

## COMP3511/9511 Human Computer Interaction

### Sample Questions

Provide short essay style responses to the following questions. Where appropriate provide annotated sketches to support your answer.

1. In the context of User Interface Design, what is meant by the term feedback? How should feedback be incorporated into design of user interfaces? Provide sketched examples to illustrate your response.
2. In a meeting with the executives of a computer software company, they decided that they were going to move their usability testing schedule so that it would start several weeks before the beta release. This was mainly due to the fact that they said the testing was expensive and hence could be paid for by budget surpluses discovered at the end of the project. What would be your response? Justify your reasoning.
3. Describe and define the different types of scenarios that are used in the user centred design process. Explain **when** and **how** such scenarios are applied.
4. You are required to design a remote control device for a web browser similar in concept to those devices used for controlling a TV or video recorder. This would enable a user to browse the Internet with a wireless remote control.
  - Who would you involve in your interview process?
  - Develop 2 activity scenarios for the wireless remote system
  - Present a usability test plan that describes how you would conduct a usability evaluation of your design.
  - What would you need implement if you were to support blind users?
5. Describe what is meant by natural mappings. Provide a sketch to illustrate your answer.
6. What design issues can you identify in the following interface? Sketch a redesigned interface that improves upon the design below, explaining why you made such design decisions.

The screenshot shows the 'Fax-O-Rama' application window. It has a 'Fax Header' section with input fields for 'To' (Judith Boss), 'Fax No.' (02 9555 2200), 'Copies To' (Ruth Chernobyl, Rocco Rothstein), 'From' (Ralph Gregory), 'Fax No.' (02 9555 3011), and 'Phone No.' (02 9555 3311). There are navigation buttons '<<' and '>>' between these fields. To the right is an 'Addresses' list containing names like Judith Boss, Ruth Chernobyl, Rocco Rothstein, Bridget Larson, Angus McDonald, Martyn Goldberg, Armand Breedon, Louise Itoh, Urniber to Pavarutti, Kim Morrison, and Henrietta Deville. Below this is a 'Fax Attachments' section with an 'Attach' list showing 'Cover Sheet' and 'Invoice for Red Rock', and an 'Attachments' list showing 'Invoice for Red Rock', 'Letter to Armand', 'Fax to Witter & Rnch', and 'Document 34-329'. At the bottom are buttons for 'Send Fax', 'View Fax', 'Edit Setup...', and 'Exit'. The interface is cluttered and lacks modern design elements.

7. What is the modality effect? How can we make use of the modality effect when designing user interfaces? Sketch a user interface example to support your response.
8. What does Nielsen's heuristic "User Control and Freedom" refer to? Provide a sketched example illustrating the importance of this heuristic. Explain the underlying cognitive principles that relate to this heuristic.
9. Describe the technologies that assist a visually impaired person reading a web page. From a web development perspective and user centred design perspective, what is involved in preparing the web content so that it would be viewable by the visually impaired person.
10. Prepare a table indicating the differences between a usability study conducted for scientific research compared with a usability review for a commercial client.

**Considerations for selected Sample Questions**

1. How should feedback be incorporated into design of user interfaces? Provide examples to illustrate your response.

This question provides an example of a typical exam question asking you to define a principle, explain its relevance to the design of user interfaces or human computer interaction and then support your point of view with an example. So as you are reviewing your material ask yourself: Can I define this term? Can I provide a relevant example demonstrating that I can apply or understand the principle? Can I give an example? – Possibly a sketch. We are looking for responses that demonstrate understanding not a regurgitation of textbook definitions.

2. In a meeting with the executives of a computer software company, they decided that they were going to move their usability testing schedule so that it would start several weeks before the beta release. This was mainly due to the fact that they said the testing was expensive and hence could be paid for by budget surpluses discovered at the end of the project. What would be your response? Justify your reasoning.

This question is exploring whether you understand that the user centred design process is not to be applied at the end of the development process. It also is asking you to consider whether user centred design processes are expensive relative to the implications of not testing early. Different evaluation techniques could be discussed.

4. You are required to design a remote control device for a web browser similar in concept to those devices used for controlling a TV or video recorder. This would enable a user to browse the Internet with a wireless remote control.
  - a. Who would you involve in your interview process

Whilst this is a consumer device, you should be specific about which target audience you will involve in your data gathering efforts. Note that the interview process should go beyond just the potential users of the system. There are other people to involve and you would need to define specific stakeholders that are relevant to the application and consideration for other people who would have experience with competing or similar products. Talking to people about their browsing habits is going to be an important first step to understand the way that this product would operate. Reviewing the function and issues with existing remote control devices would also be a highly insightful exercise. The device is a consumer device so a range of people from different demographics would be an important consideration.

You would need to be specific about the people you actually involve. Our assignment has been quite simple so just saying two would be limiting.

- b. Develop 2 scenarios for the wireless remote system

Good practice for writing scenarios. Looking for user goals, context and situation discussions in narrative form.

- c. Present a usability test plan that describes how you would conduct a usability evaluation of your design.

As discussed in class we are trying to assess whether you have built the skills to manage a project that has user centred design focus. This is specifically asking how you would plan and carry out a usability test as part of the remote control design. We would be looking to see whether you understand the steps involved in running test and know what to do with the results of each step.

- d. What would you need implement if you were to support blind users?

This is a fundamental question that examines what processes you would need to consider to design for blind users. It is significant because of the legislation changes that require designers to provide universal access support in their products.

<b>Name:</b>	
<b>Student Number:</b>	
<b>Signature:</b>	

**THE UNIVERSITY OF NEW SOUTH WALES**  
**SCHOOL OF COMPUTER SCIENCE AND ENGINEERING**  
**SESSION 2, 2017**  
**COMP9511 AND COMP3511**  
**HUMAN COMPUTER INTERACTION**  
**FINAL EXAM**

Time allowed: **2 hours**.

Reading time – 10 minutes

This examination paper has 10 pages

There are **2** multi-part questions of UNEQUAL value.

Question 1 - 38 marks (suggested allotted time: 1 hour and 10min)

Question 2 - 32 marks (suggested allotted time: 50 min)

**ALL** questions are COMPULSORY.

**This paper MAY NOT be retained by the candidate.**

Candidates may bring: Drawing instruments or rulers.  
No other examination materials are permitted.

The following materials will be provided by the examinations section:  
Generalised Answer Sheet; 2 Exam Booklets.

Print your name, student number and sign in the space provided above.

Do not write your answers on this examination paper.

**ANSWERS MUST BE WRITTEN IN INK. EXCEPT WHERE THEY ARE EXPRESSLY REQUIRED, PENCILS MAY BE USED ONLY FOR DRAWING, SKETCHING, OR GRAPHICAL WORK.**