What is usability?

Usability engineering

Scenario-based design

In-class Exercise: Write a scenario

Rest of SBD process

Tools for building interfaces

Course outline

3 Perspectives:

Human performance: time, errors, etc. I.e., human factors.

Human cognition: mental models, plans of action, etc. I.e., human/computer interaction.

Collaboration: group dynamics, context, etc. Current area of research.

Planning, achieving, and verifying system usability objectives.

Objectives must be defined early and should be measurable.

Assess system repeatedly to ensure achievement.

Unfortunately, not all objectives are measurable. E.g., legacy systems, portability, maintainability, economics.

Would like usability development to be part of the software engineering process.

Generally cannot specify all of the requirements in advance.

Some testing and iterative design needed to discover tradeoffs. E.g., beginning users vs. expert users.

Documenting choices between tradeoffs forms design rationale of system.

Scenario-based design (SBD) is one software engineering approach to usability design.

Similar in concept to extreme programming software development.

Emphasis is on analysis, design, and documentation of user interface. Does not cover all of the work in cognitive science and perception.

Scenarios are stories about people and their activities. Each scenario describes (Table 1.2, p. 18):

- Setting
- Actors
- Task goals
- Plans

- Evaluation
- Actions
- Events
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Why Use SBD?

Scenarios are useful in making engineering tradeoffs. They are both concrete and flexible. E.g.,
- making decisions (progress) vs. keeping options open
- current practices vs. new practices
- innovation & new features vs. actual use
- action vs. reflection ("what ifs")

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In-class Exercise

SBD can be used to design the interaction with any artifact. Write a sample scenario that describes someone setting the alarm on a clock radio in a hotel. Be sure to include all of the elements from the previous slide.

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Scenarios Used at Every Step

- Problem scenarios for analysis – who is involved, what are current practices
- Design scenarios for
  - Activities – functional services
  - Information – actual data presented
  - Interactions – what are user actions

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Prototypes and Evaluation

- Prototypes are constructed at any time. Can be
  - sketches
  - paper mock-ups
  - GUI “simulations”
- Used to act out scenarios and evaluate if it meets requirements.
- Final evaluation is system verification.

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Tools for Building Interfaces

- Will look at 3 technologies
  - HTML/PHP CGI/JavaScript/CSS
  - Visual Basic
  - Java Swing
- Lectures will cover the basics. Supplemental on-line reading list on the course webpage for reference.

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Course Outline

- First half of semester alternate topics.
  - SBD – lectures, in-class activities
  - Tools – in-class “labs”, prototype assignments
- Second half of semester
  - Finish SBD topics in class
  - Group project
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Setting Up Web Space

- User web space on csserver: 
  /home/username/www_home
- Directory permissions must be at least 711 (“execute permission”)
- File permissions must be at least 644 (“read permission”)
- Index page is named index.html and is served by default, if it exists, when a directory is requested

Accessing Web Space

- User web space is accessed using URL: 
  http://csserver.evansville.edu/~username
- Web server translates this to directory: 
  /home/username/www_home
- Directory roots and translations are set in the web server configuration file.

Assignment

- If you do not have a csserver account and/or cannot log into csserver, let the instructor know.
- If you do not already have a web directory on csserver, create one, and set the permissions correctly.
- For now, you can create a file index.html with just the text "It worked..." in it to test.