CPSC 539K

Fall 2008

Some Problems

- Software is fragile

- 'Breaks' when context changes

- Hard to port, extend, modify...

- Hard to understand

- ...

Some Questions

- Which program is more elegant?

- Which is more flexible?

- What does this code mean in context?

- What would it take to get this code to change the individuation criteria for Books?

- ...

An Intuition

- *Formalist* foundations may be part of the problem

- Intellectually:
  they may fail to fully explain software

  how?

- Practically:
  they may fail to sufficiently explain software
  they may lead us away from solutions to our problems

  how does it matter?

- New theoretical foundations are possible and useful

Two Routes In

- Effectiveness Sans Formality

  - OOPSLA talk you'll see today

  - "do effectiveness & formality have to be all-or-nothing propositions"

- 2 Meanings of Programs

  - Description on course website

- Both get to same issues (I think!)

Course Format

- We are all learning this together

- Mostly reading and discussion

- Very few lectures

- May have some visiting lectures

- Perhaps occasional written hand-ins

- Essay / Project at end of term

Readings

- Diverse set of readings

- Initial ones intended to shake you up!

  - several from other fields

  - point out ambiguities and problems

  - show other ways of looking at problems (show how narrow 'CS perspective' is)

Readings

- Later readings (may be) more technical

- Look at specific systems, see how they

  - do/don't solve problems we talked about

  - manifest behavior we talked about

  -

Readings

- Read before class

- Prepare an <u>elaborated</u> question

  - bring 2 copies, hand in one at start of class

  - question, place(s) it came up, follow-up, why its interesting etc.

  - enough to ask and facilitate discussion

  - I will call on you to ask questions

  - I will also help you ask them

  - We'll all get better at it

Project / Essay

- At end of course you will submit either

  - An *essay* exploring the issues we have talked about this semester.

  - A technical exploration (with implementation) of

- Grade will be based on how much you learn about this topic