Lecture 21: Future

May 3
Final

• Format
  – Multiple Choices
  – True or False
  – Matching terms and definitions

• 45 minutes
Learnability

• Minimize the need for learning
  – Visibility
  – Feedback
  – Affordance
  – Natural mapping
  – Mental models
  – Metaphors
  – Consistency
  – Speak the user’s language
  – Platform standards

• Make learning easy
  – Help and documentation
  – Transition from novice to expert
Memory

• STM
  1. Labels and parameters
  2. Current subgoal (current subtask)
  3. Current response
  4. Current state of the computer

• LTM
  1. Lookup past activities
  2. Lookup past contexts
  3. Lookup past data
  4. Inspect past activities
Efficiency

• Perceptual efficiency
  – See faster
  – Read faster
  – Find faster

• Cognitive efficiency
  – Think faster
  – Remember faster
  – Decide faster

• Motor efficiency
  – Move the mouse faster
  – Click faster
  – Type faster
  – Coordinate better
Few Errors

• When?
  – Perceptual errors
  – Cognitive errors
  – Motor errors

• How?
  – Mistakes
  – Failures
  – Slips and lapses
Satisfaction

- Positive:
  - Fulfillment
  - Security
  - Safety
  - Trust
  - Gratitude
  - Confidence
  - Privacy
  - Freedom
  - Fun
  - Respect

- Negative:
  - Stressed
  - Frustrated
  - Pressured
  - Angry
  - Anxious
  - Puzzled
  - Suspicious
  - Insecure
  - Tentative
  - Bored
  - Offended
Laws

• Fitss’s Law
• Law of Reaction Time
• Power Law of Practice
Models

• Model Human Processor
• KLM (Keystroke-Level Model)
• GOMS
Experiments

• Variables
  – Independent Variables
  – Dependent Variables
  – Control Variables
  – Nuisance Variables

• Hypothesis
  – Null
  – Alternative

• Design
  – Within subject vs. between subject

• Statistics
  – t-Test, p-value
Universal design

1. Equitable use
2. Flexibility in use
3. Simple and intuitive to use
4. Provide perceptible information
5. Tolerance for error
6. Low physical effort
7. Size and space for approach and use
Information Visualization

• **Mantra:**
  – Overview
  – Zoom and Filter
  – Details on Demand

• **TreeMap**
CSCW

Same Time
synchronous

Face to Face
interactions

Different Time
asynchronous

Continuous Tasks

Time/Space
Matrix

Same Place
Collocated

Different Place
Remote

Remote Interactions

Communication +
Coordination
Social Networks

1. Gather
2. Share
3. Self-Express
4. Feedback
5. Communicate
6. Collaborate
7. Know
Terms: Design

- Iterative design
- User-centered design
- Participatory design
- Gestalt principles
- Persona
- Task
- Scenario
- Storyboard
- Stakeholder
Terms: Evaluation

• Cognitive walkthrough
• Heuristic evaluation
• IRB
• Informed consent
• Formative evaluation
• Summative evaluation
• Think-aloud protocol
• Wizard of Oz
ECO-Feedback UI
AVAAJ OTALO
Visual Embellishment
BCI & Multitouch
Skinput
pCubee
Occlusion-aware Tablet

Honolulu

Honolulu is the capital designated place (CDP) of the island of Oahu, the city and the county are consolidated, known as the City and County of Honolulu, and the city and county is designated as the entire island. The City and County of Honolulu is the only incorporated city in Hawaii, as all other local government entities are administered at the county level. The population of the CDP was 371,657 at the 2000 census, while the population of the City and County was 909,863. In the Hawaiian language, Honolulu means “sheltered bay” or “place of shelter.”