Social Computing Systems

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Logistics

- Any course enrollment issues?
- Grades for quizzes will now be posted
- **Reading (1/23):** Beyond Being There
- Remember: participation notes
  - Feedback starting soon...
Logistics

- This Friday Assignment: Eval Method for group projects
  - Before then: I’ll get you feedback on your ideas
- Next Friday: Individual Assignment #1 — code project in MeteorJS
- Next project step: “Pitch Presentation”!
- Anything else?
Today

- System design principles
- Evaluation methods
- [ Example in teams ]
Building without design is aimless wandering
The design process can help guide good design
We want to build useful things
Designing Real Systems
System Design

Diagram showing the process of System Design:

- Design
- Prototype
- Evaluate
The process of design

- What is wanted
  - Interviews
  - Ethnography

- What is there vs. what is wanted

- Scenarios
  - Task analysis

- Analysis

- Guidelines
  - Principles

- Design
  - Precise specification
  - Dialogue notations

- Prototype
  - Evaluation
  - Heuristics

- Implement and deploy
  - Architectures
  - Documentation
  - Help
Design Phases

Planning/Scoping
Exploration
Prototyping
Evaluation
Deployment
Motivation and Initial Design (Scope/Explore)

- Study the context of the problem, and how a solution would fit
- Discover + articulate a problem
- List stakeholders / needs / constraints
- Consider what tech is available and feasible
- Decide what to do first
Exploratory Analysis

Artifact analysis

Observation

- Who?
- Relationships?
- Actions?
- Context?
- Setting?

Contextual Inquiry
Prototyping

- Start with a low-fidelity model
- Iterate
- Test with ‘example’ users
  - e.g., within-team tests, hypothetical user profiles, etc.
- Iterate
- Test with real users
- Iterate
- More iterating
- Keep iterating...
Types of Prototypes

- Sketches
- Paper prototypes
- Physical mock-ups
- ‘Workbench’ build
- One-off production
- Small-batch production
- Release-ready
What Should a Prototype Be?

- Quick
- Cheap
- Explanatory
- Better than nothing
Prototyping Example: Google Glass

Thousands of dollars + months of effort

Millions of dollars + years of effort
How Not to Prototype
How Not to Prototype
[[ break ]]
Evaluation: User Testing

- Qualitative (understand experiences)
  - Observation (e.g., ‘Think Aloud’ study)
  - Survey and/or interview
    - Semi-structured Interviews
    - Focus Groups
  - Gathering usage feedback
    - Role-playing
    - Participatory Research
- Preference evaluation
  - Rankings
  - Affinity Diagramming (for responses)
  - Card Sorting
Evaluation: User Testing

- Quantitative (understand performance)
  - Task-based metrics (e.g., completion time, task count)
    - A/B Testing
    - Eye tracking
    - Controlled measurement

- Data-centric
  - e.g., data mining of user interaction traces
  - Usage logs
User Testing

https://twitter.com/designuxui/status/576432203560685568
Benefitting From User Testing

- What went wrong?
- What went right?
- Is there a ‘gulf of understanding’?
- How could these issues be addressed?
  - Functionality
  - Instructions / priming
  - Experience… (e.g., for ‘expert’ features)
- Are the users the right stakeholder to address?
Example Design Process

< in teams >
Questions?