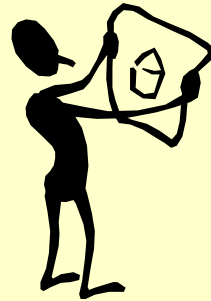


Foundations and Principles of Human Computer Interaction

CPSC 481

Saul Greenberg

Professor
University of Calgary



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Administrivia

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- Human computer interaction
- Computer supported cooperative work

Contact information

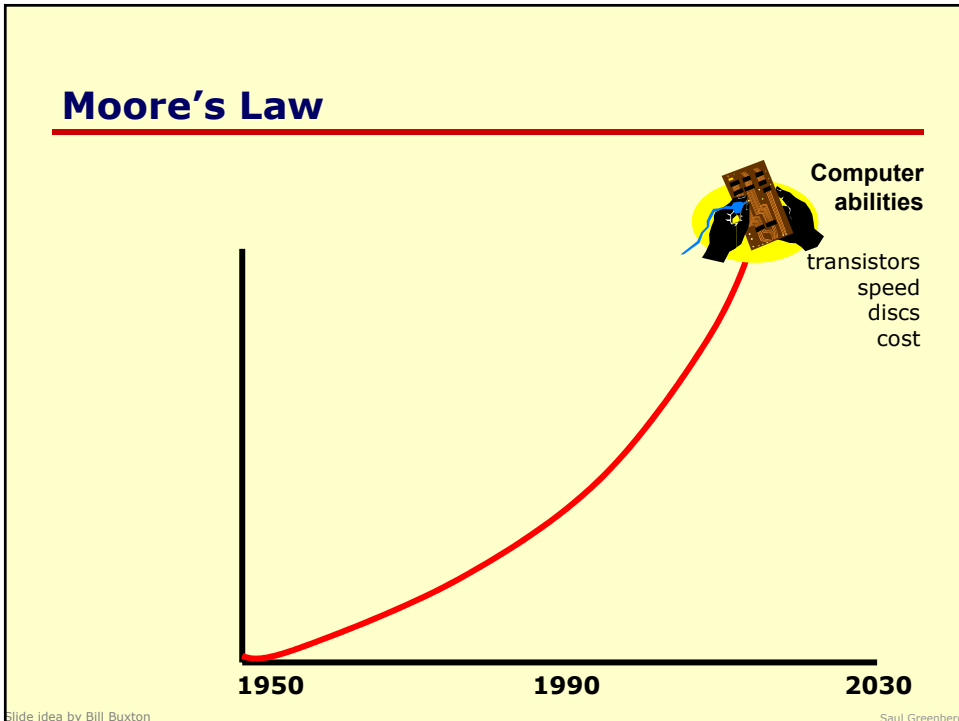
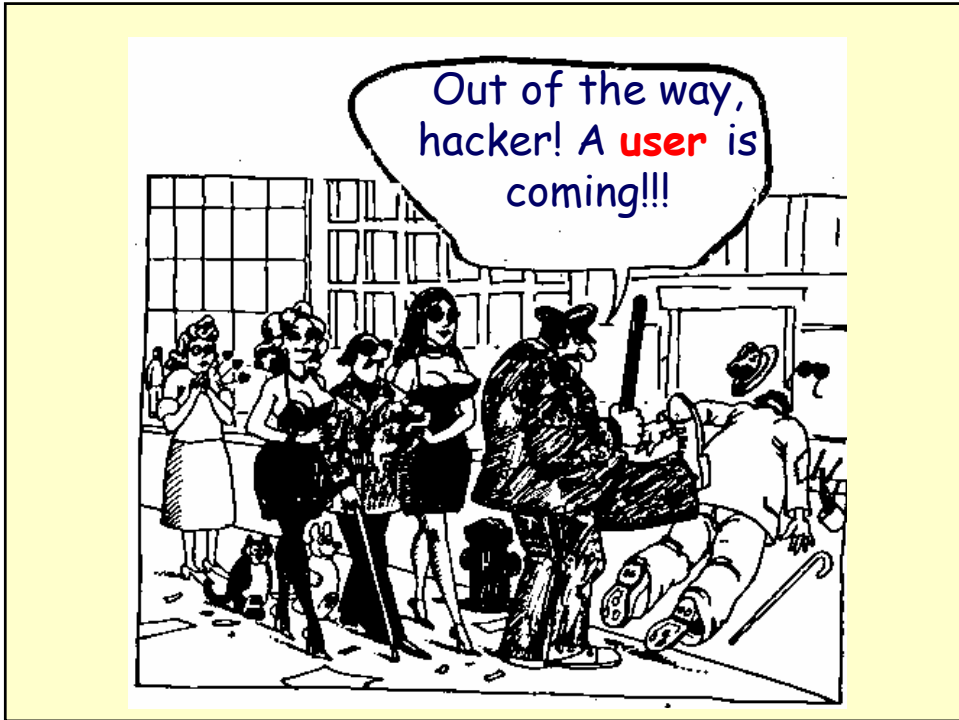
- saul@cpsc.ucalgary.ca
- 220-6087
- Math Sciences Building MS-680

Office hours

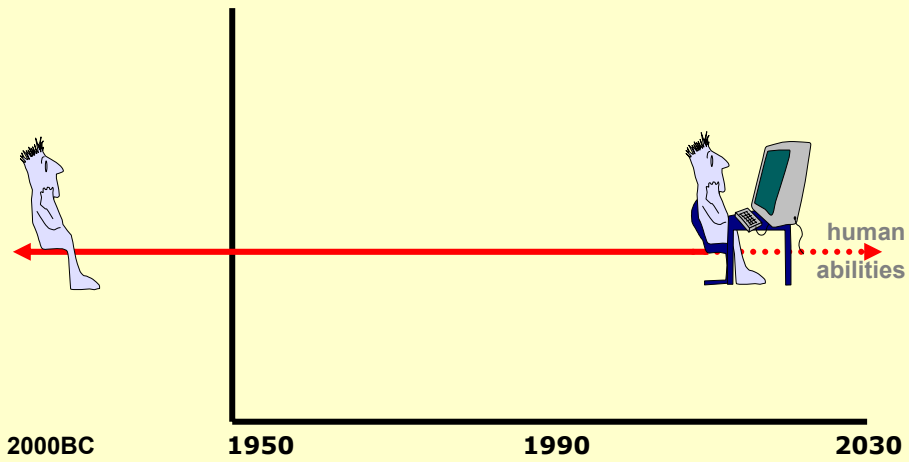
- one hour before class on Monday and Wednesday
- by email any time
- by appointment: email or phone to arrange one
- drop in for urgent requests (but no guarantees!)



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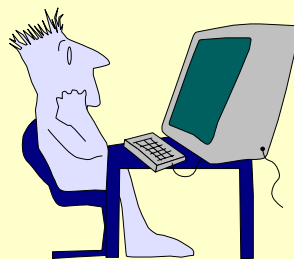
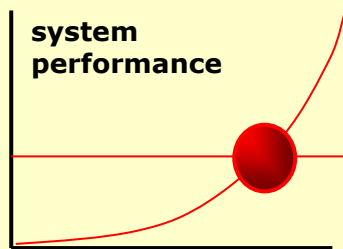
Psychology



Slide idea by Bill Buxton

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Where is the bottleneck?

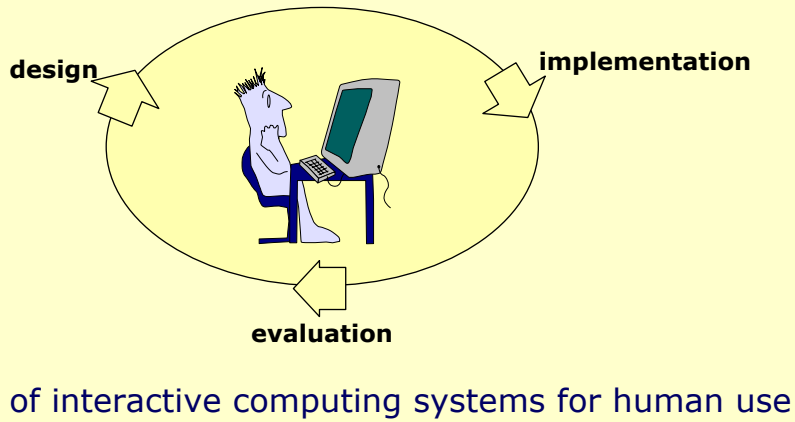


Slide idea by Bill Buxton

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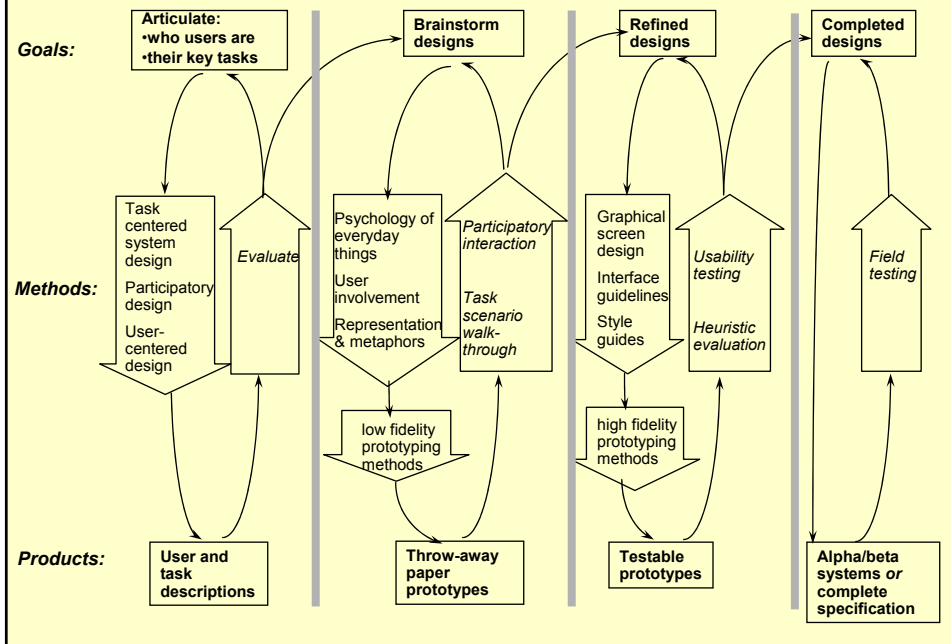
Human Computer Interaction

A discipline concerned with the



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An interface design process



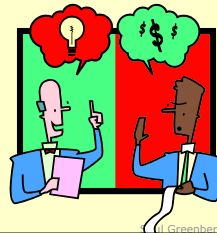
Why an interface design process?

63% of large software projects go over cost

- managers gave four usability-related reasons
 - users requested changes
 - overlooked tasks
 - users did not understand their own requirements
 - insufficient user-developer communication and understanding

Usability engineering *is* software engineering

- pay a little now, or pay a lot later!
- far too easy to jump into detailed design that is:
 - founded on incorrect requirements
 - has inappropriate dialogue flow
 - is not easily used
 - is never tested until it is too late



Foundations for designing interfaces

Understanding users and their tasks

- Task-centered system design
 - how to develop task examples
 - how to evaluate designs through a task-centered walk-through

Designing with the user

- User centered design and prototyping
 - methods for designing with the user
 - low and medium fidelity prototyping
- Evaluating interfaces with users
 - the role of evaluation in interface design
 - how to observe people using systems to detect interface problems



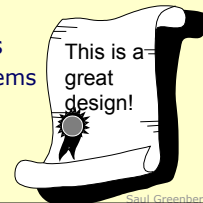
Foundations for designing interfaces

Designing visual interfaces

- Design of everyday things
 - what makes visual design work?
- Beyond screen design
 - representations and metaphors
- Graphical screen design
 - the placement of interface components on a screen

Principles for design

- Design principles, guidelines, and usability heuristics
 - using guidelines to design and discover usability problems



Objectives

At the end of this course, you will know

- methods for grounding your design in reality
- methods for prototyping visual applications
- methods for evaluating interface quality
- fundamentals of screen design and representations
- how to apply guidelines to interface designs
- how to apply your training in practice and continue your education



How you will be evaluated

Assignment 1

- task centered design and prototyping (13%)

Assignment 2

- usability evaluation of an existing system (12%)

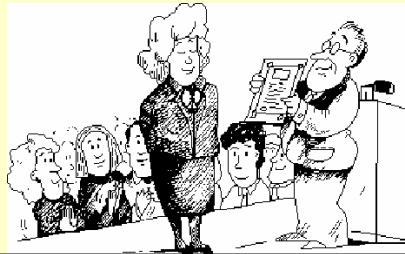
Project

- system (re-)design, implementation and critique (25%)

Exams (50%)

- mid-term (20%)
- final (30%)

You must pass both the exam components and assignment components to pass the course



Labs

Critical to your success in assignments

- elaboration of details
- learn specific skills
- discuss intermediate results
- class feedback on assignment milestones



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Text and additional references

Lecture notes

- sold at cost by the department
- available on the web



Optional programming manuals

- C# / Visual Studio 7 is our implementation platform
- documentation is on line
- you can choose whatever books you need to get you started

Other resources

- see the web site <http://www.cpsc.ucalgary.ca/~saul/481/>

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