DESIGNING USER INTERFACE

1) WHAT ARE TYPICAL ISSUES
    - Can't figure out how to do simple things.
    - Many not frequent use functions.
    - Many hidden functions.
    - Operations outcome not visible

2) EXAMPLES OF GOOD UI :
    - Easy, natural & engaging interaction
    - Users can carry out their required tasks
    - Accounts for human limitations

3) What are points of data gathering ?
    - Set clear goals for the data collection
    - Evaluate cost/benefit for your effort
    - Run a pilot trial
    - Record well – just in case for forgetting …. :P

4) What are data gathering methods ?
    - Interviews & Focus groups
    - Question-based surveys
    - Contextual analysis

5) INTERVIEWS & FOCUS GROUPS ARE :
   - appropriate at almost any stage of the design
   - conducting them earlier
   - better impact
   - conducting them later
   - gather specific reactions to actual design
   - optimal timing
   - early with mock-ups
   - collect subjective data
   - help understand the work practices
   - finding out users' tasks, roles, problems

6) Focus groups are:
   - difficult for geographically isolated
   - difficult when target population is small
   - alternative
   - online/phone interviews

7) WHAT ARE TYPICAL ACTIVITIES ?
   - Identify the main work tools or objects
   - Collect task scenarios or instances of use cases
   - Gain insight into users' work model
   - Gain insight into users' goals
   - Learn users' jargon
   - Gather statistics about use cases

8) Tasks Characteristics & how are they supported by the systems ?
   - easy, complex, novel, variable, repetitive, frequent
   - single tasks or multitasking – time critical
   - requiring individual or collaborative work

9) Characteristics of Mental Models are :

- Incomplete
- Partial
- Subject to change
- Possibly inconsistent
- Based on imperfect observation and inference

10) What are mental models good for?

- predicting what will happen when the user performs some action for the first time
- understanding what has happened when the system shows some unexpected behavior

11) what are properties for Usability requirements :

- Effective
- Efficient
- Engaging
- Easy to learn
- Error tolerant

12) To Produce Content Diagram …

- derive concrete use cases from the essential use cases
- identify primary task objects, attributes, and actions
- identify different containers and task objects that go in
- link the containers to show the navigation flow

13) When users carry out their tasks :

- perform various actions on the task objects in the concrete use cases
- view, create, delete, copy, save, edit, print

14) what are four psychological principles

- Users See What They Expect to See
- Users Have Difficulty Focusing on More than One Activity at a Time
- It Is Easier to Perceive a Structured Layout
- It Is Easier to Recognize Something than to Recall It

15) For optimizing the user experience :

- abstract guidelines (principles) applicable during early life cycle activities
- detailed guidelines (style guides) applicable during later life cycle activities

16) A typical guide includes :

- description of required interaction styles & user interface controls
- guidance on when and how to use the various styles or controls
- illustrations of styles and controls
- screen templates

17) WHAT IS A PROTOTYPE ?

- A prototype is an incomplete, early version of a product
- There are many approaches to building prototypes for software user interfaces
- UI prototypes can be as simple as a drawing on a piece of paper or as complex as web application

18) Why bother with a prototype ?

- Prototyping is an integral part of the UI design process
- You wouldn't just sit down and start churning out Java without designing your class structure ▪ …we hope
- Similarly, you should not try to write code for a frontend without mocking it up beforehand

19) What is Prototype Fidelity ?

- Fidelity measures how similar the prototype is to the finished interface
- Low fidelity: cheaper materials, omit details
- High fidelity: look more like finished product
- Fidelity takes values on a continuum (not just high and low bins)

20) BENEFITS OF PROTOTYPING :

- Low cost: requires little time, technical expertise
- High return on investment
- Generally results in a better UI

21) what are ui design principles ?

- UI design must take account of the needs, experience and capabilities of the system users.
- Designers should be aware of people's physical and mental limitations (e.g. limited short-term memory) and should recognise that people make mistakes.
- UI design principles underlie interface designs although not all principles are applicable to all designs.

22) What are Interaction styles

- Direct manipulation
- Menu selection
- Form fill-in
- Command language
- Natural language

23) Web-based interfaces :

- Many web-based systems have interfaces based on web forms.
- Form field can be menus, free text input, radio buttons, etc.
- In the LIBSYS example, users make a choice of where to search from a menu and type the search phrase into a free text field.

24) DIMENSIONS OF FIDELITY :

Fidelity can be broken down into four basic dimensions :

- Breadth, Depth, Look, Interaction

25) Describe depth fidelity.

- The “depth” of a prototype refers to how much of the prototype’s backend is functional, and how robust it is
- A very shallow prototype has no backend at all and is hardcoded to respond as though the user had provided ideal input
- A deep prototype has some logic and error-handling capabilities
- At first glance, depth may seem unimportant, but it affects the amount of exploration a user can do
- Thus depth can actually have a profound influence on user testing!

26) What is depth interaction ?

- Interaction” refers to how the prototype handles input and output
- For example, you might create a digital prototype for an iPad application which runs on your desktop and responds to traditional a traditional mouse and keyboard
- Do not confuse interaction with depth!

27) WHAT ARE BRAINSTORMING: IDEO RULES

- One conversation at a time
- Stay focused
- Encourage wild ideas
- Defer judgment
- Build on ideas from other brainstormers

28) WHY GO LO-FI ?

- Lo-fi prototypes don't require any technical skill, so anyone can participate in creating them
- You can get user feedback early on in the design process
- Paper prototypes can seem less intimidating than digital prototypes
- They can also result in more creative feedback and less nitpicky feedback

29) WHAT IS CRITIQUE :

- Critique is a method of soliciting feedback which was developed by studio art educators
- You display whatever lo-fi prototype(s) you have developed for your product to a small group of peers
- They share their immediate reactions to your ideas and weigh in on whatever open questions you have identified

30) Why paper prototyping?

- Faster to build
- Easier to change
- Focuses attention on the big picture

Nonprogrammers (e.g. graphic designers, usability specialists) can help: no special skills required