CMSC 434
Introduction to
Human Computer Interaction

Ben Bederson
Name Cards
UI Hall of Fame and Shame
UI Hall of Fame/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

Computer Abilities

1950 1990 2030

Transistors
Speed
Size
Cost
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
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

• Cell Phones
  – Design for one-handed use

• International Children’s Digital Library (& kids)
  – www.childrenslibrary.org
  – KidPad

• Distributed Human Computation (new)

• Zumobi
  – www.zumobi.com
    Commercially media apps for cell phones
CMSC 434 Contact Info

• Instructor
  – Ben Bederson (HCIL)
    • Office hours (Room 3171 AVW):
      – Tue, Thu 2 – 3pm
      – or by email any time: <my last name>@cs.umd.edu
      – or by appointment
      – drop in/telephone discouraged

• TA
  – Tak Yeon Lee
    • Office hours (Room 1112)
      – Tues, Thur 11-12pm
      – Reflect<number 9>@gmail.com
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

• 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:
  – http://www.cs.umd.edu/~bederson/classes/cmsc434
Workload

• Reading
  – About two chapters per class
  – Either from Lidwell on online.
  – Get password from me

• Homework
  – 8 homeworks (~1 week each)
  – Independent

• Projects
  – 1 projects, 4 phases (3 weeks each)
  – In groups of 2-3 people that I PICK
  – Deadline to pick your project: Feb 24th

• 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 (20%)
• Projects (40%)
  – Step 1-4, 10% each
• Exams (30%)
  – mid-term (10%)
  – final (20%)
• Class Participation (10%)

  You must pass both exam components
  and
  project components to pass the course
Project Theme

• International Children’s Digital Library
  www.childrenslibrary.org

• Sample project areas:
  – Book readers
  – Social interaction
  – Educational activities
  – Translation support
  – Multicultural support

• Project technology: Web
  – HTML, JavaScript, JQuery, MySql

• Declare Projects Tuesday, Feb 24
Academic honesty

• Projects are group assignments
  – I will pick groups
  – Each member must carry his/her load
  – Discussing with other group in general term is OK
  – Copying (verbatim or not) is not

• Homeworks are individual assignments
  – Discussing with other students in general term is OK
  – Copying (verbatim or not) is not

• Exams are individual works
  – No communication at all between students

• Violation of course (or University academic honesty) rules
  – Hearing with the judicial program
HW #1

• Due Thursday, February 5
• Available now
Next Week

For Tuesday:
• Read
• SURVEY: To be emailed after class and responded by noon Wednesday.

For Thursday:
• Read
• You must bring in a remote control
  – Please check the questions posted online for each reading
  – I will ask similar questions in class