Why are you here?
To learn!
What’s the best way to learn?
How much do you recall?

- Lecture: 5
- Reading: 10
- Discussion: 50
- Experience: 90

Tuesday, 2 March 2010
DON’T BE LATE
Course Objectives

- Introduce students to the theoretical and technical aspects of ubiquitous computing
- Help students identify those characteristics that make successful ubiquitous systems
- Provide experience in developing a ubiquitous system or application
- Develop students’ critical thinking and writing, and presentation skills
Ubiquitous Computing

- Motivation: Make the world a better place
- "Simpler" technology
- More "humane" technology
- Embedded in the fabric of everyday life
Ubiquitous Computing

- Ubiquitous Computing (Mark Weiser, Xerox PARC 1988)
- Pervasive Computing (Academia, IBM 1999, SAP 2000)
- Calm Computing (John Brown, Xerox PARC 1996)
- Universal Computing (James Landay, Berkeley 1998)
- Invisible Computing (G. Barriello, UoWashington 1999)
- Tangible Computing (Ishii, 1997)
- Context Based Computing (Berkeley/IBM 1999)
- Hidden Computing (Toshiba 1999)

- Post PC Computing (Popular media)
- Ambient Intelligence (European Commission, FP5)
- Everyday Computing (Georgia Tech, 2000)
- Sentient Computing (AT&T, 2002)
- Autonomous Computing (IBM, 2002)
- Amorphous Computing (DARPA, 2002)
- Spray Computing (Zambonelli, 2003)
- Cityware (O’Neill & Kostakos, 2005)
Ubiquitous Computing

• An application domain, not a discipline
• A potpourri of
  • advanced computer science (AI & Agents, graphics, cryptography)
  • hardware sensors
  • psychology (cognitive, experimental, clinical)
  • sociology (ethnography, ethnomethodology)
  • geography
  • architecture
  • history
  • arts & design (music, performance)
Ubiquitous Computing

Enable
Technology
WiFi, RFiD

Understand
Ethnography
psychology
geography

Apply
Human-Computer Interaction
Human-Computer Interaction

- Identify gaps
- Propose solutions
- Define and measure success
HCI + Ubiquitous Systems

- Desktop systems are understood quite well
  - command prompts, GUIs, dialogues, metaphors, security mechanisms
- Ubiquitous systems are not understood so well (yet)
  - Mobility, sociability
This course is a reading course. This means you have to READ and WRITE.

There is no textbook

There is no exam!

Most fulfilling: you get heard in every class. Develop arguments, counter arguments.
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<thead>
<tr>
<th>Class 1</th>
<th>Course overview</th>
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<td>Class 13</td>
<td>Final presentations - projects are due</td>
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Tuesday, 2 March 2010
Grading

- Lecture(s) 20%
- Online research 20%
- Classroom participation 20%
- Term project: 40%
Lecture(s) 20%

• Each week, one of you --the Lecturer-- will be responsible for teaching everyone else

• The lecturer must post a summary of the topic to our forum 72 hours before the lecture

• Summary at least 500 words of the topic.

• http://hci.uma.pt/forums/
Lecture(s) 20%

- On the day of your lecture, you must give a 45-60 minute presentation on the topic
- Followed by 10 minutes of quick question-and-answer session
- Break (15mins)
- Discussion - lead by the lecturer - 60 mins
- 20% = Lecture + Discussion

Tuesday, 2 March 2010
### Oral Presentation Evaluation Form

<table>
<thead>
<tr>
<th>Content</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>exhibits knowledge of content in presentation</td>
<td>6</td>
</tr>
<tr>
<td>uses accurate, up to date resources</td>
<td>4</td>
</tr>
<tr>
<td>answers questions accurately</td>
<td>4</td>
</tr>
<tr>
<td>utilizes appropriate technology in presentation</td>
<td>4</td>
</tr>
<tr>
<td>information organized so audience can grasp major concepts</td>
<td>6</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Organization</th>
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<tbody>
<tr>
<td>conducts relevant pre-assessment</td>
<td>2</td>
</tr>
<tr>
<td>states pertinent, clear and appropriate purpose</td>
<td>4</td>
</tr>
<tr>
<td>presents material in a well-organized, logical sequence, easy for participants to follow</td>
<td>8</td>
</tr>
<tr>
<td>present appropriate amount of material for time</td>
<td>6</td>
</tr>
<tr>
<td>presents at appropriate level for group</td>
<td>8</td>
</tr>
<tr>
<td>visual materials are visible, well organized and appropriate</td>
<td>8</td>
</tr>
<tr>
<td>presents effective conclusion</td>
<td>2</td>
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<tr>
<td>presents in a clear and easy to understand voice; speaks easily, not haltingly</td>
<td>4</td>
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<tr>
<td>presents without distracting mannerisms</td>
<td>4</td>
</tr>
<tr>
<td>gives enthusiastic, interesting presentation</td>
<td>4</td>
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<tr>
<td>speaks at a speed appropriate for audience comprehension</td>
<td>4</td>
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<tr>
<td>maintains eye contact, limited use of notes; does not read Powerpoint slides</td>
<td>6</td>
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<th>Audience Involvement</th>
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<tr>
<td>assesses audience's understanding at appropriate intervals</td>
<td>6</td>
</tr>
<tr>
<td>encourages audience involvement</td>
<td>6</td>
</tr>
<tr>
<td>listens to and deals with questions effectively</td>
<td>4</td>
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| Total | 100 |

**Tuesday, 2 March 2010**
Discussion

• Draw on topics from the reading list
• Draw on topics from the forum
• Assessed on
  • the breadth and depth of discussion (T-shape)
  • audience involvement
  • reasoning, analysis, evaluation
Online research 20%

- Every week you have to read the assignments
- Post relevant comments, links and questions
- If you are shy, this is your chance to shine :)

Tuesday, 2 March 2010
Online research 20%

- Do you agree/disagree with the authors?
- Is there evidence that supports/rejects the author’s claims?
- Under what conditions do the authors’ claims hold?
- If you were to explore the same topics, would you do something differently?
- What are the major implications of the work?
- How would you extend this work?
- Do you agree with the points that the Lecturer is making (the student who is giving the lecture on this topic)?
Classroom Participation 20%

- Participating in class: questions, comments, etc.
- In general, the EFFORT you put in
# Weekly activities

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<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
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- **Lecture and Discussion**
- **Lecturer Comments**
- **Students Comment**

**THESE ARE DEADLINES:**
- **YOU SHOULD COMMENT EARLIER**

Tuesday, 2 March 2010
DON’T BE LATE
Feedback

- You can expect the following feedback from me:
  - Responses to your critique
  - Questions to consider, further pointers
  - Feedback about your presentation & discussion (usually a paragraph)
Term project: 40%

- Design oriented (conducting formative user studies interviews, surveys, and observations), creating mockups of user interfaces.
- Implementation oriented, creating or extending a ubiquitous computing system.
- Evaluation oriented, taking an existing system, designing a user study, and conducting that user study.
Project idea 1
Project idea 2
Let’s get physical!

Rules can combine sensors from multiple users...
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Lecturer for next week?

- Who would like to be the first Lecturer?
- +5% extra credit

- Sign up for the forum:
  http://hci.uma.pt/forums
Resources

- Forum:
  http://hci.uma.pt/forums/

- Syllabus:
  http://hci.uma.pt/courses/ubicomp
  Also has tutorials on writing reports

- Instructor email:
  vassilis@cmu.edu