CS160 Discussion Section
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Who am I?
- International student from Singapore
- Ph.D. student in EECS
- Former Berkeley undergraduate (B.S. EECS '01, B.A. Economics '01)
- Current research
  - Educational computing (Livenotes)
  - Distributed computing
  - Mobile computing and p2p networking
  - Human-computer interaction
  - Educational psychology
  - Sustainable economic development
  - Digital divide

Goals as TA
- Considering career in academia
- Consulted past CS160 students
  - Motivation for HCI techniques
  - Supplement and cover "wet" side of lecture material
  - More open discussions, less lecturing
  - Live demonstrations
  - Coaching with projects; correct applications
- Results from educational psychology research group (decreasing order of importance)
  - Prepare students for examinations
  - Inspire interest in subject
  - Make learning fun and interesting
  - Highlight key points of class readings
  - Help students with homework

TA Office Hours
- M 4:30-5:30, Th 10-11; 551 Soda (note change!)
- Office: 417 Soda
- Email mattkam@cs.berkeley.edu for appointments at other times, and course-related matters
- If urgent, mark "high priority"
- Discussion sections homepage: http://www.cs.berkeley.edu/~mattkam/cs160/
- Newsgroup: ucb.class.cs160

Concepts
- Work practices
- Interaction techniques
- Personas (part of user-centered design)
- Ubiquitous computing
- Context- / location- awareness

Technology
- IT application
  - Push
  - Social pull (user needs)
Mobile Devices / Phones

• What are their physical characteristics?
  – Small display
  – Limited entry, i.e. "select vs. type"
  – Limited memory and storage
  – Portable
  – Moderate to long battery life
  – Wireless, "intermittent" connectivity
  – What else?
  – Which are pros, which are cons?

Mobile Devices / Phones

• Engendered practices?
  – Regular recharging and synchronization
  – Regular checks on voicemail
  – “Please turn off your cellphones…”
  – Driving while talking
  – What else?

Mobile Devices / Phones

• Interaction Techniques?
  – Select by tapping, touching or pressing
  – Voice dictation
  – Pen input and handwriting recognition
  – Negligible bootstrap time => short, simple tasks
  – What else?

• “Books with Voices” demo by Scott Klemmer
  – Novel interaction technique: using a tangible medium (paper and barcode) to index into an electronic database (oral history archive)

Personas


Personas

• Why use personas?
  – Avoids the “elastic” user
    • Programmers bend, stretch and adapt the software for the user, not user bending and adapting to software
    • Makes it difficult for programmers to distort the users’ goals and needs
  – Communication within team
    • End feature debates
  – Negative personas
    • Someone you explicitly don’t want to design for
Personas

• What are personas?
  – Hypothetical archetypes of actual users
  – Defined with rigor and precision
  – Specific but stereotyped
  – Although they are imaginary, we discover them in the investigation process, not by making them up
  – Defined by their goals

• “The essence of good interaction design is devising interactions that let users achieve their practical goals without violating their personal goals.”

• Goals vs. tasks
  – A goal is an end condition
  – A task is an intermediate process required to achieve the goal
  – Tasks change as technology changes, but goals tend to remain stable
  – Programmers do task-directed design

• What goes into a good persona?
  – Skill levels
  – Capabilities, inclinations and background (or lack of)
  – Other pertinent economic, social, values, etc. characteristics
  – Precision to extent that persona can stand for member of development team
  – Goals (most important)

• Identify the primary persona
  – “Someone who must be satisfied, but who cannot be satisfied with an interface designed for any other persona.”

• Web design tool example

  • Betsy
    – A former graphic artist
    – Knows how to build static HTML pages
    – But not interested in programming
    – Goal: To design and build websites for clients as an independent artist/consultant

• Ernie
  – A new-age programmer geek
  – Doesn’t know C, C++ or assembly
  – But knows CGI, Perl, JavaScript and VB
  – Competent in assembling components to attain required functionality
    • Familiar with hundreds of ActiveX controls and JavaBeans
    – Goal: To work on and solve technical problems

• Who is the primary persona?
  • Betsy’s needs changed as Web technologies evolved; websites becoming more dynamic
  – But goal remains unchanged

• Solution?
  – Visual programming interface
Ubiquitous Computing

- People and environments integrated seamlessly with computationally-enabled objects that provide services when and where desired.
- "The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it."
  - E.g.: writing and print technology
  - Tabs, pads and boards
  - Active Badge and RFIDs
  - Wireless network infrastructure (e.g. Wi-Fi, Bluetooth)


Context-/Location- Awareness

- What is context?
  - Available information about and in the environment that can be sensed by computer
    - Who are present?
    - What are the occupants doing?
    - Where is he heading towards?
    - When was he in this room?
    - Why is he doing this? (very challenging problem)
- Location-awareness is subset of context-awareness
  - E.g.: Electronic movement board


More Project Tips

- Past CS160 projects: 5th floor Soda hallway
- Ongoing HCI research at Berkeley: [http://quir.cs.berkeley.edu](http://quir.cs.berkeley.edu)
- Ready access to users and test subjects
- Why would users want to use your system over existing system?
- Choose something you really care about!

Feedback

- Feedback is always welcome, anytime
  - Email them to mattkam@cs.berkeley.edu
- Suggestions for discussion sections material
- Survey