CMSC 434
Introduction to
Human Computer Interaction

Ben Bederson

Name Cards
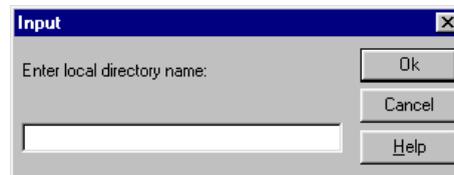
UI Hall of Fame and Shame

Input	✕
Enter local directory name:	Ok
	Cancel
	Help
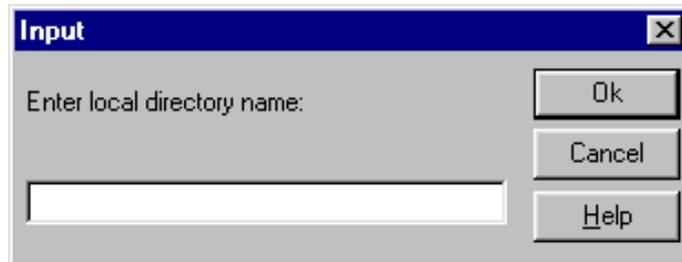
UI Hall of Fame/Shame

Good:

- Goal is clear
- Help is offered
- Default is "Ok", supports keyboard-only use

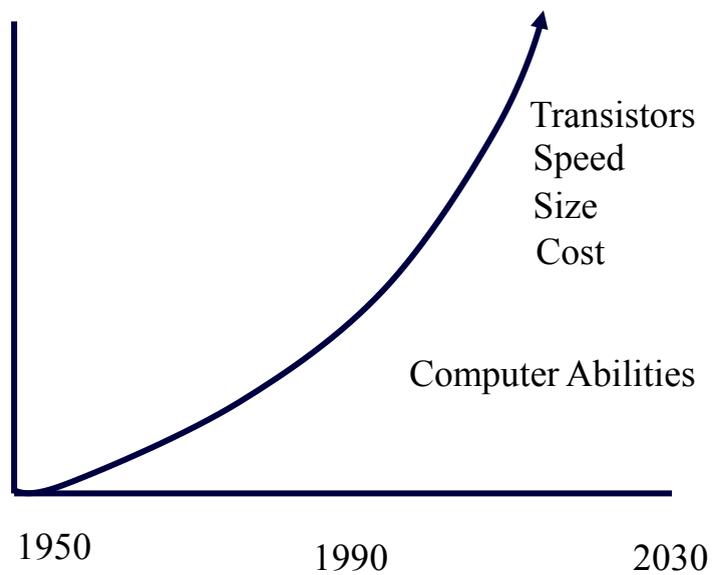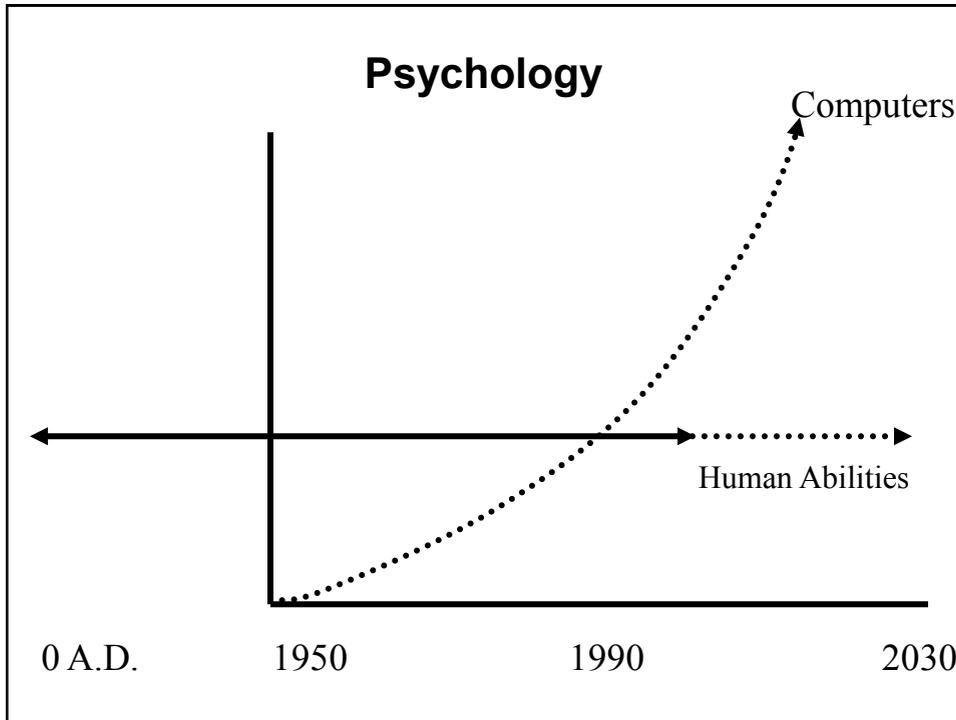| Input	✕
Enter local directory name:	Ok
	Cancel
	Help

Bad:

- Application directory dialog (not system) => *inconsistent*
- Requires typing a path name
  - no browse option
  - What if you have many directories? (e.g., hundreds)
- Requires recall over recognition
- Want *recognition over recall by default, and option to user*

Tips

- Don't make the user feel stupid
- The goal of all software users is to be more effective

Moore's Law

Transistors
Speed
Size
Cost

Computer Abilities

1950   1990   2030

Psychology

Computers

Human Abilities

0 A.D.   1950   1990   2030

Human Computer Interaction

- A discipline concerned with the
  - analysis,
  - design,
  - implementation, and
  - evaluation

  of interactive computing systems for human use

design

evaluation   implementation
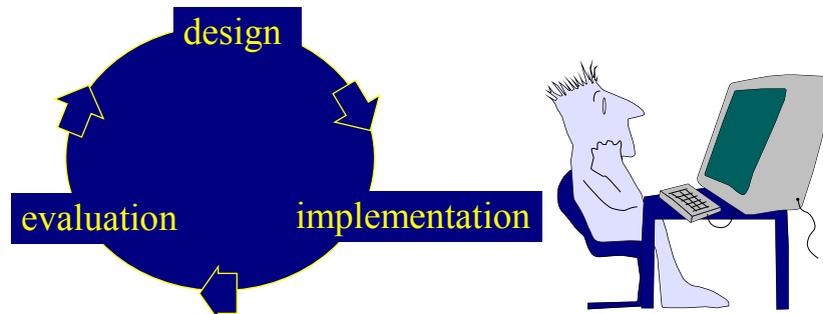
Why an interface design process?

- 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 flow*
    - *is not easily used*
    - *is never tested until it is too late*

Human-Computer Interaction Lab (HCIL)

www.cs.umd.edu/hcil

Goals:
- Universally usable
- Useful
- Efficient
- Appealing

My Research Interests

- Historically Information Visualization
  - Zoomable User Interfaces (Piccolo)
  - PhotoMesa
  - DateLens
- Voting Technology
  - Understanding Usability
- Mobile
  - Design for one-handed use
- International Children's Digital Library (& kids)
  - www.childrenslibrary.org
  - KidPad
- Distributed Human Computation
- Zumobi
  - www.zumobi.com
    Commercially media apps for cell phones

bile

Distributed Human Computation

"Wisdom of the Crowds"
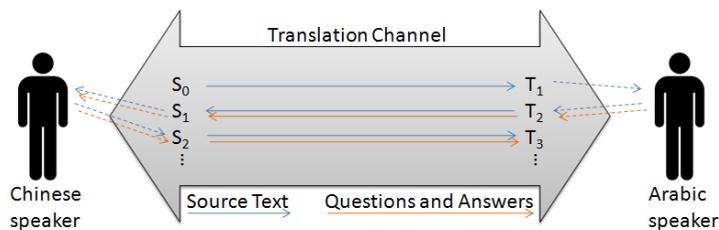"Games with a Purpose"

How to harness the masses to solve problems we design.

Go beyond twitter and conficker.

Distributed Human Computation

How to translate with scarce resources?

Use the resources you have – monolingual speakers and poor
quality automated translation.

CMSC 434 Contact Info

- Instructor
  - Ben Bederson (HCIL)
    - *Office hours (3171 AVW):*
      - Mon 12:30-1:30 (before class)
      - Wed 3:30-4:30 (after class)
      - or by email any time: <my last name>@cs.umd.edu
      - or by appointment
      - drop in/telephone discouraged
- TA
  - Megan Monroe
    - *Office hours (1112 AVW)*
      - TBD
      - madeyjay AT umd

Class Mailing List

- Two-way
- cmsc434-f09@mailman.cs.umd.edu
- You are already signed up – email TA for admin
- Config:
  https://mailman.cs.umd.edu/mailman/listinfo/cmsc434-f09

What you will learn

- Principle of design
  - How to identify needs
  - How to create/imagine possible solutions
  - How to select and implement a solution
  - How to evaluate the result
- Basic human factors
  - Characteristic of the human information processor
  - Models for what people can do
- Basic interface technology
  - Hardware
  - Software

Balance between Form and Function

Simple is good – right???

- One button laptop

Text and additional references

- Book
  - Universal Principles of Design, Lidwell, Holden and Butler [Rockport], 1998.

- Optional Books
  - Designing the User Interface: Strategies for Effective Human-Computer Interaction, 4th Edition, Shneiderman and Plaisant [Addison-Wesley], 1998.

- Course web site:
  - www.cs.umd.edu/~bederson/classes/cmsc434

Workload

- Reading
  - About one chapter per class
  - From Lidwell and/or online.
  - Get password from me
- Homework
  - Some tech learning and some HCI
  - Independent
  - All homeworks and project deliverables due at class time on due date
- Hall of Fame/Shame – schedule already set
- Projects
  - 1 projects, several phases
  - In groups of 3-4 people – you choose
- Late assignments policy
  - -20% up to 24 hours late
  - -50% up to 48 hours late
  - -100% after that

How you will be evaluated

- Homeworks + Hall of Fame/Shame + Participation (30%)
- Projects (40%)
- Exams (30%)
  - mid-term (15%)
  - final (15%)

Project Theme - Social

- Social
- Sample project areas:
  - Make a new socially based web site for fun, commerce, university life
  - Make a facebook app
  - Make a twitter extension
  - Google Wave
- Project technology: Web
  - i.e.: HTML, JavaScript, JQuery, MySql, GWT, Flash
- Propose Projects Monday, Sept. 21

https://wiki.cs.umd.edu/cmsc434_f09/index.php?title=Term_Projects

Academic honesty

- Projects are group assignments
  - You will form your own groups
  - Each member must carry his/her load
  - Discussing with other group in general term is OK
  - Copying (verbatim or not) is not
  - Any direct usage of any external material must be cited
- Homeworks are individual assignments
  - Discussing with other students in general term is OK
  - Copying (verbatim or not) is not
  - Any direct usage of any external material must be cited
- Exams are individual works
  - No communication at all between students
- Violation of course (or University academic honesty) rules
  - Hearing with the judicial program

Next

For Wednesday:

- You must bring in a remote control

  - Please check the questions posted online for each reading
  - I will ask similar questions in class

For Monday:

- Read (this is the last reminder)