Human Computer Interface (IT359)

Tutorial 2 Answer

1. Provide three reasons why conventional approaches to task analysis may not be sufficient to analyze interaction with current generations of computer-based systems. [3 marks]

   Task analysis provides means of describing users' activities in terms of their goals and intentions. It is then possible to analyze how each of these goals can be broken down into their constituent sub-tasks that must be performed in order to achieve them. These tasks and sub-tasks need have nothing to do with the computational architecture that is used to support them. There are a number of reasons why this approach cannot easily be applied to many current computer systems:

   An increasing range of computer-based systems are not intended to support specific goals in the sense that a word processor might support the tasks associated with document production. A user's goal with a game might be to `have fun'. Similarly, many web sites are designed to provide subjective satisfaction that cannot successfully be decomposed into sub-tasks and goals.

   Many computer systems now support an enormous range of users who can all have different tasks and goals. For example, a web page offering video clips about the Romans in Scotland can support school children answering a test from their teacher, it can also support casual browsers or visitors to a museum, it might support professional archeologists etc. It makes little sense to focus exclusively on any one of these groups if the developers of the resource specifically intend a broad audience.

   The pressures of the market place have let many device manufacturers to produce products, such as the Nokia 9000, when they have little idea about the precise tasks that users will perform with them. Market opportunity and technical innovation precede task analysis. This can, of course, be a high-risk strategy if the product fails.

   As mentioned above, a number of other reasons might also be provided.

2. Briefly describe why `mood congruence' is a significant factor in the design of a successful computer game. [5 marks]

   Mood congruence can be used to describe the feeling of `empathy' that can arise between the user of a computer game and the character that they are expected to play. People who feel uncomfortable with this role will not, it is argued, enjoy the gaming experience. This builds on Morris' earlier work on the psychology of play, focusing on children's games such as `Doctors and Nurses'. The best example might be someone who objects to `shoot 'em up' arcade games. While this theory gives important insights, there are also some possible objections. For instance, it is difficult to know whether or not a played can `empathise' with the Namco's Pac-Man and yet the game has continued to be re-incarnated in a number of successful formats.

3. Briefly explain why initial failure with a computer game might lead to the low expectations that increase the likelihood of future failures. [7 marks]

   Teasdale and Barnard have proposed a connection between the physical and the psychological state of individuals. They describe how individuals assume particular postures when they are depressed. These postures can re-inforce their negative thoughts and create a circular effect. This analysis can be extended to explain how initially low expectations may actually impair the user's performance with a game. Subsequent poor performance confirms their initial beliefs and so they are likely to perform badly in the future. This may explain why some people loath many types of computer games. This extension of psychological work on depression remains to be confirmed through more direct empirical tests.

4. You have been asked to help a software house help in the design of a new version of a computer game. The clients are worried that a significant number of people purchased the earlier version of the game but then quickly abandoned it. Write a brief technical note that explains the difficulties of conducting lab-based tests to explain this apparent problem. [10 marks]

   There are many possible answers to this question. One approach would be to contrast the usual context in which games are played and what can easily be achieved in a lab-based scenario. For instance, although many games are played in a solitary way others are played by groups of friends in a social setting. It can be difficult to recreate these social settings in a lab. Other solutions might focus on the problems of assessing performance. For example, many games players may not feel comfortable being monitored and hence may not achieve the degree of success that they might otherwise experience with the game. There are the other more general problems associated with bias, either positive or negative, when individuals provide more general comments about software following lab-based tests. Other solutions might focus on the problems of assessing subjective satisfaction - users might be very happy with the game even though they only achieve a low score. Paradoxically, game playing often depends upon users not being able to immediately achieve particular goals! It can also be argued that lab-based tests may fail to detect longitudinal problems that may only emerge after users have played the game for several weeks... Above all, it can be difficult to move from the results of lab-based studies to detailed explanations of consumer behavior. The games industry is largely driven by marketing, not simply usability.