

Question 1)

You have been asked to redesign a version of the front page of the CityU Department of Electrical Engineering website (<https://www.ee.cityu.edu.hk/>) that can be viewed on a mobile phone.

- State two stakeholders of the website.
- Suggest one key functional, data, environmental, user and usability requirement of this mobile website.
- What kinds of data should you collect to determine the requirements of the new front page? Explain your answer.



a) For this webpage, the staff and student of the Department of Electrical Engineer are the two stakeholders.

b) In this website, the functional requirements are to giving the latest information about the Department of Electrical Engineering to every stakeholder. The data requirement is the up-to-date news and its relative hyperlink. The environment required for this website is to have a browser with an internet network connection. The majority of the user is likely to be 2000 with all student and staff in EE, and people with interest in our department. The usability of this system is to give as much information as possible to the user so they can get the latest information about the department of electrical engineer from this website.

c) Interview. It could help the developer to know the feedback from the major stakeholder.

Question 2)

Simple TTS (DHTML)

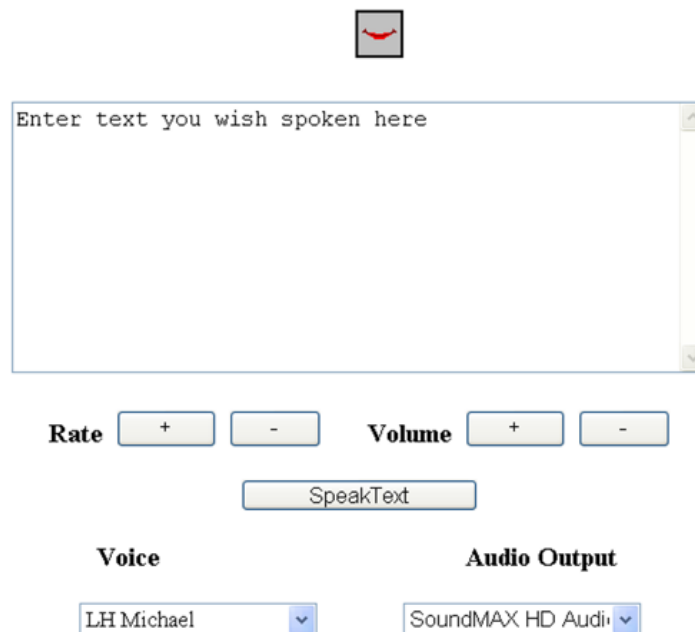


Fig 2

a) Fig. 2 shows an interface for text-to-speech (TTS) application in a desktop computer. For each of the Norman's usability principles, use one example to explain whether the principle is satisfied or violated in the interface.

b) Suggest one improvement to the screen layout of the interface in Fig. 2. Briefly explain your modification according to Norman's usability principles.

c) How the principle of constraints is related to the principle of affordance?

a) For visibility, we can clearly see all key function, which is typing text and the button to speak it, from the layout. Hence visibility is satisfied.

For constraint, we can see the boundary for each button and text field. Hence the constraint is satisfied.

For feedback, when clicked onto the button, it will become dark. when clicked onto the arrow, it will instantly pop out the menu of all choice, so feedback is satisfied.

For affordance, there are many labels near the function that can guide the user to know how to use it. Therefore, the affordance is satisfied.

For the Mapping, the + and - sign is on the left and right, which gives clear instruction to the user to control volume and rate. Thus the mapping is satisfied.

b) To enhance the screen layout, it is suggested to use a drag bar to replace the + and - button for volume and rate. According to the mapping, we can clearly see the ratio of these elements.

c) Setting up a boundary for the different button can help the user to know what function it will operate when they click on it.

Question 3)

Mental model and conceptual model are two important concepts in human computer interaction. Briefly describe each of them and state their relationship.

The mental model is used to classify the experience of the user and the conceptual model is to meet the user's intention.

To build a good mental model, the fundamental part is to have a clear conceptual model to understand what is the user need and the possible way of interactions. Then, we will get a mental model from the user through the experience and instructions.

Question 4)

Briefly describe inductive reasoning, and then use one example to illustrate its problem.

Inductive reasoning is to generalise the definition from examples and cases to determine the cases in the future or unknown. For example, we know the lightspeed after we apply many test to check it.

Question 5)

Briefly describe virtual reality and augmented reality.

VR is based on the cyberworld and AR is based on the real world.

Question 6)

Food delivery app (e.g. FoodPanda, Deliveroo, Uber Eats) allows user to order food and track the delivery on mobile phone.

a) Write a short scenario describing how a user would order food using food delivery app.

b) Provide a hierarchical task analysis of the food ordering process.

a) when the user wants to order food, first is to open the app, then the user needs to select their favourite restaurant. After that, they shall choose the detail of the food and then they will make a payment on it.

b)

- 0. To order a food
 - 1. Find a favourite restaurant
 - 1.1 check for region
 - 1.2 check for coupons
 - 1.3 check for menu
 - 2. Choose food
 - 2.1 select option for the food.
 - 2.2 select drinks
 - 2.3 select tableware
 - 3. Make payment
 - 3.1 choose a payment method
 - 3.2 wait for the confirmation of the Visa
 - 4. Wait for the food comes.

Question 7)

Should every persona have a name?

True False

Question 8)

For a customer service hotline, would a voice recognition system or the (touchscreen) buttons be more appropriate in menu selection? Explain the advantage(s) and disadvantage(s) of each means.

A Voice recognition system is not a good idea but buttons could clearly help.

Since every people have an accent, it is hard to identify every people's voice and it could be annoying for some people with a heavy accent. But the user can give more accurate instruction through a voice recognition system without using their hands.

When calling the hotline, we can choose the menu selection simply by clicking on the button, it is clear for all customer. However, some people may not free up their hands to click the button.

Question 9)

Describe two scenarios when you may use a joystick or tracker ball rather than a mouse.

When a lack of space, I will use a tracker ball to control the cursor.

When all the operation is directive, I will use a joystick to control.

Question 10)

Explain the difference(s) between slips and mistakes using an example(s). Also explain how to avoid slips and mistakes using an example(s)?

Slips are mainly due to the instant change of context. But a mistake happens when there is an incorrect conceptual model.

For example, when we would like to select the date of flight from the calendar, to avoid slip, we can add a circle on the date that the user locates their cursor to it. It can clearly tell the user the constraints on which date they are pointing to.

For example, to avoid mistake, there should have a secondary confirmation when the user is going to operate a significant action. Such as deleting the reference of a file inside the compiler, when the user clicks the delete button, the system should ask the user whether they want to remove the reference or move the file to the bin.

Question 11)

Indicate whether the following statement is true or false:

“The gulfs of execution and evaluation are part of a model that is particularly more useful for better understanding experts than beginners in using a system.”

True False

Question 12)

True false

Question 13)

Describe the use case of CANVAS quiz, including action(s) of quiz-takers and system response(s), and alternative courses (if any).

When taking the canvas quiz, the system shows the questions of the quiz, the timer of the remaining time, the total number of questions and the instruction of the quiz. For the system response, the timer will will real time.

Question 14)

You are choosing an URL address for the website of your new company. Explain two of the main criteria of the URL address to be chosen, assuming that you can pick any address.

https://www.wingontravel.com/?allianceID=4&SID=1&utm_source=google&utm_medium=cpc&utm_term=%E6%B0%B8%E5%AE%89&utm_campaign=Brand_HK_Exact&OUID=1&gclid=CjwKCAjwgOGCBhAIEiwA7FUXkp5eC9OsbD9asrVv_UX9eTGz6QGcz2hXBFLsz6JJ5NysBmVHrnq5RRoCLOMQAvD_BwE&gclidsrc=aw.ds

In this URL, it shows all the option that people can see. On the bottom side, there are many latest information that can let the user know and help them to choose the product.

Question 15)

Use two examples to explain when will an auditory interface (vocal input and sound output) would be more appropriate than existing commercial visual interface (e.g. touchscreen)?
