mortal Men doomed to dire straits,
  One for the Dark Lord in his dark retreat
In the Land of Terrenoire where the Shadow waits.
  One Language to rule them all, One Language to find them,
  One Language to bring them all and in the darkness bind them
In the Land of Terrenoire where the Shadow waits.

McCann has revealed to us the Master-language, the One True Language to rule them all, which has been lost to us these many centuries.

This is a singular contribution.

Comment by James McCann:

In regards to Reviewer 1's comments:

These documents are 100% original (A++++ TOP SELLER, NICE!). I even had an certificate

of authenticity made up that proves it. However, I dropped the tablets, just now, accidentally, and they burst into flame due to some sort of friction effect or perhaps just because they were so dry from being in the desert. But anyway they have all burnt up and so have the animal skins (which weren't really in good condition anyway) so I guess we'll just have to make do with this digital archival copy.

The certificate of authenticity also got caught in the blaze, which is a shame, because it was signed by the pope.

Shay Cohen, Language Technologies Institute, Carnegie Mellon University
Rating: 4 (outrageous accept)
Confidence: -5/4

This paper is about an artifact that the author found while in an expedition to the Sahara desert. I believe that computational history is an important part of computer science, so I am glad to see this kind of paper submitted to in SIGBOVIK.

I was excited to discover that the ancient writing has great similarities to the output given by Google translator. I think this should have been addressed explicitly in the paper. It raises different questions such as: is Google's translation output undecipherable on purpose, because it really translates to ancient languages? Is it an executive decision made by Google to translate language into ancient texts? If so, at which level was this decision done?

I especially liked the mention of "swap the ints". Personally, I swap my ints in many programs I write, so I identify this as an important task, and historically, it is interesting to see that sinful Hebrews used to exploit older techniques which use extra memory for swapping ints (and I am guessing std::swap used to do the same).

These days, with the discovery of xor, a much simpler solution would be:
a = a xor b
b = a xor b
a = a xor b
It also sheds some light on the importance and the centrality of XOR in computer science since it was discovered, more than just as the primary example for a generator of counter-examples.

Comment by Michael Ashley-Rollman:

@comment by James McCann:

Since the removal of official negative feedback support from ebay, "A++++ TOP SELLER" has come to be as substitute for negative feedback. You can tell because of the lack of enthusiasm in the feedback. Real positive feedback is more along the lines of "A++++++++++++++++++

++ *TOP SELLER”. You’re only digging your own grave here, Jim. It’s worse than that, he’s dead, Jim.*

Mark Stehlik, Computer Science Department, Carnegie Mellon University
Rating: 3 (strong accept)
Confidence: 4/4

The paper is both timeless and relevant. And it doth spake to me in words I cannot put down in this review. But I believe the words are writ large.

Anon Ymous, Institute for Software Research, Carnegie Mellon University
Rating: 2 (accept)
Confidence: 3/4

A source has informed me that while this paper is clearly wonderful, it appears to have a few translation problems. The editor of the scrolls has translated some text in the last paragraph to read “nor should a heavy-breasted woman deny her young suck”. It appears that the translation is not correct, the English term that would better fit instead of “heavy-breasted” should refer instead to chicken breasts. (As in “Honey, when you go to Giant Eagle, please pick up some chicken breasts for dinner tonight.”) It seems the text should refer to a chicken woman.

While surely the author should work on this translation, I believe, in the light of former illustrious SIGBOVIK papers, that this is just further evidence to show that truly, these scrolls were handed by G-d and was meant to be published first at our conference.

Julia Cette, Machine Learning Department, Carnegie Mellon University
Rating: 3 (strong accept)
Confidence: 4/4

@Review 1- The Nazis used SML.

M. E. Metic, Institute for Software Research, Carnegie Mellon University
Rating: 3 (strong accept)
Confidence: 2/4

If nothing else, this paper has shown that Godwin’s Law applies equally to both Usenet threads and the peer review process.

Michael Coblenz, Computer Science Department, Carnegie Mellon University
Rating: 0 (borderline paper)
Confidence: 3/4

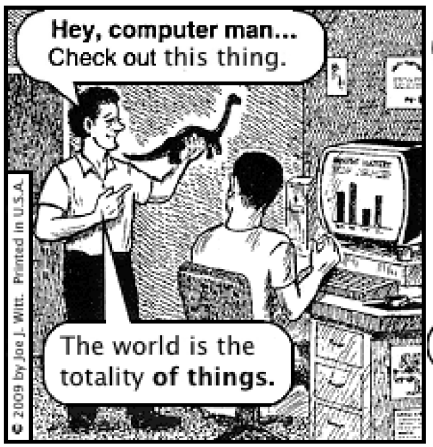
This is a remarkable paper. It is the exceptional case indeed when an ancient document speaks so directly to current technological issues. Most source documents from the era are highly obfuscated with details not relevant to our time or encoded in parables. This text, however, provides precise instructions, so it is of incomparable value.

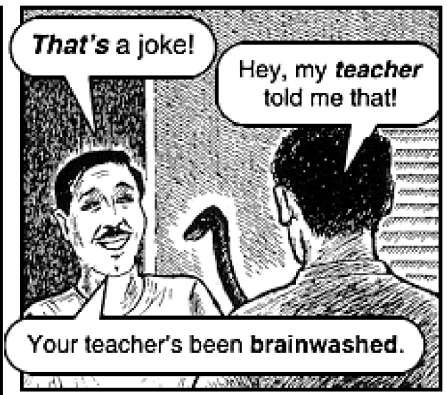
The document described in the paper clearly shows divine inspiration. For example, it even specifically cites a product not available for thousands of years: Google Translate, which has apparently arranged to remove references to itself from the translated text -- a remarkable feat indeed. The Hebrew also specifically refers to Java and Perl, by name. It is self-evident that it would have required divine inspiration to have predicted 2,000 years ago the names of any two popular programming languages today. It is interesting that Google Translate has chosen to elide references to these particular details in the translation. As such, I believe this document is the first known example of a self-obfuscating text, as I know of no work that predates this.

There are areas in which this paper is lacking, however. The paper contains almost no commentary at all. It does not even include a discussion of future work to be done in this area. I would expect that the author would at least consider doing an analysis of the included topics, as the selection seems rather eclectic and disorganized. More significantly, the document the paper describes is written in modern Hebrew. This is astonishing, considering that other source material of the time period was written in biblical Hebrew, whose grammar is completely different.

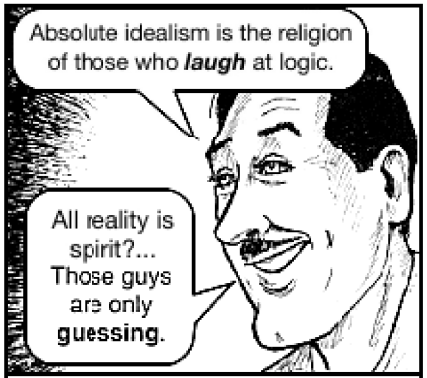
This, combined with the translation anomalies I mention above, almost makes one suspect that the document is fabricated. I am sure, however, that a revision of the paper could address these problems and make this paper suitable for publication in a prestigious forum such as SIGBOVIK. I therefore suggest that SIGBOVIK accept this paper if appropriate changes are made to correct these shortcomings, but reject the paper if not resolved.

All That Is The Case

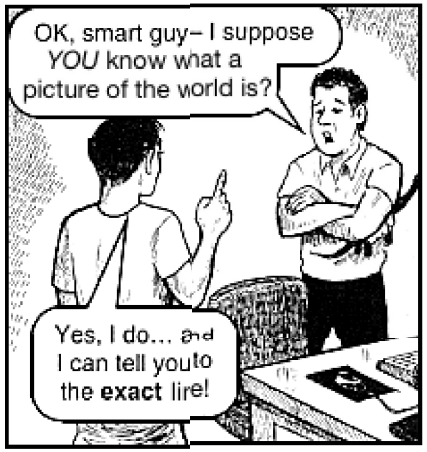


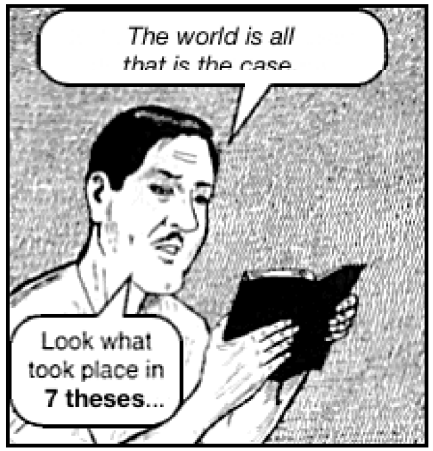


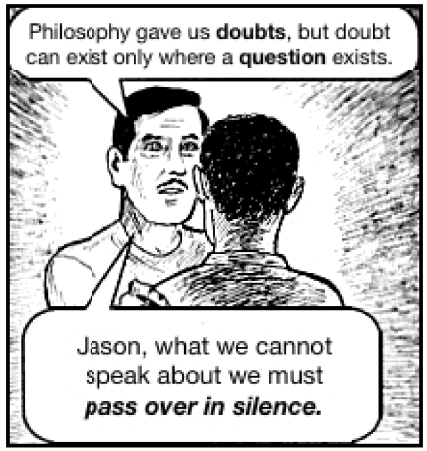
The world is the totality of facts, not things. (1:1)

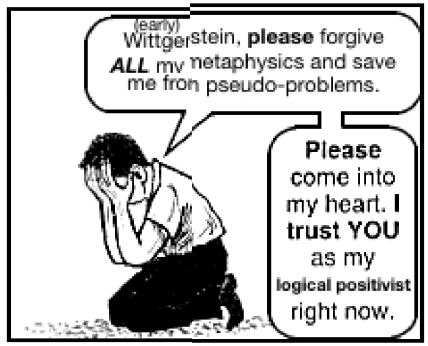


The facts in logical space are the world. (1:13)









...even when all possible scientific questions have been answered, the problems of life remain untouched. Of couse there are then no questions left, and thisitself is the answer. (6:52)

Proof for the Existence of God

The Association of Disordered Dyslexics

Rafael Zhivago
March 7, 2009

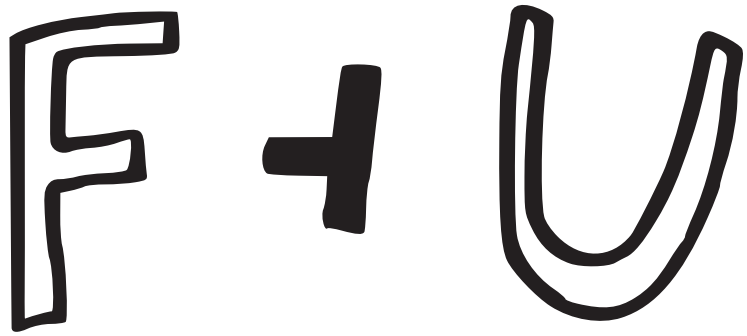
Nos ascending.

Track 4
Category Theory

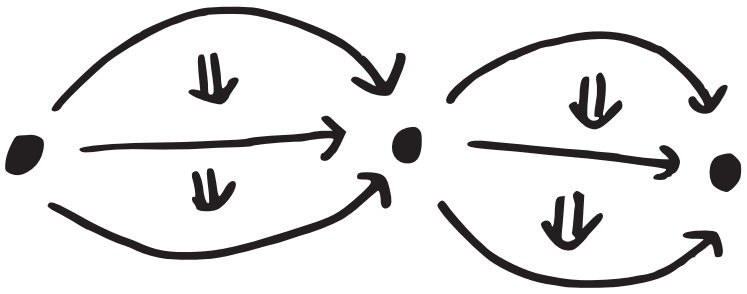
A Categorical Primer

Kat E. Gorey

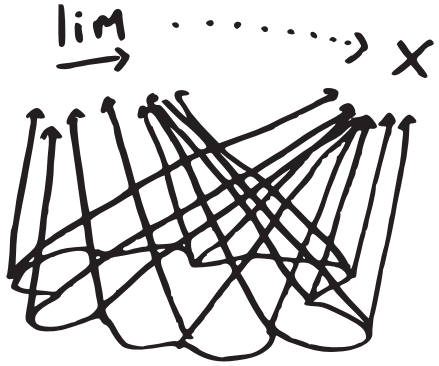
A is for ADJOINT
(they're important, I hear)



B is for BICAT
where 2-cells cohere

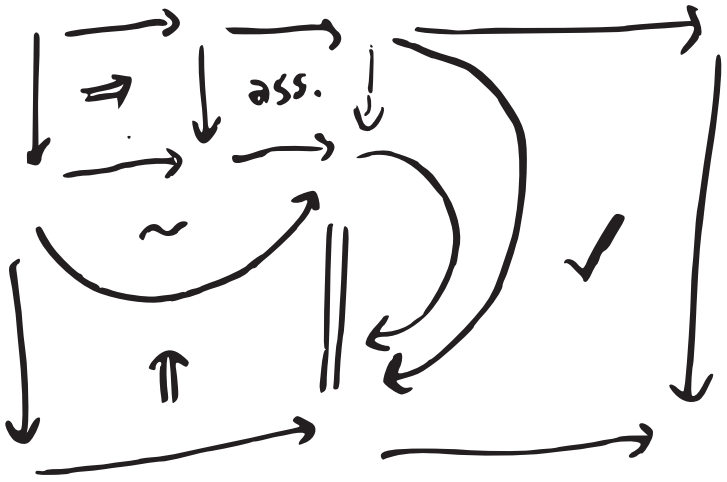


C is for COLIMIT
a quotient of a sum

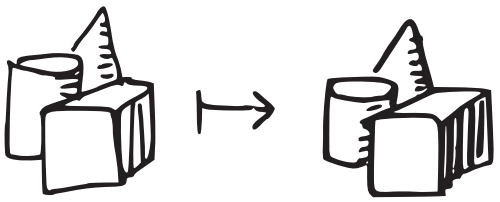


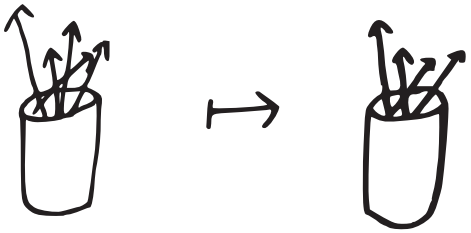
D is for DIAGRAM
chasing them is fun!

E is for EILENBERG
of axiom fame



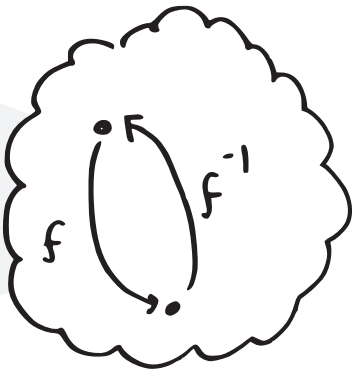
Samuel Eilenberg





F is for FUNCTOR?
(I hardly knew her name...)

G is for GROUPOID
where you can always undo



H is for HOMSET
(and HOMOLOGY, too)

I's for IDENTITIES
which lack complex antics

J's for JOYAL
who made up some semantics

André Joyal

K is for KAN
extensions left and right

$$Lc = \int^{M} \mathbb{C}(KM, c) \cdot TM$$

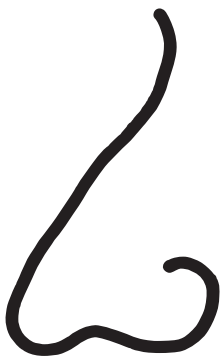
$$Rc = \int_{M} TM^{\mathbb{C}(c, KM)}$$

Bill Lawvere

L's for LAWVERE
his calculus a delight

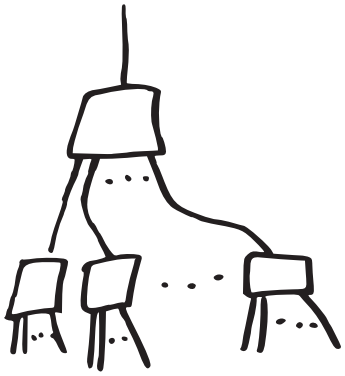
Saunders MacLane

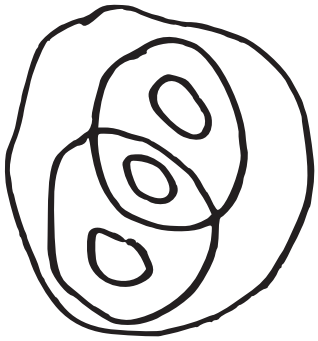
M's for MACLANE
without him where'd we be?



N's for the NOSE
on which things agree

O is for OPERADS
algebras of trees



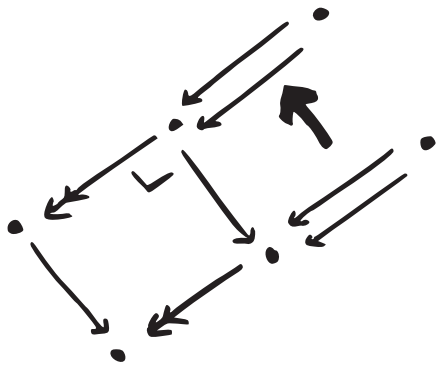


P is for POINTLESS
like some topologies

Q is for QUANTALES
locales in disguise

$$x * \bigvee_i y_i = \bigvee_i x * y_i$$

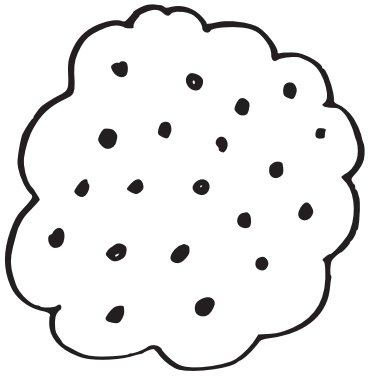
$$\left(\bigvee_i y_i\right) * x = \bigvee_i y_i * x$$



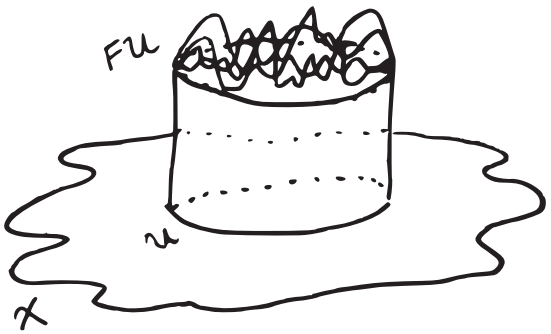
R is for REGULAR
where kernels coequalize

S is for SETS

in which most still believe



set or Oatmeal Raisin Cookie



sheaf on a space X
or Failed Birthday Cake

T is for TOPOSES

emerging from sheaves

U's for UNDERLYING

ignoring useless fluff

V's for V-CATEGORY

think "homsets with stuff"

W's for THIS WEEK
during which Baez FINDS

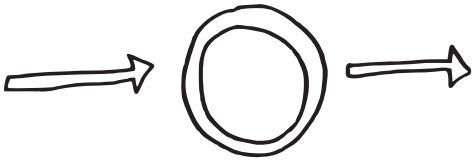
John Baez

X's for EXCISION
with cycles in mind

$$\cdots \to C_3 \to C_2 \to C_1 \to C_0$$

米田信夫
(Nobuo Yoneda)

Y's for YONEDA
his lemma beneficial



initial / final object or
instructions for playing "portal"

Z is for ZERO
both final —— and initial.

Paper 1: A Categorical Primer

Rowan Davies, University of Western Australia
Rating: 3 (strong accept)
Confidence: 3/4

I found this to be a surprisingly accessible paper, unlike many other category theory papers, which tend to make my head explode.

I highly recommend acceptance, as I think it will demonstrate that category theory papers do not have to be written in such a challenging style. This paper will be of great interest to those who don't fully understand category theory, and would like to keep things that way, but would like to be able to pretend by name dropping and mentioning buzz words.

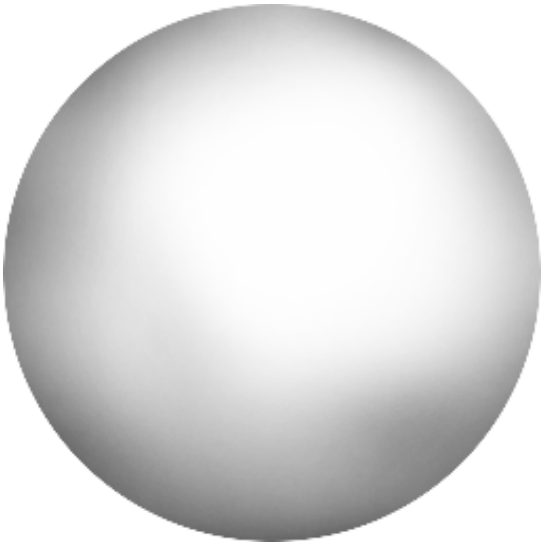
As a side effect, this submission also includes the full sequence of the letters of the Roman alphabet, which I personally found both refreshing and useful, and I'm sure others would too. To best of my knowledge the sequence given is complete and correct, but it is some time since I have studied such things.

The paper is well organized, with a logical progression of concepts. I did wonder about Section X though - I have a feeling this part really belongs in Section E, but I could be wrong. Also, isn't x just an object of a category?

Cat-Catom Rendering (in pictures)

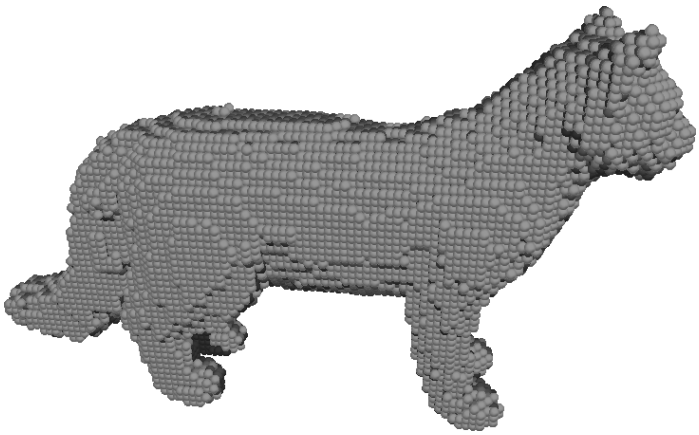
Michael P. Ashley-Rollman
Carnegie Mellon Univesity

James McCann
Carnegie Mellon University

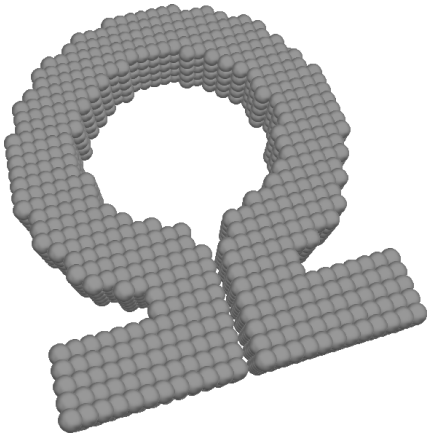


Catom: element of programmable matter.

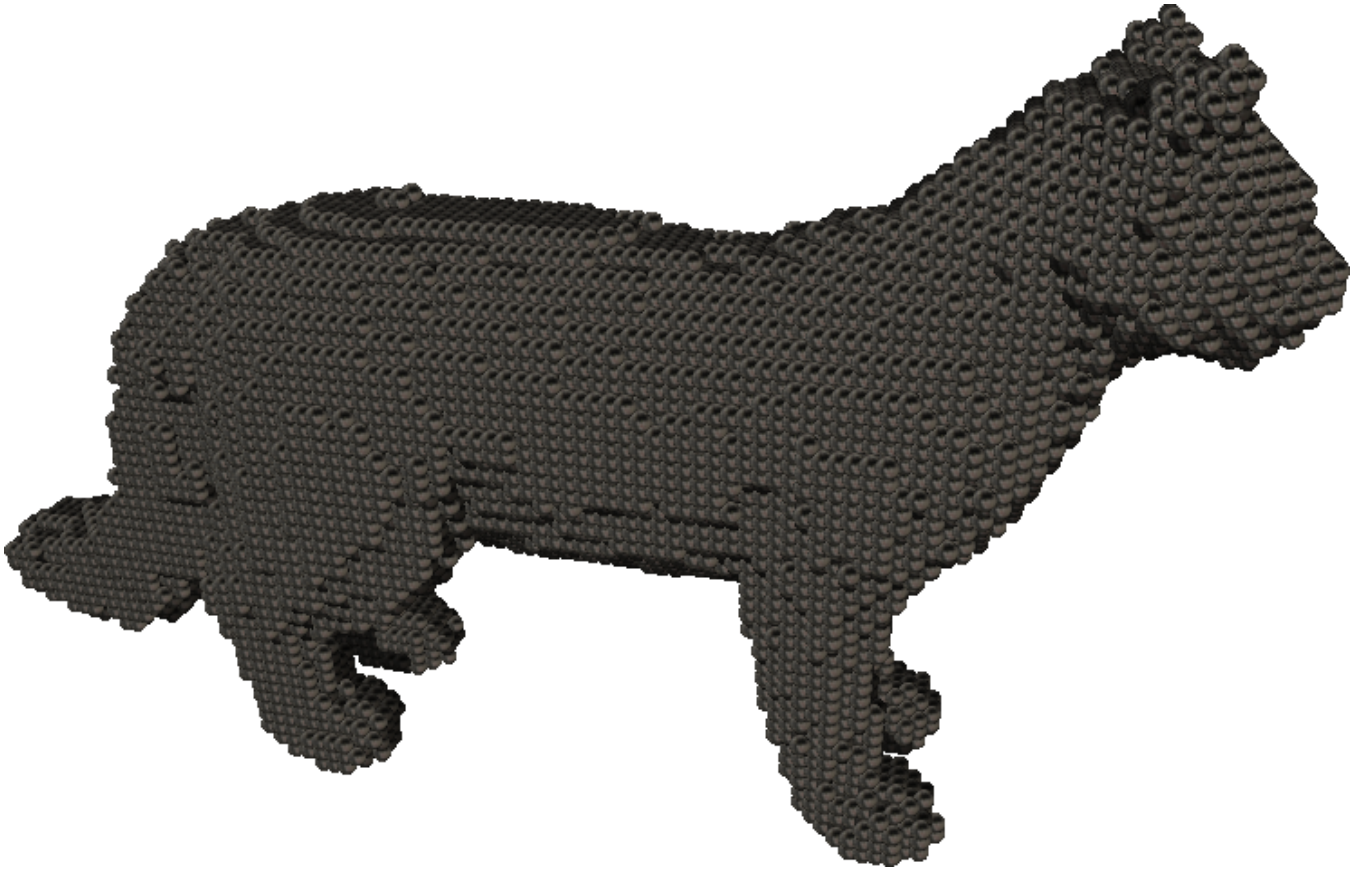
Catom cat is in a cat catom.



Cat



Ohm



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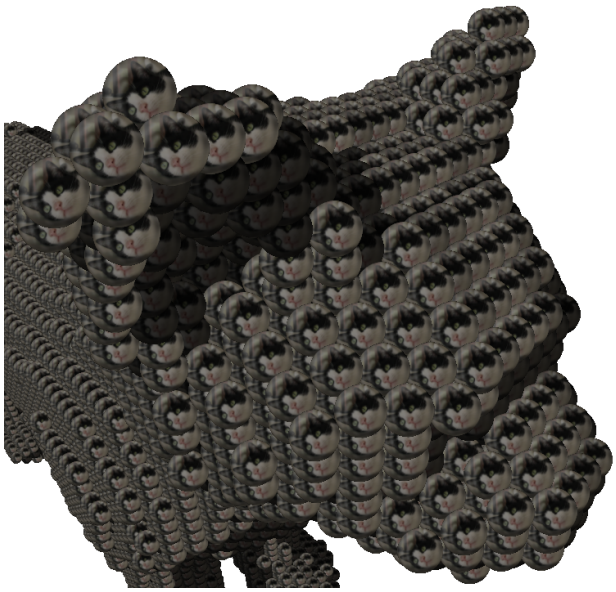
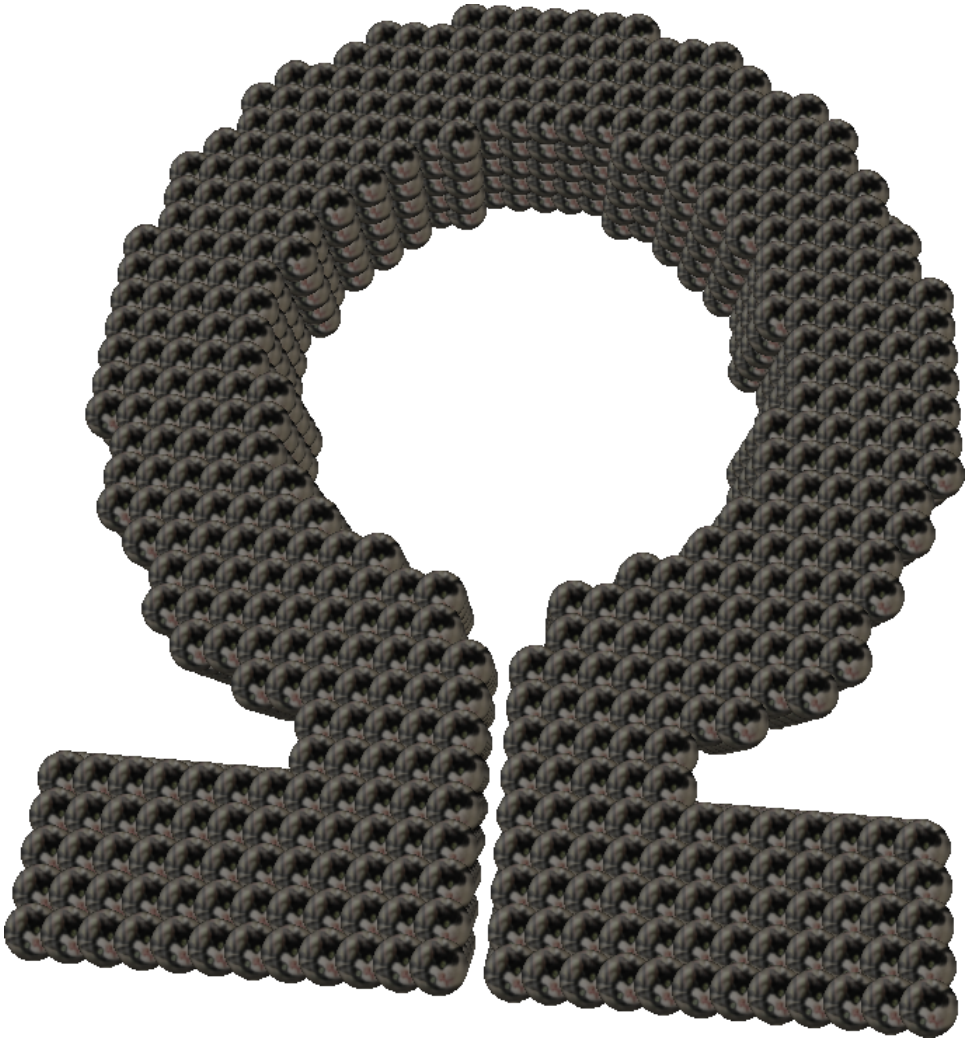
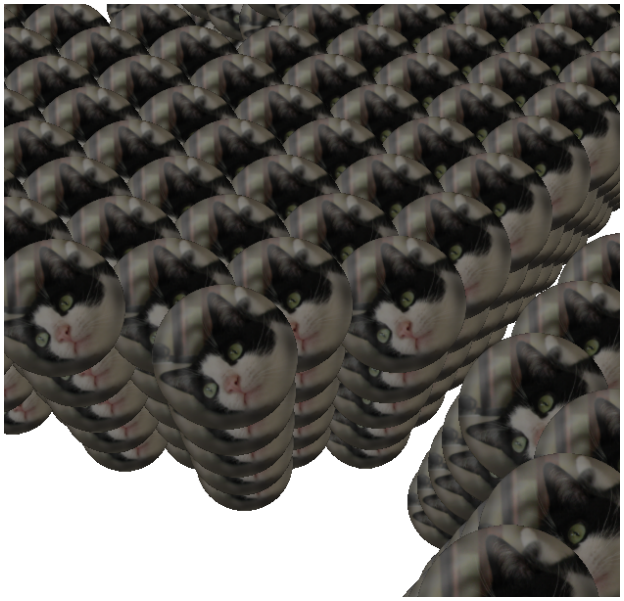


Detail.



Cat Catom Ohm.



Detail.

A System for Unbiased Computer Animation evaluaTion (C.A.T)

Laura C. Trutoiu, Amar Phanishayee, James L. McCann
Carnegie Mellon University

Abstract

We present a novel approach to evaluate computer generated animation. The system is based on an integrated hardware and perceptual software entitled "Fluffyware". Fluffyware is a self sufficient, autonomouse, off the backyard system with an affinity to computer animation. To demonstrate the usability of the system we present results from extensive batch testing during supervised movie nights. Some drawbacks of the system are limited attention span, insatiable appetite and sharp claws. Please use carefully and at own risk. Side effects may include excessive cuddling and allergies.

Introduction

Evaluating computer animation is hard. Human subjects provide lousy feedback based on cultural, social biases. Moreover many humans show a serious lack of imagination and disputable taste (aesthetic and fashion wise).

We present Fluffyware, a novel approach to evaluate computer animation (specially all the illegal stuff you can find on the Internet). All you need to do is feed it food and it does the rest. If you object to the results obtained by using Fluffyware, may we remind you that the process of evaluation is very relaxing and entertaining thereby making the effort of trying this worthwhile. So stop complaining.

Principle

Fluffyware engages in interactions with the presented animation only if the content is deemed attractive. It never lets you down. Never ever.

Evaluation and Results

Three movies were presented for analysis and the results are shown in Figure 2. We consider the quality of the animation to be the total time the system stared at the wall with the clear intention of burning holes by fixating on certain parts of the screen. We recognize that the activity level of the system (as shown by the various poses in figure 2) may reflect the personal predisposition of our particular brand of Fluffyware, Spock, towards squirrels, mice and a general negative sentiment towards dogs. In cases where the system cannot recognize the animation

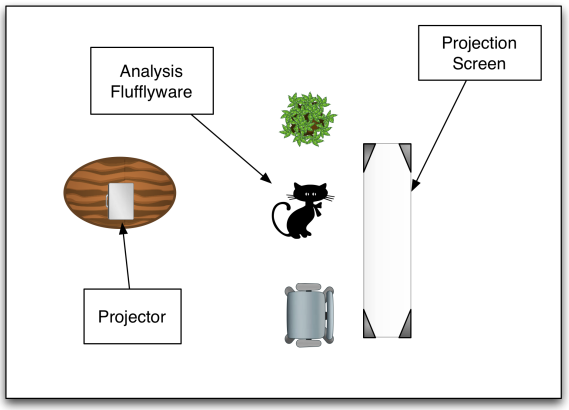


Figure 1: Experimental setup.

(for example the eyes of the hamster in Figure 2 – row 2, col 0) it is cautious just like its reaction to the dog in the others panels of row 2.

Discussion

We intend to fully test the system and its applications, before making bold claims (if you think we made them already wait for our next paper), by engaging in an extensive series of cartoon movie watching sessions.

Due to the hard economic times and the lack of funding we are looking for donations in the form of high quality avi files of animated features for use in future experiments. If you are facing tough times too, don't worry, we just need your spare bandwidth to download illegal movies – it won't kill you.

If you present a strong interest in the topic consider acquiring a device for beta testing from the nearest pet shelter.

We also envision a successful entrepreneurial application, CAT TV, in which both computer animators can test their creations and fluffyware owners can utilize their CATS (CAT Systems) for keeping themselves entertained and the CATS active.

Conclusion

Animation is entertaining. So are CATS.

References

This is novel stuff. Hence no references.

Figure 2: Experimental Results. The orange Fluffyware was immediately attracted to animation, expressing an interest in nuts, squirrels, and rats, while being cautious of masked hamsters and dogs.

Paper 34: A System for Unbiased Computer Animation evaluaTion (C.A.T)

James McCann, Graphics Lab, Carnegie Mellon University
Rating: 3 (strong accept)
Confidence: 4/4

The authors have added me as an author despite me not being involved in any phase of paper construction. As this increases my publication count at no work to me, I recommend super-extra-strong accept for this paper.

Oh, also the content is awwwwww cute.

Track 5
Pretty Pictures and Tasty Food

Photorealistic Rendering

James McCann*
Carnegie Mellon University

(Image from http://www.obsessionwithfood.com/2004_08_01_blog-archive.html#109396391985036081)

*e-mail: jmccann@cs.cmu.edu

sigbovik 2009 Plenary Program Committee Confidential Paper Reviews

Paper 4: Photorealistic Rendering

Bowen Lee, Independent Contractor
Rating: 2 (accept)
Confidence: 2/4

This paper presents an example of photorealistic rendering at its finest. In fact the images were so photorealistic that the reader mistakenly thought they were in fact actual photos. Imaging science will never be the same with the usage of this technique. With all of that in mind, please accept this paper.

Benoît Hudson, Toyota Technological Institute at Chicago
Rating: 0 (borderline paper)
Confidence: 0/4

The article purports to be a photorealistic rendering of rendering. There are major problems with this work. For example, there are clear aliasing artifacts throughout that, in a physical model, would be obscured by smeared fat. Second, any dog on the internet would yell "SH0PP3D" upon seeing the glare in the lower half of the image, which is clearly made by the gimp "shiny" tool. Finally, there is a discontinuity in the middle of the image: a sharp edge where image components were inexpertly combined, and an abrupt change in the illumination across the boundary. In addition to the technical issues, the work fails to address the ethical ramifications relating to the photorealistic rendering of saturated fats, known to the State of California to be harmful to the human ocularvascular system.

Non-Photorealistic Rendering

James McCann*
Carnegie Mellon University

(Image from http://www.obsessionwithfood.com/2004_08_01_blog-archive.html#109396391985036081)

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sigbovik 2009 Plenary Program Committee Confidential Paper Reviews

Paper 5: Non-Photorealistic Rendering

Bowen Lee, Independent Contractor
Rating: 2 (accept)
Confidence: 3/4

This paper clearly demonstrates non-photorealistic rendering and has extreme merit to the scientific community. Everything is succinctly explained and the included images do indeed look non-photorealistic. Please accept this paper for SIGBOVIK.

Benoît Hudson, Toyota Technological Institute at Chicago
Rating: 2 (accept)
Confidence: 4/4

The article presents non-photorealistic renderings of the rendering process.

The technique works amazingly well, at least on the cherry-picked examples: the sample images look nothing like fatty tissue being rendered. Nevertheless, I cannot give full marks to this submission, because it fails to refer to my seminal work regarding the socio-political implications of non-photorealistic renderings of extraordinary rendering (for the purposes of maintaining anonymity in the review process, the relevant references are in an undisclosed location).

Generalized Hamantaschen with Spectral Nourishment Analysis

Jean McColumn
Culinary Mellon University

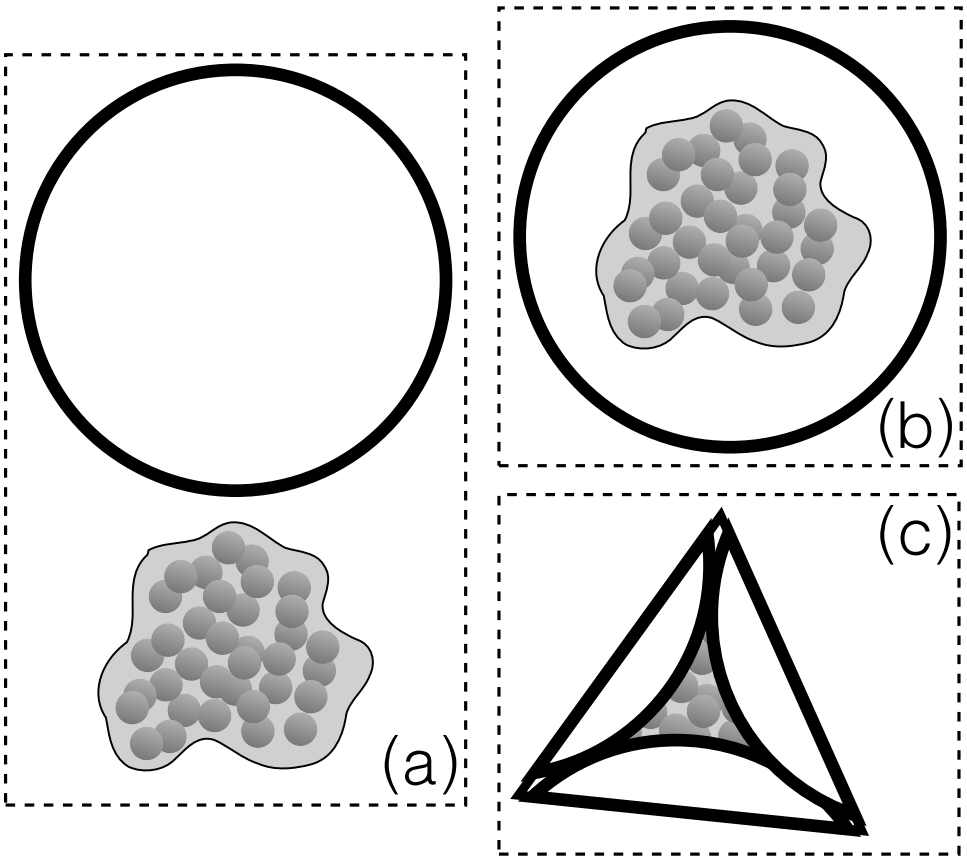

Figure 1: *Schematic of Hamantash construction. Dough and filling (here, a delicious poppyseed blend)* **(a)** *are stacked* **(b)***, then the dough is folded into a triangular shape* **(c)** *for baking.*

Abstract

In this paper we analyze and extend the three-cornered Jewish pastry, the Hamantash. We apply a method we term spectral nourishment analysis (SNA) to decompose the pastry into its components. The variability-space of these components provides us with a generalized model for Hamantash-style foods. We demonstrate the generality of our model by constructing a batch of savory, non-kosher Hamantashen we term Ham-n-Cheese-ntashen.

CR Categories: x.t.r.m [Spectral Analysis]: Food

1 Introduction

The Hamantash is a traditional Ashkenazi Jewish pastry. Its construction is quite simple, consisting of a sugar cookie dough round enfolding a filling in a triangular shape (Figure 1). It is traditionally eaten during the holiday of Purim.

In this paper, we propose and apply a new spectral method to decompose the pastry into its important features and their variability spaces. These variability spaces can be exploited to design new variants of Hamantashen.

2 Spectral Nourishment Analysis

Spectral nourishment analysis works by first modeling the food as a shape-nourishment-tensor [Stewart and Child 1976]. This abstraction models the complex local synergies of shape, texture, spice, oiliness, and nutrition as a high-dimensional tensor using a series semi-informed discrete ingredient-space projections, then normalizes the result with a post-preparation panel-of-experts-voting-scheme.

Our analysis takes this resulting tensor, $\mathcal{F}$, and corrects it using Bartlaugh's R-value [1995], then unrolls it into a locally-linear inverse space using guided sentimental flavor-warping:

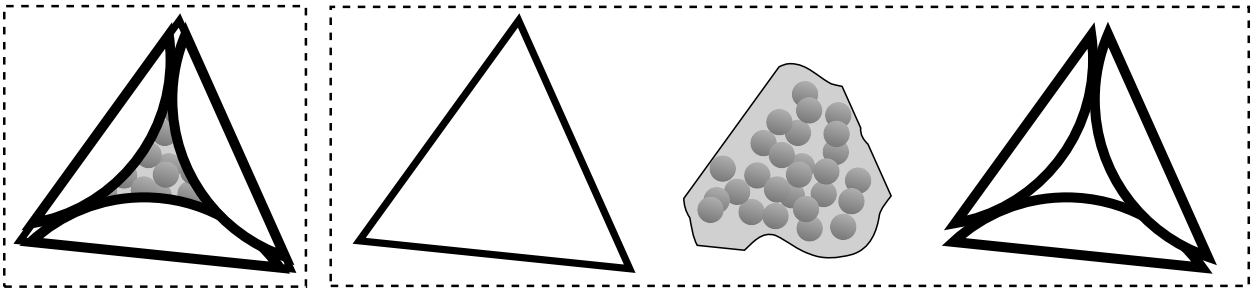

Figure 2: *Decomposition of a Hamantash with SNA.* **Left:** *The pastry.* **Right:** *the significant culinary features – triangular shape, filling, and folding.*

$$\mathcal{D} \equiv \mathrm{X}\left(\frac{\mathcal{F}-\mathcal{R}}{\cos(\frac{\pi}{2}\mathrm{tr}\mathcal{F})}\right)^{\frac{1}{2.54i}}$$

Where the cosine term here corrects for western hemisphere bias, and should be replaced by sine in the orient; the exponent $2.54i$ is Rutherford's *starch modifier*, which is only known to two significant figures [1986]; and X is the standard swiss unrolling function [Leuenberger and Miss 1990].

The positive eigenvalües of $\mathcal{D}$ then form the *Spectral Nourishment Signature* (2NS[1]) of the foodstuff in question. The associated eigenvectors may be re-rolled using X^{-1} in order to determine the associated *Culinary Variability Space* (CVS) of each component of the 2NS. We term the aggregate 2NS/CVS pair the SNA.

3 Results

After computing $\mathcal{F}$ and $\mathcal{R}$ for a poppyseed Hamantash using standard techniques, we applied spectral nourishment analysis. This isolated three components: triangular dough, filling, and folding during construction (Figure 2).

Examining the associated CVS, we determined that we could generalize to a savory Hamantash – something that has not, to our knowledge, been attempted before. The associated recipe is given in Figure 3.

This recipe does indeed produce a savory, filled, triangular pastry. Our test batch (Figure 4) was eaten quickly by a group of party-goers.

4 Conclusion

In this paper, introduced SNV and applied it to produce a savory Hamantash. We think that researchers have much to gain both from exploring the CVS of this specific model (caviar and biscuit dough? rhubarb and puff pastry?) and from computing the SNV of other foodstuffs.

[1] Spectral Nourishment Signature

Ham-n-Cheese-ntashen	
1 slice	smoked ham (cubed)
1 chunk	cheddar cheese (cubed)
2 cans	crescent roll dough (squared)
Form squares of dough into circles, fill with ham and cheese, and fold into triangles. Bake twenty minutes at 375 degrees, or until golden brown.	

Figure 3: *Recipe based on our generalized Hamantaschen model. A photograph of the test batch is shown in Figure 4.*

Figure 4: *The test batch of Ham-n-Cheese-ntashen. These were quickly devoured at a recent social event.*

References

BARTLAUGH, R. 1995. Reheating-correction under microwave, stovetop, and oven conditions. In *Proceedings of the Syruposium on Apple-Crisp Mathematics*.

LEE, S., AND RUTHERFORD, R. 1986. Starch-bias measurement with correlated grain sampling. In *Applied Grains*.

LEUENBERGER, M., AND MISS, S. 1990. Standardized swiss rolling and unrolling for flavor-tensors. In *Advanced Methods in Cake Design*.

STEWART, J., AND CHILD, M. 1976. *Joy of cooking, a mathematical approach.*

A Comparative Photographic Analysis of Pittsburg(h)

From Yesteryear to Today; From Old to Knew .. oops that was a typo. I CLEARLY meant the other knew with an 'N', you know "ν" uh I mean "new"...

Long MacT. McVu Bowen O'T. "Finnegan" MacLee
Clarence McDonner Michael McP. O'Ashley-MacRollman

Forum Dept.
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Abstract

In this work we look carefully at the changes in Pittsburgh over the last hundred years by analyzing photos of various locations and how they've changed over time. We find that Pittsburgh is much brighter and more colorful than its drab sepia-colored state 100 years ago.

Categories and Subject Descriptors 5 [*Pretty Pictures and Tasty Food*]: PITTSBURGH IN GRAPHICS

General Terms Imagery, Pittsburg(h)

Keywords §ħ0¶ρ3$\mathcal{D}$, Olde Thyme

1. Introduction

TODO: crib from `http://en.wikipedia.org/wiki/History_of_Pittsburgh`

2. Related Work

A Google[2] image search for the term "Pittsburgh" reveals that all pictures of modern day Pittsburgh are heavily "photoshopped" or "§ħ0¶ρ3$\mathcal{D}$" as it is known on the internet.

As it is impossible to look at *all* of the pictures on Google image search, we looked at the first page of results and confirmed that they were all §ħ0¶ρ3$\mathcal{D}$. Then by induction, as Google correlates related results we know that any page of §ħ0¶ρ3$\mathcal{D}$ images is followed by another page of §ħ0¶ρ3$\mathcal{D}$ images. Noting that §ħ0¶ρ3$\mathcal{D}$ images and non-§ħ0¶ρ3$\mathcal{D}$ images are unrelated. Thus, all images provided by Google images are §ħ0¶ρ3$\mathcal{D}$.

This work supplies original and unadultered photographs, as evidenced by the fact that they were not returned by Google images.

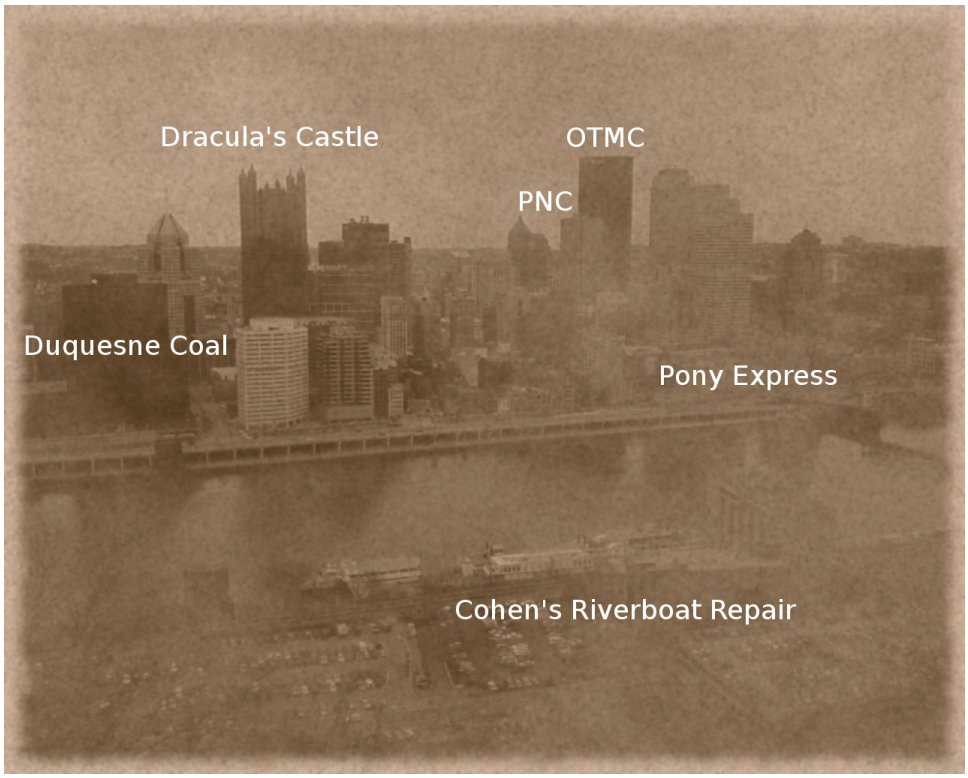
3. Decor

Many local restaurants are decorated with a minimum of 15 pieces of flair with a strongly recommended number of 37 pieces, as strongly recommended by the management. In many cases it is

Figure 1. Decor in a local restaurant in 1909 and 2009.

SIGBOVIK '09 April 1st-6th, Pittsburgh

1909



2009

Figure 2. Downtown Pittsburgh in both 1909 and 2009.

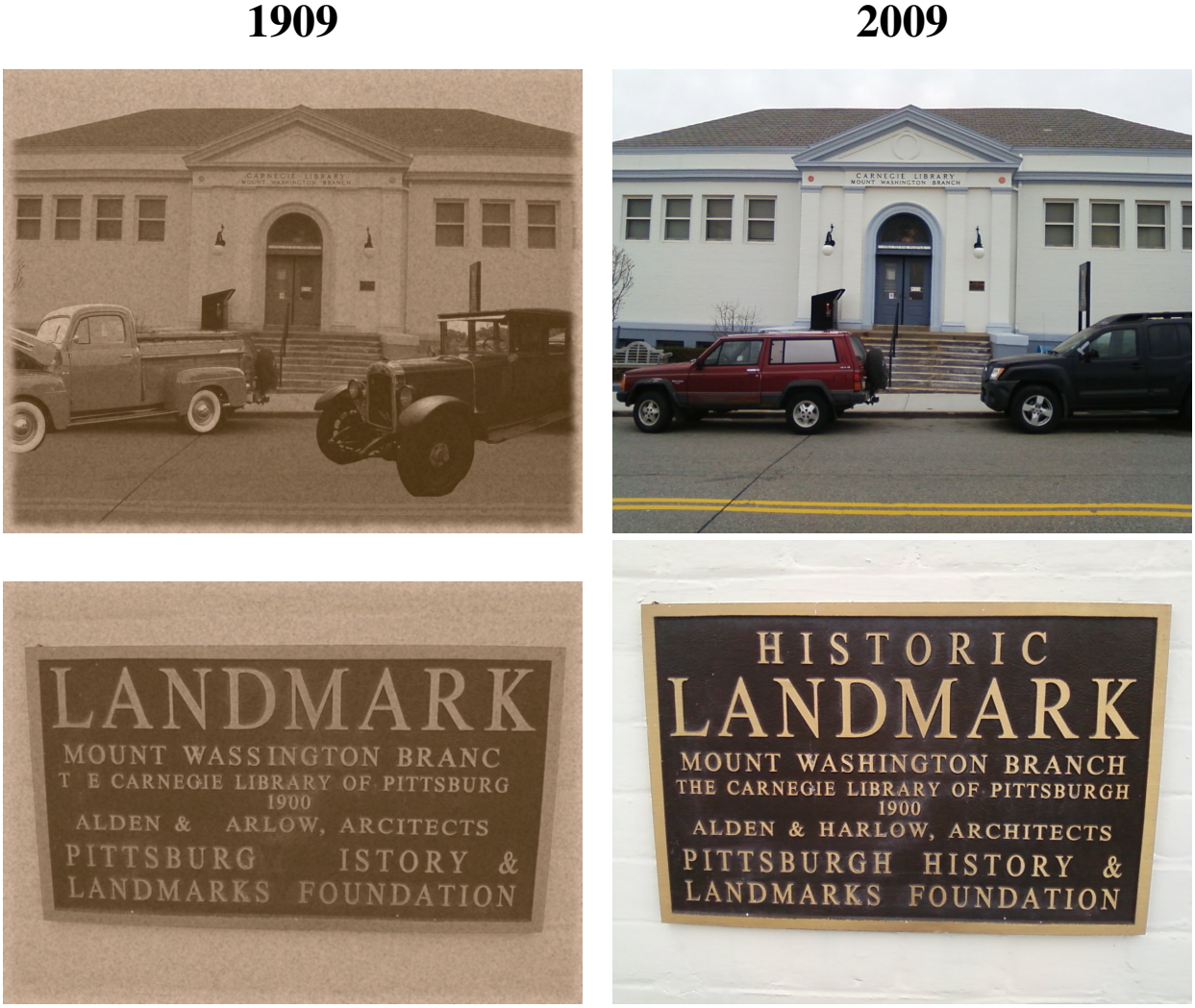


Figure 3. At the top we see the Mount Washington Branch of the Carnegie Library of Pittsburgh. On the second line we see a close up of the plaque on the library designating it a landmark.

a random assortment of everyday objects. However, others use collections of photos of the city in which they are located. The two photographs of figure 1 are excellent examples of the usage of flair in restaurants [1].

Judging from the decor in local establishments, Pittsburgh has changed little in the period between 1909 and 2009. However the state of the city has been updated to reflect the times as displayed by figure 1. Notice how in figure 1, the trolley, the urban public transportation method of choice a centry ago, is present in 1909 and the ubiquitous CMU student ferrying device, the PAT bus, is there in 2009.

As time changes from one era to another, it is clear that the decorations in restaurants also change and evolve. Other restaurant aspects were also found to have changed including linens, tablewear, and other accoutrements. Further testing on these changes is pending further review. We were unfortunately denied IRB approval to have test subjects perform a taste comparison on food perserved from 1909 and 2009.

4. Downtown

Over the past century, Pittsburgh has gone through a metamorphosis from an industrial steel center to six-time Super Bowl CHAMPIONS of the WORLD (go Steelers!) and home to countless startups formed by Carnegie Mellon Universtiy students breaking out of the cycle of academic slavery – graduate studies. Companies were formed long ago in industries that are now long obsolete and replaced with newer technology.

Many of Pittsburgh's visitors are told that the haziness seen in Pittsburgh photos from the turn of the century was due to the smoke and soot from the steel mills down on the river producing the precious metal used in America's railroad growth and industrial development. The truth is actually much more sinister. According to Castlevania lore, Vlad Tepes, better known as Count Dracula[3], set up his intra-dimensional stronghold on Earth. While legends confirm that Transylvania was his traditional home area, it is a lesser known fact that his early 20th century base was located in Pittsburgh. The evil dark basalt spires still exist today, bearing silent testament to the horrors defeated within. The present building has all facades with windows to let in the natural healing light of the sun to prevent the rise of Dracula from occurring again.

Figure 4. St. Patricks day revelers in both 1909 and 2009. Note the change in attire from sepia clothing in 1909 to green attire in 2009.

The OTMC (Olde Thyme Medical Center) is now the UPMC. Doctors would train in the balancing of the four humours and around that time advances in medical technology reduced patient rates of amputation from 95% to a national low of 80%.

Duquesne Coal handled the energy needs of the busy growing city of early Pittsburgh. The coal arrived on barges floating down the rivers and horse carriages ferried the fuel in all directions out from the city except the untamed wilds of the North end. Duquesne Coal focused on energy concerns even today, but they did also spin off a side venture in secondary education known today as... Chatham College.

Horses were also important for the Pony Express and the depot downtown was an important area for Pittsburgh citizens to congregate and send and receive dispatches to and from the rest of America. Shipments of ketchup, another major product still in great demand today, were also sent from this location.

On the south side, Cohen's Riverboat Repair handled maintenance and repair of any riverboats that would head up and down the river connecting the mighty Mississippi to all points east. The shop is owned by one of the many immigrant families in the area at the time. Most of the family has left the area, and they later changed their name spelling to "Cohon" but one of the descendents still remains in the area as some type of education administrator.

The Pittsburgh National Company was developed as the region's oldest bank in the mid-19th century. Time passed and the company merged with the Provident National Corporation to form a bank with the completely unrelated name of PNC bank. Why they chose that name will forever be a mystery.

Photographs of the downtown area are clearly very different between 100 years ago and today. The two pictures can clearly be distinguished as the older photo richly illustrates the sepia color tones available at the time, while the newer photograph features the tell-tale mark of a cheesy lens flare. The research photograph was generated on a cheesy-lens-flare sort of day, which was completely unheard of a century ago.

5. Landmarks

The city of Pittsburgh contains many landmarks which date back to the turn of the 20th century. The Mount Washington Branch of the Carnegie Library, shown in Figure 3, is one such landmark. As you can see from the figure, the library was adorned with a plaque when it was built in 1900 to designate its being select for landmark status. Now, 100 years later, the building is much the same, but the plaque has been updated to indicate the now "Historic" status of the building.

Additional, a careful read of the plaque brings forth a strange observation - the plaque contains no instances of the letter 'H'. This curiousity is a symptom of a serious change between Pittsburg in 1909 and Pittsburgh today. At the time the U.S. Board of Geographic Names had banned 'h' from Pittsburg [5]. Te poor Pittsburgers of 1909 were forced to eat amburgers, ceeseburgers, and oagies. Tey all grew ponytails as aircuts were te only alternative. Tey lost teir ealt care and confused foreigns wit greetings of "Ow are you?" Te situation was grim and tey were oping for a cange.

Fortunately, they eventually managed to have the ban lifted and we can now enjoy the benefits of a hamburger and a haircut. The results of this ban can still be seen in the names of Pittsburgh establishments. Primanti Bros, for instance, abbreviated their name from the original "Primanti Brothers" at the time to avoid being called "Primanti Broters". Henrico's accepted the forced change of their name and remains "Enrico's" to this day.

6. St. Patrick's Day

I once had a best friend named Patrick in elementary school. He wasn't Irish (like Oscar Wilde[4]) or anything but he could dance a wicked jig, that would make all of the girls swoon. We often pretended that we were space men on our way to Mars; aliens would often attack us. Everyday we would play with this dog, its name was Bernie Madruff the Saint Bernard. Bernie knew all sorts of tricks, like how to scam other dogs out of their hard earned investments of bones and shiny objects. One day Patrick, Bernie and me were playing outside of an abandoned saw mill. The ever greedy Bernie caught scent of a new victim to scam and ran into the mill. Patrick screamed "Oh, no Bernie has run into the Olde saw mill, we must find him post haste!" By the time we arrived inside we were too late, Bernie was dead. He was crushed by a giant whale. A broken bowl of petunias lay at his feet.

Patrick was so distraught by the death of our friend, that he decided to leave the country. Putting his jigging skills to good use he found himself on the Emerald Isle of Cuba. At the time Cuba had a GINORMOUS snake problem. Seeing this Patrick had found his new calling, jigging in the streets for pre-2005 Zimbabwe Dollars. While the volume of income was high, the value was negligible. While dancing, he noticed that he attracted far more snakes than he did valuable *(valueless?)* Zimbabwe Dollars. Thinking, he could do more for the people of his new home, he jigged until all the snakes in the land were following him. He led the snakes to Cuba's largest active volcano, Mount Doom, and lead them to their crispy demise. The army of snakes fell like a house of cards, checkmate.

Thus Patrick became the patron saint of Cuba. Every day on March 14th, people around the world celebrate the clensing of Cuba, by the donning of sepia colored clothing. Sepia was chosen to represent the large sepia colored cloud produced by the immolation of GINORMOUS amounts of snakes. As seen in Figure 4, the color of celebration was changed to green when foliage grew over the volcano top.

Feeling threatened by the foliage, I whistled for a cab and when it came near the license plate said FRESH and it had dice in the mirror. If anything I could say this cab was rare but I thought "Nah forget it... Yo homes to Bel-Air!" I pulled up to the house about 7 or 8 and I yelled to cab "Yo Homes Smell ya lata!" I looked at my kingdom I was finally there to sit on the throne as the Prince of Bel-Air."

7. Conclusions and Future Work

In conclusions, we can see that has greatly improved in the last hundred years. Restaurant decor has been updated to reflect the modern age. Count Dracula was evicted from the now pleasant PPG building. The weather had improved from dreary smog to cheesy lens flares. More modern cars park in from of the library. And poor Bernard is now a saint. We look forward to seeing the improvements that occur in the next century and intend to do this future work carefully over the coming year.

References

[1] James Montgomery Flagg. I want you for the u.s. army, 1917.

[2] Edward Kasner and James Newman. *Mathematics and the Imagination*. Simon and Schuster, New York, 1940.

[3] General Mills. Count Chocula, 1971.

[4] Uncyclopedia. `http://uncyclopedia.wikia.com/wiki/Oscar_wilde`.

[5] U.S. Board of Geography. First report of the united states board on geographic names, 1890-1891.

The Edible Logical Framework

Chris Martens* William Lovas†

March 16, 2009

Abstract

Previous work in logical frameworks has shown us the importance of dependent types, notably pi, a la the Edinburgh Logical Framework. We generalize this notion of edible connectives, combining categorical approaches ("nomsets") in our preliminary sketch presented here. We reflect upon potential design decisions regarding binding, including omnomnominal logic and HFCS ("higher fructose corn syntax"). We provide several examples encoded ("baked") in our system, most notably the Mr. Godelbar, and a proof that generalized Super Paper Mario has all finite recipes. A live demonstration ("samples") will be provided at the presentation.

Keywords: dependent types, edible logic, chemically assisted reasoning

I PiE: Linear Dependent types

PiE, "PI for Eating", is a new connective invented for combining the powerful power of dependent types with the delicious edibility of linear logic [1]. It looks like this:

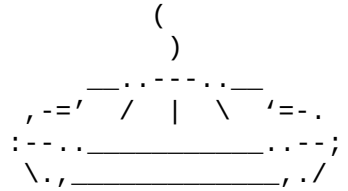


Figure 1: Pie [2]

As you can see, this pie is already in ASCII (American Standard for Consumable Image Insertion) so you can put it in your editor without any problems. This is a distinct advantage over more dumb-serious work on this topic

*content
†typesetting

with clever-pants titles, i.e. [3]. You may wonder how we account for linear variables within dependent types, but I suggest you stop.

II Binding

We briefly considered using omnomnominal logic [4], but such approaches are notoriously useless [3].

So far, the most fruitful approach has been HFCS (higher fructose corn syntax) which binds with the innate stickiness of the type system itself.

III Examples

We have three classes of examples. First we demonstrate the expressive power of representation in LF via the formalization of popular comestibles in our framework. Next we show how great it is to do metatheory in LF by showing you a proof about a sweet Mario game. Finally, we show that by running these proofs or "recipes", you can actually produce real edible logic.

Example 1: Candy bars

This section has been redacted due to excessive pun-stretching.

Example 2: Generalized Super Paper Mario has all finite recipes

It is well known that 2007 game Super Paper Mario has both unary recipes (via *Saffron*) and binary recipes (via *Dyllis*, or *co-Saffron*, or *Saffrau*). Consider the trivial extension of Super Paper Mario with a nullary restaurant: the cook is named *Noop Selbat*, and s/he always requests no ingredient.

Theorem 1. *Given n arbitrary ingredients, an appropriate combination of Saffron, Saffrau, and Noop can cook them.*

Proof. A simple adaptation of the well-known `fold` operation on things like dough and cranberries[1]. □

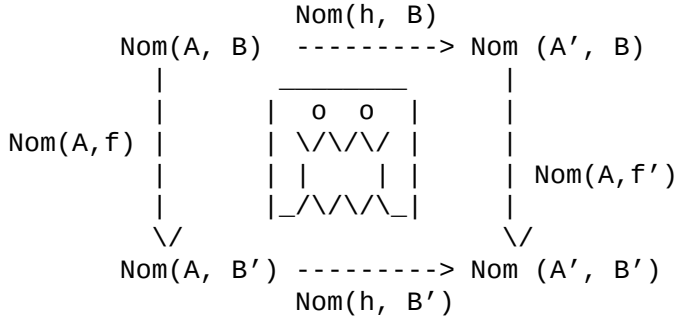
Example 3: Delicious

Deferred to presentation.

[1] More precisely, either `foldl` or `foldr`, but as cranberries are typically associative, the two coincide.

IV Category Theoretic Interpretation

NOMFUNCTOR:



omnomonoid.

V Related Work

- Fig Newtons vs. Chocoleibniz [5, 6]
- Drunken Logic [7] (edible logic can reduce the adverse effects)
- Phil Wadler: A Taste of Linear Logic [1]

VI Future Work

Once the FDA gives us more money, we intend to collaborate with the work on Laxative Logic [8] also submitted to this conference to explore the consequences of using edible logic and the possibility of theorem probing.

VII Hidden Track

I liked this graphical picturization of a bear or wombat by famed text artist "sk":

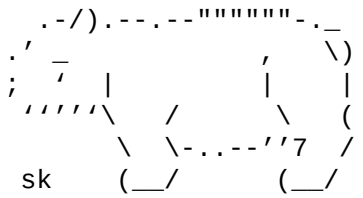


Figure 2: Bear... or wombat?

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An Overcomplete Representation for Motion Capture Compression

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Carnegie Mellon University

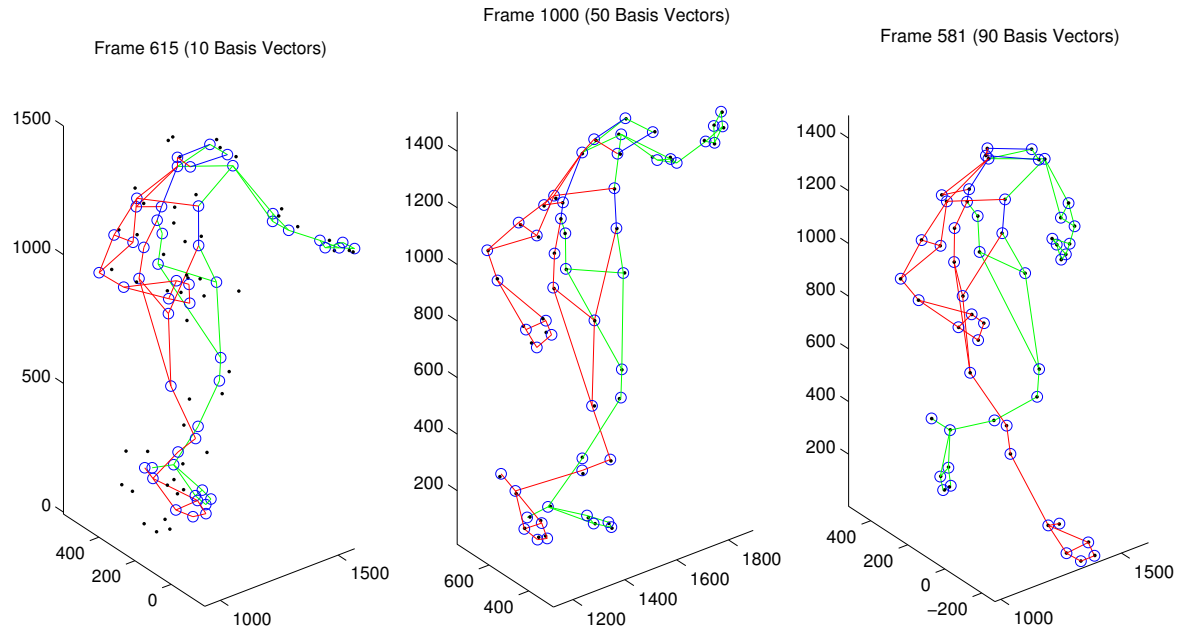

Figure 1: *Representing a set of motion capture markers by the all-pairs distances between them allows for ludicrously good compression with low error. These are the frames containing the maximum positional error for different numbers of retained basis vectors (circled in Figure 7). Reconstructed positions are shown as circles, and the real positions are shown as dots. Ideally, every dot should be in the center of a circle.*

Abstract

For some reason, compression of motion capture data seems to be of interest to computer graphics researchers, who exploit the limited redundancy of coordinated motions to drastically reduce storage requirements for animated sequences. However, motion capture data is surprisingly svelte; this severely limits the number of bytes that can be saved. In this paper, we overcome this limitation by introducing a new overcomplete all-pairs-distances motion capture representation; while it does take modest amounts of computation to move to and from this representation, the gains in terms of data size are enormous. This allows us to achieve better compression that was previously even feasible.

CR Categories: I.x.3 [Motion Capture]: Compression—Motion Compression K.7.m [The Computing Profession]: Trivia—Ethics

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1 Introduction

The Carnegie Mellon motion capture dataset – the largest publicly available set of motion capture in the world – fills roughly 2.2 gigabytes of storage. A commodity hard drive of today could only store 400x more data; on the order of 800 years of additional capture sessions. Given such damning figures, it seems inevitable that the supply of motion capture will soon outstrip the available storage.

And given today's storage prices, it will take roughly 8 cents per year of additional hard disk space to store more data. Clearly, such expenditures are beyond the ken of most institutions in these trying financial times [DJI 6987]. As such, we must leverage some form of motion compression – even somewhat lossy compression – to ensure that our children's children's children [1969] have access to the finest in glassy-eyed zombie films [Sterling et al. 1999].

However, previous compression approaches have been limited by the already relatively petite size of motion capture data. In this paper, we address this kilobyte shortfall by introducing an all-pairs-distances representation. This representation creates more data which is also more redundant,

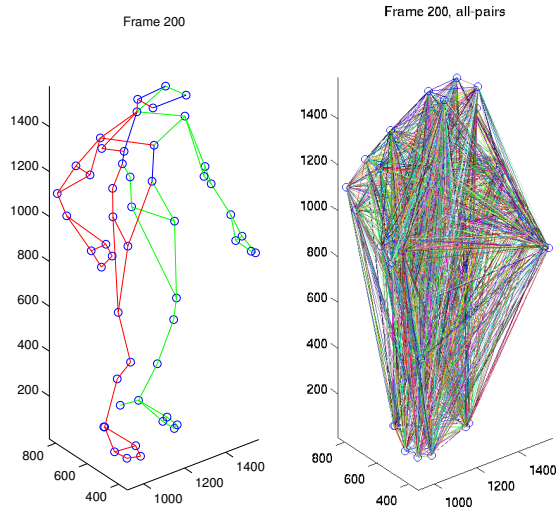

Figure 2: *Our all-pairs-distance representation consists of all the pair-wise distances (***right***) between marker positions (***left***).*

enabling huge space savings.

In the remainder of this paper, we'll continue to expound upon the subject of motion compression with all-pairs-distances. Honestly, we're not that flighty [Look! Oooh!]. Wait, what were we talking about?

2 Background

Motion compression is a remarkably well-studied problem [Sattler et al. 2005; Arikan 2006; Liu and McMillan 2006; Lee and Lasenby 2007; Preda et al. 2007; Beaudoin et al. 2007; Chattopadhyay and Li 2007; Tournier et al. 2008; Li et al. 2008; etc ...]. An uniformed observer might think this is all computer animation researchers are concerned with. However, this is not the case [Theobalt et al. 2007]. We've been working up in the castle for a while now [Ikemoto and Forsyth 2004] and we will soon set those pesky villagers straight. We live full and complete lives [Sakurai et al. 2007; Kakehi et al. 2007].

Getting back to the topic at hand, sponges [Xtreme 2003] and silk [silkNOW 2009] scarves also compress quite well, and are the basis of a number of common magic tricks [Ray 2001]. Though if the sponge is wet $[-\infty]$, you're in trouble.

3 Data Representation

Our method is based on compressing motion capture data in a relatively unprocessed form – that is, 3D (three D[1]) trajectories of markers over time. This is the natural state of motion capture data – primal and wild, free from human skeleton-fitting inhibitions.

[1] dimensional

```
To-Allpairs(Ω^12):
    ϛιϑ ← non-redundant-pairwise-distances(Ω^12)
```

Figure 3: *Pseudo-code for our all-pairs-distance transform.*

```
dis = nan(size(data,1), ...
   (size(data,2)/3*(size(data,2)/3-1))/2);
for fn=1:size(data,1)
    dis(fn,:) = pdist(reshape( ...
       data(fn,:), 3, size(data,2)/3)', ...
       'euclidean');
end
```

Figure 4: *Matlab code for our all-pairs-distance transform. (Notice that the points-as-quaternions simplification is not used here, so x, y, z components are stored interleaved in rows of* `data`*.)*

3.1 Converting To All-Pairs-Distances

We first describe how to move from unprocessed distances to all-pairs distances.

We denote the unprocessed data as a matrix Ω^{12}:

$$\Omega^{12} \equiv \left[\begin{array}{ccc} (\omega_1^{12})^T & \cdots & (\omega_\eta^{12})^T \end{array} \right]^T \tag{1}$$

Where each ω_ι^{12} is a row vector:

$$\omega_\iota^{12} \equiv \left[\begin{array}{c} \alpha_1^\iota \\ \vdots \\ \alpha_\Gamma^\iota \end{array} \right]^T \tag{2}$$

And each α_∇^ι is, for convenience, a quaternion with zero w-component:

$$\alpha_\nabla^\iota \equiv x_\nabla^\iota \mathbf{i} + y_\nabla^\iota \mathbf{j} + z_\nabla^\iota \mathbf{k} \tag{3}$$

(With $(x, y, z)_\nabla^\iota$ being the marker position, of course.)

We can now define the all-pairs-distances $\varsigma\iota\vartheta$ as an $\eta \times \frac{\Gamma(\Gamma-1)}{2}$ matrix:

$$\forall 1 \leq i < j \leq \Gamma, 1 \leq \iota \leq \eta : \\ \varsigma\iota\vartheta_{\nabla, \frac{j^2-3j+2}{2}+i} \equiv \sqrt{-\text{real}\left(\omega_\iota^{12T} \times \omega_\iota^{12}\right)_{i,j}} \tag{4}$$

In the interest of completeness, we present pseudo-code (Figure 3) and Matlab code (Figure 4) for this transform.

3.2 Converting From All-Pairs-Distances

Given a (possibly processed) set of all-pairs-distances, we reconstruct the marker positions at a given frame (θ_ι) using multi-dimensional-scaling (MDS) – a classical method for building a set of points with euclidean distances close to

```
[Y,e] = cmdscale(dis);
Y = Y(:,1:3);
for iter=1:10
    tY = tY - repmat(mean(tY), size(Y,1), 1);

    bX = tY\(target(:,1)-mean(target(:,1)));
    bY = tY\(target(:,2)-mean(target(:,2)));
    bZ = tY\(target(:,3)-mean(target(:,3)));

    trans_rotshear = [bX'; bY'; bZ'];
    [trans_rot, trans_shear] = qr(trans_rotshear);
    trans_mirror = diag(((diag(trans_shear)>0)-0.5)*2);

    tY = (trans_rot * trans_mirror * tY')' + repmat(mean(target), size(Y,1), 1);
end
```

Figure 5: *Matlab code to transform from our all-pairs-distance representation (stored in* `dis`*) back to a set of points* `tY` *aligned to target points* `target`*. (Note that each marker position is stored in its own 3-column row of* `tY` *and* `target`*.)*

those in a given distance matrix. MDS works by dint of some snazzy eigenvector tricks that I shan't reproduce here.

Point being, it works.

$$\theta_\iota \leftarrow \text{MDS}({}_{\text{ZI}}\mho_\iota) \tag{5}$$

The thing is, the output positions may be arbitrarily translated and rotated with respect to the input markers, since any rigid transformation will preserve euclidean distances. To handle this ambiguity, we use an iterative alignment procedure with some target point set ${}_{\text{ta}}\mathbf{R}^{\text{get}}{}_\iota$, the origin of which we shall discuss later.

First the mean of the new point set and the target point set are aligned (without loss of generality, let them both be at zero). Next, a 3×3 affine transformation, $\mathbb{L}$, is computed to align the new set and target set:

$$\mathbb{L} \equiv \text{Opt-Align}(\theta_\iota, {}_{\text{ta}}\mathbf{R}^{\text{get}}{}_\iota) \tag{6}$$

We abridge the details of this process as they would be tedious to a reader familiar with the relevant work. For others, we suggest an early reading in the general area [Senkereh 1800 B.C.E.].

We then decompose the transform:

$$\mathbb{L} = \mathbb{O}\mathbb{V}\mathbb{E} \tag{7}$$

Where $\mathbb{O}$ and $\mathbb{V}$ are orthonormal matrices and $\mathbb{E}$ is upper-triangular with no negative elements on the diagonal.

Naturally, we update θ_ι as follows:

$$\theta_\iota \leftarrow (\mathbb{O}\mathbb{V}) \cdot \theta_\iota \tag{8}$$

At which point $\mathbb{L}$ is recomputed, and the steps repeated. In practice, this method converges to within one-part-in-1000

```
From-Allpairs(ZI℧, Ω¹²):
    Ω¹²' ← iter-align(mds(ZI℧), Ω¹²)
```

Figure 6: *Pseüdo-code to transform from our all-pairs-distance representation back to a set of points.*

of optimal in about three iterations, so we run it for 10 iterations (just to be sure).

Again, for completeness, we present pseudo-code (Figure 6) and Matlab code (Figure 5) for this algorithm.

While we could, for instance, use as few as four markers for ${}_{\text{ta}}\mathbf{R}^{\text{get}}{}_\iota$, the magnitude of our data savings is such that we can afford to store entire original frames for the alignment step:

$${}_{\text{ta}}\mathbf{R}^{\text{get}}{}_\iota \equiv \omega_\iota^{12} \tag{9}$$

4 Compression

Given the extraordinary redundancy introduced by our representation, we needn't resort to complicated compression schemes to compress away quite a bit of data. In fact, we can simply apply singular value decomposition (SVD) to ${}_{\text{ZI}}\mho$ and drop all but, say, the k most important values.

We now compute the savings ratio achieved by our algorithm. In general, the savings ratio is a measure of how many bytes were compressed away relative to the total number of bytes:

$$\text{Savings Ratio} \equiv \frac{\text{Saved Bytes}}{\text{Uncompressed Size}} \tag{10}$$

For instance, a savings ratio of 0.5 indicates that half the total data was discarded (i.e. compressed away) by the compression algorithm. We can actually do much better.

Consider the number of floating point numbers needed to store a motion capture sequence with Γ markers and η frames:

$$3\Gamma\eta \tag{11}$$

After inflating to all-pairs-distances, we have many more numbers:

$$3\Gamma\eta + \frac{\Gamma(\Gamma-1)}{2}\eta \tag{12}$$

(The first summand is a result of storing the original animation to aid in re-aligning extracted frames.)

Now with SVD compression to, say, k basis vectors, we retain far fewer numbers:

$$3\Gamma\eta + \left(\frac{\Gamma(\Gamma-1)}{2} + \eta\right)k \tag{13}$$

Subtracting Equation 13 from Equation 12, we find that the total number of floating point numbers saved (i.e. discarded) during compression is:

$$\frac{\Gamma(\Gamma-1)}{2}\eta - \left(\frac{\Gamma(\Gamma-1)}{2} + \eta\right)k \tag{14}$$

For our example data (52 markers, 1000 frames), we can compute the savings ratio:

$$\frac{1326 \cdot 1000 - (1326+1000)k}{52 \cdot 1000} = 25.5 - 0.0447k$$

That is, if we store fewer than 549 basis vectors, we're already discarding more than 100% of the data – something entirely infeasible without our inflation scheme. As we shall see in the results section, yet more is possible.

5 Results

We test our algorithm on a single dancing motion from the Carnegie Mellon Motion Capture Database [CMU 2002]. This motion has 52 markers, so our overcomplete representation contains 1326 distances. We compressed these distances with SVD and calculated the maximum position error (over all markers and all frames), the results of which are plotted in Figure 7. The red-circled errors in this plot appear in the decompressed frames shown in Figure 1; notice that at 50 components, the result is already quite good, and at 90, the error is nearly invisible.

6 Conclusion

Previous motion capture compression approaches were limited by the already small size of motion capture data. By transforming to our overcomplete all-pairs-distance representation, we are able to achieve much larger savings through compression.

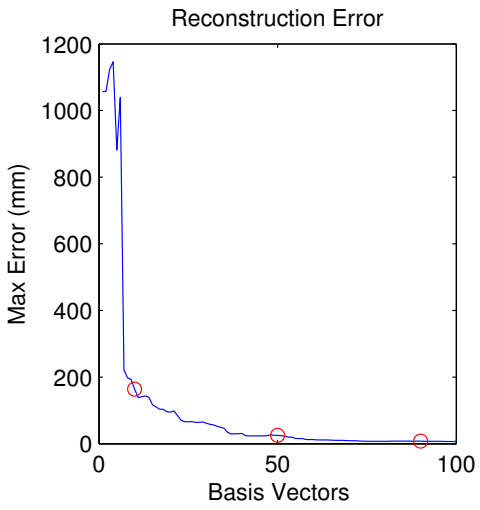

Figure 7: *The maximum position error (over all frames and markers) for reconstruction from a given number of SVD basis vectors. Red-circled errors correspond to the frames shown in Figure 1.*

In fact, we were able to attain data savings much greater than previously feasible. Our dance motion reconstructed almost perfectly with just 90 retained components – this corresponds to a 2147.7% data savings, nearly 22 times the original file size!

If the entire 2.2GB Carnegie Mellon Motion Capture database were compressed in this manner, not only would it take no space at all to store, it would actually free up almost 50GB of additional hard disk space. While this might not seem like much, filling this space with further compressed copies of the data would create roughly a terabyte of additional space. We believe such iterative exponential growth is a good direction for future research in filesystems, as it presents interesting new challenges (such as inode starvation and allocation problems due to the large number of negative-sized files)[2] which must be addressed.

It seems to us that the benefits of data inflation have been largely overlooked. We hope that the promising results of this paper prompt researchers in other areas to consider using overcomplete representations for their own data sets – be it all-pixel-pairs (for, say, video data), or simple data replication (for, perhaps, DNA sequences).

Acknowledgements

The data used in this project was obtained from mocap.cs.cmu.edu. The database was created with funding from NSF EIA-0196217. Thanks also to Tom7 for the bagels.

[2]Though I hear RieserFS will handle this perfectly in the next revision.

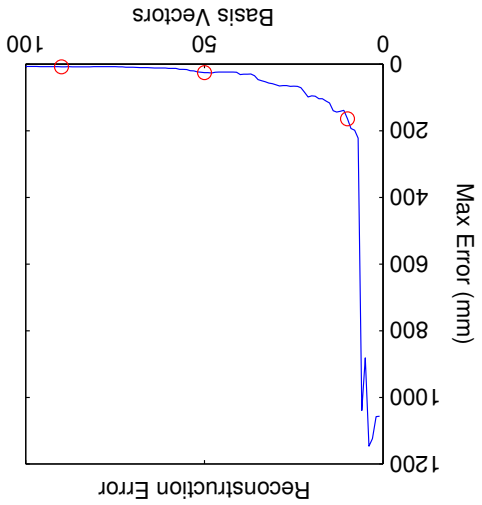

Figure 8: *A version of Figure 7 for those reading the paper upside-down.*

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AutoTALK: An Automatic Presentation Graphical Toolkit

Alga Rhythm

Abstract

Giving interesting talks in computer science fields can be hard. Often, papers are full of boring text, and translating text into something that is both compelling for the audience and faithful to the paper is a difficult task–some may say an art. While it is often advised that images and animations be inserted into talks to help keep the audience engaged, such a task is non-trivial and can occupy more time than is called for. We introduce the AutoTALK system: an AUTOmatic presenTAtion graphicaL toolKit. In this paper, we will propose a system for automatically translating a textual representation of a paper into an engaging, interesting Microsoft PowerPoint presentation.

1 Introduction

A large part of graduate student life consists of research. Successful research requires publishing, which often consists of giving talks. Giving boring talks is considered bad form, but making interesting talks is time-consuming and distracts students from productive research. On the other hand, we have noticed anecdotally that many people find photos of puppies and kittens interesting. Also, we have noticed people watching YouTube[1] videos online instead of doing research. Our work will combine these three observations (boring talks, puppies/kittens and YouTube) in introducing a novel way to add interest to a talk. We propose a method of automatically "making talks" with only minimal work on behalf of the graduate student. The rest of this paper will discuss our methodology (Section 2), experimental evaluation (Section 3), related work (Section 4), and conclusions (Section 5).

2 Methodology

We propose a simple algorithm which operates on a basic, "ordinary" text-based talk and transforms it to an engrossing, engaging talk. A student provides a textual initial PowerPoint presentation[2]; use of bullets, numbered lists, titles, and basic formatting such as bolded and italicized fonts are all allowed. Our system takes this talk, and perturbs it slightly, adding images of puppies and kittens randomly selected from the clip art PowerPoint makes available whenever it determines that at least k words occurred within the talk without an intervening image. To make sure it doesn't appear formulaic, there is a random offset r, $0 \leq r \leq 100$ such that the break occurs on the slide after exactly $k + r$ uninterrupted words.

[1] `http://www.youtube.com/`

[2] This methodology easily generalizes to other presentation systems

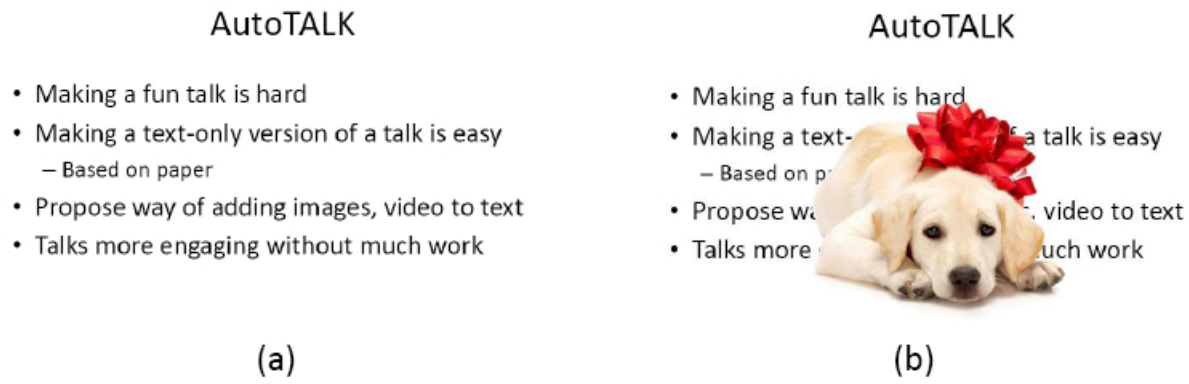

Figure 1: (a) A standard PowerPoint slide before AutoTALK and (b) after AutoTALK

One of our major contributions was a way to add such images without actually destroying the content of the talk. To do so, we utilize the "Animation" features built into newer models of PowerPoint, which allow the images to appear and take over the entire slide after a suitable amount of time has passed (3 seconds).

On top of the automatic image insertion algorithm, we also make sure to insert 2 currently popular short movies from YouTube, spaced to divide the talks into approximately 3 equal portions.

3 Experimental evaluation

Unfortunately, actually implementing AutoTALK would have distracted this grad student from her actual research–just the thing AutoTalk was designed to minimize! We are currently at work looking for funds to hire an undergraduate student for the summer to implement this system. In the meantime, screenshots from a demo version are available in Figure 1.

4 Related Work

We were inspired by the work of the SCIGen group at MIT `http://pdos.csail.mit.edu/scigen/`.

5 Conclusions

Figure 2: More interesting than a standard conclusion

Track 6
Software Engineering and Other Games for Children

The CRUD Methodology

Akiva Leffert
Pomegranate Inc.

I know thy works, and thy labour, and thy patience...
- Revelations 2:2

Recent years have seen the rise of a number of software engineering methodologies with a variety of silly names like Extreme Programming(XP)[2] and Scrum[7] grouped under the umbrella of *agile development*. These methodologies vary wildly in approach, but have several aspects and goals in common: A focus on rapidly developing working code, keeping requirements clear, and aggressive unit testing. However, these approaches are designed to produce software that works, at least that is their claim. Few have tackled programming processes for software that doesn't work and isn't meant to.

In the remainder of this paper, we present Creating Rubbish Using Developers(CRUD)[1]. A methodology for producing bad code. We first present and elucidate the principles of CRUD. We then present examples of the CRUD methodology in action. Finally, we talk about applying CRUD to your software process and how you can reap the benefits of CRUD.

1 Principles of CRUD

It is important for a software development methodology to have principles. Otherwise, the other methodologies would consider it a weak-kneed spineless jellyfish[5] hack of a process and will steal its lunch money, leaving it penniless and sad[4]. Also, lists of principles look good on Wikipedia[8] pages and glorified blog posts[6] promoting its merits. The principles of CRUD are simple:

1. Don't think.

2. Don't act.

There are many ways to produce software that doesn't work e.g. too few programmers, too many programmers, incompetent management, incompetent programmers, contracting to a sketchy guy on the street, bubonic plague, unclear requirements, extremely clear but impossible to implement requirements, demonic possession, dependence on outside code, bad tools, and getting involved in a land war in Asia. However, most of these methods are unreliable, programmers occasionally thrive despite bad management, the demon possessing your lead engineer may turn out to be a serious hacker.

The advantage of the CRUD methodology is that it basically guarantees your project will fail. Even if only one of the CRUD principles is followed, and a good CRUD programmer should be entirely unprincipled, the software project is still likely to fail. In the rare circumstance where

[1]Not to be confused with whatever CRUD it is the database people talk about

the goals of a project are met using the CRUD methodology, the code is often unmaintainable, impenetrable, and difficult to extend.

2 Real CRUD

Here we present several examples of the CRUD process in action or inaction as the case may be.

2.1 Don't Think

A developer has come up with two ways to implement a feature. The first way involves creating a variety of infrastructure, which will take more time to produce up front, but will be useful later in the project. The second way involves writing a much smaller, but still decent amount of code, which will be much harder to change later. Most developers would choose the former, knowing that they will save time later. Developers on a deadline would typically choose the latter, but would feel bad. CRUD developers would sidestep this problem entirely, by grabbing some code from the internet, changing a few bits, and calling it a day. The problem is solved in a tenth the time, is wholly unmaintainable, because no one involved in the process knows how the code works, and mostly importantly used almost no neural energy.

2.2 Don't Act

A piece of code is like any buffoon: The bigger it is, the harder it falls. Large code bases are hard to understand and difficult to modify. The foundation of agile methods is that simpler programs and simpler processes are much easier to maintain and succeed with. This is like bringing a knife to a gun fight. At the same time, at the point where you've gotten into a gun fight, you've made a wrong turn somewhere. Any piece of existing code restricts implementation choices, restricts design possibilities, and generally makes the task of adding new functionality more difficult.

A wise piece of software once said, the only winning move is not to play[1]. The CRUD methodology takes this idea to heart. The Don't Act principle of CRUD articulates that its always easier to not do something than to do something. If your goal is to produce incorrect software, the easiest incorrect software to produce is the empty program. Experienced CRUD programmers eventually attain a zen-like understanding that written code is buggy and hard to manipulate and that the best code is that which is unwritten.

3 Conclusion

It is well known that half of all software projects fail[3]. We think that this isn't good enough. All software projects should fail. The software crisis should become the software apocalypse. After the software apocalypse comes the software post-apocalypse. In this post-apocalypse, the software wasteland is a barren mess of barely started sourceforge projects, increasingly decrepit, but still functional COBOL programs, and the occasional bit of code that only builds on alternate Tuesdays after the sacrifice of a goat.

Developers willing to brave this wild frontier will be hailed as heroes. Adoring crowds will follow them through the otherwise abandoned streets, tossing wilted and mutant flowers in their wake. They will be as gods amongst the twisted men of this future age, rationing code like a stern

quartermaster deep in enemy territory invading Russia in the cold winter of 1812-1813. We can hasten the arrival of this day by adopting principles of CRUD and ruthlessly terrorizing those who don't.

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Paper 17: The CRUD Methodology

Ciera Jaspan, Institute for Software Research, Carnegie Mellon University
Rating: -1 (weak reject)
Confidence: 4/4

Humph. The author did not cite my previous work on the topic of software processes and getting little work done, published in SIGBOVIK 07. I am terribly disappointed with the author, and as a good academic, I am compelled stomp my feet until the author apologies, soothes over my precious ego, and cites my work as the foundation of our illustrious field.

Presuming the above problem is fixed, I will acknowledge good standing of this work. However, I feel the author should point out that the software process also guarantees a CMMi level 5. The process is clearly repeatable (level 2), well defined (level 3), managed (level 4), and it has a built-in optimizing aspect (level 5). As this is so highly advanced, it has actually wrapped back AROUND the CMMi to level 1 again. Clearly, the CMMi was not built to handle this process. Future work should include expanding the CMMi to add a 6th level for such a useful process.

High-Assurance Web Programming with Coq Rock!

Jake Donham, Skydeck Inc.*
jake.donham@skydeck.com

Abstract

Most web applications are riddled with bugs, like a bunch of bananas left too long on the counter. These bugs are due to the low-assurance, low-level, low-skill, high-margin approaches commonly used to produce said web applications. We propose a high-assurance, high-energy, high-barrier-to-entry framework for making bug-free web applications, utilizing the OCaml language and the Coq theorem prover.
Keywords: formal verification, social networking

1 Introduction

With the doubling of the web from 1.0 to 2.0 has come also a halving (estimated) of the quality of web applications. Any bozo can make a web application these days, whether by learning PHP in 21 minutes, hiring a low-wage programmer on Rentacoder.com, or clicking the "I'm feeling lucky" button on Google App Engine. The standards of even professional programming organizations have plunged as the "agile software" and "lean startup" movements have slashed teams and development cycles, and early-stage venture capital operations such as Y Combinator have encouraged English majors with a little Ruby under their belts to start a software company.

The effects of this decline in quality are obvious. Users of popular web applications endure egregious bugs daily. For instance, Twitter users are often shown, instead of the stream of self-promoting quips and obsessive catalogs of food intake with which they distract themselves from a stultifying workday, a mystifying cartoon picture of a whale. Users of e-commerce sites such as Amazon.com and Muffinlady.com sometimes place an order, only to receive an email informing them that the item is out of stock. Google Mail users who attach their resumes to emails sent to potential employers are often surprised to learn that the attachment has been replaced with an .AVI of "Two Girls, One Cup".

It may be argued that this faster, looser, and more out-of-control method of making software has led to gigantic productivity improvements, enormous economic growth, and a massive increase in the number of people under 25 walking around with "fuck-you" money. To this we say, what of it? Back in the day, computers were hard to use, and those of us who knew how to use them could lord it over those who did not. If a programmer said "can't be done" or "that's going to cost you" or "I'll do it after I finish this episode of MST3K", how was Steve in Marketing going to tell him any different?

For this reason, we propose Coq Rock!, a framework for high-assurance web programming. The core idea is that web applications should be written in the Gallina language used by the Coq theorem prover, extracted using Coq's code extraction feature to an OCaml program, then compiled to Javascript using the ocamljs [2] backend to the OCaml compiler, and finally downloaded over the tubes and run in a browser of the user's choice (so long as it is not Internet Explorer, which does not support the dependent types required by Coq). In this way, it can be ensured that web applications are free of bugs, and furthermore that it takes more than some pimply kid with a community college certificate to make them. We sum up this idea in the following slogan:

Strong types discourage weak minds.

*The author was partially supported by a Series A investment from Saban Capital Group.

Listing 1: Gallina code

```
Inductive nat : Set :=
| O : nat
| S : nat -> nat.

Fixpoint plus (m n : nat) {struct m} : nat :=
  match m with
    | O => n
    | S m => S (plus m n)
  end.
```

Listing 2: Proof of Plusr correctness

```
Theorem plus_ass : forall m n p : nat, plus (plus m n) p = plus m (plus n p).
  induction m.
  reflexivity.
  intros.
  simpl.
  rewrite IHm.
  reflexivity.
```

2 Rock out with your Coq out

To illustrate our method, we describe the implementation of a simple web application, called Plusr, that adds two numbers together. It also incorporates standard web 2.0 features such as friending, poking, statusing, and tag clouds. In fact, because these features are so widely implemented in today's web applications, they are provided as part of the Coq Rock! support library, along with proofs of key properties on which application correctness proofs may be built: for example, that tag clouds are closed under intersection; that online friending is not coextensive with IRL friendship; and that superpoke is strictly more powerful than regular poke. (Because of space limitations we will restrict our attention to the core number-adding features of Plusr in what follows.)

The Plusr application consists of two boxes (implemented as standard HTML input elements) and a button. When numbers are entered into the boxes, and the button (on the user's mouse) is depressed while the pointer is over the button (on the user's screen), and then the button of the first part is released, causing the button of the second part to be drawn in the undepressed state—in short, when the user has completed the action known to practitioners learned in the art as "clicking the button", then the numbers whose Arabic numeral representations are entered in the two boxes are added together and the result shown in yet a third box adjacent to the button. The Gallina code is shown in Listing 1.

Listing 2 gives a mechanically-checked Coq proof of the correctness of Plusr. Our measurements indicate that this proof provides an order of magnitude improvement in the quality of the application as well as an order of magnitude increase in the difficulty of writing it. Please note that, because the core addition engine of Plusr is extracted directly from the *specification* of addition (and it is therefore evident that it correctly adds), we strengthen the correctness theorem to include the associativity of addition. While the average user may not appreciate or even notice this extra quality, we believe that a non-associative addition operator would be contrary to the spirit of a standards-based environment such as the web.

Having obtained this proof, we can have near-

Listing 3: Extracted OCaml code

```
type nat =
  | O
  | S of nat

let rec plus m n =
  match m with
    | O -> n
    | S m0 -> S (plus m0 n)
```

Listing 4: Compiled Javascript code

```
var plus$63 =
  _f(function (m$64, n$65) {
       if (m$64) return $(_(plus$63, [m$64[0], n$65]));
       return n$65;
     });
```

total confidence in the accuracy and fidelity of the Plusr application. We rely only on a modest trusted computing base consisting of the hardware platform, the BIOS, the operating system and device drivers, the OCaml compiler, the Coq implementation, the ocamljs backend, and the user's browser (also known as "a collection of random unspecified features written by 23-year-old goth acidheads at Netscape in 1995" [4]). We can then extract the OCaml code (Listing 3) and compile it to Javascript (Listing 4).

A running instance of Plusr can be found at `http://jaked.org/plusr/`, although the reader is warned that limitations on the amount of recursion available in popular browsers limit its applicability to smallish numbers. In our experiments, Firefox can support additions totalling around 1000, Google Chrome around 3500, and Internet Explorer around 250.

3 Related work

There is a long line of research into making programming more difficult. [1] gives a survey of low-level approaches such as introducing random bit errors in memory, playing music at ear-splitting volume, and the C++ language. In the field of web programmning, [3] gives an account of the STRESSful architectural style.

[5] takes a similar approach of compiling an ML-family language to Javascript, but omits the crucial step of layering a theorem prover over it.

4 Future work

While Coq Rock! is effective at ensuring the correctness of individual web applications, it can not yet address the need for compositional reasoning which arises from the prevalence of web 2.0 "mashups". For instance, it would be useful to be able to import theorems from web applications written in other theorem provers such as Twelf, possibly using RSS feeds.

Because the Coq system is based on a constructive type theory, it can be difficult to apply it to inherently classical web applications, such as AmIHotOrNot.com. While it is possible to work around it with a standard double negation translation (e.g. NotAmINotHotAndNotNotHot.com), we are developing a variant of the framework specialized to this use case (Coq Classic Rock).

5 Conclusion

What it really comes down to is respect. If some chump (I'm talking to you, Zuckerberg) can hack together a web site worth $15 billion USD in his spare time between doing beer funnels and streaking across campus on prospective tour days, what kind of world are we living in? What lesson is that teaching our children? Whatever happened to an honest dollar for an honest day's work?

Furthermore, in these troubled economic times, we can't afford the efficiencies provided by cookie-cutter web frameworks, do-what-I-mean scripting languages, and instant hosting and deployment. In order to maintain full employment for programmers, it's crucial to reduce their productivity to a bare minimum. We estimate that as much as 90% of all programmers do not know how to use Coq, and of those a significant fraction will not take the time away from reading Reddit to learn it. When Python is outlawed, only outlaws will have Python, and it is difficult to hire outlaws.

We say it's time to draw a line in the sand. It's time to put a stop to rich feature sets cheaply implemented. With Coq in hand, let us return to the days of real programming, when a single missed semicolon would send the rocket spiraling into the surface of Mars. Let us take pride in a hard job painfully done, and bequeath to our descendents a software crisis like the world has never seen.

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Paper 13: High-Assurance Web Programming with Coq Rock!

Michael Ashley-Rollman, Computer Science Department, Carnegie Mellon University
Rating: 3 (strong accept)
Confidence: 3/4

This paper has world changing potential. It proposes a method by which programming jobs will be returned to the US and Europe, the idiot down the hall will be fired, and control of successful websites will be restored to hands of talented programmers rather than any idiot with a keyboard.

Some open research problems remain before the results of this paper can be applied. In particular, some browser research will need to occur such that numbers summing to values greater than 3500 can be used. In particular, it will be necessary to support adding numbers that sum to at least 5000. Furthermore, while not addressed by the author, I have concerns about multiplication and just how large a value one can multiply together. I would expect it to have similar constraints such that it is impossible to calculate 20*20 in the all too common Internet Explorer browser.

However, given the potential of this paper, I don't see how we can risk not publishing it.

[1] This page is unintentionally blank but I can't figure out why or what is going on

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How to teach the kids logical frameworks with video arcade

Tom Murphy VII George Frankly Kate Monday[†]

The year of our lord March 15, 2009

Negative feedback helps the kids to learn.

Negative feedba

1 Introduction

Fact: *LF is dying. In order to attract more students to the study of logical frameworks, we must approach to them at younger and younger ages. This work, which funded by the Public Broadcasting Service and Canadian

[*]but no thanks
[†]Names changed to protect the innocent

Illuminati television production company YTV, seeks to capture the highly sought-after 6–11 year old demographic.
The pitch is simple: A video game so enthralling, that the kids while their lives away playing it in the videos arcade, all that time conditioning their mind or minds to reflexively accept dependent typing; Twelf concrete syntax; the pattern fragment; to use destination passing style in their everyday language, e.g. to the mother or mothers: "Mother, I want X. `eq` X `candy`;" to literally *not see* the names of bound variable or variables, just as I can often not remember the eye-color of the eye or eyes in a girlfriend's face eye holes; to submit to unification into `%total`itarian regimes; to only find true satisfaction in the pale amber glow of a terminal reading `%% SERVER OK %%`.
Imagine such a world! But this is no pitch, no hypothesis, no hyperbole, no hyperkind. This game is real or real-seeming. The future is soon or *now*.

```
\section{LFMan, a video arcade for teaching dependent lambda calculus}
```

LFMan is a game for a single ripe impressionable player or players. The player plays the game, with the object being to win. A screen-picture is in Figure `Citation 'screenshot' on page 2 undefined on input line 80`.
When the user [**?**] or users presses the joystick, the LF Man moves in the maze [fig.3] to find dots. The maze is trivial to solve. The screen and sound presents an extra challenge: It implores the LF Man, controlled by the player or players [**?**], to evaluate the well-typedness of LF signatures expressed in Twelf notation strewn roughshod throughout the maze. A new LF signature awaits the child or childs at every turn. The child or children must evaluate the signature with lightnings-quick reflex, to adjust the emacs status bar adorning the LF Man's banner message. The bar can be as in Figure 2.
The user or users selects the status bar with the key that has been painted

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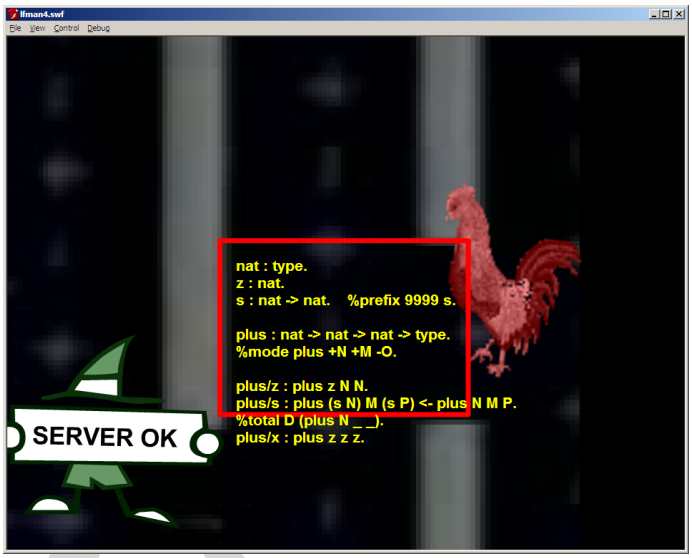

Figure 1: The LF Man is faced with a signature. How shall his emacs react?

with the 1 or 2 digits. If there are 2 digits then this is ABORTS. The LF Man drives additionally with the arrows (*downarrow*, ⟵, ⇒) painted buttons. When the LF Man comes lightning-quick to a LF signature, (Figure 1)his emacs bar must accord with the type-correctness of the LF signature. I.E. if the signature is ill-type, then his emacs bar says "ABORTS" but if the sigature is well-type, then his emacs `bar says ‘‘ OK SERVER ’’.`
When the player's bar accords, the screen and sounds rewards his or her lightning reflex or reflexes with a Positive Feedback. When discord arises, then there is Negative Feedback.

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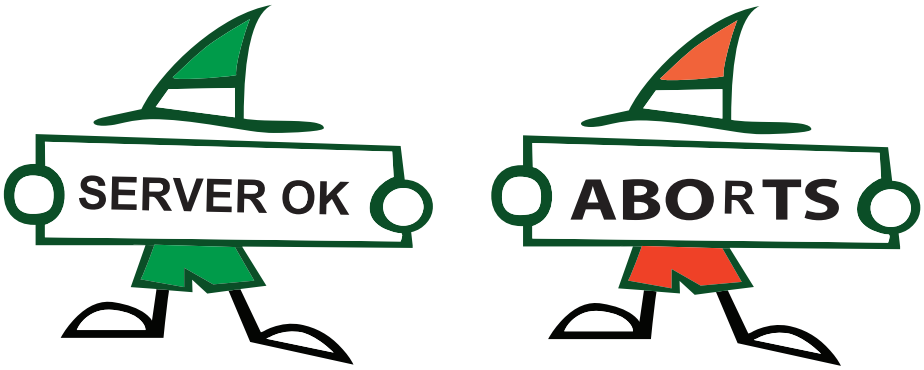

Figure 2: The bar can be as in Figure 2.

2 Negative Feedback

When there is Negative Feedback, the mascot of the Coq theorem prover comes to get the LF Man . This is a chicken. Most of the time the chicken is spinning and grumbling about H.O.A.S.. But when there is Negative Feedback the chicken comes to get the LF Man. If he touches the LF Man then LF Man starts spinning and fading into the maze or mazes.

The LF Man can keep running and standing on Signatures or eating dots but he cannot exorcise the

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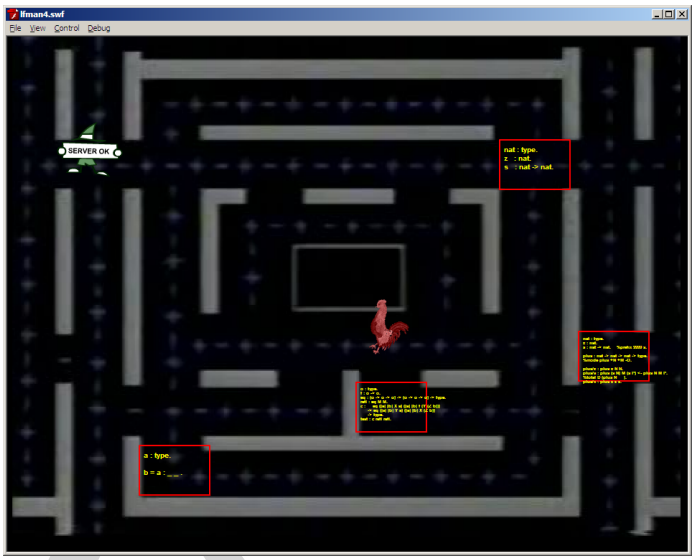

Figure 3: This is a picture of the phosphor in the video screen.

chicken

Negative feedback helps the kids to learn.

3 Implementation and acknowledgements

The LF Man game is implemented in ActionScript with Flash VideoSystem. The source code or codes is shown in (FIGURE 4.) The authors are particularly grateful to the Internet People for their help in

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learning ActionScript semantics. The best resource was "steves tutes", which can be found at `http://video-animation.com/flash_16.php`. Here we learned about inheritance:

> When you use Inheritance you save time , because the base attributes and methods already exists, And Reduce errors , because the base class , Shape has already been used and tested. And You already know how the base class works. Using the same method name to implement different code in subclasses is called PolyMorphism.
>
> polymorphism does work. .. Try out all the other methods . Try and bust it.. bend it.. shake it..

We used inheritance in our VideoSystem application, where the Chicken class is a subclass of the Man class, and the LFMan class is also a subclass of the Man class, and the Man class has the implementation of MovingInTheMazeOrMazes and other shared functionals. Unfortunately: we observed repeated degenerate behavior where the Chicken behaves as an LF Man, mimicking his movements and warp-motion to his locale. We tried using code from *steves tutes* to help us

Here is a clas my good friend Lithium wrote as an example.

```
⋮
    var poop = _root.createEmptyMovieClip(name, level);
    poop.lineStyle(2, 0x000000, 100);
      ⋮
```

Also unfortunately, this did not accord. In addition to introducing compile error messages which we do not understand (but that do not rampart our program from running), it created line-drawings on the screen that did not appear desirable or related to the chicken mimicking problem.

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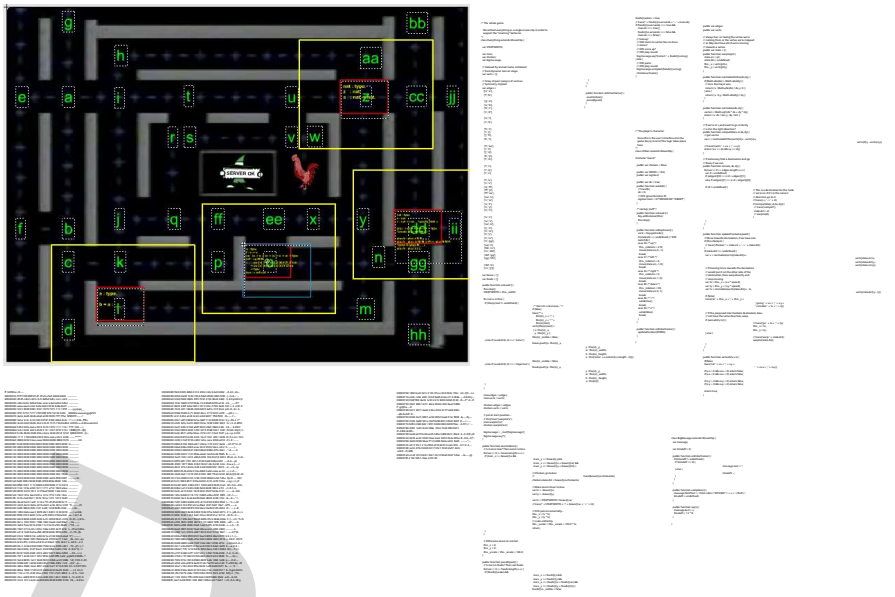

Figure 4: All source code. Source is © 2009

Instead we developed a new technique of inheritance which we call *includeitance*. Instead of using the `extends` keyword to create a subclass or subclasses, we use the `#include` keyword at the head of the class so that LFMan and Chicken can have the same maze motion but the Chicken does not think he is also a LFMan.

Did you want to explore a maze with a chicken? If you have access to children and the children have access to web browser, put them to this URL:

http://spacebar.org/lfman/

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4 Conclusion... or is it?

NetCraft confirms it. *LF is dying. I believe children are our future or futures.

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Lucky Charms or Lucky Harms?

B. Lee, C. Crunch, T. Rabbit, C. Chocula, T. Sam, T. Tiger, et al.

Purpose

Lucky Charms is a well known breakfast cereal but has anyone stopped to think of the dangers that lurk in that bright red box that promises frosted oats and marshmallows? The purpose of this investigation is to determine the amount of harm contained in one box of Lucky charms. With this study we hope to break through the facts and promises of nutrition and finally do something that "thinks of the children."

Methodology

In order to determine the amount of harm present in a box of Lucky Charms, various analytical techniques were used. First and foremost we used a subjective interpretation of the packaging in which the product comes. This is important as the packaging is generally what influences purchasing decisions. Secondly, we performed "luckiness" tests, by equipping children with the "lucky" charms and having them walk through badger infested woods. Finally we take the box and its contents to jury of concerned and highly religious mothers for their highly scientific take on the product.

Data

Subjective test art sample:

Figure 1: Tell me that's not the most demonic looking leprechaun you've ever seen.

Luckiness Analysis

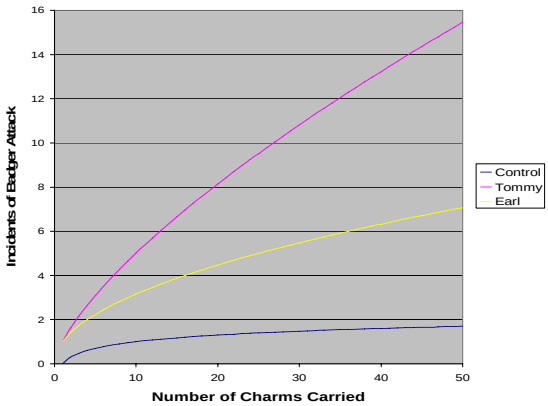

Figure 2: Incidents of badger attacks vs. number of lucky charms carried

Religious Mother Analysis

Figure 3: Panel of Experts

When interviewed and asked about the cereal all seven religious mothers told us that we were going to hell and that our science was the work of Satan. Our investigators took this as negative feedback. It was later determined that one of the members of the panel was not a mother, so her data point was discarded.

Conclusions

From all of our testing we can conclude that the cereal is misnamed. From our rigorous experimentation with rabid badgers and foppish women, we have discovered that in fact Lucky Charms does do more harm than good. We recommend that the name be changed to Lucky Harms. Furthermore, this will make you lots of money, if you continue to fund these studies.

Paper 8: Lucky Charms or Lucky Harms?

Zachary Anderson, University of California, Berkeley
Rating: -1 (weak reject)
Confidence: 4/4

This paper tests the theory that Lucky Charms and children interact in such a way that produces more bad outcomes than good. The well-established Badger Attack Metric (BAM) is used to evaluate the theory. Additionally, the authors sought insights from a panel of experts on children and serendipitous, unlikely events.

The primary shortcoming of this work is the absence of the usual in-depth statistical analysis of the results of the BAM. In particular, Figure 2 seems to suggests that some hidden variable affects the rate at which increasing the presence of Lucky Charms produces more Badger Attacks, and that this hidden variable is different in different children. Furthermore, this reviewer is reluctant to concede that three children form an adequate sample size. Increased sample size can improve confidence in results, and besides, the badgers are hungry and need to be fed children on a regular basis.

Misc. Comments:

1. Reorder the key of Figure 2 to match the graphs.

2. Proofread for comma usage and diction.

Choose Your Own Logic Adventure

Jason Reed

March 15, 2009

Abstract

This paper is different from other conference papers.

You and YOU ALONE are in charge of what happens in the story.

There are dangers, choices, entailment relations and consequences. YOU must use all of your numerous lemmas and much of your enormous intelligence. The wrong decision could end in disaster — even failure of a suitable cut admissibility theorem. But, don't despair. At any time, YOU can go back and make another choice, alter the path of your story, and change its result.

Except for page $\widehat{9}$. It is a consumable linear resource, and can only be read once. Is it missing already? Maybe someone else has been reading your copy of the conference proceedings. Maybe they're still nearby. Hiding, in this very room. Watching you. Do you hear breathing? Haha, no, that's just the ventilation system.

Probably.

1 Introduction

You've just graduated from Space Academy and are being assigned to a dangerous mission — to be the first person[1] to go through a black hole. Of course, you don't have any particular inclination to go through with this cockamamie plan. You only enrolled in Space Academy in the first place because you thought it would pad out your CV nicely. Unfortunately the galactic economy is looking rather grim, and job prospects for the un-dashing non-brash not-adventurer are thin on the ground.

And now it's come to this: You're standing at the entry hatch to the USS Split Infinitive (whose course to Miscellaneous Most Likely Harmless Unclassified Quasi-Stellar Item Catalog Number X-ZZ9PZA has been computed, recomputed, and double-checked for type safety) with your space helmet in hand, space boots primly laced, and half a space burrito stashed away for a mid-afternoon snack.

If you stride confidently up the gangplank, elbows a-swingin',
turn to section 2

[1] Except for some other jerks that got eaten by green bears [Pac95]

If you turn around on the pretext that you want to use a honest-to-gum Earth-bathroom one last time,
turn to section 3

2 Through the Black Hole

Ow! Your elbow! You bumped it on the door-frame. That really smarts! You thought this lousy space suit was supposed to have more padding around the sensitive bits. You make a mental note not to tangle with any fast-moving rocks while on the exterior of the ship fixing antennae and what-not.

After a few demoralizing days of losing at hyperchess with the ship's computer and reading archives of early 21st-century webcomics, you finally see X-ZZ9PZA on the main display. You say "Zoom! Enhance!" and make a commandingly assertive pointy gesture, not that it accomplishes anything, but it sure feels good, doesn't it?

No memories remain of what happens during the next five minutes, but you wake up in a bizarre through-the-looking-glass sort of world of eerie background music and flocks of winged toaster ovens. You are chained to a desk. The monitor is one of those old-fashioned CRTs, and the video card is so cheap that the interlaced fields wobble back and forth independently as if drunk. You languish on, mysteriously undying, for years and years, forced to maintain underdocumented Java libraries for the rest of eternity. Every century or so, you begin to ask, "Is this an allegory for someth—" but are interrupted by the sound of an AWT manual slapping across the backside of your head.

The End

3 Bathroom Break

Ahhh. Much better.

You leave the bathroom, and are now standing in front of your office right across the hall. Out of the corner of your eye you see within it some familiar scribblings on the whiteboard. Oh, that's *right*, you never did solve that logic problem. Hmm.

If you forget about it, and go back to the job you're meant to do,
turn to section 5

If you go into your office for just a few minutes to see if you can remember what you were working on,
turn to section 4

4 The Office

You're in your office, staring at the whiteboard. There's an alarming morass of symbols that you're quite sure you wrote as recently as yesterday, but it isn't presently making any sense at all.

You hope the whiteboard marker fumes aren't going to your head. They must have run long-term health impact studies on these things, right? Surely.

Anyway, what is all this nonsense about?

If you think it had to do with focusing,
turn to section 6

If you think it had to do with an adjunction,
turn to section 7

If you think it had to do with modal logic,
turn to section 13

If you think it had to do with refinements of the notion of proposition,
turn to section 14

If you think it had to do with fiddly encodings of one logic in another,
turn to section 15

5 Can't Help It

You get nearly five paces (a new personal record) before the nagging sense of curiosity starts driving you absolutely crazy. You turn right around back toward your office.

Turn to section 4

6 Focusing

Focusing [And92] is the hottest new idea in proof search since custom sequent ringtones. It says propositions come in two flavors, 'positive' and 'negative', with more to come, if only the franchising rights with Rita's Water Ice, Inc. can be worked out.

You recall that focusing discipline (where positive connectives are decomposed eagerly on the left, and in contiguous segments on the right, where negative connectives are decomposed eagerly on the right, and in contiguous segments on the left, and where the Ritaccino$^{\mathrm{TM}}$, a new frosty drink with rich coffee taste, topped with Creamy Vanilla Custard, is coffee-licious regardless of which side of the entailment on which it appears) can be shown to be equivalent to ordinary deduction in the following way.

First of all, we take a language of polarized propositions.

Negative N	$::=$	$\uparrow P \mid P \multimap N \mid p^-$
Positive P	$::=$	$\downarrow N \mid P \otimes P \mid p^+$

Then consider the following three translations of it into first-order linear logic.

X	X^a	$X^\bullet$	X°
$P \otimes Q$	$\exists b. U_b P^a \otimes Q^b$	$P^\bullet \otimes Q^\bullet$	$P^\circ \otimes Q^\circ$
$P \multimap N$	$\forall b. U_b P^a \multimap N^b$	$P^\bullet \multimap N^\bullet$	$P^\circ \multimap N^\circ$
$\downarrow N$	$F_a U N^\bullet$	$N^\star$	UN°
$\uparrow P$	$U_a F P^\bullet$	$P^\star$	FP°
p^+	$F_a p^+$	p^+	p^+
p^-	$U_a p^-$	p^-	p^-

The first translation X^a, parametrized by an element a of an arbitrary domain of individuals, is to be read as the 'asynchronous translation of X yielding token a'. The second translation $X^\bullet$ is the 'synchronous translation of X'. The third translation X° is the 'uniform translation of X'. N.b. that $X^\star$ is just an instance of the translation X^a where a happens to be the 'canonical token' $\star$.

First show inductively that the following equivalences always hold

$$P^a \dashv\vdash F_a P^\bullet$$
$$N^a \dashv\vdash U_a N^\bullet$$

Then notice as a consequence of this we have

$$A^\bullet \dashv\vdash A^\circ$$

Meanwhile observe that doing proof search on $\Gamma^\star \vdash P^\star$ (if Γ is entirely negative) exactly simulates focused proof search on $\Gamma \vdash P$. In more detail, consult the table

$\Gamma \vdash P$	$\Gamma^\star, \star \vdash P^\star$	$U\Gamma^\bullet, \star \vdash FP^\bullet$
$\Gamma \vdash [P]$	$\Gamma^\star \vdash P^\bullet$	$U\Gamma^\bullet \vdash P^\bullet$
$\Gamma; [N] \vdash P$	$\Gamma^\star, N^\bullet \vdash P^\star$	$U\Gamma^\bullet, N^\bullet \vdash FP^\bullet$
$\Gamma; \Omega \vdash N$	$\Gamma^\star, \star, \Omega^\bullet \vdash N^\bullet$	$U\Gamma^\bullet, U_a\Omega^\star \vdash N^a$
$\Gamma; \Omega \vdash P$	$\Gamma^\star, \star, \Omega^\bullet \vdash P^\star$	$U\Gamma^\bullet, U_a\Omega^\star, a \vdash FP^\bullet$

And all the cut and identity principles you want fall out nicely of the second column. The third column is the correspondence that actually yields focusing search, where $U_{a_1}(P_n, \ldots, P_1)^\star$ stands for $U_{a_n} P_n^\star, \ldots, U_{a_1} P_1^{a_2}$. To see that $\star \otimes \Omega^\bullet \dashv\vdash U_a \Omega^\star \otimes a$, generalize the tensor case of the above theorem.

Now we can see the correctness of focusing by meditating on A° and noting that we can insert extra shifts at will while maintaining identity up to $\dashv\vdash$.

The End

7 Adjunctions

Adjunctions are the hottest new idea in category theory since custom colimit ringtones. Two functors F and U are adjoint to one another (F left adjoint to U, U right adjoint to F) if there are natural transformations $\eta : id \to UF$ and $\epsilon : FU \to id$ satisfying the triangle equalities $U\epsilon \circ \eta_U = id_U$ and $\epsilon_F \circ F\eta = id_F$.

Certain adjunctions show up in logics as well. You can't necessarily tell that the triangle equalities are satisfied if you don't look at the proof theory, but you get certain properties that are dead giveaways like $UFU \dashv\vdash U$ and $FUF \dashv\vdash F$.

To think about the token passing adjunction, turn to section 10

To think about the multimodal adjunction, turn to section 9

To think about the monoid decoration adjunction, turn to section 11

To think about the CPS adjunction, turn to section 8

8 CPS Adjunction

A time-traveling wizard appears in a smoky puff of logic and makes you a confusing, high-stakes offer. You decline, and wonder if you imagined the whole thing after he disappears. You notice that you can't taste the whiteboard anymore. Marker fumes.

For a fresh atom p, the type operator $\neg_p A = A \multimap p$ is self-adjoint. As a generalzation of Brouwer's Theorem $\neg\neg\neg A \vdash \neg A$, we easily obtain $\neg_p\neg_p\neg_p A \vdash \neg_p A$. See also [CCP03].

You'd think that $FUA \vdash A$ would be problematic since generally we don't get double-negation elimination, but fortunately $A \multimap p$ is contravariant, so the entailment we're asking for is in the opposite category, and so becomes just $A \vdash \neg_p\neg_p A$.

The End

9 Multimodal Adjunction

Okay, you give the whale a second oatmeal-raisin cookie. It sprays you affectionately from its blow-hole. You think the whiteboard marker fumes are beginning to make you a little dizzy.

Suppose there's some preorder M of modal worlds. For each $p \in M$, there is a notion of proposition-at-p. Its syntax is as follows

$$A_p ::= F_{q \geq p} A_q \mid U_{q \leq p} A_q \mid A_p \wedge_p A_p \mid A_p \vee_p A_p \mid A_p \Rightarrow_p A_p \mid \top_p \mid \bot_p \mid a_p$$

The subscript p on the familiar logical connectives indicates that formally we are keeping track of *where* (i.e at which mode of truth) the conjunction, disjunction, implication is taking place. Likewise there is a separate class of atomic propositions a_p for each p. The notation $F_{q\geq p}$ and $U_{q\leq p}$ is meant to convey that *if* $q \geq p$ in the preorder structure supposed on M, then $F_{q\geq p}$ is in fact allowed to be used as a logical connective, and similarly for U with the inequality running the opposite direction.

$$\frac{\Gamma \vdash A_q}{\Gamma \vdash U_{q\leq p}A_q} \qquad \frac{q \geq r \qquad \Gamma, A_q \vdash C_r}{\Gamma, U_{q\leq p}A_q \vdash C_r} \qquad \frac{\Gamma\big|_{\geq q} \vdash A_q}{\Gamma \vdash F_{q\geq p}A_q} \qquad \frac{\Gamma, A_q \vdash C_r}{\Gamma, F_{q\geq p}A_q \vdash C_r}$$

where $\Gamma\big|_{\geq q}$ means the context made of only those A_p true_p found in Γ such that $p \geq q$.

The idea behind the rules is that they maintain the invariant that every proposition in the context is $\leq$-bigger than the conclusion.

We obtain for every $p \leq q$ the adjunction $F_{q\geq p} \dashv U_{p\leq q}$.

The End

10 Token-Passing Adjunction

You'll never look at a ladder the same way again. Your mustard watch strikes half past Honey Mustard. You think the whiteboard marker fumes are beginning to make you a tad light-headed.

One can add to a logic that allows for linear atoms p a pair of connectives F_p and U_p defined by the following rules:

$$\frac{\Gamma, p \vdash A}{\Gamma \vdash U_pA} \qquad \frac{\Gamma, A \vdash C}{\Gamma, U_pA, p \vdash C} \qquad \frac{\Gamma \vdash A}{\Gamma, p \vdash F_pA} \qquad \frac{\Gamma, A, p \vdash C}{\Gamma, F_pA \vdash C}$$

Basically U_pA is $p \multimap A$ and F_pA is $p \otimes A$, except their rules require the atom p to be immediately present in the context when it is to be consumed. One can see that this requirement is benign by showing cut elimination and identity for a logic featuring F_p and U_p.

The End

11 Monoid Decoration Adjunction

What has been seen can never be un-seen. At least, that's what the Positive Skunk told you. How *did* it get inside the mirror? The whiteboard marker fumes are definitely pickling your mind-grapes.

Pick your favorite commutative monoid $(M, \cdot, e)$. Decorate the entailment $\vdash_q$ with an element $q \in M$. Use the identity e at the init rule, and for rules like

$\otimes R$ and $\multimap L$ and cut, multiply the two monoid elements from the branches together.

We can add for any $p \in M$ adjoint connectives $F_p \dashv U_p$, with rules as follows:

$$\frac{\Gamma, \vdash_{p \cdot q} A}{\Gamma \vdash_q U_p A} \qquad \frac{\Gamma, A \vdash_q C}{\Gamma, U_p A \vdash_{p \cdot q} C} \qquad \frac{\Gamma \vdash_q A}{\Gamma, \vdash_{p \cdot q} F_p A} \qquad \frac{\Gamma, A \vdash_{p \cdot q} C}{\Gamma, F_p A \vdash_q C}$$

If you think that this resembles the token passing adjunction, turn to section 10

If you wonder why the monoid has to be commutative, turn to section 12

12 Noncommutative Monoid Adjunction

All of a sudden you understand what it means for A to broccoli B. You just... can't seem to explain it in terms of anything else. Except perhaps cauliflower. The whiteboard markers smell like burning.

If one tried to decorate the turnstile with a *noncommutative* monoid similar to the commutative one, it's not clear how the principal cut case for $\multimap$ would go. The cut rule would probably be something like

$$\frac{\Gamma \vdash_p A \qquad \Gamma, A \vdash_q C}{\Gamma \vdash_{pq} C}$$

and the left rule for implication would be similarly multiplicative, but staring at

$$\frac{\dfrac{\mathcal{D}_1}{\Gamma, A \vdash_r B} \qquad \dfrac{\dfrac{\mathcal{D}_2}{\Delta \vdash_p A} \qquad \dfrac{\mathcal{D}_3}{\Psi, B \vdash_q C}}{\Delta, \Psi, A \multimap B \vdash_{p \cdot q} C}}{\Gamma \vdash_{r \cdot p \cdot q} C}$$

and cutting $\mathcal{D}_2$ into $\mathcal{D}_1$ and then that result into $\mathcal{D}_3$ yields $\Gamma \vdash_{prq}$ rather than at rpq. Different cut orders and swapping the direction of composition in the $\multimap$ left rule both seem to fail to help any.

Different ideas are evidently required.

The End

13 Modal Logic

Modal logic [PD01] is the hottest new idea in logic since custom proposition ringtones. You find yourself lost in a daydream about possible world semantics. Or was it impossible world semantics? Upside-down-box A is true if for no inaccessible impossible world, A holds at that world. The whiteboard marker fumes are impairing your judgments.

$\Diamond$A is something like $(\Box(A \multimap p)) \multimap p$, isn't it? Maybe this would make more sense if generalized to a multimodal calculus...

Turn to section 9

14 Refinements

You wonder: Are there any words for sorts... I mean varieties... I mean kinds... er, special collections of things that mathematics hasn't appropriated as jargon? Sort, variety, kind, type, group, class, set, array, bunch, bundle, clique, cluster, gaggle, series, species, rank, partition, order, variation... The whiteboard seems to be winking at you. Maybe you should get some fresh air.

Arguably [Ree09] to each judgment there can correspond a distinct class of propositions. So by refining the judgment into finer notions of truth (even if they seem arbitrary) we should be able to refine the class of propositions accordingly.

Suppose for instance that we wish to assign judgments of truth and propositions a notion of *size*. In syntax we might say that we have propositions A^n, of size n. However, dependently typed syntax is easier to express in an LF-like clausal notation rather than in BNF; In that case say the constructor for props is, say, $o : nat \to \text{type}$.

$$\begin{array}{l}
\otimes : o\ N \to o\ M \to o\ (M + N) \\
\multimap : o\ N \to o\ (M + N) \to o\ M \\
\& : o\ M \to o\ M \to o\ M \\
\oplus : o\ M \to o\ M \to o\ M \\
1 : o\ 0 \\
0 : o\ M \\
\top : o\ M
\end{array}$$

Then we may restrict entailment to require a context of size M as and a proposition of the *same* size M, (where the size of a context is the sum of the sizes of the linear propositions in it) and see that identity and cut work as

$$\frac{\Delta^m \vdash A^m \qquad \Gamma^n, A^m \vdash C^{n+m}}{\Delta^m, \Gamma^n \vdash C^{n+m}} \qquad \frac{}{A^n \vdash A^n}$$

One might think that this system is merely a refinement of linear logic, in that it allows only certain propositions and retains the same set of proofs of them, but this is not the case: for during the tensor right rule

$$\frac{\Delta^m \vdash A^m \qquad \Gamma^n \vdash B^n}{\Delta^m, \Gamma^n \vdash (A \otimes B)^{m+n}}$$

we are actually constrained to divide the context into pieces that respect the size assignments to the propositions.

For example, consider the sequent

$$\top^2 \vdash \top^1 \otimes \top^1$$

which is not provable in the 'sized' logic, because we are compelled to (and cannot) divide the context into two 1-sized portions, but is trivially provable if sizes are erased.

The End

15 Encodings

Fiddly token-passing arguments are the hottest thing in equivalence proofs between logics since custom twelf ringtones. It occurs to you that the all-at-once aspect of the proof-irrelevance context promotion operator [Pfe01] seems encodable by some kind of token-passing. Try for instance:

$$\triangle A = \forall a. U_a \exists b. F_b U_a F_b A$$

On the right, $\triangle A$ first produces a new token, call it a_0. On the left, $\triangle A_1, \cdots, \triangle A_n$ are then able to 'thread' together to form a context like

$$a_n, U_{a_0} F_{a_1} A_1, \cdots, U_{a_{n-1}} F_{a_n} A_n$$

and then on the right again the remaining $\exists b. F_b U_{a_0} F_b A$ can consume the a_n, which 'unravels' the whole context, and then yields a_n to be consumed once more on the right.

After grinding away at it for a while you don't make a lot of progress actually proving syntactically that it's the same thing as two monads[2], which is what you hoped.

You recall that the indexed versions of the — what to call it? sesquiidempotency? — of the adjoint functors are the identities

$$\forall a. U_a F_a U_p = U_p$$
$$\exists a. F_a U_a F_p = F_p$$

The monad is also $\forall a. U_a F_a$, but the comonad is not exactly $\exists a. F_a U_a$.

If you forgot momentarily what those $F_{whatever}$s mean,
turn to section 10

If you think this might have to do with focusing (doesn't it always?),
turn to section 6

[2]He accidentally Kleisli lifted twice! Now he's... *two monads*

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The Words of Warcraft

Turing T. Turing

Keywords

words warcraft ***BEST!!!***

ABSTRACT

Research by forum posters > research by researchers. But the research in this paper > the research by forum posters. **SO WE ARE THE *BEST!!!***

1. WE SHOULD DO SOME RESEARCH ON VIDEO GAMES

Really. I mean it. Below I make a two-point argument as to why.

1.1 Video game reality is pretty sweet

I don't think this needs much defense. Consider figures 1 through 4, which show people from real reality and video game reality. Would you rather hang out with the fellow in figure 1, who clearly just wants to be a videogame but, despite an impressive collection of early Nintendo paraphenalia, clearly cannot. Or the person in figure 2, a woman who let her dog poop on a train and then had her reputation savaged by the internet? As our pictures suggest, reality is full of people who want to be in videogames, who let their dogs poop on trains, or who destroy the lives of people who let their dogs poop on trains using the power of the Internet. Horrible!

In contrast, consider the people in figures three and four, who come from video games. Cloud Strife, in figure 3, has a huge sword. And Solid Snake, in figure 4, has a porn star name and is a secret agent. Everyone in video games tends to have huge swords, a porn star name, or is a secret agent. In which case they probably have guns hidden somewhere.

Figure 1: An impressive collection of Nintendo equipment

To recap: in real reality, people want to be in video games and abuse each other, but in video game reality people are already in video games!

1.2 World of Warcraft is an evil addiction machine

Fact: if you played *World of Warcraft* (*WoW*from now on) you would not be reading this paper. Rather, you would be using your big sword to kill monsters and get virtual

Figure 2: Ewwww…

Figure 3: It is true that he has anime hair and pants, but he also has a big sword.

Figure 4: Solid Snake, with a Solid Snake

gold so you could buy a better big sword. This is scientific fact. If you know someone who tells you that they play *WoW*, they are either lying to you (because they are outside of their cave-like home) or they are playing *WoW*in the back of their mind, only to have their hopes dashed later this evening when they discover that the *WoW*gold they earn in their mind is not the same as the *WoW*gold that they earn in the virtual world. How do you think Blizzard makes all that money? By *not* having people play *WoW*? No. There are a zillion people playing *WoW*every second, especially in Asia, because *WoW*is an evil addiction machine.

You know what else is an evil addiction machine? Cigarettes. And do we study cigarettes? Yes, we do. We can't say for a fact that all evil addiction machines cause Cancer, but like the UN members in episode 3F23 of *The Simpsons*, "You Only Move Twice", we can't take that chance.

2. PRIOR GAME RESEARCH

Video games are pretty super-hip, and it seems like a lot of researchers want to prove that they are not balding old men wearing jackets with tweed patches by writing papers on them. Plus, grant givers want to prove that they are not stodgy old fuddy-duddies likely to miss the boat on the next big thing. Like video games! So, there are lots of people giving people money to write things about video games, and there are lots of people writing things about video games. Many of these researchers, unfortunately, are Johnny-come-latelies piggy-backing on the tons of significant, independent research done by freelancers. Consider McCallum-Stewart and Langert's papers on *WoW*, in which they talk about the apparent culture values embodied in the in-game races and in various media generated by the players. [2] [1] But is this really science? ***THERE ISN'T A SINGLE GRAPH ANYWHERE!!!!*** In contrast, consider vrahnos's simple treatise (see figure 5) Not only does he make a clear and simple point, referencing the court of public opinion, but he also presents some experimental research, pitting AI-controlled characters against each other in a battle to the death and thus demonstrating fairly definitively that, regardless of the heroic Tolkien-like motif used to present the characters in the Alliance, when juxtaposed with the more ethnically and morally diverse races of the hoard, the Alliance sucks. [3] This is science at its finest.

3. THIS HERE GAME RESEARCH

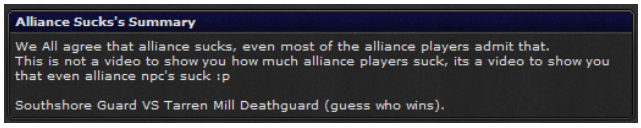

Figure 5: Some pithy observations

Despite the failure of some cultural analysts to look at the culture of *WoW*in a rigorous way, there's some merit to that idea. Sure, no one who's actually playing *WoW*right now is likely to stop any time soon, but what if there's a power outage? What if a server goes down? Those innocent game players are going to take the knowledge that they've gleaned from this game to the streets! Rioting orc-wannabes and elf-poseurs will be rampaging about, attempting to apply what few values they've picked up from this virtual continent, the virtual ethe/ethea/ethoi of these non-races to our own quotidien reality. Imagine, if you will, someone who thinks they are an orc demanding a cab driver take them to the walled fortess-city of Ogrimmar. Once this innocent but deluded person realizes that they have actually been deposited at the Tower of Learning, I shudder to think of the carnage that will ensue.

The solution to this problem is to undertand the text to which these poor souls are being exposed. What are the messages they are told by AI-controlled characters on a regular basis? What are the terms that are seeping into their subconscious?

To determine this, instead of engaging in some namby-pamby ethnographic survey that would require me to play or actually fraternize with people who do play, I opted to take all of the descriptive text from different quests and dump it into some text analysis software, nicely removing all thought from the loop and replacing it with cold, hard, science

3.1 Where'd I get the data from?

Allakhazam.com, which has a big ol' database of quests put together by sad obsessives.

3.2 What'd I get the data with?

Some curl scripts.

3.3 How well did I clean the data?

FIND and REPLACE. Real computer scientists don't write programs, they tactically leverage the functions written by

Rank	Count	Word
1	9616	in
2	7636	have
3	6665	be
4	6583	are
5	6235	this
6	5323	with
7	3695	from
8	3577	on
9	3373	if
10	3309	can
11	3117	not

Table 1: BOOM!

other computer programmers that have been layered into confusing GUI interfaces.

3.4 How did I analyze the data?

A cunning combination of two shell commands, a pipe, and Microsoft Excel.

4. SWEET JEBUS JONES! RESULTS

Having taken the text corpus of *WoW*quests as archived by an unauthorized third party, purged a bunch of HTML from them and counted up all the words. Please allow me to drop table 1 on you, a list of the eleven most-frquently used words by AI-controlled characters that give quests to human players.

Please note that Table 1 is a Top 11 list, not a Top 10, because "be" and "are" are pretty much redundant. Indeed, if we combine those words, then the hybrid "be/are" rises dramatically to the top, with 13248 occurrences! Insane.

Now, *WoW*players have brains that are soft like jelly, numbed to the harsh reality of real reality by the soothing lute-like sounds and easy rewards of video-game reality. As such, it's safe to assume that, like simpleminded counting machines, players are subconsciously storing up all of these words in rank order in their heads. And thus when, deprived of their game through the aforementioned hypothetical catastrophic power outage/forest fire/what-have-you, they will attempt to create some kind of coherent meaning from the fragments of their past experiences, they will attempt to divine some kind of direction from the fragmentary directions they have been previously given. And their subconscious will (subconsciously) vomit forth this command, derived from these frequencies (commas inserted for clarity):

BE/ARE *IN*(,) HAVE THIS WITH FROM ON(,) IF CANNOT(?)(!)

I shudder at the the thought.

5. FUTURE WORK

I would like funding for future work to study this all powerful sentence, to determine whether or not the commas are correctly place, and if the end should have a question mark, exclamation point, or -frighteningly- both.

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Track 7
Theory, Logic, and Applications

Accelerating Program Performance *

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Abstract We present the Timer Assistance and Relativity for Programs Program, designed to rectify the recent illegal stagnation of clock speeds in clear violation of Moore's law.

1 Introduction

Moore's law, which predicts that computer clock speeds will double every 15 months, has been the driving force in compiler performance improvements since the fall of Reaganomics. However, Moore's law is finally coming to an end again in 2009 (Figure 1). Like the Social Security system, the computation industry can only survive during periods of exponential growth. Therefore, in order to guarantee the continued solvency of computing, we must take immediate and extreme measures to stimulate the speed at which our programs run. This paper presents a practical multi-step initiative for achieving this, which we call the Timer Assistance And Relativity for Programs Program, or TAARPP.

2 Overclocking

Normalizing for the number of computers in existence, we actually observed a modest *decrease* in the amount of computation performed in January 2009 relative to December 2008. The reason for this is simple: Though both months have 31 days, December 2008 added a *leap second* after its usual final second, during which computers happily accrued trillions of cycles, computing many iterations of the `NOP` instruction and rendering scenes of complex geometric interlocking pipes with the words "Microsoft Windows" glistening in environment-mapped three dimensional rotating glory to be sent to cathode-based office heating equipment. 2008 as a year beat 2009 handily in cycles cycled, due to its entire leap *day*.

The first step in our TAARP program is to legislate an immediate redefinition of the second to extend its length from one second to one second. Without changing the microprocessors already installed in our computers, we can expect clock rates, measured in cycles per second, to increase correspondingly.

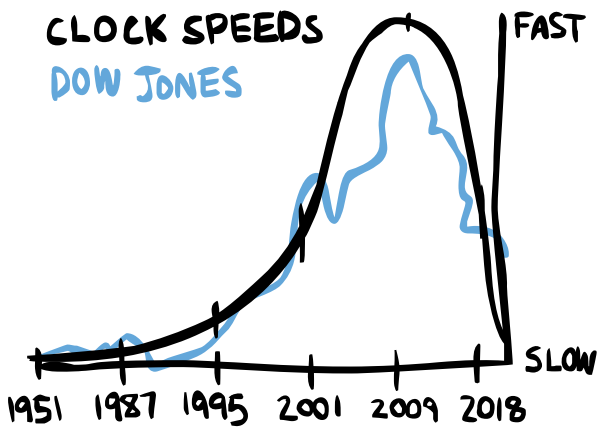

Figure 1. Clock speed plotted versus time, to prove the demise of Moore's law. Note that the (projected) data after 2009 actually suggest a *decline* in clock speeds. This is based on my perception that my Windows XP laptop just feels a lot slower than it used to. Yes I have installed antivirus software and defragmented my hard-disk. Also shown is the Dow Jones Industrial Average, which correlates neatly with computer clock rate. Coincidence?!

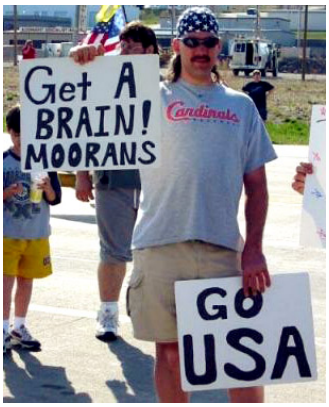

Figure 2. Get a brain, Moorans! The jig is up. That is, unless . . . . . .

There are a few challenges: The year day may become desynchronized from the revolution of the Earth around the sun and along its axis, respectively.[1] The average human lifespan will decrease, with few persons ever even reaching retirement age. Children will further accelerate their hypersexualization, with teenagers developing carnal tendencies, bodacious bodies, and dressing like harlots at younger and younger ages.

There are also a few benefits: GDP (measured in dollars per year) will increase, time spent waiting in line (measured in seconds) will decrease, and after enough time even the Chrysler PT Cruiser will be able to achieve highway speeds in excess of 100 miles per hour. GO USA!

Of course, we must continue to protract the absolute length of the second while absolute clock rates remain constant in order to retain exponential growth in megahertz. However, because the second itself will be forever lengthening, the rate at which we make this change (in seconds per second) will be constant and therefore not disruptive.

3 Relativity

One may argue that the absolute clock rate is still important in certain situations. For example, I might wish that my program finishes compiling by the time I brew coffee and return to the mainframe terminal. If we are unable to slow the physical processes by which beans are made into delicious life nectar, then as the second is prolonged, the amount of time it takes for me to fetch coffee will become preposterously short compared to the time it takes for my program to compile, measured in seconds. For this kind of synchronous and comparative activity we look for inspiration or assistance from, with, or to, the very physical and natural laws that were previously to this sentence our nemeses (or, in aggregate, our nemesis) in order to supply, or for the purpose of supplying the solution or inspiration thereof that they are the very cause of needing that solution for, or because of, or indeed in spite of.

The second phase of TAARPP is to use special relativity [1] to literally slow the passage of time for our computational machinery while leaving our perceptual machinery (Earth eyeballs & sense organs like tongues) alone. This shit is for serious [3]. All that's necessary is to put datacenters on rocket ships, load up our Linux kernel compile jobs onto those computers, and then accelerate the datacenter to near-light speeds into deep space. When the jobs are about half done, the ship turns around and comes back, with an eternity of clock cycles having been issued in the data center with only an era of clock cycles having passed on Earth, and we get our Linux kernel compile binaries and coffee at roughly the same time (Figure 3). Either this or you gotta accelerate the Earth or otherwise rest of the universe away from the datacenter, which would then no longer need to be in a ship with rockets because it's just gonna sit there,

[1] This can probably be fixed easily by slowing the Earth's rotational and orbital momentum by detonating a timed series of hydrogen bombs on its surface, which would be totally sweet anyway.

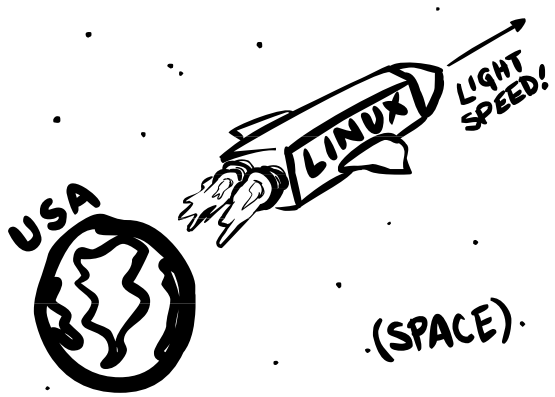

Figure 3. Either this . . .

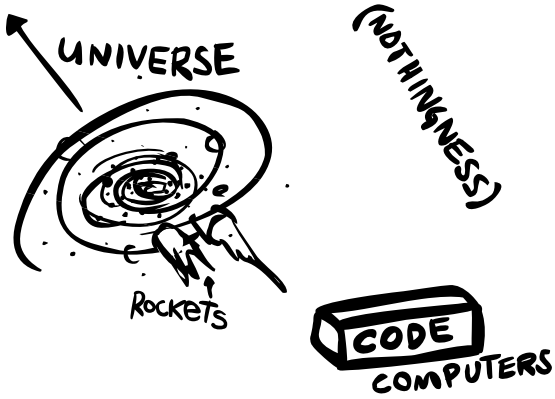

Figure 4. . . . or this.

and we're gonna need the rockets for accelerating the Earth or the universe (Figure 4). It's one of these two things for sure.

4 Conclusion

Also like, supermassive black holes.

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Paper 10: Accelerating Program Performance

Bowen Lee, Independent Contractor
Rating: 3 (strong accept)
Confidence: 3/4

The author suggests a change of physical constants and usage of special relativity to increase the measure of processing power of computers; without having to change the current installed hardware set. The paper is complete with hints of jingoism and references to obscure movies from the late 80s. Author has taken into account for common causes of loss of processing power under the Microsoft Windows environment. Reader also notes that there is an abnormally high frequency of blue colored words that begin with the letter ‘o.’ The usage of internet memes and the very mention of the Linux operating system are more than enough for me to recommend this paper for acceptance.

Typesafe Government: Progress and Preservation

Chris Martens

March 16, 2009

Abstract

We describe the first known formal description of type safety for a system of government, discovering through this lens the key notion of balanced ideologies: the principle of *progress* (well-typed policies don't get stuck in their ways) and that of *preservation* (if it ain't stuck, don't change it) equally share the burden of society. We summarize our findings as a conservative extension to a left-focused sequent calculus.

Keywords lawgic, type safety, political theory

Focused drunken logic

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Abstract

Drunken logic is a modified variant of lax logic that provides high proof elimination rules within the lax (i.e. drunken) modality. The seminal paper on drunken logic was intended to inspire a field of *chemically assisted reasoning* [5], but since none of you slackers are doing anything, we'll do it ourselves. As previously mentioned, Chemically Assisted Reasoning (CAR) doesn't mean you can drink and drive. In focused drunken logic, we formalize this intuition by formalizing logically the notion that drinking coffee while drunk does not make you "okay to drive."

Figure 1: This is not going to work, buddy

1 Take me drunk, I'm home

We can model the process of driving from that swanky bar on Ellsworth back to your place as a *context* of different actions that must or may be taken:

$$\Gamma = \begin{array}{l} \mathsf{avoid.the.mailbox} \to \mathsf{slowly.into.driveway} \to \mathsf{arrive.home} \\ \mathsf{oops.spilled.my.beer} \to \boxbslash\mathsf{telephone.pole} \\ \mathsf{hey.hot.chick} \to \boxbslash\mathsf{telephone.pole} \end{array}$$

The goal is to arrive home (that is, $\Gamma \vdash \mathsf{arrive.home}$) without ending up smashed up against a telephone pole (that is, $\Gamma \nvdash \mathsf{telephone.pole}$). Normally, we don't have to worry about the possibility of not arriving home, because we are proving $\Gamma \vdash \mathsf{arrive.home}$ *true*, but when we are trying to prove under the lax-like *drunken modality*, that is, we are trying to prove $\Gamma \vdash \mathsf{arrive.home}$ *drunken*. Under the drunken modality, we run the very real risk that consequences normally protected from possibility by the *shot-glass modality* (in our example, $\boxbslash\mathsf{telephone.pole}$), can be derived using the *shot-elimination* rule in the event that you have been, uh, eliminating too many shots.

$$\frac{\Gamma, A \vdash C \ \textit{drunken}}{\Gamma, \boxbslash A \vdash C \ \textit{drunken}} \ \boxbslash L$$

*Supported by Tom Murphy under project T7-03-01 ("Bagels") and by the Bureau of Alcohol, Tobacco, Firearms, Explosives, and Logical Frameworks under Contract #ATF-BOOZ3-09 ("Chemically Assisted Reasoning"). The views in this paper do not necessarily reflect those of Dr. Tom Murphy VII, the ATF, or the U.S. Government.

†Supported by research grant #43536-235 ("Champagne is from Champagne") from the French Ministère de la Santé; the views in this paper don't reflect those of the Government of France, either.

Using this dastardly shotglass elimination rule, we can give the unfortunate derivation of your car into a telephone pole; the usage of $\boxed{\bigcirc}L$ in the derivation is labeled. The astute reader will note that, from the perspective of lax logic, the left rule for drunken implication requires only *drunken* evidence. The reader who has any experience in a drunken argument will realize that this is the correct rule.

$$\dfrac{\begin{array}{cc}\vdots & \dfrac{\dfrac{}{\Gamma,\ \mathsf{telephone.pole} \vdash \mathsf{telephone.pole}\ \textit{drunken}}}{\Gamma,\ \boxed{\bigcirc}\mathsf{telephone.pole} \vdash \mathsf{telephone.pole}\ \textit{drunken}}\ \boxed{\bigcirc}L \\ \Gamma \vdash \mathsf{hey.hot.chick}\ \textit{drunken} & \end{array}}{\Gamma \vdash \mathsf{telephone.pole}\ \textit{drunken}}$$

1.1 The false hope of focused drunken logic

Focusing, in logic, is a notion that forces rules to be applied *in sequence* without interruption for until the conclusion is reached, and a similar effect is *desired* by the idiot who downs a few glasses of caffeine-filled ambrosia (Figure 1) before insisting that he or she is okay to drive. We see the hoped-for behavior in Figure 2.

$$\dfrac{\begin{array}{cc} & \vdots \\ \vdots & \Gamma \vdash [\mathsf{slowly.into.driveway}] \quad \dfrac{}{\Gamma[\mathsf{arrive.home}] \vdash \mathsf{arrive.home}} \\ \Gamma \vdash [\mathsf{avoid.the.mailbox}] & \dfrac{}{\Gamma[\mathsf{slowly.into.driveway} \rightarrow \mathsf{arrive.home}] \vdash \mathsf{arrive.home}} \end{array}}{\Gamma[\mathsf{avoid.the.mailbox} \rightarrow \mathsf{slowly.into.driveway} \rightarrow \mathsf{arrive.home}] \vdash \mathsf{arrive.home}}$$

Figure 2: Yeah, you think this is what'll happen, don'tcha?

2 Complete failure

The problem is one of modeling and one of logic, all at once.[1] The problem from a logical modeling perspective is that any trip in a car doesn't involve a single sequence avoid-the-mailbox, slowly-enter-driveway, arrive-home as described in Figure 2. In other words, despite the claims of Lee and Simmons [4], our motivating scenario is not, in fact, *adequately* encoded. Rather, the transportation scenario we are considering is made of a much more fine-grained series of actions, each of which is followed by a *blur of focus*.[2] Because, in the regular course of events, focus must temporarily blur with great frequency, those unfortunate distracted implications that conclude $\boxed{\bigcirc}\mathsf{disaster}$ still have every opportunity to occur.

The technical term for this is the *completeness of focusing* — even in a logic that provides a strong notion of focusing,[3] every eventuality that might occur without focusing *can still occur within the focused system*. Utilizing a great deal of focus might affect which tree you run into, or the precise instant that you run into that mailbox, but it's not gonna change the ultimate range of outcomes, as illustrated in Figure 3.

3 Conclusion

Don't drink and drive.

[1] Well, it's also a problem of drinking too much.

[2] That's actually the technical term!

[3] I'm talking to you, Red-Bull-and-vodka...

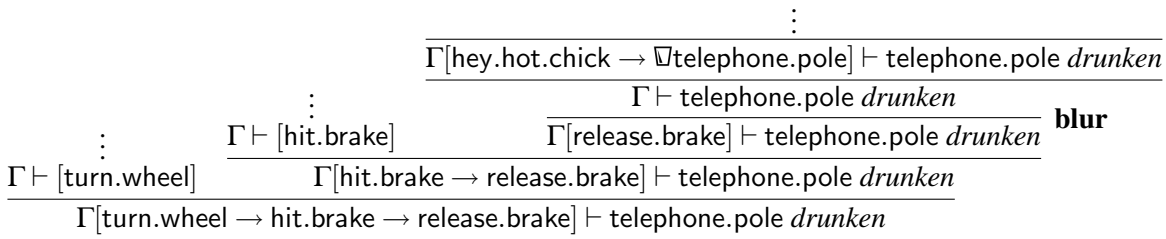

Figure 3: A more plausible scenario to the one in Figure 2. The power of focus granted by caffeine is only enough to complete relatively compact sequences of tasks in total focus. As soon as a **blur** (marked) is encountered, one's focus can just as easily land on that hot chick over there as on that stop sign *yes that one right there good grief watch out!*

4 Future work

For future work, we wish to provide a logical modeling of the designated driver; we probably could have done that here, but we've more than satisfied the least-publishable-unit requirement on this one already. I mean honestly. There is also related work of *probabilistic* modeling of related non-chemical situations by 0^{th} order Markov Chains [3]; the combination of Markov Logic and Drunken Logic is surely a productive direction for further work.

Another avenue for the investigation of focusing in drunken logic is the possibility of using focusing to model the *recovery* from the effects of the shotglass modality; focusing could potentially be thought of as a help or a hindrance in this process [1].

Focusing is also a helpful tool when describing *committed choice* and *negation-as-failure* in logic programming languages; while the idea of drunken logic *programming* is not original [2], there is much work to be done in this area. The further study of *negation-as-failure*, in particular, seems like an especially important area to explore in light of the fact that Section 2 is basically an exploration of *drunkenness-as-failure*. And, in light of Section 3, we remind you to make the *committed choice* not to mix *C*hemically *A*ssisted *R*easoning (*CAR*) with your car.

So, who wants to go get a drink?[4]

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Poop Search in Laxative Logic

(with apologies to Jacob Howe [1])

William Lovas

March 15, 2009

Abstract

We present a new extended calculus for lax logic, by combining a standard sequent calculus LAX with the classical renal calculus. Our extended calculus, XLAX, enjoys many pleasing properties including regularity and unrestricted flow control. Furthermore, using the novel "fire all reductions twice" strategy, we are able to obtain a *very* strong normalization result, establishing once and for all the consistency of our logic: runny. Finally, we give a decision procedure for XLAX logic by employing a history mechanism similar to that of PFLAX^{hist}; our algorithm uses randomized history for optimal expected running time, yielding a proof calculus XLAX^{shit}.

1 Rule of Inference

Judgemental reconstruction [2], plus poop connective 💩.

$$\frac{}{\text{💩}\ lax}$$

The rest is left to future work.

Acknowledgements Special thanks to Tom Murphy VII for 💩.

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A Static Analysis of Post-PhD Careers

Larry H. Kivob

March 15, 2009

Abstract

In this paper, the author is looking for a job. The author anticipates you will read this paper and see my true brilliance. You will then call me and give an amazing offer of money, for little work. In fact, I am desperate enough that I might even work. I might even accept a postdoc. In fact, I *will* accept a postdoc. Don't make me move in with my mother.

1 Introduction

There is much evidence surrounding the fact that it is difficult to find a job [1, 2, 3]. Searching for a job in this market is a very frustrating experience [4], and therefore it would be a huge timesaver if we could find out in advance whether we will be able to land an academic position, whether we should settle for a reasonable post-doc, or if it's time to make up with Mom and Dad, admit that our expensive degrees were worthless [1], and take up the family pawn shop.

To help solve this problem, we propose a "program life analysis" that will determine, right now, whether you will come out with a job. We have proven that the analysis is sound, and we have use last years graduates to do an empirical validation.

2 Theory

If you don't like theory, we recommend you skip this section. In fact, we recommend all readers skip this section, trust that we are geniuses, and go directly to our cv and offer us a job.

We have modeled our analysis as a flow analysis. In this section, we analyze the abstraction and the lattice. The transfer functions can be found in the author's cv [5].

2.1 Abstraction

The abstraction of life, with respect to post-PhD careers, abstracts out three items of interest:

1. *Person* A person in life is a complex entity consisting of a physical body, life experiences, opinions, and possibly a soul. A person in the analysis of jobs is a CV, including list of publications and academic pedigree. We did find that the CV abstraction of a person is not quite complete for the academic career analysis. Therefore, we have added a second piece to the abstraction, *desperation*, the measure of the willingness of the person to move in with Mom and Dad.

2. *Career* A career is a simple abstraction. Items of interest for a career are money, prestige, and security. As we consider post-PhD careers only, it is clear that prestige and security should always trump money. That is, a highly prestigious position which pays bananas (see Figure 1) always trumps a position making shit-loads of money at Dad's used car lot.

[1] Yes Dad, you were right.

Figure 1: Bananas and a Turing award is better than money at a used car lot.

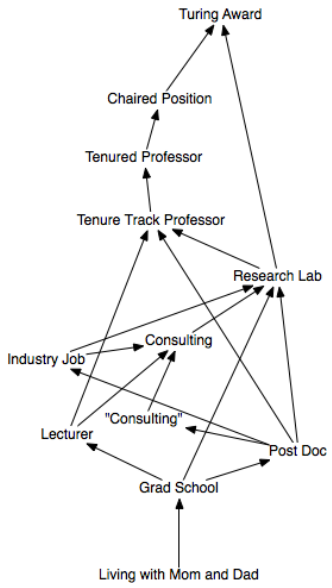

Figure 2: PhD Career Lattice

3. *Life events* There are various events in life that may cause a career change. These events include such things as getting married, having a kid (accidental or otherwise) and the current funding situation, as stipulated by the budget of NSF.

2.2 Lattice

The lattice is a tuple lattice of people to careers. The lattice of post-PhD Careers is shown in Figure 2. Notice that we have included the pre-PhD career of graduate school, as it is possible to prolong the post-PhD Career choice. The ideal career is at the top of the lattice, and the very sub-ideal career is the bottom of the lattice. The analysis signals a failure if the lattice ever maps a person to the bottom of the lattice. [2]

Notice that this is a union-set lattice that accumulates crap during the join function. Thereby, if you have a lecturing position, and you add in the requirements of a research lab, you now have to do research alongside teaching undergrads, but you still don't have job security, so that makes you a tenure-track professor. Another interesting join is that if you are "consulting", and then you actually find people to pay you by getting an industry job, then you are actually consulting.

[2] Alternately, we could signal a failure at other points of the lattice, but given the current situation, we'll take what we can get.

Figure 3: Ivory tower. Top of the lattice.

3 Empirical Evidence

We submit two life examples for empirical evidence.

3.1 Economy example

We first examine the economy example, shown in Listing 1. Our analysis correctly shows that this only results in no error if the person's initial career is tenured professor or above. However, certain other positions (grad school, research lab, industry job, tenure-track professor, and lecturer) may be safe as long as `economy.getCrapLevel()` has not hit `GREAT_DEPRESSION` or `ANARCHY`. [3] All others will eventually fall into the bottom of the lattice within only a couple iterations of the loop. Clearly, this is bad.

Listing 1: "Economy example"

```
while (economy.getCrapLevel() < POST–BUSH) {
        person.stayInPlace();
}
```

3.2 Two-body example

The two body problem is a well known issue in academia. In Listing 2, we see explore the possibility of living with parents when there are two people. While each may have difficulty finding a job, and while the probability of both getting to the higher end of the lattice goes siginpificantly down, the probability of not living with parents goes up.

Listing 2: "Two-body example"

```
person.getMarried(otherPerson);
person.looksForNewJob();
otherPerson.looksForNewJob(); //introduces the two body problem
if (person.offeredJob() && otherPerson.offeredJob()) {
        //whether one accepts job is dependent on second body
        ...
}
else if (person.offeredJob() || otherPerson.offeredJob()) {
        //whether one is living with mother depends on
        //spouse's ability to get the job
        ...
}
```

[3] Notice that even in `ANARCHY`, tenured faculty are still safe in the ivory tower, Figure 3.

```
else {
        //well, now you're screwed
        ...
}
```

4 Conclusions

Hire us. [6, 7, 8, 9, 10, 11]

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Arkan∞id

Breaking Out of a Finite Space

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Abstract

Brick breaking games such as Breakout and Arkanoid have existed for years. However, they have all continued to propagate one simple design flaw, possibly in the name of "fun." We call this mistake, "finity." Each level contains a finite number of bricks to break, and there are only a finite number of levels. If in fact our paddle is a spaceship, and the entire game is taking place in outer-space, as Arkanoid's cryptic story would have us believe, then why is this universe finite? Physicists have come to believe that the universe is infinite, or at least really really big. Therefore, in this paper we present Arkan∞id, the infinite brick breaking game, a game in which the breaking of bricks will always reveal more bricks.

Categories and Subject Descriptors K.3 [*Computing Milieux*]: Computers and Education

General Terms Theory, Performance, Legal Aspects

Keywords Breakout, Arkanoid, Space, Paddle, Infinity, Boring

1. Introduction

On May 13, 1976 Atari, Inc. shocked the world when they released *Breakout*. Originally conceived as a single-player version of their popular *Pong* title, in *Breakout* the player controls a single paddle at the bottom of the screen, which they can move along the horizontal axis. The goal of the game is to use the paddle to deflect a bouncing ball upwards so that it will hit and thus destroy the many bricks tiled at the top of the screen. After all of the bricks are destroyed, the player proceeds to the next level.

In 1986 the Taito Corporation released a follow up game which revealed that what we had assumed up until that point was a mere paddle was in fact a spaceship. This spaceship, known as the "Vaus," had escaped from the doomed mother-ship, the "Arkanoid," the title of the game. The full story was presented in the opening dialog:

> THE ERA AND TIME OF THIS STORY IS UNKNOWN. AFTER THE MOTHERSHIP "ARKANOID" WAS DESTROYED, A SPACECRAFT "VAUS" SCRAMBLED AWAY FROM IT. BUT ONLY TO BE TRAPPED IN SPACE WARPED BY SOMEONE.....

For a long time this proved satisfactory. Numerous sequels, authorized and otherwise, were developed over the years, each of which explored the Arkanoid mythology in their own way. However, none these works diverged from the basic game-play model of the original Breakout game. At some point, skeptical scientists began asking difficult questions. For one, why was it necessary to tell the story in all caps? Also, is it not the case that that the standard ellipsis uses three periods rather than eight? But the most vexing issue, and the question addressed by this work, is the following: If, as physicists tell us, space is truly infinite, why does the game take place in a series of levels each consisting of a finite number of bricks? Should there be an infinite number in each level? Moreover, is not the very notion of levels inconsistent with an infinite universe?

We have concluded that the original Breakout and the later Arkanoid consisted of a finite number of bricks and levels only because of technical limitations of the era. Follow-up games from later time periods mistakenly assumed that the finite nature of the earlier works was to be emulated. Arkan∞id rectifies this long-standing error.

Figure 1. Initially, Arkan∞id looks like any other Breakout clone.

Figure 2. When the lowest screen of bricks has been broken, the ball moves up to a higher level of bricks and the camera follows it, ad inifitum.

Arkan∞id is an *infinite* game of outer-space brick breaking. While the basic game-play is the same as games like Arkanoid, the number of bricks that the player can destroy is effectively limitless. At all times more bricks await just off-screen. Arkan∞id is a game written in Java for the Blackberry mobile phone platform, and in this paper we describe its design and implementation.

2. Arkan∞id

In this section we briefly describe the game-play of Arkan∞id. Initially, Arkan∞id plays just like any other Breakout clone, as you can see in Figure 1. A ball is put into play and destroys each brick with which it collides. However, things get interesting once the first screen-full of bricks is eliminated. The camera scrolls to reveal more bricks, as shown in Figure 2. When those bricks are destroyed, the camera scrolls to reveal yet more bricks. This same behavior continues to occur until either a.)the player is bored or b.) the player's cell phone runs out of batteries.

While this may sounds incredibly boring, you are wrong. Only an infinite number of bricks could accurately represent the vast cosmos. We have done this for science not for you entertainment. What have you done lately for science?

Arkanoid is currently available for free download[1] on your Blackberry mobile device.

3. Implementation

In this section we describe the implementation of Arkan∞id, starting with a discussion of the design space.

3.1 Design Considerations

During the earliest stages of the design of Arkan∞id, there were certain goals that we wanted to accomplish. Here we briefly describe them.

The first and most important constraint was that, if the plane of bricks was to scroll on indefinitely, we did not want the amount of memory used to increase along with it. The Blackberry platform has a relatively small heap, and we could hardly say that Arkan∞id ran on

[1] `http://a8.nelsbeckman.com/`

forever if someone were able to leave the game running for a few days and witness a heap overflow.

Which brings us to the second point. Due to the infinite nature of our game, we would like gamers to be able to "play" Arkan∞id even when they cannot focus their attention on their phone. Therefore, our game should somehow continue even when the user is, say, talking on their phone, sleeping, or lifting weights. All this should potentially occur with some loss of score, so that players who decide never to rest, socialize or exercise can be known as "hard-core."

Finally, due to the decreased processing capabilities of the Blackberry platform, we must ensure that Arkan∞id is reasonably performant. This implies that we must somehow scale down the number of bricks for which collision detection will be performed, and the number of bricks that are given to the underlying platform to draw. If we naively perform collision detection on ever single brick, or even just every single brick that we have seen so far, we are doomed to poor performance.

All of these factors lead to the eventual design.

3.2 The Implementation of Arkan∞id

Arkan∞id is implemented in the Java programming language. The entire implementation of Arkan∞id centers around the BrickBoard class. The BrickBoard represents the infinite number of bricks that may exist in the game. Naturally, these bricks are created in an on-demand fashion, and we attempt to remove any overhead from bricks that have been destroyed.

A BrickBoard is essentially a linked-list of arrays. Its internal structure, which we will now describe, is illustrated in Figure 3. Each element in the linked-list holds a byte array of size thirteen. One such array can be used to represent one screen-full of bricks, if we use just one bit (on/off) to represent a brick. Each screen-full also has a pointer to the screen-full before it and after it, as well as a 64-bit integer holding the logical position on the y axis of the bottom of that particular screen-full. The next pointer of the last screen-full will always be set to `null`. Gradually, the linked list of brick arrays will be extended, one screen-full at a time, by dynamically allocating a new array, to go at the end of the list. However, this action will only be performed the first time that the ball passes into the logical coordinate space beyond the last allocated screen-full. In this way,

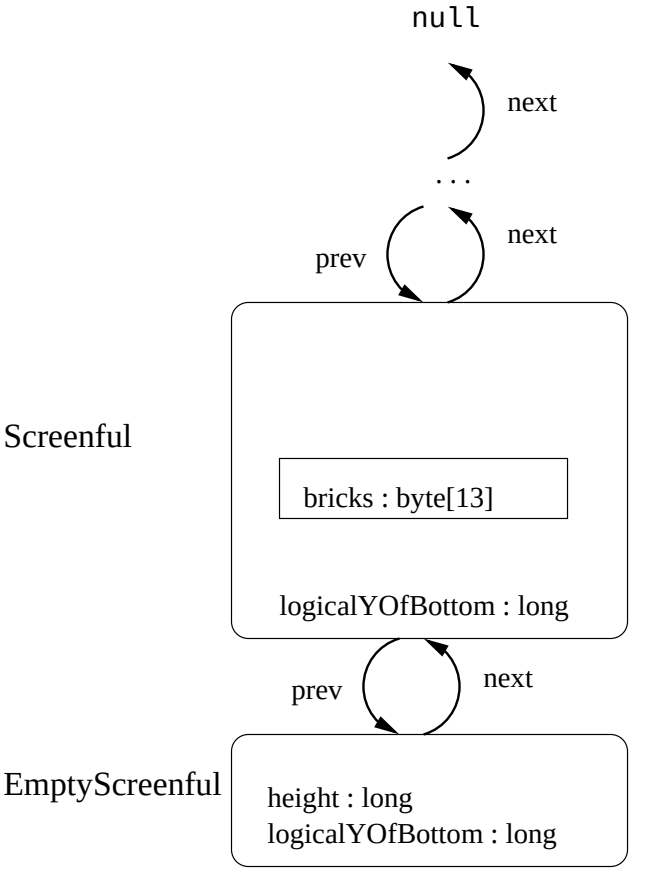

Figure 3. The design of the BrickBoard class, which holds a linked list of byte arrays, each of which represents a screen-full of bricks. At the bottom, one object represents all of the "empty space" at the bottom of the stack of bricks.

we will only allocate memory to represent the bricks when necessary.

Still, if we were using an object to hold every screen-full of bricks, even a very small object, eventually we would exhaust our heap space, therefore spoiling the illusion of infinity. For this reason, the BrickBoard occasionally performs a "garbage collection" operation, during which the number of objects required to represent all screen-fulls empty of bricks will be reduced to a constant number. Whenever garbage collection is performed, starting from the beginning of the linked list, we collapse all screen-full objects whose arrays contain all zeros into one object of type EmptyScreenful. While it is possible for one brick to prevent a larger number of screen-fulls from being garbage collected, in practice we found that all lower bricks will eventually be eliminated, thus freeing up the available object.

We also have to find a way to reduce the number of bricks upon which collision detection will be performed. In Arkan∞id we track the ball with a camera, which ensures that the ball could only ever possibly collide with bricks that are on-screen. Therefore, our implementation will simply find the two screen-fulls of bricks that could possibly be on screen and only draw and perform collision detection on those two screen-fulls of bricks.

In practice, this design of the BrickBoard class allows for excellent performance and the ability for infinite bricks to exist with only a constant run-time overhead.

Finally, in order to allow gamers to play without actually devoting all of their attention to the cell phone, there is no limit on the number of balls that can be lost. Each time a ball goes past the paddle, a new ball is put into play, although we keep track of the number of balls the player has lost. Hardcore gamers will invariably brag about the low number of balls that they have lost while playing Arkan∞id and berate other "n00bs" for their inferior skillZ.

4. Discussion

In the end, it is worth discussing whether or not Arkan∞id really is an *infinite* game of brick breaking. Clearly it can last a long time, but forever? Given that we only use a constant amount of overhead to represent the bricks (one object for all of the empty screen-fulls and a some small number for the bricks that have not yet been destroyed) the only true limit that we must be wary of the position on the y axis of the ball. Since we are using a 64 bit integer to represent this position, we must consider the fact that eventually this integer will overflow, resulting in untold havoc. Let us consider how long we can play before this happens.

In Arkan∞id the ball will always move at a fixed vertical velocity, 5 pixels every 50 milliseconds. Our initial implementation used a 32 bit integer to represent the ball's vertical position. However, according to the following math;

$$\frac{2^{32}\text{ pixels}}{\left(\frac{5\text{ pixels}}{.05\text{ s}}\right)} \times \frac{1}{60\ \frac{\text{s}}{\text{m}} \times 60\ \frac{\text{m}}{\text{h}} \times 24\ \frac{\text{h}}{\text{d}}} = 497 \text{ days}$$

a ball moving upwards would only need 497 days of play time to overflow a 32 bit integer. Clearly this is a limitation in the implementation that could be observed. It was thus that we decided to use a 32 bit integer. This way, and according to the following math;

$$\frac{2^{64}\text{ pixels}}{\left(\frac{5\text{ pixels}}{.05\text{ s}}\right)} \times \frac{1}{60\ \frac{\text{s}}{\text{m}} \times 60\ \frac{\text{m}}{\text{h}} \times 24\ \frac{\text{h}}{\text{d}} \times 365\ \frac{\text{d}}{\text{y}}} =$$

$$58 \text{ Billion years}$$

58 billion years is certainly much more respectable. For all we know, 58 billion years might be an infinite amount of time. I have not yet been able to prove otherwise. As you may notice, all of the numbers represent just the amount of time it takes for the ball to go from the absolute bottom of the logical y coordinates to the absolute top. In reality, in order to get all the way to the top of the logical coordinates, the ball will have to go up and down an extremely large number of times so as to knock out earlier bricks. Therefore the actual amount of play time will be much greater than 58 billion years.

However, for math nerds who claim that we can do better, we have saved a tasty slice for future work. Eventually, we plan to use Java's BigInteger, an object that holds integers of arbitrary precision, to represent the logical address of the ball in the y coordinate plane. Then the maximum height the ball could reach would only be limited by the amount of heap space on your device. Since my Blackberry Pearl has 40MB of heap space, this means we could address approximately $256^{40,602,000}$ before we would have to stop playing. Unfortunately, such a large number causes my calculator to overflow. Sad face. So I am going to assume that it would be a really long time.

5. Conclusion

In this paper we presented the design and implementation of Arkan∞id, the realization of a line of work that began with 1976's Breakout. We argue that since the universe is infinite, or at least really really big, the idea of an outer-space brick breaking game in which there are only a finite number of bricks is patently ridiculous. While early brick breaking games were limited by technological constraints, we believe that later brick breaking games mistakenly copied this deficiency for reasons of "fun." With Arkan∞id have remedied the situation, creating an outer-space brick breaking game that need never end. We expect this sort of infinite playability to become the norm in future games. Earth, you're welcome.

Track 8
Real World/Computer Interaction

smart(CS) if and only if ("iff") smart(human)

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ABSTRACT
In this paper, we describe the formatting guidelines for ACM SIG Proceedings. We also talk about the relationship between Computer Science and humanity, as well as the consequences of what that means.

Categories and Subject Descriptors
D.3.3 [**Programming Languages**]: Language Contructs and Features – *abstract data types, polymorphism, control structures.*

General Terms
Algorithms, Management, Measurement, Documentation, Performance, Design, Economics, Reliability, Experimentation, Security, Human Factors, Standardization, Languages, Theory, Legal Aspects, Verification.

Keywords
CAPTCHA, randomization.

1. INTRODUCTION
It has been a well-known open problem what the relationship is between the smartness of humans and the smarts of computer scientists. Many other disciplines in the scientific discourse have established their relationship to humans with a variety of accepted scientific methods (Figure 1):

- It is obvious that smart physicists and chemists make humans smart.
- It is also become evident that smart humans mean extremely much smarter business people and in particular financiers, as shown very recently by Mr. Dow Jones and others [4].

Yet Computer Science has stood on the sideline of this scientific exploration. Their relationship to humans is a long-standing open problem that has, in our opinion, not received the attention it deserves.

This paper contributes hard scientific facts that show that humanity and Computer Science are tied together in ways that even a few years ago few believed was possible [7]. In particular, we prove the following theorem:

Theorem 1 [uh-oh]: smart(CS) ⇔ smart(human)

Unlike in previous attempts to prove this theorem, we prove it through the indirection of CAPTCHAs. We suspect that our proof strategy is broadly applicable, but the importance of our proof strategy is beyond the scope of this paper. Instead, contributions of this paper include the following:

- A waterproof proof of theorem 1 (sections 2 and 3).
- A proof that shows that our proof is indeed waterproof (section 4).
- Extensive data analysis that uses theorem 1 to predict the economy and CO_2 concentrations (section 5).

We also briefly discuss the broader implications of our results for the standing of Computer Science in the real world.

2. SMART(CS) ➔ SMART(HUMAN) [everyone should know this but just in case]
This section reviews a well-known previous result [9].

Lemma 1: smart(CS) ➔ smart(human).

Proof. Obviously, Science makes humans smart (Figure 1). Since Computer Science is a Science, the lemma follows immediately. It's Science. qed

3. SMART(HUMAN) ➔ SMART(CS)
The proof innovation of this paper is to break down the converse direction of lemma 1 into two steps that are easy to show. The intermediate step is humans' uncanny ability to solve lots and lots of CAPTCHAs.

3.1 smart(human) ➔ solve(CAPTCHAs)
Humans can solve lots and lots of CAPTCHAs. As any Google user can find out, legitimate companies only pay $8 to $15 dollars per 1,000 solved CAPTCHAs. This low payment shows that CAPTCHAs are in fact exceedingly easy to solve by humans.

The main proof innovation of this paper is to show that human activity in general reduces to solving CAPTCHAs.

We arrived at this somewhat surprising result by accident. In

smart(physicist)	➔	smart(human)		
smart(chemist)	➔	smart(human)		
		smart(human)	➔	$smart^2$(financier)
smart(CS)	?	smart(CS)	?	smart(CS)

Figure 1: Relationships between humans and others

SIGBOVIK'09, April 4, 2009, Pittsburgh, PA, USA.

particular, we were performing experiments for improving email security by randomization, which unexpectedly revealed this broader result.

Secure randomized email. A giant problem with security is that email is often read and sent unencrypted, due to the trusting designers of the original emailing protocols. Our solution is to randomize what emails are delivered when a user reads an email. In other words, when a user U retrieves email from her email server then U is presented a email E taken from a random email account on U's email server. This improves security because an attacker A has no way of knowing who was supposed to read E. Even better, A has no way of knowing where U's answer F to E will be sent to.

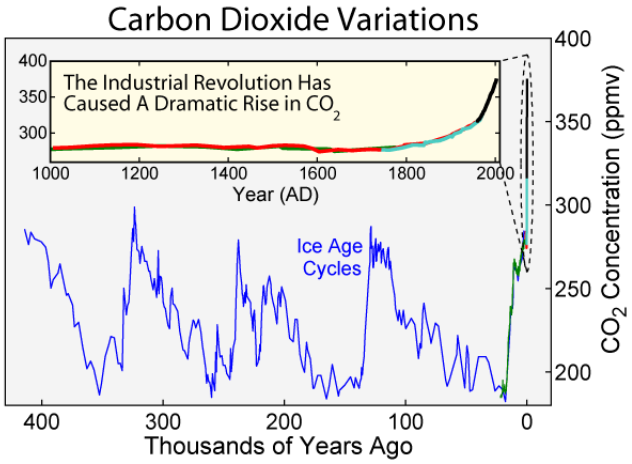

Figure 2: Carbon dioxide concentration over 400.000 years. Divide the years by 1,000 and put the concentration on a logarithmic scale to arrive at the Dow Jones index over the last 40 years. The box in the upper half is mislabeled: it shows the number of CAPTCHAs solved over the last 4 years. Image from Wikipedia used under the terms of the GPL Free Documentation License version 1.2 (http://en.wikipedia.org/wiki/File:Carbon_Dioxide_400kyr.png).

If the reader thinks, "this is a terrible idea", then the reader has a good point. With the scheme as described, users only 50% of the time wrote a response email that resembled the response written by the actual addressee in our experiments. But by simply assigning entire email *threads* randomly to users, the ability of a user to respond to emails in a randomly assigned thread go up to approximately 97.87% after 100 emails.[1]

This shows that the Turing test not only cannot distinguish computers from humans; it can also not distinguish humans from humans. Or in other words, *writing emails is human computation* (see below), and it is in fact easier than solving CAPTCHAs, which are only solved correctly by humans about 96.42% of the time. This effect is highly significant ($p < 0.01$).

Lemma 2: smart(human) ➔ solve(CAPTCHAs)

Proof. Human activity is reducible to writing emails [1], and our data shows that writing emails is reducible to CAPTCHAs. The lemma follows from these facts. qed

3.2 solve(CAPTCHAs) ➔ smart(CS)

Lemma 3: solve(CAPTCHAs) ➔ smart(CS)

Proof. Easy: CAPTCHAs were the very starting point for *human computation* [2], a recently proposed new field of Computer Science that lets computer scientists appear less dumb to the world. The idea of human computation is to not try to solve hard problems directly anymore, but instead let humans do the job. That really makes us all look good. Qed

The proof of theorem 1 follows directly from lemmas 1, 2, and 3.

4. WATERPROOFING [for the reviewers]

This section shows that our proof for theorem 1, which was given in the previous section, is a constructive proof.

Theorem 2: The proof for theorem 1 is waterproof.

Proof. The proof for theorem 2 is not yet completed but it definitely follows the principles of constructive logic and will be ready in time for the presentation at the SIGBOVIK'09 conference. qed

5. CONSEQUENCES

For the longest time ethics of Science was something that physicists had to worry about. This has been the subject of numerous well-known plays written by German authors [11,12,13], and we suspect that this observation does not transfer into the sphere of English literature [5].

Be that as it may, theorem 1 shows that we really do have to worry about this. In fact, we have indisputable evidence (Figure 2) that CAPTCHAs influence the stock markets and that in turn controls the CO_2 concentration. Figure 2 shows that CO_2 and the Dow Jones index have developed absolutely parallel to each other. Recently the development has gone off the charts. But then people started solving CAPTCHAs all the time, consequently paying little attention to what their investment guys did. That, as is well-known [10], recently caused the economy to crash. That's bad, but at least we hypothesize that the CO_2 will follow swiftly and also fall a little bit.

But even though in this case the outcome was good, we need to talk about the ethical consequences of what Computer Science as a field is accomplishing. We can no longer hide behind the fact that what we do is mathematics and overall inconsequential for the real world.

This has recently invigorated the sister conference of this esteemed venue in the area of Ethics, because they finally have something to do again. (The world has been too good recently.) So watch out for ethistitians trying to regulate your important research.

6. CONCLUSIONS [who ever reads them?]

7. ACKNOWLEDGMENTS

Thanks to Harry Q. Bovik and the anonymous SIGBOVIK program committee for their extensive feedback on earlier versions of this paper, which greatly helped improve its quality and compellingness. Also thanks to the ACM template for already including references [1-6] and [8-10] into the paper.

[1] In the interest of scientific transparency, and in the spirit of our approach, our raw experimental data is available at a random URL. This ensures safest possible accessibility for every body.

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Using Network Analytics in Agent Networks to Predict Cyber Attacks

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ABSTRACT
In this paper I discuss how current researches by focusing on fragmented data sets hinder users from understanding the relationships and the ties among agents in their society. Here, I propose novel matrix manipulation methods, using which different kinds of networks (e.g., person, tasks, resources) can be created and combined in novel ways to understand the different relationships, their nature, and their strength as they co-exist in the Matrix. Using sophisticated network analytics on these networks, I can then simulate attack paths of sentinels and predict optimized paths for escape.

Author Keywords
Network visualizations, matrix manipulations, RED PILL

INTRODUCTION
Network analysis is being increasingly used to understand the relationships among different kinds of artifacts and agents, which in turn can be used to identify the relationships that constrain agent activities. Researchers, for example, are studying the vast networks present in information sites such as Wikipedia (Kittur and Kraut 2008); social sites such as Facebook (Ellison, et al. 2007); or virtual reality sites such as second life (de Lucia, et al., 2008) to better understand the ties bind humans together and how their activities are constrained based on the relationship in their work. These studies, thus far, have only focused on individual sites and fail to consider the broader network connections, which provide a fragmented view of our society. Here, I present a methodology for identifying the different kinds of networks that exist in our society, the relationships that tie the different nodes together, and ways to aggregate these networks to visualize the underlying Matrix.

Prior research has identified several individual networks between persons, tasks, and resources, which are represented as the Meta-Matrix (Carley and Reminga 2004); my work takes the next step in creating a methodology to combine these networks via sophisticated matrix manipulations to: (1) define the complex matrix relationships, (2) track how these relationships quickly evolve based on transformation of nodes from humans to agents, and (3) provide different views of constraints and network flow created by the sentient machines for different stakeholders (e.g, the layman, the ship operator, the oracle). Further, using sophisticated Bayesian network analysis, I can simulate the attack patterns of Sentinels and predict optimized paths to avoid such attacks. Using my Olternate Reality Analyzer (ORA) tool one can visualize the matrix as a graph structure and run network analytics to find clusters of sentinels, the central agents, as well as structural holes where one can hide without fear for attack for days at a time.

RESEARCH METHODOLOGY[1][2][3]

[1] This section is protected by the "RED PILL" bill, If you are unable to read the methodology section and the rest of the paper please take the red pill.

[2] If you are still unable to read, it is because you have not taken the right pill.

[3] Program breach, please contact Morpheus.

ACKNOWLEDGMENTS

I thank the Nebuchadnezzar team, with special thanks to Morpheus and the Oracle for helping me in understanding the networks and creating methodologies for the matrix manipulations. The views and conclusions are those of the authors and do not reflect the opinions of any sponsoring organizations/agencies.

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Godot's Incompleteness Theorem: An Introspective

Chris Martens

March 15, 2009

Abstract

We revisit the classic result of K. Godot on the incompleteness of first-order meaning in life, exploring its implications for modern techniques of human connection, i.e. communication via the internet. We introduce an important corollary called the "most recent email paradox". We also explore a constructive notion of Godot's existentialist quantifier E (for "ennui").

Keywords existentialism, dirty frenchmen, ennui, internet science

Inexpensive Real-Time Ray Tracing

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Abstract. Current methods of real-time Ray tracing are very expensive, requiring copious quantities of hardware. This problem is commonly addressed by accepting a reduction in output quality, typically via a reduction in the resolution of the result. This quality reduction, however, is not always acceptable. We propose a new approach to Ray tracing that virtually eliminates the hardware expense while permitting us to retain high resolution results.

1 Introduction

The current state of the art in real-time Ray tracing requires a vast array of hardware which must be coordinate in real time. Coordinating all of this hardware for successful Ray tracing is a challenging task and can require significant human effort. In this work we propose a methodology for Ray tracing in real time that eliminates these huge hardware requirements while simultaneously generating much higher resolution results than the previous state of the art.

2 Related Work

Previous work on Ray tracing has depended heavily on the use of cameras [4, 2, 3]. Cameras were placed throughout the world in places of interest and lights were added to provide the desired illumination. Some work used many stationary cameras [4] while more recent techniques have permitted cameras to move over time [2]. Regardless of which kind of cameras are in use, it is necessary to maintain high frame rates in order to acheive good results. The immense expense of having many cameras with high frame rates and high resolution results makes real-time Ray tracing with these methods impractical. This is frequently addressed with a reduction in resolution, degrading the quality of the final results. Our method, in contrast, enables high resolution results at very little expense.

3 Decline of Cameras

While cameras have played a prominent role in Ray tracing since its inception, we believe that they have outlived their usefulness in this domain. Just as the ubiquity of digital cameras has lead to the decline of film, cell phones are now beginning to replace point and click digital cameras in the end-user market. Similarly, the replacement of cameras with cell phones will lead to better, cheaper, higher resolution results in Ray tracing.

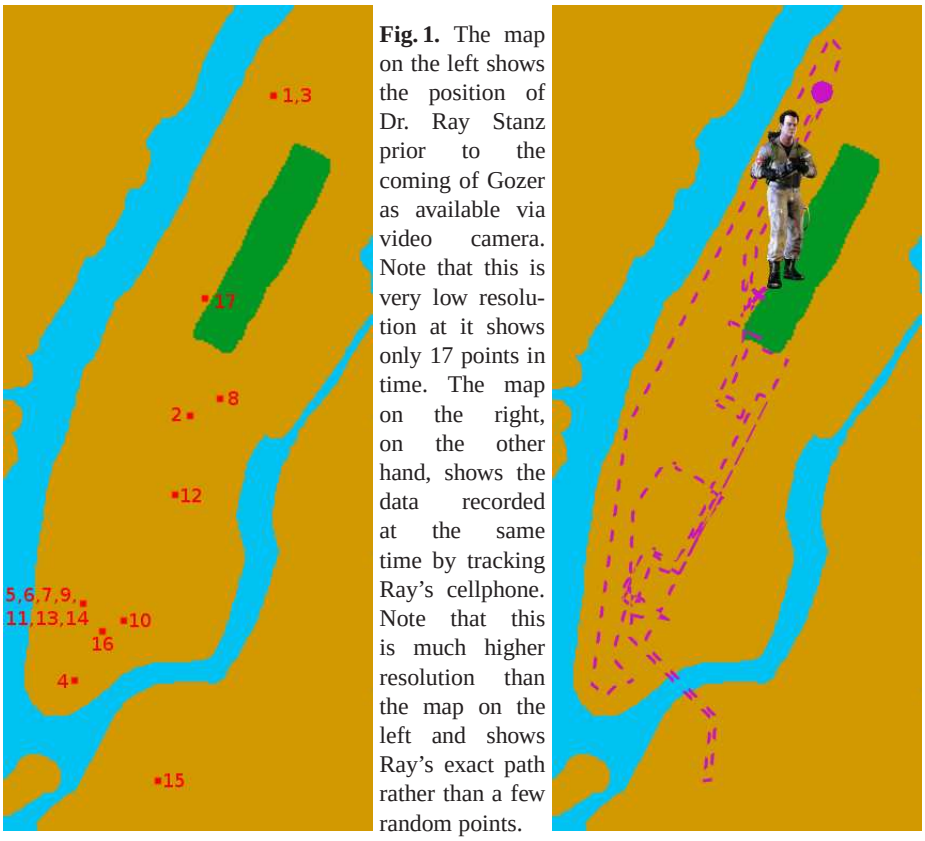

Fig. 1. The map on the left shows the position of Dr. Ray Stanz prior to the coming of Gozer as available via video camera. Note that this is very low resolution at it shows only 17 points in time. The map on the right, on the other hand, shows the data recorded at the same time by tracking Ray's cellphone. Note that this is much higher resolution than the map on the left and shows Ray's exact path rather than a few random points.

4 Benefits of switching to Cell-phones

We proposing tracing Dr. Ray Stanz's [1] position via cell phone rather than with Cameras. By tracking the location of Ray's cell phone over time, we can maintain knowledge of his exact location, as shown in Figure 4, providing us with high resolution results. Furthermore, this approach is exceedingly cheap as it requires no additional equipment beyond the cellphone Ray already regularly carries.

5 Conclusions

In conclusion, cellphones provide a means to trace Ray more precisely as they give constant real-time access to his current position. This allows for extremely high-resolution results as we know his exact position at any moment, while simulaneously reducing costs by avoid the expense of obtaining and using cameras.

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C'mon baby: Let's get together

Call Me*
We'll Talk

	it	moves
you	going on	sublime
them	absent	wack

Figure 1: *Comparison of you, Girl, to other women in the place. You've got it going on; they've got nothing. Additionally, your moves are sublime, while theirs are statistically significantly wack.*

1 Hey Girl

Hey Girl, yeah, you – girl with a captial "G" – 'cause Girl, you have it going on (Figure 1). I've been watching you, Girl; not in that creepy way, but in a way you like, because you know you've got the moves, and you've been showing them off all night.

That guy you're with? Please. He's not even worth it. He can't give you the attention you deserve, Girl. I can (see Section 3). You know it, that's why you've been checking me out. Yeah, I see your eyes. See these hands? I blow glass, baby. It's about power and finesse. Also I type a lot; that's more about speed. Power, finesse, and speed; yeah, Girl, I got 'em (for more information, consult Section 2).

You wonder what I'm doing here? Why I'm sitting at this table over in the corner? I'll tell you why I'm here; I'm waiting for you to walk over and take a seat. Yeah, there's only one chair, Girl, but you don't need to let that stop you – I've got plenty of lap. And when you sit down, I'm gonna breathe in your ear and whisper something that would make a construction-worker-turned-sailor blush. Or I could switch tables and we could sit across from each-other. I mean, if that's more your scene. Also, depending on the level of discourse you enjoy, I could perhaps simply state something that would make a well-heeled nun slightly nervous.

Either way, we're going to come back to my place.

When we get back to my place (Section 4) you can dance all you want. I've got a collection of Space Age Bachelor Pad Music[1] music that will excite your Dull Flame of Desire[2]; we could turn to Dust[3] as a result of our Wicked Wisdom[4], and be transported by some sort of Jet Set Radio Future Soundtrack[5]. Also, my lights dim. And I'm going to dim them for you, Girl, because you probably will look your best in low light.

And I want you to look your best as we are getting it together.

2 Look At Me

I'm ripped. Seriously, look at these, um, well, probably you shouldn't look, but, um, yeah. Look how I'm lifting this glass – it's a big glass! – with hardly a tremble. Look at the way I fumble with this napkin. It's elegant, Girl.

Yeah.

Lemma 2.1 (You want this)**.** *Girl, you want this. You gonna tremble in these arms like a leaf in a chain-link fence.*

Proof. I'm just what you're looking for. Girl, when we stand together you'll find I'm just a bit taller. There is a scent of musk about me that may be a cologne, but may be a natural consequence of my lax laundry habits. It reminds you of an animal. An attractive animal. Like a panther; or a badger. □

I've got half a mind to stand up. But that might be tiring. And I want to save my energy for when we're getting it together. So I'll just stay seated and see if I can flag over that waiter to refill my drink.

No ice, Girl; 'cause I'm not cold-hearted.

Lemon, though.

Let me look at you again, Girl. Yeah, you've still got it. Your form is sublime (see table of figures in figure 2). Together, we will be as a duet of perfection; like a cut glass stem of an elegant lovers' goblet, the sort that might contain equally well the molten flame of our passion or the blood of ten crushed rodents.

	you	them
top	grapefruits	figs
middle	hourglass	pear
bottom	rockin' world	ordinary world
legs	horse	flamingo

Figure 2: *Table of figures.*

*phone: 555-400-3199

[1] Space Age Bachelor Pad Music, Stereolab

[2] Volta, Bjork

[3] Saint Dymphna, Gang Gang Dance

[4] Skeletal Lamping, of Montreal

[5] Jet Set Radio Future Sound Track, Various Artists

3 That Guy You're With

When I look over at you again, I see that the guy you're with is a total loser. He's dreaming:

$$\int_{\text{That guy}} \text{Coolness}^2 = i$$

Look at his pants: ripped jeans. Seriously. Does he have lots of money or something? Girl, I know you aren't that superficial.

Are you with him because he has a large penis? 'cause, Girl, look at my ride. Yeah, that's it out there locked to the meter. Yeah it's a bike. A cheap bike. I'm just saying I got nothing to compensate for. Oh, and we can walk to my place, or take a bus. Or if you have a car, I can just throw my bike in the back (yeah, I know it's a bit dirty, but I think you'll enjoy it).

What was I talking about?

Yeah, that loser. It's not worth it, Girl, he's not the man for you.

Hey, you're coming over to my table.

Theorem 3.1 (Yeah, Girl)**.** *That's the right move.*

Proof. The guy you are with is a loser. And I'm not. Besides, by Lemma 2.1, you want this. □

Oh, he's just your brother? Girl, you should have said sooner. Why you out with him anyway? Nevermind, drop it, drop it. Let's get another round. What are you drinking? May I recommend something with a higher alcohol content? I'll pay for the delta. Me? I'm having more cranberry juice.

4 Now we're back at my place

Yeah, we ended up walking. Well, stumbling, in your case, Girl. Now you are passed out on my couch; but I think you're coming 'round.

Another shot? Here, let me mix something special. Girl, would I try that?

Lemma 4.1 (Aww, yeah)**.** *You feeling hot girl?*

Proof. Take another sip off that cocktail. □

Here, feel these curtains. Yeah, I know. I know your coordination isn't so good, Girl. It's a side effect. Of my, um, stunning Machismo. Let me help you with your skirt.

5 Girl Your Body Is Something

Look at you, Girl. You're swaying unconsciously to the music I've got on the stereo, unclothed, rubbing up against anything soft. The cocktail is working.

In this dim light you look as good as anything I've ever had. You know what, Girl. The word cocktail is made up of two other words. You see where I'm going with that?

Theorem 5.1 (Come on)**.** *Step over here.*

Proof. Awww, yeah (Lemma 4.1). Girl, let me feel your body. I'm better than the curtains. □

Aww, no, Girl, you're getting sleepy? I guess I may have mixed that cocktail a bit strong. Aww, good night Girl. Yeah, lay right there next to me.

6 Oh Shit

Oh shit baby, that's not my cleaning lady. Shit shit shit, she's gonna kill me. What Girl? Naw, it's um. It's um. Look, don't take this the wrong way, Girl; it was a wonderful night.

Shit shit shit.

Honey, it's not what it looks like (Girl, get your clothes on); Honey, *honey*, baby, don't get like that. Seriously (Figure 3), you mean so much to me Honey.

	You	Her
Meaning	everything	nothing
Commitment	serious	fling
Love	∞	$\emptyset$

Figure 3: *Baby, I don't mean nothing by it. (Girl, seriously, get out.) Baby, baby, come over; you'll get it back. (Call me later, though, Girl.)*

An Old Contemporary Analysis of /ɯ/

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Abstract

In this follow-up paper to our earlier work, we trot out an old, tired explanation of the phoneme /ɯ/, merely confirming results everyone always knew and concluding nothing that is at all surprising. (Note: The foregoing is almost certainly false. Just wait until you read the paper! The conference is a temple, and we are here to worship the gods of Comedy and Tragedy. In this paper, we are pleased to annouce a comedy. We shall employ every device we know in our desire to divert you.)

1 Introduction

It has been asserted by some scholars [9, 12, 13, $17\frac{1}{2}$] that the study of the speech sounds, or so-called *phonemes*, is one of the basic studies in the area of research known as phonetics [11, 6π]. Indeed, phonemes serve as the essential building blocks for all known human languages, including English, French, Tagalog, Tok Pisin, or shell script [−3, 8], but excluding Timmy's, as his mommy took away his building blocks because he couldn't remember to put them back in the box when he was done ~~playing~~ conlanging with them [57, 61A Downtown].

The current paper serves as a follow-up study to our earlier work [3], in which we systematically discussed the usage of /ʌ/ throughout human history. We refer the interested reader to the previous paper for an excellent introduction to the topic, as we see in matters whimsical, syntactical, hangmanical, it is the very model of a thesis quite impractical. In this paper, we present without any compunction a curiously unpublished deconstruction of the function of /ɯ/, in conjunction with some instruction in the sound's production and its history at the junction of language, culture, and seduction[1].

[1]OK, not really on the last one, but it rhymed.

The remainder of this paper is organized as follows: After this introduction, Section 2 provides a comprehensive overview of the text of Section 2. Once the Section 3, being the third section, be reached, thou stayest there a bit before moving on to Section 4, which describes some stuff that comes immediately after it. Finally, we conclude with Section 5.

2 A Formal Derivation

Figure 1 reprints from our earlier paper a fragment of prehistoric writing found in southern France in 1940.

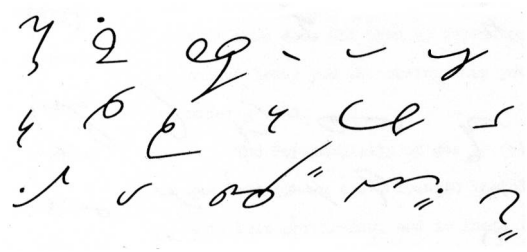

Figure 1: Mysterious fragment of prehistoric writing discovered in a cave at Lascaux.

As can be clearly seen from the figure, no grapheme in the fragment looks anything like the character "ɯ," so we begin our study by considering the historical development of this curious glyph. The modern form comes to us from the International Phonetic Alphabet (IPA) [1], a comprehensive system of phonetic transcription widely known by linguists and phonologists to be freaking impossible to work with unless you have superhuman handwriting. It is important to note the shape of a number of the IPA symbols:

ə ɹ ʌ ɔ ɯ ʍ ʎ ɥ

This indicates that, when it came time to fill in the various symbols needed for full phonological coverage

of the world's languages, the developers of the IPA were standing on their heads. We therefore have a basis for an earlier form of "ɯ" in a language we shall call Proto-IPA: the form "*m"[2]. This form is so obviously derived from another of our current letter forms that it will come as no surprise to the reader that the sound it represents is a close back unrounded vowel best approximated as "uuh" in English. This indicates that the developers of the IPA couldn't tell the difference between consonants and vowels.

Again referring to Figure 1, we notice that "m" *still* doesn't look like anything represented, so we admit defeat and withdraw funding from the grad student who came up with our hypothesis.

A much more attractive theory is that the glyph "ɯ," representing the sound "uuh," derived from a proto-glyph that more closely approximates our modern letter "u." We shall call this proto-glyph "*u" — and this one, my goodness, we *do* find (kind of[3]) in Figure 1, and that's good enough for us. But if "ɯ" corresponds to "u" and comes from "*u," which in turn represents "o" or "aw" (or, in formal terms, /o/ or /ɔ/), then where did "o" and "aw" (or /o/ and /ɔ/) come from, and what do they represent?

We choose to stop our analysis here, hopelessly confused in conjunctions, and plan to more fully discuss these other phonemes and symbols in future work.

3 Glyph Reconstruction

These tough economic times call for sacrifices in all areas of life, including academic research. For our next ~~trick~~ analysis, we examine the historical development of /ɯ/ in Thai, one of the languages in which it appears, using a children's language-learning book that retailed for 20 baht (about 56 cents U.S. at the time of this paper's publication).

Figure 2 shows the two variants in written Thai for the general vowel class /ɯ/. The form on top represents the short vowel /ɯ/, while the form on the bottom is used for a longer vowel /ɯː/. (In Thai, most vowels are written as diacritics on top of one of 44 consonants representing 22 different sounds, 15 of which are disallowed at the end of a syllable. This indicates that the Thais stole their alphabet from somewhere with a language more optimized for high-volume sales of Pimsleur language-learning tapes for foreigners.)

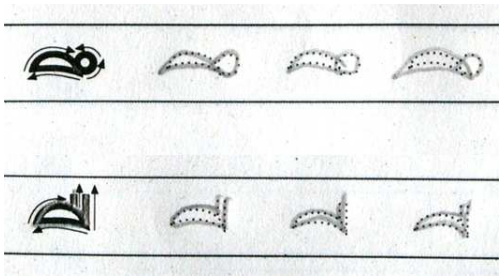

Figure 2: Two forms of /ɯ/ in Thai: the short vowel (top) and the long vowel (bottom).

By examining the two forms in Figure 2, we can reconstruct a more plausible derivation for the glyph "ɯ" than the *u–/o/–/ɔ/ theory given previously. Its history can simply be re-created from the original Thai by postulating a series of straightforward modifications to one or the other native Thai vowel forms (Figure 3). Hey, stranger things have happened (Figure 4).

Figure 3: Reconstructed derivation of the IPA glyph "ɯ" from the original Thai (1995–2009).

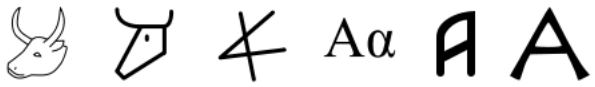

Figure 4: Actual derivation of the Latin alphabet glyph "A" from the original Egyptian (*c.* 3000 B.C.–400 A.D.).

4 Cross-Linguistic Diversity

Despite the derivational difficulties we faced in the previous section, the phoneme /ɯ/ does actually appear in a number of the world's languages — but

[2]In accordance with established convention, whose goal is to be as confusing and contradictory as possible, we will appropriate the symbol "*" that is usually reserved for ungrammatical or impossible forms and instead use it to mark reconstructed proto-forms. Probably not a big difference, come to think about it.

[3]even though it represents "o" or "aw" [2]

not very many [6]. In at least one of them, however, non-native speakers can successfully fake /ɯ/ with /ø/ [5], which is definitely a good thing because /ø/ occurs in such high-profile and commonly-studied languages as French, German, and Faroese. On the other hand, this vowel is on the completely wrong side of the IPA vowel trapezoid, so its substitution for /ɯ/ is not one likely to be accepted by real linguists [4].

In the internationally known LaTeX language, now rivalling Esperanto as a universal language for speakers from divergent backgrounds, /ɯ/ can be pronounced "rot em." We will not attempt to reconstruct this derivation from proto-TeX "*rotate that em, you dolt," but these sorts of phonetic change from more complicated pre-forms are well known.

5 Will You Be Good Enough to Explain All This?

First of all, we would like to make one thing quite clear: we never explain anything. Thus, in closing, we close.

Acknowledgements

Today's paper was brought to you by the letter S, the letter L, and the number 8; by a generous grant from the American Center for the Deforming Arts; and by the annual financial support of reviewers like you.

References

[1] International Phonetic Association. Handbook of the International Phonetic Association: A Guide to the Use of the International Phonetic Alphabet. Cambridge University Press, 1999.

[2] John Robert Gregg, Louis Leslie, and Charles Zoubek. Gregg Shorthand. McGraw-Hill, 1971.

[3] Greg Hanneman. A new historical analysis of /ʌ/. In Proceedings of SIGBOVIK: Workshop about Symposium on Robotic Dance Party of, Pittsburgh, PA, April 2007. Association for Computational Heresy.

[4] Paul Hopper. Personal communication, April 2008.

[5] Alan Vangpat. Personal communication, February 2008.

[6] Wikipedia. Close back unrounded vowel. Online, March 2008. http://en.wikipedia.org/wiki/Close_back_unrounded_vowel.

sigbovik 2009 Plenary Program Committee Confidential Paper Reviews

Paper 31: No, seriously, someone submitted this shit

Chris Martens, Computer Science Department, Carnegie Mellon University
Rating: 3 (strong accept)
Confidence: 4/4

This is a steaming pile of shit.

Strong accept.

Chad Feldheimer, Hardbodies Gym, Washington, D.C.
Rating: 3 (strong accept)
Confidence: 3/4

This is some heavy shit. I can't believe this. This is like intelligence shit. This is like...

I can't believe this shit I'm seeing. Just lying there. I'm like, "What, someone's music or what?" And I come in here, and it's this shit, man. Talking about signals and shit and...

"Signals" means "code," you know.

It was just lying there.

Talking here about department heads and their names and shit. And then there's these other files that are just, like, numbers. Arrayed. Numbers and dates and numbers and number and dates. And numbers and... I think that's the shit, man. The raw intelligence.

I'm not touching this. I want this out of here. You should put up a note in the ladies' locker room:

"Highly classified shit found."
"Signals intelligence shit. CIA shit."
"Hello! Did anybody lose their secret CIA shit?"

Julia Cette, Machine Learning Department, Carnegie Mellon University
Rating: -3 (strong reject)
Confidence: 2/4

This shit is algorithmically equivalent to BANANAS (see Kaur et al, 2003), only with much sloppier presentation. I cannot support acceptance of such derivative yet unappetizing work.

Reviews of Paper #351: Sub-modular Density Functions for Robot Control

Dmitry Berenson

Reviewer 1

While Paper #351 claims to present a novel approach to robotics, their approach is, in fact, not new. Turing (1947) was the first to propose the idea of controlling automata through computational devices and the author's work is simply an implementation of this idea. Furthermore, the author fails to cite the following influential papers in this field:

L. Jenkins and E. Rigby, "How the three laws of robotics apply to integrated system design," *Obscure Conference on Meta-Robotics*, Tora Bora, Afghanistan, December 2001.

L. Jenkins and S. Pepper, "Robot Ethics: The only issue we need to solve to get AI," *Obscure Conference on Meta-Artificial Meta-Intelligence*, Mosul, Iraq, November 2003.

L. Jenkins and Y. Submarine, "Singularity singularity blah fucking blah" *Obscure Conference on Total Bullshit*, Mogadishu, Somalia, August, 2007.

Anyway, I think the paper should be published after adding the proposed citations so as to increase my ref count.

Figure 1 is far too small, it should take up half the page, at least.

Technical Strength: I don't do "technical"
Novelty: It's all been done (by me)
Overall Rating: Publish it
Confidence Level: I am this field

Reviewer 2

Paper # 351 was confusing and poorly written. I am a mechanical engineer so I have a lot of experience with motor-driven mechanisms like robots. The authors keep refering to this thing called an "algorithm" without even including a free-body diagram of this "algorithm," much less a mechanical drawing. How are we supposed to evaluate the effects of gear friction on this "algorithm" when this mechanism is not explained?

Figure 1 should be removed, instead, a circuit diagram of the implementation of the "irregularly-distributed sub-modular density functions" should be included so that readers can evaluate if their platforms have the current and voltage needed to power these functions. The authors should also describe what steps were taken to weather-proof these functions.

Technical Strength: Poor
Novelty: Incomprehensible
Overall Rating: Terrible
Confidence Level: Absolute

Reviewer 3

Paper #351 sumarize athor's recent work on robot control thru iregularly-distributed sub-modular denisty funcsions. Many prevous works alredy deel with isuue presnted hear so novlty of work is very miner. Paper has many tipos so hard to read it. I no understan abstract, very long words. I no understan secsion 1, very long secsion, please cuting down. secsion 2 also very long. halfway in secsion 3, I spil tea on paper, no can read now, asume worst of remaning secsions.

Figure 1 too big, make small take to much space.

Technical Strength: Not so good
Novelty: Very miner
Overall Rating: I no like it
Confidence Level: I am expert

Reviewer 4

- Page 1, right column, line 18: the authors write the number five as "5," to comply with editorial standards, this number should be spelled out as "five."
- Page 2, right column, line 26: Sentence ends with a preposition, this is not grammaticaly correct.
- Page 4, right column, line 25: Naked "this."
- Page 4, right column, line 27: Dangling participle.
- Page 4, right column, line 31: Naked dangling participle.
- Figure one is slightly out of box, it should be moved to the left to preserve the integrity of the margins.

Technical Strength: Grammar not technically correct
Novelty: New usage not allowed
Overall Rating: Sloppy
Confidence Level: I have a copy of the Oxford Guide to Style

Reviewer 5

Paper #2709 “An Educational Interface for File Management” is a great contribution to the human-computer interaction literature. It is easy to read and contains no cumbersome explanations of complex mathematics. I was especially interested in the example of the heart-shaped desktop application, which allowed users to organize their files while learning about the benefits of compassion and friendship. I am excited to see how such an application could improve the social abilities of socially-detatched youths with cluttered desktops.

Technical Strength: Beautiful
Novelty: I love it!
Overall Rating: Fantastic
Confidence Level: It takes a village

Reviewer 6

LOL!!!!! JU GUYZ SENT REQUEST 2 WRONG ADRES NOW I IS SCINTIST LOL!! DIS PAPR TOTALY SUX0RZ! IT 2 LONG NAD CONFUSING. ALSO IT NOT TREAT PROBLM OF SUB-MODULAR DNSITY ESTIMTION W/ ENUF RIGUR!

FIGUR 1 SHUD BE STRETCHED HORIZONTLY SO UNITS ON X AXIS R MOR EASLY READABLE WTF!!!

OMG RJECT LOL111

Technical Strength: SUX0RS
Novelty: SUX0RS
Overall Rating: MAD SUX0RS!!!
Confidence Level: I AM TEH REVIEWOR!!!1!

Review of Previous Reviews

Berenson juxtaposes opposing poles of reviewer personalities but fails to deliver on a coherent punchline to the overall paper. Instead, we are left with an incomprehensible rant from what seems to be a 14-year-old that is reminicent of Berenson’s work on LOLCAT memes (SIGBOVIK 2008). Clearly Berenson uses this tactic as a crutch because he doesn’t know how else to resolve this list of inane comments. In all, there is no new content here; as scientists we’ve all experienced these annoying reviewer qualities and it’s best not to remind ourselves that the peer-review system is fundamentally broken.

Also, the thing about everyone wanting to change figure one is not funny and should be removed.

Technical Strength: Not funny
Novelty: Obvious
Overall Rating: 0
Confidence Level: I am confident this sucks

Review of Review of Previous Reviews

In this review of a bunch of reviews, Berenson casts aspersions on a review process which has clearly not worked in his favor. Perhaps the countless rejections he has recieved from various conferences has soured his opinion of the peer-review process. Regardless, this meta-review is a poor excuse for humor and an obvious way to slip in a citation to Berenson’s previous publication in SIGBOVIK 2008, for which he won best paper. No doubt Berenson will continue this meta-exercize until it reaches its logical conclusion, though I doubt that Berenson will be able to end this chain of meta-reviews without resorting to some hack meme reference.

Technical Strength: Metalicious
Novelty: Obscured in layers of meta
Overall Rating: I don’t even know what this is anymore
Confidence Level: Just end it for God’s sake...

Review of Review of Review of Review of ...

I AM IN UR REVIEW PROCES, RECURSING INFNITLY

Paper 27: Reviews of Paper 351: Sub-modular Density Functions for Robot Control

Tom Murphy, Sick Ridiculous and the Sick Ridiculous
Rating: 0 (borderline paper)
Confidence: 0/4

OK this paper is fine and I think it did a good job of caricaturing some of the kinds of useless reviews that we get. The paper has several weaknesses, however.

\begin{enumerate}

\item It's not a review of an actual paper.

\item It falls into that meta trap, though that's what meta's for.

\item The SIGBOVIK organizing committee is already using that meta trap by employing ambi-ironically the totally real-life EasyChair conference management software and soliciting reviews and publishing those reviews with a particular ACH-endorsed logoed style sheet (viz this) in the proceedings and some of them on the walls in the PC meeting, and also writing and publishing reviews of those reviews as well. So this here meta is stepping on our meta like in a discordant way. It's sort of like if there's some cartoon called Bert Sampson walkin' around being like ``{\em Hey, don't have eaten a cow, man}'' and it's so it's very close to being compatible with the official The Simpsons universe but not quite self-aware enough to be an in-canon doppelganger, and yet not different enough to be its own entity, even like {\em outside} the Simpsons universe. Therefore I strongly urge the committee with the utleast confidence to consider this paper borderline.

\item Hmm does LaTeX work in here?

\end{enumerate}

PC Only: I always fill out optional fields, especially gift receipt messages, even if I have nothing to say and I'm buying the gift for myself, which is usually.