CMSC 434
Introduction to
Human Computer Interaction

François Guimbretière
CSIC 1121 Mon-Wed 2:00-3:15
CMSC 434 Administrivia

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

• TA
  – Alex Quinn
    • Office hours (Room 1112)
      – Tues, Thur 3:30 to 4:30pm
      – aq@cs.umd.edu

• Study session
  – Thursday at 11am
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

Print on paper with digital pattern

Paper World

Navigate, Annotate, Discuss

Merge pen strokes to document

Edit, Share, Archive
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 cuter
  – Testing equipment

• 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
- Additional comments
  - Do you have a job?
  - Are you taking another project class?
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

• 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
Text and additional references

- **Book**

- **Reader**
  - Online with link from the web page
  - Password: xxxxxxxx

- **Course web sites:**
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 2-3 people
  – Deadline to pick your project: 09/12/07

• **Late assignments policy**
  – -20% up to 24 hours late
  – -50% up to 48 hours late
  – -100% after that
Work load
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
<table>
<thead>
<tr>
<th>Human traits</th>
<th>Computer traits</th>
</tr>
</thead>
</table>

**Human versus Machine**
# 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

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