ICS 105:
Project in HCI

Design Techniques - I

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timetable

- this week and next -- design
  - the problem to be tackled
  - the approach
- today and Thursday
  - design and prototyping techniques
- next Tuesday
  - paper prototyping session
- start scheduling regular project meetings
  - each team to meet with Peter weekly

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timetable

- after that, I'm going to miss a couple of lectures
  - away next Thursday and following Tuesday
    - and possibly the Thursday, depending on the INS
  - should be in serious build-mode by that time

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jaimlib?

- should have a basic test client working
- problems?

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engaging with users

- the fundamental problem
  - keeping our design close to
    - real needs
    - real problems
    - real contexts of use
  - all our tendencies are to move away from this
    - to see ourselves as prototype users
    - to measure designs against theory rather than practice
    - to abstract away detail, ooking for general solutions
- need to keep users in the loop
  - not as abstractions

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engaging with users

- laboratory studies
  - provide definite answers to definite questions
- surveys
  - broad statistical trends but little detail ("why?")
- ethnographic investigation
  - understand the context of work
  - long-term investigation
- scenario-based approaches
  - support speculative stages of design
  - making users concrete

scenario-based design

- avoiding the "user as a scenic feature"
  - studies of system design
  - "ritually invoking" the mythical user
    - "users won't do that"
    - "what users need is ..."
      - whatever it was I was planning to build anyway
- creating a context
  - users aren't *just* users
    - that is, their goal in life is not to use your system
    - place system use in the context of other activities

scenario-based design

- "users with names"
  - don't just talk about "the user"... talk about Bob
    - what does Bob do? how often? when? where? under what circumstances or time pressures? with what goal? drawing on what training? where are his kids while he's doing it? does he enjoy it? what gets in his way? what helps?

a scenario

- topic -- in-car navigation
  - Beth is in a hurry to get to her friend's house. She jumps into the car and switches on the in-car navigation system The display appears quickly, showing her local area and indicating her current location with a white dot. She calls up the memory function of the device and chooses her friend's address. Since it's rush hour, she selects the option to avoid freeways. The device pauses and then shows her an overview, which helps her get oriented before she sets off.

a scenario

- topic -- in-car navigation
  - Once the engine has started, the map reverts to a close-up view to show her the detail of her current location and the next turn. As she moves away from the sidewalk, a calm voice tells her to "drive straight on for half a mile, then turn left." As she approaches the turn, the voice reminds her again "left turn in 100 yards." Since Beth has travelled this route before, she doesn't need the voice prompts; she turns them off so that she can listen to music undisturbed, depending simply on the visual display to her her find her way.

what are scenarios?

- scenarios are stories
  - about people
  - about activities
  - about the contexts in which action takes place
  - about *use* rather than technology
- scenarios have
  - plots
  - actors
  - settings

what are scenarios?

- a form of prototyping
  - a context for evaluation of emerging ideas
  - concrete enough for discussion with users
  - situate system use within realistic settings
- a source of design inspiration
- no substitute for real evaluation!
  - but applicable at a different stage of the process

why scenarios?

- practical issues
  - a very pragmatic approach
    - can have more diversity than a real user base
  - envision the future rather than codify practice
- process issues
  - scenarios are concrete
    - concrete examples are provocative
      - remember, design quality depends on alternatives
      - scenarios force discussion and debate
  - not just for setting requirements
    - keep going back to them throughout the design

how scenarios are used

- generate a range of scenarios
  - different tasks, different people, different settings
- use them to
  - derive initial requirements
  - understand context on which system is used
  - test development ideas & prototypes
  - ask new questions
    - important to be able to able to generalize
      - this is why we need the rich detail
      - what would happen if the circumstances were slightly different?

a scenario exercise

- two parts
  - first, generate a scenario on your own
    - use of IM for the area your team has been discussing
      - if you don't have one, pick one quickly just for this exercise
  - second, share them within the team
- then we'll talk about them…

the role of scenarios

- scenarios and theory
- scenarios and observation
- scenarios and evaluation

pitfalls

- all positive
  - write scenarios for negative situations too
- insufficient detail
  - want to be able to tell how

next time

- Thursday - paper prototyping procedures
  - for following Tuesday
- by end of the week, tell me what your team is going to work on