Human Computer Interaction

Final Exam: duration 1h30mn

1. How to evaluate interface designs? Explain in detail? (10 pts)

2. How to make interaction styles? Explain in detail? (10 pts)

Note: Answer with your own understanding and idea! Don't copy answer from the lessons, the Internet, or your classmates. If you do this only 1 question, you will get 0 score. Please submit in PDF!

Answer

1. How to evaluate interface designs:
   - We evaluate depending on different of elements:
     - Stage of design
     - Product cost
     - Experience of design and team
     - Number of users
   - We think about evaluation of Heuristic
     - ❖ **Visibility of System Status:** UI system should always keep users informed about what is going on.
     - ❖ **Match between system and the real world:** The system should speak the user's language, with words, phrases, metaphors and representations familiar to the user. And we should use natural words.
     - ❖ **User control and freedom** Supports undo and redo actions. Allow user to override the system.

- ❖ **Consistency and standards:** Users should use same thing. Follow behavior user except and platform conventions.
- ❖ **Error prevention:** Prevents a problem from occurring in the first place. Give reasons to user or give solutions to user as guide
- ❖ **Recognition rather than recall**: Making objects, actions, and options visible. Make navigation visible and make it easy to go back, go to home page and quit.
- ❖ **Flexibility and efficiency of use**: Speed up the interaction for the expert users. The system should introduce step by step to users aren't expert user. prefer few screens with a lot of information and a lot of flexibility in the methods, while novice users prefer going through sequences with little information.
- ❖ **Aesthetic and minimalist design:** Use things what system needs or necessary.
- ❖ **Manage errors:** Error messages should be expressed in plain language. precisely indicate the problem, and suggest a solution.
- ❖ **Help and documentation:** Use contextual help related the task and allow easy search. The system should have button help for showing something what user want to know.

- Usability testing
  - Label issue: ask all subject to read and sign a statement
  - Guide: show performing the actual test and reporting result
  - Videotaping

- Thinking aloud: invite user to think aloud. Asks people afterwards what they were thinking.
- Paper mockup and prototyping
- Discount usability tests
- Competitive usability tests
- Universal usability tests: diverse users, platform,…
- Remote and "Can you break this": do by online testing of interface.
- Limitation: focus on first time of users
- Usability testing sites: provide ways to understand users

2. How to make interaction styles
   - Direct manipulation systems have the following characteristics:
     - Visibility of the object that is interesting for user needs
     - Rapid, reversible and incremental action that user can understand
     - Replacement of complex command language syntax using manipulation of object of interest
   - Menu interface: we consider about
     - Task related organization: User can select and execute one or more of the option results in UI menu.
     - Labels on the menus should be grouped well where users can accomplish their task with learning as finding a menu item is a recognition.
   - Form fill-in: Form of UI should be familiar with user use their devices:

- Use keyboard: TAB key
- Use mouse to move the cursor
- Error correction method: show form of fill-in of users want to fill or show formal form to users.
- Field label meanings: Show users about meaning of contents to users understand. Ex: Button check box Gender: one is Female and one is Male.
- Permissible field contents
- User of the ENTER key or/and Return key to control something that use want to go.

- Combination of multiple menus: can be combined in
    - Linear menu sequences
    - Simultaneous menu
    - Tree-structured menu
    - Menu maps
    - Acyclic and cyclic menu networks