

CS1Q Resit Exam

Time allowed: 1 hour and 15 minutes

Answer BOTH questions.

1.

a) Please provide BRIEF answers to the following questions:

- i) How does summative evaluation help with the design of user interfaces?
- ii) Describe two problems with 'think aloud' usability evaluations.
- iii) Estimate the proportion of the UK population who have regular Internet access.
- iv) What impact does physiology have on human-computer interaction?
- v) Describe two situations where you would not use a menu in an interface.

[2 marks per answer, 10 marks in total]

b) Describe three problems that you might have to consider when identifying the potential users of a commercial website selling expensive, 'top of the range' pens and other writing equipment.

[3 marks]

c) Select one of the problems identified in the previous part of the question and describe in detail how you would address that problem so that it did not undermine the successful design of your website.

[6 marks]

d) Many web content developers rely on logs that record the Internet addresses of each machine that tries to access a website. These logs also tell you the addresses of those pages that each machine tries to access. The logs do not, typically, tell you the identity of the person using the machine but they will tell you whether the request was successful, in other words, whether the server could provide the user with the information that they asked for. Logs also record the time at which a request was made. Briefly explain how these logs might support the usability evaluation of the website described in parts b) and c) of this question..

[6 marks]

Solutions

1.

a) Please provide BRIEF answers to the following questions:

i) How does summative evaluation help with the design of user interfaces?

[Seen problem/Bookwork]

Summative evaluation provides feedback on the usability of an interface at the end of the development process. It can provide feedback about any last minute problems and can also be used in contractual negotiations to demonstrate that any initial requirements have been met.

ii) Describe two problems with 'think aloud' usability evaluations.

[Seen problem/Bookwork]

It can be difficult for users to interact with the system and to speak at the same time. This problem need not be so severe with traditional desktop applications but can impair performance with many more interactive systems, including games. The process of thinking aloud can be unnatural. Errors may be due less to the design and more to the problems of speaking in this way. Conversely, thinking aloud can improve performance if users notice potential errors by having to explain their actions as they go along. They may 'think more' because there is someone watching and listening to them.

iii) Estimate the proportion of the UK population who have regular Internet access.

[Unseen problem]

I will be quite generous here and accept anything in the range from 30-40%. Lower would score a half mark more than this would be wrong.

iv) What impact does physiology have on human-computer interaction?

[Seen problem/Bookwork]

The users physiology helps to determine how easy they find it to use input and output devices. It can also determine whether there are other environmental factors that affect their interaction with a system. Problems such as RSI and carpal tunnel syndrome represent some of the more negative consequences of poor physiology in HCI.

v) Describe two situations where you would not use a menu in an interface.

[Unseen problem]

There are many different answers for this question. For example, you might decide not to use a menu when it is difficult to anticipate all of the values that a user might input. Alternatively, menus are not suitable when they support thousands of items because the burdens of scrolling would become too great. Hierarchical menus might partially avoid some of the problems. Another answer would be in situations where users do not have access to pointing devices etc.

[2 marks per answer, 10 marks in total]

b) Describe three problems that you might have to consider when identifying the potential users of a commercial website selling expensive, 'top of the range' pens and other writing equipment.

[3 marks]

[Unseen problem]

There are unlikely to be many existing websites in this relatively specialised area and so it would be difficult to obtain information about these existing users. Those competitors that do exist may be unwilling to share information. Further problems are created by the observation that these are relatively expensive products. This is significant because it can be difficult to elicit information about customer preferences from high-income groups who are often reluctant to respond to questionnaires or take part in other requirements gathering exercises. There is a further paradox in selling writing equipment over the Internet but this is not likely to be a great barrier to the development of the site. A range of further issues could be mentioned that apply to requirements elicitation in general. People often say that they would be interested in the venture but need not back this up with subsequent custom.

c) Select one of the problems identified in the previous part of the question and describe in detail how you would address that problem so that it did not undermine the successful design of your website.

[6 marks]

[Seen problem/Unseen problem]

There are a variety of potential solutions here. I'm looking for a certain amount of creativity in the solutions. For example, if the previous answer argued that it would be difficult to obtain customer information from other existing websites then they might decide to ask for feedback from some of the specialist chat rooms that exist about pens and writing instruments. Alternatively, designers might get support from the manufacturers whose products they are hoping to sell. This would provide means of getting questionnaire material in guarantee registrations etc. There are the usual stock answers as well. For instance, focus groups might be used to obtain information about these potential users...

d) Many web content developers rely on logs that record the Internet addresses of each machine that tries to access a website. These logs also tell you the addresses of those pages that each machine tries to access. The logs do not, typically, tell you the identity of the person using the machine but they will tell you whether the request was successful, in other words, whether the server could provide the user with the information that they asked for. Logs also record the time at which a request was made. Briefly explain how these logs might support the usability evaluation of the website described in parts b) and c) of this question.

[6 marks]

[Unseen /Seen problem]

Previous answers have argued that it can be difficult to ensure that the opinions elicited from potential users of a site actually predict their eventual behaviour with a delivered system. Log inspections can be used to backup arguments about whether the number of potential users meets expectations. They can also be used to search for specific usability 'bottlenecks'. For example, it would be particularly worrying if a large number of users abandoned requests to access the ordering page on the web site. Similarly, if no users could access the search facilities or other 'key areas' of the site then redesign would be focused to make sure those aspects were visible. The benefits of log based evaluation is that it provides a real-time indication of usability problems from users who may be distributed many miles from the server location. First class solutions might go on to describe the problems in interpreting the information that can be obtained from these logs. Simply observing that few users can access an area of the site does not automatically indicate the cause of the problem nor does it immediately propose potential solutions.