Pervasive Health
CSE40816/60816

Fall 2011
University of Notre Dame

Course Overview

• Instructor
  – Christian Poellabauer
  – cpoellab@cse.nd.edu, 325D Cushing Hall
  – Office hours:
    • Mon 9-10, Tue 1-2
    • By appointment

• Teaching Assistant
  – Nikhil Yadav
  – nyadav@nd.edu, 214 Cushing Hall
  – Office hours:
    • Wed 12-1
Course Overview

• MW(F) 10.40 – 11.30, deBartolo 223
• Friday lectures “on demand”
  – Catching up
  – Tutorials
  – Guest lectures
  – Student presentations
  – Independent lab meetings

• http://www.cse.nd.edu/~cpoellab/teaching/cse40816/

Course Overview

• Student requirements
  – Prepare for lectures & homework assignments (20%)
    • Paper summaries due before lecture (AFS)
    • Create directory “readings” and name summaries
      “summaryMMDD.ext” (MM=month & DD=day of the day of lecture,
      ext=extensions (doc, pdf, ps, txt, rtf))
  – Survey paper on topic of your choice (15%)
  – Survey paper presentation (15%)
  – Projects (50%)
    • Project proposal
    • Design document
    • Implementation and evaluation
    • Presentation and documentation
Reading Assignment

• “The Computer for the 21st Century”, Mark Weiser

• Paper summary:
  – Summarize each paper in 1-2 paragraphs
    • Key ideas, problem discussed, solutions proposed, open issues, etc.
  – Answer questions (1-3 sentences each)
    • How does Weiser explain the term “embodied virtuality”?
    • Can you comment on some of his predictions (battery life time, screen size, removable hard disks and memory chips, wireless transfer rates, etc.)?
    • What does Weiser identify as the key social issue?

What is Pervasive/Ubiquitous Computing?

• “The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it.”, Mark Weiser 1991

• http://www.youtube.com/watch?v=H_gLVIYOI0w
Pervasive Computing

• Wave 1: Mainframe Computers
  – Computers run by experts “behind closed doors”
  – Many users access computer via “dumb” terminals
  – Computers large, “powerful”, and expensive

Pervasive Computing

• Wave 2: PC (Personal Computers)
  – Users have their own computers
  – Quite powerful, relatively inexpensive
  – Laptops replace desktops (add mobility)
  – Opened doors for new applications (word processing, productivity, video/audio, web applications)
Pervasive Computing

• Wave 3: Internet
  – “information age”, online services, cloud computing, new businesses, ...
  – Combines elements of PC era and mainframe era

Pervasive Computing

• Wave IV: Ubiquitous Computing
  – Explosion in number/variety of devices
  – Humans become subjects (instead of users)
  – Anywhere, anytime, but “invisible”
  – Intention: make our lives “better”
Pervasive Computing

- Minority Report Clip 1
- Minority Report Clip 2

- Requirement: network capability!
- “Internet of Things”