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SE-087
Section B HCI

Q1) Designers claiming userfriendly product while eventual users found it not. Some reasons of this are as follows:-

i) Designers might forget that users are not an expert. They can make errors when tired. Designers must have designed a system that cope up with all user carelessness. example i) Suppose system is designed, but space ~~buttons space~~ between buttons is not large enough to have it clicked easily.

[Login] [Join] [SignUp]   [Get Started]

Buttons Dont
      X

ii) Errors occuring in the application should be shown with meaningful colors. Error message should not contain any error code except 404 common one. It should have proper error message. It should also have a way to disappear that error or when user clicks X (cross) button, it should vanish. Example ii)

Error Code

SYS 00001

We regret to inform that services are currently unavailable. Please try again later

(Cancel)

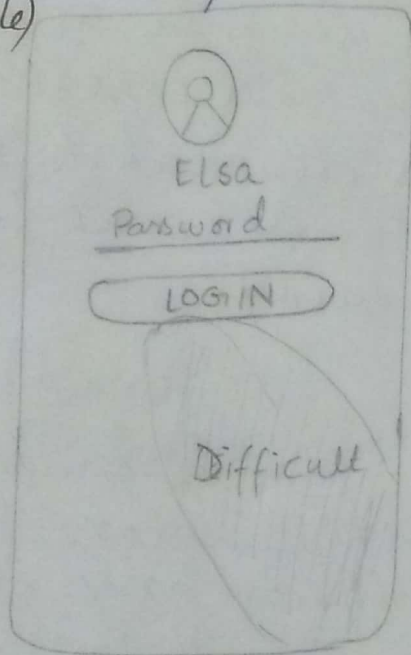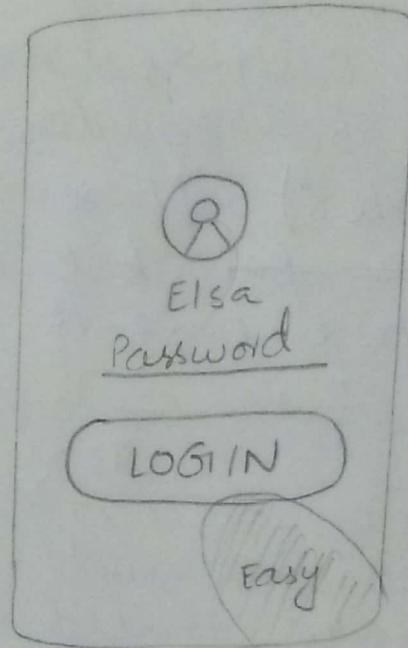X Don't   ✓ DO

use red for error, blue for information and green color for success.

3) App and Website should also follow fitts' law. Target should be large as possible whereas distance should be as small as possible. The elements that needs to be clicked should be large enough to see and distance should be smaller from user thumb or click.

Example)

× Don't	✓ DO

4) App should not have more than two fonts either one serif, another sans serif. App should have proper colors with not much higher contrast.

ELSA ← serif
monospace ← monospace
elsa login ← sans serif

ELSA ← sans serif
elsa kazi ✓ sans-serif

× Don't	✓ DO

Q2)

user
hardware
software,
choice of devices
select best one

(i) A system to let a blind person communicate with a deaf person.

User: Blind ①, Deaf ② persons

Hardware: Keypads to communicate or Typewriter, Bell, LCD

Software: Based on communication. If communication is through telephone or device. Complete networking must be developed.

Choice of devices :-

① Screen - Braille Communicator

② TTY with Braille Display.

Best One :- Screen Braille communicator would be the best one. It should have braille keypads with a bell attached for notification for blind people. It should have bell also to indicate deaf people.

ii)

User :- Doctor, Assistant

Hardware:- ~~Mic for recording~~, smartphone,

Software:- Recording option and sending files, storing in a database so no file is lost.

Device:- Smartphone Application

Reason:- Mobile Application would be best choice for recording and uploading and tracking each stored file.

Characteristics of Human Beings:-

1) Eventual users are not an expert. They can make errors.

   Reason) Users can't think like a mind of designers or developers. There may be layman, old or baby operating the system. They should have given latency to make errors.

2) User can be careless. They can either click on many buttons each after other without waiting for result, which can cause many errors as, for each click probably client side browser is requesting server side and server takes some time to give a response.

3) We can't throw bulk of features all at the same time towards user. We have to keep in mind that in order to grab user attention we should have used proper popups, colors, fonts. Then after grabbing attention we can list most important task there like when user first visit site, he/she can see clearly login or get started button big enough to grab atmost attention.

4) Each person is different. Each person have different vision, memory, emotions.

5) Images are focused upside down on retina. Retina contains rods for low light vision and cones for colour vision. Optical illusions can sometime occur due to over compensation.

6) There are several stages of reading; Vision pattern perceived, decoded using internal representation of language, Interpreted using knowledge of syntax, semantics, pragmatics.

7) Hearing provides information about environment (distances, directions, objects)

8) Touch provides important feedback about environment.

9) Time taken to respond to stimulus is reaction time + movement time. Movement time is dependent on age & fitness. Whereas reaction time depends on stimulus type.

10) Humans have memory function: includes sensory at memories, short term memory (STM), long term memory.

11) Humans have different thinking & problem solving skills.

12) Emotions also cater to affect influences how we respond to situations. It includes positive and negative emotions.

13) About 8% men and 1% women are color blind. Our application should cater people with colour blindness.