

The Last Deliverable: The Report

- A 8-15 -page research report.
- In Finnish, English, or Swedish.

Title

- Concise, informative, catchy
- Some classics:
 - “A Relational Model of Data for Large Shared Data Banks”, E. F. Codd (informative).
 - “Ethernet: Distributed Packet Switching for Local Computer Networks”, Robert M. Metcalfe, David R. Boggs, (informative).
 - “Go To Statement Considered Harmful”, Edsger W. Dijkstra (catchy, polemic, but worn nowadays).
 - “Bananas in Space: Extending Fold and Unfold to Exponential Types”, Erik Meijer, Graham Hutton (catchy, but...).

Authors

- In math, in alphabetical order of surnames.
- In science, main author first.
- Include e-mail addresses and affiliation.

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Abstract

- A concise overview of the article, its area and results.
- Preferably at most ten lines.
- Here's one I read recently, and liked:

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\begin{abstract}
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We present an experimental study showing that soft memory errors can lead to serious security vulnerabilities in Java and .NET virtual machines, or in any system that relies on type-checking of untrusted programs as a protection mechanism. ...
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We measured the attack on two commercial Java Virtual Machines: Sun's and IBM's. We show that a single-bit error in the Java program's data space can be exploited to execute arbitrary code with a probability of about 70% ...
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Our attack is particularly relevant against smart cards ... where the user has physical access and can use various means to induce faults; we have successfully used heat. Fortunately, there are some straightforward defenses againsts this attack.
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\end{abstract}
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Introduction

- Description and motivation of the work.
- Brief description of the background and related works.
- What systems were evaluated (or algorithms experimented)? What properties (such as asymptotic performance) do they have?
- No need to give pseudo-code for the experimented algorithms, though. But give references to the literature and origin of code.
- What is the scope (and chosen to be left beyond it) in this work?
- Finish the introduction by giving an overview of the rest of your article.
- Typical length is roughly one page.

Experimental Design

- Describe the general experimental design.
- What is used as input data, and why?
- What parameters does it have? Which parameters are chosen as factors, and why? What are the values of fixed parameters?
- You may describe auxiliary experiments that gave feedback to factors or fixed parameters.
- Describe the environment(s) you ran the tests in.
- What statistical treatment did you give to the data, and why?

Experiments

- Consider subsectioning.
- For each set of experiments, what factors were varied and what values did they obtain?
- Present the results. Use tables, graphs, whatever suits best.
- You can summarize the generic trends in your results, but do *not* yet ponder the reasons.

Analysis

- How do your experimental results correspond to mathematical analyses, other experiments, marketing material, or folklore?
- Do not overstate:
 - HAZARDOUS:** “Results prove A is clearly superior to B”.
 - BETTER:** “Results indicate A to perform better than B on our workload”.
- Why? In some cases, especially technology evaluations, this may be a lengthier discussion. Perhaps you can profile and break down the technologies you tested?
- Introspection:
 - What source of error did you see, have you reliably filtered out them?
 - In some cases, reliability might better be estimated along with presenting the results.
 - How generalizable are your results?

Summary

- Summarize what was done and what your results were.
- Possibly suggest further research topics.
- Contrary to the abstract, the summary is not independent.
Abstracts can be read separate from the rest of the paper.

References

- From a handful to tens.
- In science, typically in alphabetical order according to the surname of the first author.
In math, typically in order of first reference in the text.
- Can the reader assume the writer has truly read the referred sources?