OCT 2020

Question 2

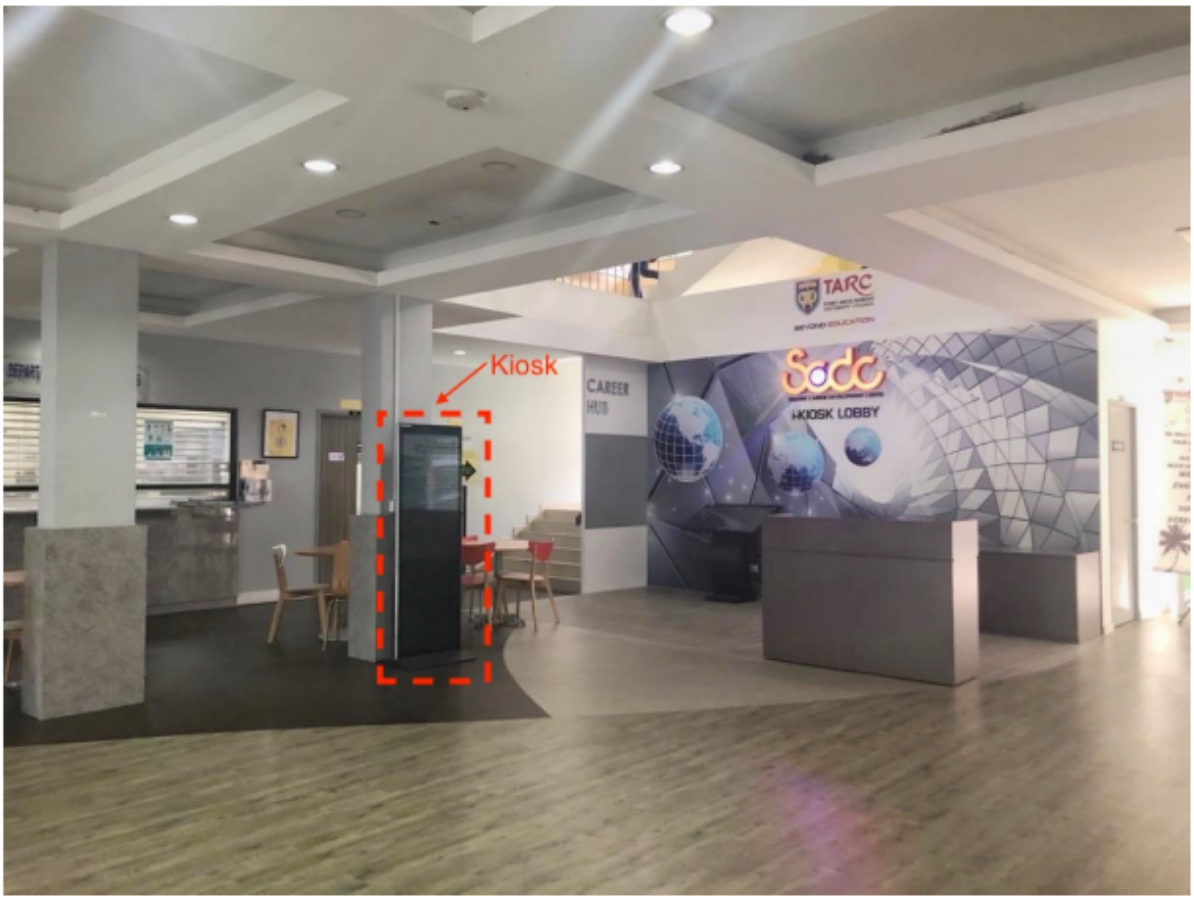

Image 1: Location of Kiosk at lobby area.

Question 2 (Continued)

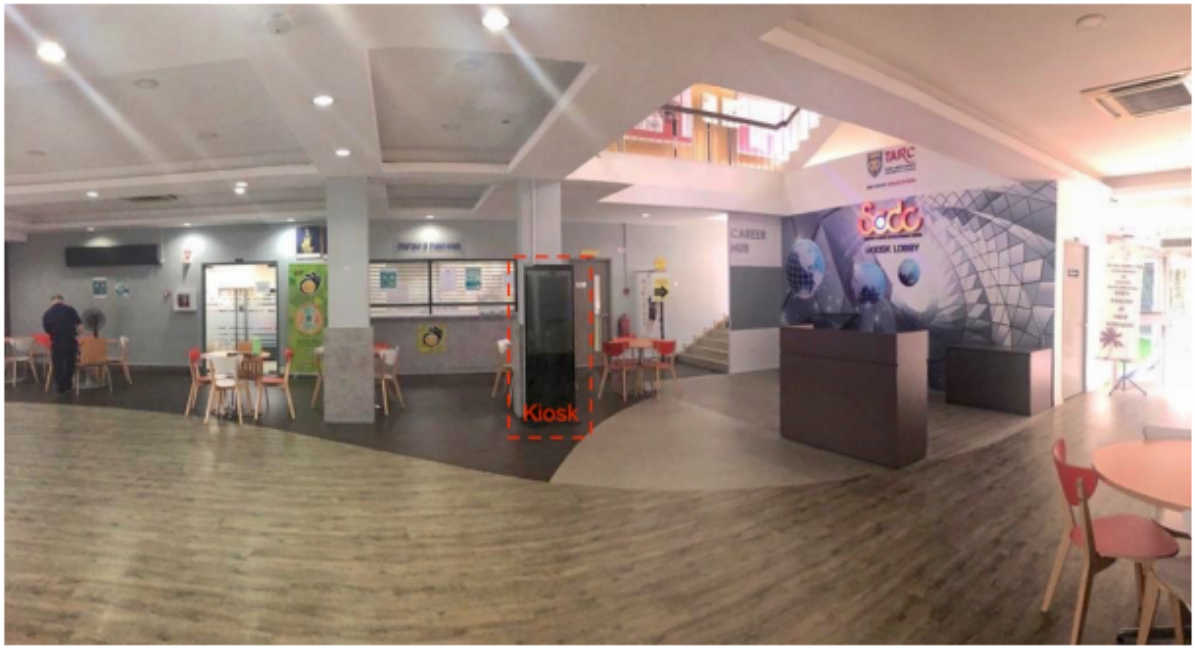

Image 2: Panoramic view of lobby area.

You are assigned to design kiosk digital content for the Department of Student Affair (DSA). DSA wants to help students in their Internship and job finding, so a kiosk is placed as shown in Images 1 & 2. This kiosk is equipped with built in mic, camera and touch screen. Write a short essay on **THREE (3)** potential design issues/problems that need to be identified before designing the kiosk content, and discuss your **ONE (1)** design solution for **EACH** of the potential design issues/problems.

(60 marks)

Marks Criteria for Question 2
Potential design problem/issue with justification/explanation (10 marks) + Design solution with justification/explanation (10 marks) = 20 marks x 3 = 60 marks

[Total:60 marks]

Sample Answer :

User: Student who need to get an internship and job information

3 Potential design issues/problems:

1st problem

Environment: Public, noisy environment as the kiosk is being placed at the lobby area which full of students

Task: Listening to the internship guideline audio explanation played from kiosk

Issue: Users' attention is distracted easily and they hardly hear the explanation clearly as the environment is very noisy, which is when other students are discussing their homework and assignment while sitting at the table. This causes them to receive wrong information from the kiosk and might cause them to lose the opportunity to get an internship.

2rd problem

Environment: Daytime or night

Task: Pressing buttons on the kiosk's touch screen to obtain necessary internship information

Issue: Small screen displayed on the kiosk causes the "fat finger" users difficulty to click on the correct button to achieve their task. They might get frustrated as the kiosk always responds to their action wrongly which displays the unrelated information to them and wastes their time which could cause the kiosk to be perceived as low quality.

3rd problem

Environment: Daytime or night (morning or night class session)

Task: Read the content from the kiosk screen

Issue: The text is unreadable as the size of the text is too small when displayed on the screen. Not only that, there is insufficient contrast between the foreground and the background (text) which affects the visibility of the screen and causes user difficulty in perceiving and interpreting the information coming from the kiosk.

3 Design solutions:

Solution for 1st problem

Since the environment is noisy, we could provide the user the choice to adjust the volume of sound from the kiosk. However, sometimes the environment is too loud until the user cannot hear or even volume up the sound. In this case, we could design a simple yet informative interface for the kiosk content without cluttering it to attract user attention and be easy for them to remember. Besides that, we could use color to highlight the important or special content/notes to make it stand out from the rest of the text content as color enhances an individual's visual memory such as red or yellow. One thing to be considered, we should make sure there is sufficient contrast between the text and its background to ensure the text is readable.

Solution for 2rd problem

We could design a bigger button on the kiosk's screen to cater the needs of the fat fingers user. Hence, the size of the button is big enough for them to be clicked and tapped via touch screen and can avoid slip error to happen *(correct intention but wrong action)*. Moreover, we can limit the number of buttons on the kiosk screen which only place the important button such as "View Job details" and "Back" button on the screen or increase the clickable area around the buttons for a few pixels. This could increase the visibility of the button function in which users will be able to know what to do according to their goal that was established earlier.

Solution for 3rd problem

The kiosk should allow users to customize the screen brightness and contrast between foreground and background (text). It could be even better if the kiosk can adjust the brightness and contrast according to the environment (daytime or night) automatically to make the screen clearer to be read. In addition, the kiosk should provide the functionality of changing the text size at the kiosk settings so that they can adjust the text based on their preferences while reading the content that is displayed from the kiosk.

Question 2

Linda is a new programmer working in TAR UC Communication and Information Center. Her job is to improve the TAR UC website so that users are able to find bachelor degree programmes information more effectively and efficiently. She requested assistance from you to give her some advice on how to evaluate the existing user interface of the website.

a) One of the methods that involve **experts** to evaluate the user interface is Nielsen's Ten Heuristic rules. Choose any **FIVE (5)** heuristic rules, discuss if TAR UC web page fulfilled the rules. Explain and provide examples to support your answer. (30 marks)

Note: You may include screenshot of the web pages.

b) Based on the scenario given above, suggest suitable metrics to measure Linda's *effectiveness* and *efficiency* improvement goals. (20 marks)

[Total: 50 marks]

Question 2

a)

Refer TARUC page and elaborate 5 heuristic rules

b)

To measure the effectiveness and efficiency, we will randomly select 20 users to perform the task of finding bachelor degree programmes information. To begin with, effectiveness can be defined as completeness and accuracy in which users achieve the goal. In order to calculate the **accuracy**, we can measure the percentage of users getting the bachelor degree information versus correct bachelor degree information (%) to know whether they are getting the correct information about degree. Afterwards, we can measure the **completeness** by assigning "1" if the participants manage to perform the task which finds the bachelor degree information successfully and "0" if he/she does not. The calculation of the **effectiveness** can be measured by the number of tasks (find degree information) completed successfully divided by the total number of tasks performed by the participants then multiplied with 100 to find out the percentage of the effectiveness.

Next, **efficiency** can be defined as the time and efforts in which users need to put in in order to achieve the goal. For example, we can use stopwatch to observe and record down the task time which is the time taken by the participants to complete the task (finding bachelor degree information) either in seconds or minutes. If the TARC website has been improved or redesigned

in the future, we can do a task time comparison for the old and improved version. If the time taken to find the bachelor degree information task in the improved version is shorter than the old version, it means that the improved version is more efficient compared to the old version.