Assignment 04, Group M01, Mon 12-14 (English)

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Exercise 1 - Midas Touch 1

14P

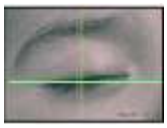
Problem:

If eye gaze interaction directly to the computer system interface, then each element of the interface would become active, even if the user does not intend to pay attention to the exploration of all the elements. how? 0

Approach:

Blinking: Blinking would be suitable approach to overcome this problem. When eye gaze directly to computer system interface, we need to distinguish weather the user blink or not for selecting the specific area or element from the computer system interface. We can count number of blink to perceive an element while exploring the computer system interface. For example, if the user blink twice on the specific element, that specific element would become active.

1

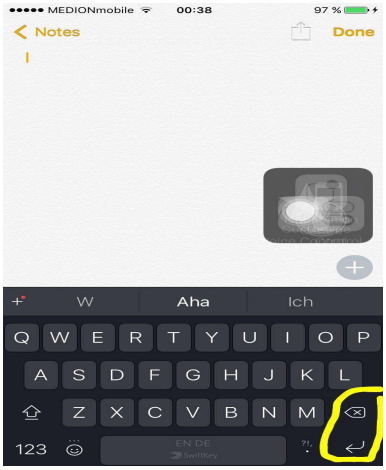


Exercise 2: Desktop WIMP interfaces: 3

Windows operating system use WIMP. Menus, Icons, pointer etc, these are known as WIMP interface.

- With the use of pointing, the user do not need to memorize commands, the user can easily selection or interact with the OS by pointing. 1
- With the use of pointing, the user may have controls over the OS but for advance or researchable computational work, the user may need command line instead of pointer. 1
- For the new user, the pointing option would be more ease to use as the new user can do work faster with pointing option instead of commands. 1

Exercise 3 – Fat finger problem 5

1. Fat finger problem happens when multi-touch screens are difficult to be controlled with any precision due to large fingertip size, also in that case the fingers occlude the content on screen and the tiny targets you're trying to hit. As a result, it's unclear where the finger is touching exactly. 1
2. 

   This problem happens every time when typing with my IOS mobile keyboard. When trying to press the Erase button, my finger occludes it. As a result, it's unclear where exactly I'm touching, and accidentally I press the Enter button instead sometimes. 2

3. I think Dual Finger Offset technique fits well with the above problem. As it allows the user to see the content on which he is pressing due to the offset between the finger & the pointer. This eliminates the occlusion problem mentioned above, but may not be feasible since we use one finger most of the time when we type on our mobile phones. 2

- References:-

1) https://mobile.slashdot.org/story/08/12/19/1529224/see-through-touchscreen-solves-fat-finger-problem

2) https://www.youtube.com/watch?v=EIPWkh0xaG8&feature=youtu.be

Exercise 4 - Mobile interface 2

1. Fat finger Problem:

0.5 The challenge is to determine what the user touched exactly, because a user is not precisely with his finger and the fingertip may press multiple areas of the screen

2. Small screen 0.5

The screen of a mobile device is small so you need to use it efficient and not waste space with user interfaces what could been handled with different touch inputs

3. Single handed input 0.5

Often the user don't use two hands interact with the device, so there should not be too much actions that afford two hands

4. Small number of keys and controls 0.5

So you need to use these efficient or think about fancy input patterns on the touchpad

Exercise 5 - Desk-lamp interface 3

Additional Features:

- Control Light brightness 1

with a LCD screen you could tell exactly how bright you want your light, what's not possible with a switch.

- show how long the light in on 1

you could show on the screen how long the light was on, for example to inform the user how much energy the light costs.

Gained:

- Much more possible informations for the user to show him for example time how long it's switched on 1
- Precise control of the brightness

Lost

- Manuel switch with that you could switch it of even if there is no energy 0 ? if there is no energy, a normal switch would also not work, because the light needs energy?