CMSC 434
Introduction to
Human Computer Interaction

Ben Bederson

Name Cards
UI Hall of Fame and Shame

Good:
• Goal is clear
• Help is offered
• Default is “Ok”, supports keyboard-only use

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
Human Computer Interaction

- A discipline concerned with the analysis, design, implementation, and evaluation of interactive computing systems for human use.
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](http://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
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
• cmisc434-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**

- **Optional Books**

- **Course web site:**
  - [www.cs.umd.edu/~bederson/classes/cmosc434](http://www.cs.umd.edu/~bederson/classes/cmosc434)

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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

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)