**UNIVERSITI TEKNOLOGI MALAYSIA**

**SCHOOL OF COMPUTING**

**SESSION 2019/2020 SEMESTER 2**

**COURSE CODE**

SCSV 2113 – Human Computer Interaction

**LECTURE’S NAME**

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**GROUP ACTIVITY**

INTERACTION DESIGN

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**1. Determine 3 different real users of iPhone**

- Those who make the purchasing decision; for example a business company that buy iPhones in bulk so that their workers can use it to do their daily tasks at the office

- Those who interact directly with the product; daily smartphone users like the netizens who use smartphones for daily activities such as replying emails, surfing the internet and listening to music.

- Those who manage direct users; inventors, product managers, developers

**2. From the video, identify ONE major problem that the current smartphones had at that time**

The major problem that the current smartphones had back in time was the physical built-up of the smartphones consisting of plastic keyboard with many different buttons located on the interface, which is confusing and takes long time to accomplish basic functions since it is complicated and hard to use – hard learnability and not efficient to be used for different applications which require optimised and slightly different set of buttons for their functionalities. Moreover, if they create more buttons (each button has their own and only one function), the keyboard layout becomes too squeezed and the buttons are hard to press. The current smartphones also have fixed control buttons and the interface is the same for every different application. Each button also has too many functions which make them difficult to be memorised by the users. Plus, the control method is limited only to the number of functions a button has. An easy and basic task will be really difficult to perform using the smartphone. Basically, the current smartphones at that time did not have as many functions as a computer.

 **3. How does the iPhone solve this problem?**

Steve Job’s team did a research & development about Revolutionary User Interface and they invented a brand new smartphone that has a giant screen and implements a new technology. The iPhone solved this problem by revolutionising the user interface through multi-touch display technology. With this technology, smartphones do not require physical buttons, but the application operations are all shifted to multi-finger gesture-based functionalities. They get rid of all of the plastic buttons and replace them with just a single home button which then creates a larger display screen that is easier to apply the multi-touch technology. It is found that this multi-touch technology is far more accurate and accomplishes the tasks way easier and in a shorter period without any complications as it is able to ignore unintended touches. The iPhone also implements multi-gesture control where different gestures of hand can perform different functions on the phone, so users do not need to memorise the function of buttons. They can also learn how to control the phone easily as it is not really complicated. Also, the multi-touch and multi-gesture technology require no stylus which would be annoying because it will always be missing. The users can just use their fingers, which every human was born with in order to click on anything on the phone. Furthermore, the users can tilt the iPhone for a bigger screen display. When users tilt the screen, the display mode will also be changed from portrait to landscape. The buttons on the iPhone are substituted by various fancy icons on the screen, which are way easier to understand by the users as people tend to interpret graphical symbols quicker than just texts.

**4. Now, can you understand what is the user’s need that the iPhone is trying to address? Discuss what is the user’s need here. Refer to slide 14 to guide your answer**

From observing the existing behaviour of users, Iphone developer realise that users not only need a smartphone that has all the necessary functions (such as reading news, sending text and image messages and even listening to their favourite songs), but also need less buttons and each button can perform several functions and can change whatever users want it to be pointed. This can simplify the steps to accomplish desired tasks since many features and functions become easy-to-access. So, Apple developed the IPhone’s multi-touch technology which can help users to execute the same and normal daily tasks, but with a way easier process which is by using their own fingers. It enables users to click on menus, type anything, browse lists of songs, zoom in or out of photos with their fingers. Users do not need to use control buttons and small keyboards which are very hard and stressing for them.

Besides, Apple realised that users need a larger and more graphical screen to display. So, Multi-touch technology also enables Apple to develop a smartphone which has a bigger display size. Users can enjoy and immerse more in what they are doing since there is no more plastic keyboard which took up a lot of surface area. Besides, this also helped users to read and watch things displayed on their phone’s screen more easily. They do not need to strain their eyes anymore and will feel more relaxed while using it.

Next, Apple also realised that users need to have personal assistance to help them use smartphones when they face difficulties. Because Apple knows that they are bringing a totally revolutionary and new product. People will need time to learn and master new things. So, the iPhone brought the smart feature of anthropomorphism like Siri that is provided in iPhone nowadays to fulfill the envisioned task that can be described as future scenarios.

Users also need a UI that is easier to understand and does not require a lot of thinking process. SO, Apple makes the information on the UI represented by symbols which enable the users to be able to understand the interface and its functions much better. Next, the iPhone also considered the handling of the smartphone with no other required supporting devices such as a mouse or stylus.

Last but not least, Apple know that High Technology Processor power and big-sized RAM in each IPhone product guarantee is to fulfill users' needs especially for some people that are using competitor’s product complaining their limited storage space and low processor, this can be rooted in existing people behaviour in envisioned tasks.

 **5. Steve Jobs innovated the iPhone by considering alternatives to smartphones by thinking outside of the box. How do you think he came out with the alternatives? Refer to slide 15 to guide your answer**

First, we believe that Steve Job’s team observed the similar products which are other mobile devices and looked into their problems and issues. He and his team try to figure out what the problems are, try to think which part users are not satisfied with, think how to make it better, try to solve problems from various sides. Then, they set usability goals as their products’ quality threshold. After, they make it real. We believe that they also have made the pros and con labels to improve the negative side of the product.

Besides, we also strongly believe that He generated the alternatives by seeking inspiration from other devices with similar functional requirements and capabilities which was the computer. A computer interface was able to display anything we need, the interface of any computer applications with help from a pointing device namely the mouse. So, the evolution of the smartphone interface will be the most perfect alternative for the user’s needs. However, he did the improvisation in his part by developing a user interface for the iPhone by integration of multi-touch technology which is controlled by finger gestures alone. This development which consists of both the software and hardware changes revolutionised the smartphones till today.