

Presentation and Oral Communication Skills

Lori Pollock
University of Delaware



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Welcome

Always greet your audience and tell them you are honored to talk to them!

Why become a good communicator?



Share your ideas

Dissemination, Jobs, Funding, Collaborators



Opportunities

The story begins...

The Hook

The Hook

An Example



STOP in the Name of ...

Software Evolution

ori Pollock

computer & Information Sciences

Software is **never** complete.
Software continues to evolve.

90% Cost = Maintenance

Software Maintenance Costs, Ó Jussi Koskinen, Information Technology Research Institute

You and I are somewhat to blame.

In fact, our software, and its evolution,
is much like our cars.

We Want it All

Functional

Available

Preventively maintained

Safe and secure

Fast

User friendly

Feature full

Modern devices

Automation

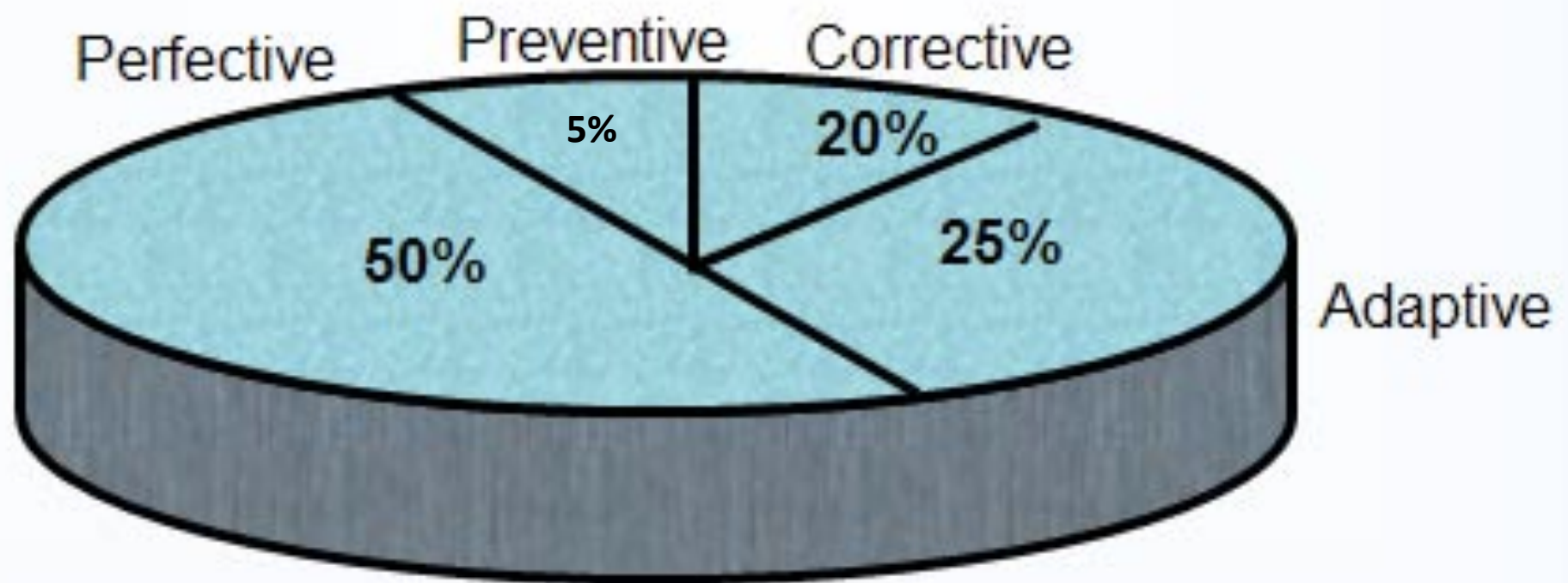
10 million lines of code
= 180,000 text pages

and dependencies galore!

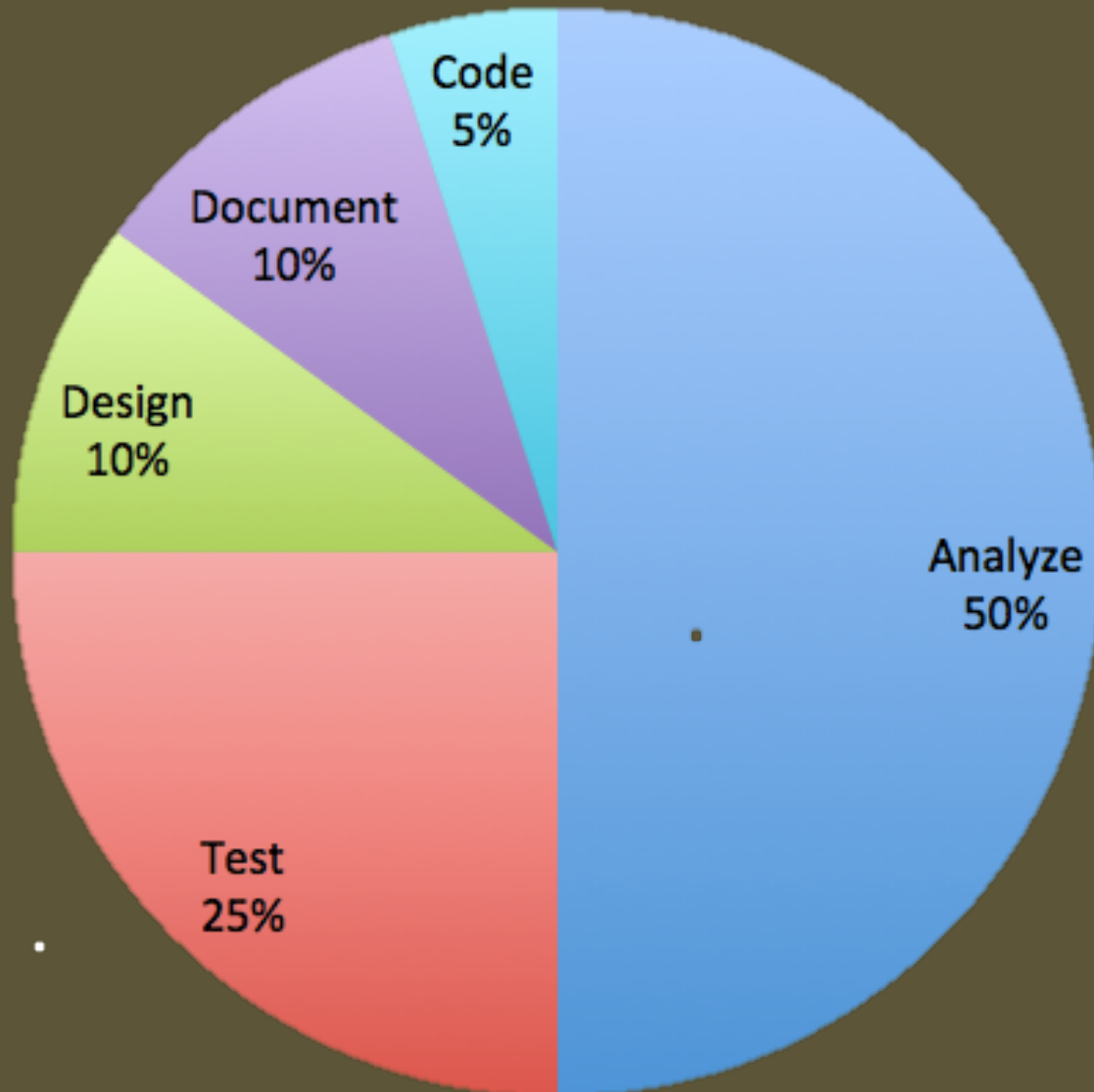
90% Cost = Maintenance

Software Maintenance Costs, Ó Jussi Koskinen, Information Technology Research Institute

Kinds of Software Maintenance



Maintenance Effort



Guide to the Software Engineering Body of Knowledge (SWEBOK), 2004.

Our Research Goal:
Help software engineers
to analyze & understand the code

So, **how** can software engineering research help software engineers

so we, the users, are happy and secure?

Purpose of the Hook

Capture your audience's attention

Peak audience interest

Overview & motivate your topic



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One minute reflection

What is your hook for your research?

A statistic?

A compelling graph?

A story?

A picture?

...



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The Middle Part

The Guts

Structure of the Story

A series of little stories

While still more research to share

hook for this little story

point 1, point 2, ... point k

summary of this little story



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The Stories of Presentation

1. Analyze your presentation context
2. Identify your stories and flow
3. Use good presentation style



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Analyze Your Presentation Context

Audience

What do they know?

Why are they here?

Biases?

Occasion

Time

Size

Purpose

To inform

To teach

To persuade

To inspire

These are your constraints & opportunities!



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Identify Your Stories and Flow

First story:

Context of your work

Subsequent stories can be:

Steps in an algorithm or process

Heuristics

Experimental study components

...



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Context of Your Work

1. What is your problem?
2. Why should someone care?
3. What have others done to solve this problem? Related problems?
4. What is the gap?
5. What are your contributions?

Use Good Presentation Style

Structure

Visual aids

Speech vs words on your slides

Delivery



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Related Work– Version I

“A reasonable approach to page coloring”

ASPLOS '06

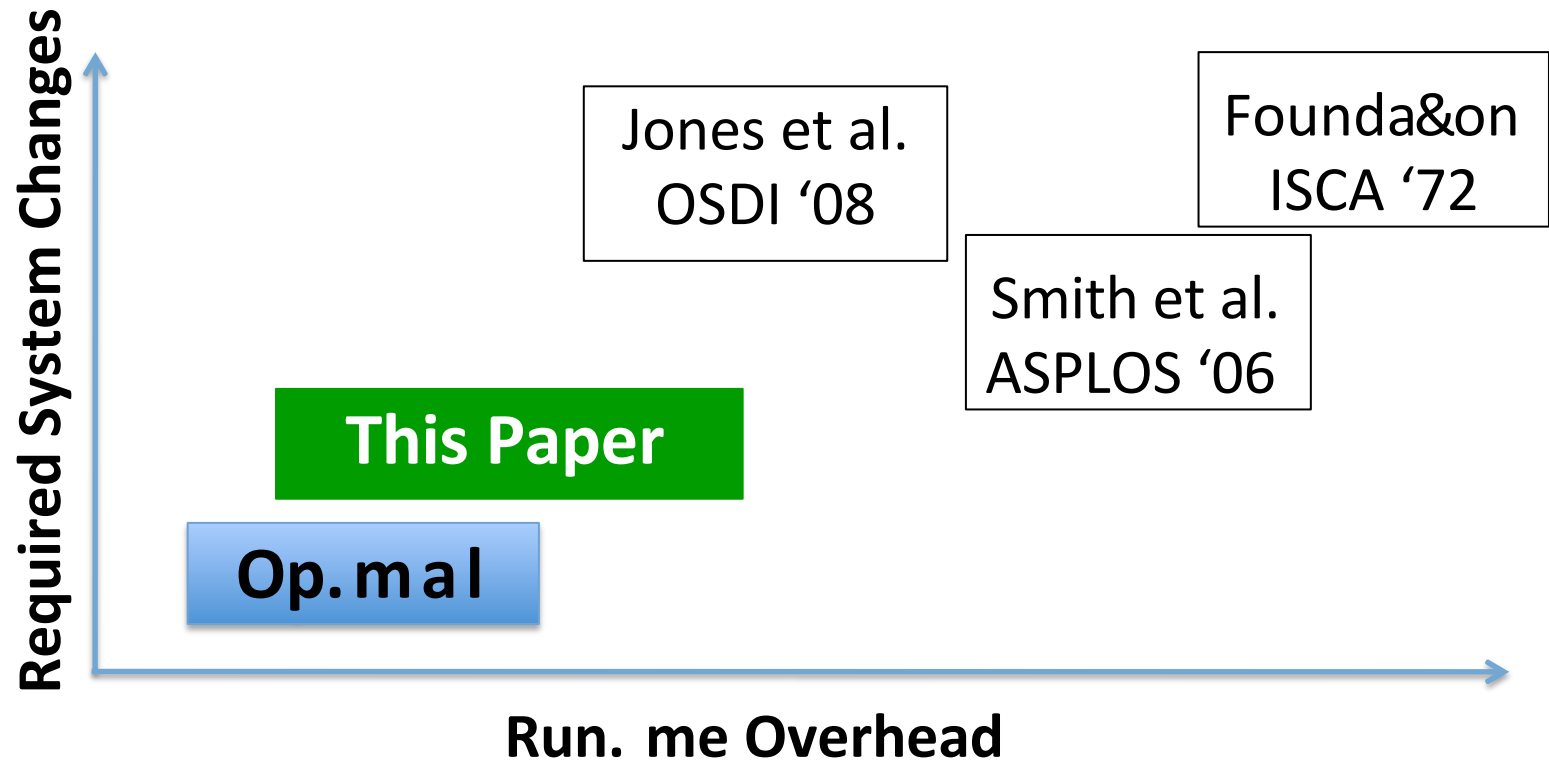
“Another page coloring idea”

OSDI '08

“Yet another page coloring idea”

ASPLOS '07

Related Work– Version II



*Spatial design space
display highlights novelty*

Recoloring Procedure – Version I

Quick search for K th
hotest page's hotness

$Bin[i][j]$ indicates # of
pages in color i with
normalized hotness in

$[j, j+1]$ range

procedure *Recolor*

budget (recoloring budget)

old-colors (thread's color set under old partition)

new-colors (thread's color set under new partition)

if *new-colors* is a subset of *old-colors* **then**

subtract-colors = *old-colors* – *new-colors*.

Find the hot pages in *subtract-colors* within the *budget*
limit and reallocate to *new-colors* in a round-robin fash-
ion.

end if

if *old-colors* is a subset of *new-colors* **then**

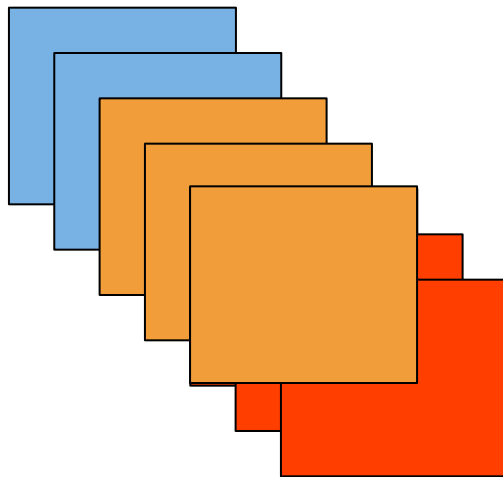
add-colors = *new-colors* – *old-colors*.

Find the hot pages in *old-colors* within the
 $\frac{|new-colors|}{|add-colors|} * budget$ limit, and then move at most *budget*

(i.e. $\frac{|add-colors|}{|new-colors|}$ proportion) of them to *add-colors*.

end if

Recoloring Procedure – Version II



hot
warm
cold

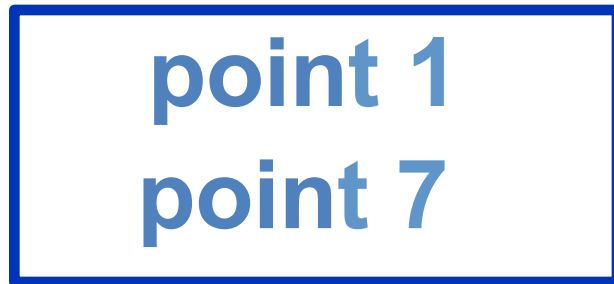
Cache share decrease

Budget = 2 pages

The Ending

The Take Away

From Middle to Take Away



Summary

Big Picture

Handling Questions

Anticipate them

Prepare slides

YOU are the expert

Reward questioners with something!

Aggressive questioners

Follow up

Speech vs Writing

One minute exercise

On a scale of 1 to 10,
how confident do you feel right now?



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**Please stand and put your
hands on your hips**



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One minute exercise

On a scale of 1 to 10,
how confident do you feel right now?



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Delivery & Confidence

Practice, Practice, Practice!

Monotonous voice?

Improve articulation with tongue twisters

Peter Piper picked a peck of pickled peppers...

Learn from the best

Who inspires you and why?

Ted Talks -

Amy Cuddy

“Your body language
shapes who you are”



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Useful Resources

Oral

David Patterson: How to Give a Bad Talk
<http://pages.cs.wisc.edu/~markhill/conference-talk.html#badtalk>

Mark Hill's "Oral Presentation Advice",
<http://pages.cs.wisc.edu/~markhill/conference-talk.html>

CRA-W,
<http://www.cra-w.org/gradcohort>
http://www.randsinrepose.com/archives/2008/02/03/out_loud.html
<http://www.slideshare.net/selias22/taking-your-slide-deck-to-the-next-level>
<http://www.presentationzen.com/>

General

Female Science Professor blog!
<http://science-professor.blogspot.com/>

Writing

- **Joseph Williams, "The Basics of Clarity & Style"**
- Gopen & Swan "The Science of Scientific Writing" <http://www.americanscientist.org/issues/feature/the-science-of-scientific-writing/9>
- Many schools provide many writing resources: Use them!
Writing center or tutor.
- It may be worthwhile to *pay* a writing tutor to help teach you to edit your own work

Take Away Messages

Have a hook and think about storytelling

Know your context

Plan

Content, Delivery, Design, Practice

Great visuals are key

Exceed your audience expectations!



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