Individual Homework #6 – Heuristic evaluation and guidelines

- HCI Law
  - Suitable for the task
  - Easy to use
  - Provides Feedback
  - Information must be at pace with user

- Design
  - User centered design
  - Evolutionary and Incremental prototyping
  - Implement Storyboards, Functionality simulations and HyperTalk
  - Scenarios

- Navigational design
  - Goal seeking behavior
  - After each step, answer the following
    - Where you are?
    - What you can do?
    - Where you are going? – What will happen?
    - Where you have been? – What have you done?

- Screen design
  - Grouping elements
  - Order of elements
  -Decoration and alignment
  - Understanding white space

- Interaction paradigms
  - Establish goals
  - Forming intentions
  - Specifying actions
  - Perceiving, interpreting and evaluating the states

- Organizational Issues
  - Free-rider problem  Contribution vs. benefit
  - Critical mass  Cost vs. Benefit
• Requirement Analysis
  ◦ Identifying stakeholders
  ◦ Identifying work-groups
  ◦ Identifying task-object pairs

• Evaluating techniques
  ◦ Through expert analysis  Cognitive walkthrough, Heuristics
  ◦ Through user participation  Laboratory and Field studies

• Heuristics
  ◦ Visibility of system status
  ◦ Real world metaphors
  ◦ Consistency with user freedom
  ◦ Recognition rather than recall
  ◦ Flexible and efficient
  ◦ Aesthetic and minimal design
  ◦ Low physical effort
  ◦ Equitable use
  ◦ Reversal of actions
  ◦ Provide feedbacks (> 0.1s to 1s)
  ◦ Principle of least surprise
    ▪ Similar things look similar
    ▪ Different things look different
  ◦ Help users recognize, diagnose and recover from errors
  ◦ Descriptive errors
  ◦ Protect users
  ◦ Help and documentation

• Participatory Design – Prototyping
  ◦ Brainstorming  Informal and unstructured
  ◦ Storyboarding  Users day-to-day activities
  ◦ Workshops  Stepping in users shoes
  ◦ Walkthroughs  Pencil and paper exercises
  ◦ Parallel prototyping  Presenting multiple designs to users
  ◦ Practice ThinkAloud with users
• Task Analysis
  ○ Task decomposition   Into sub-tasks
  ○ Goals of each tasks and sub-tasks(if any)
  ○ Preconditions   What users need to know about objects and actions involved
  ○ Exceptions   What can go wrong?
  ○ Description of each task

• Ethnography
  ○ Going through the existing research
  ○ Cross-sectional studies
  ○ Longitudinal studies
  ○ Psychological findings on aging and ability
  ○ Understanding issues with vision, speech, hearing, Psychomotor abilities
  ○ Memory and learning issues