CMSC 434
Introduction to
Human Computer Interaction

François Guimbretière
CSIC 2117 Tue-Thu 2:00-3:15
CMSC 434 Administrivia

• Instructor
  – François Guimbretière (HICL)
    • Office hours (Room 3267 AVW):
      – Tue, Thu 10:00am – 11:00am
      – or by email any time: francois@cs.umd.edu
      – or by appointment
      – drop in/telephone discouraged

• TA
  – Khoo Yit Phang
    • Office hours (Room 1112)
      – Mon 9:00 – 11:00am, Wed 1:00 – 3:00pm
      – khooyp@cs.umd.edu
My research interests

• Human Computer Interaction
  – People, Paper and Computer
  – Better interaction techniques and command mechanisms

• Information Visualization
  – How to study very large trees

• Let me know if you are interested in participating in research project
People, Paper and Computers

How can we narrow the bridge between paper and computer?
PADD

Digital World

Paper Augmented Digital Document

Paper World

Print on paper with digital pattern

Merge pen strokes to document

Edit, Share, Archive

Navigate, Annotate, Discuss
CrossY

• Tool to explore crossing based interfaces
Computer interaction today

- fixed environment, stable
- indirect interaction
- precise aiming easy
Soon on your lap

- portable, unstable environment
- direct interaction
- low precision aiming
Rapid prototyping and hardware design

• Lab:
  – 3D printer: Z corp Z310
  – Laser cutter (~mid-March)
  – Testing equipment (~mid March)

• Research project
  – 3D annotations and editions
Student info

• Name, e-mail
• Are you taking the class for credit?

• Why are you taking the class?
  – Goals
  – Topics you would like to be covered in the class

• Do you own (or have access to)
  – A car radio, a cell phone, a MP3 player, a remote control
  – A digital camera
  – Clicker

• Additional comments
HCI

Human – Computer – Interaction
HCI

Human – Computer – Interaction

ACM definition:

A discipline concerned with the design, implementation, and evaluation of interactive computing systems for human use.
PCD?

- People – Computer – Design (Winograd)
- “The universal traveler” (Koberg & Bagnall)
What you will learn

• Basic human factors
  – Characteristic of the human information processor

• Basic interface technology
  – Hardware
  – Software

• 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
Text and additional references

• Book

• Reader
  – Online with link from the web page
  – Password: xxxxxxxxx

• Course web sites:
  – http://www.cs.umd.edu/class/spring2006/cmsc434/
Work load

• Reading
  – A chapter a class

• Homework
  – 8 homework (~1 week each)
  – By yourself

• Projects
  – 1 projects, 4 phases (3 weeks each)
  – In groups of 3-4 people
  – Deadline to pick your project: 02/03/05

• Late assignments policy
  – -20% up to 24 hours late
  – -50% up to 48 hours late
  – -100% after that
Work load

I've got to write a report for school.

What's your topic?

Bats. Can you imagine anything more stupid?

Heck, I don't know anything about bats. How am I supposed to write a report on a subject I know nothing about?! It's impossible!

I suppose research is out of the question.

Oh, like I'm going to learn about bats and then write a report? Give me a break!
How you will be evaluated

• Homeworks (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
Academic honesty

- Projects are group assignments
  - Each member should 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
Human versus Machine

Human traits   Computer traits
**Human versus Machine**

<table>
<thead>
<tr>
<th>Human traits</th>
<th>Computer traits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incredibly slow</td>
<td>Incredibly fast</td>
</tr>
<tr>
<td>Error-prone</td>
<td>Error free</td>
</tr>
<tr>
<td>Irrational</td>
<td>Deterministic</td>
</tr>
<tr>
<td>Emotional</td>
<td>Apathetic</td>
</tr>
<tr>
<td>Inferential</td>
<td>Literal</td>
</tr>
<tr>
<td>Random</td>
<td>Sequential</td>
</tr>
<tr>
<td>Unpredictable</td>
<td>Predictable</td>
</tr>
<tr>
<td>Ethical</td>
<td>Amoral</td>
</tr>
<tr>
<td>Intelligent</td>
<td>Stupid</td>
</tr>
</tbody>
</table>

(from The Inmates are running the asylum by Alan Cooper)
Reading for Next Week

• Psychopathology of everyday things
• The perfect brainstorm