CS-C3120

Human-Computer Interaction

December 2016 Exam

The Exam is marked out of 30

Answer ALL Questions

1. **(a)** Norman's 7 Stage model was an early attempt to model how users interact with computer systems. We now have a much better understanding of how users interact with computers However, Norman's model still provides a good understanding of the steps undertaken at a task level.

   (i) Two key features of Norman's model are the Gulf of Execution and the Gulf of Evaluation. Briefly outline what both these terms mean, and provide an example of each in a user interface.

   [4]

   (ii) More generally, Norman's model is an example of a Human Information Processing (HIP) model. State and explain two limitations of HIP models when considering how humans interact with computer systems.

   [2]

   (b) A more modern framework in considering the design of interactive technology is David Benyon's PACT framework. Describe the four key elements of PACT, and briefly explain the considerations designers should make when considering each of these elements.

   [6]

2. When considering a Human-Computer Interface, designers must consider what the user's "mental model" is. Explain what is meant by a mental model, and why it is important to consider.

   [5]

3. Developers, Spaghetti Code Development Oy, have recently realised that their lack of contracts is due to the poor quality of their user interfaces and low user experience of their software products. Having recently won a new contract, they are keen to embed good HCI practice in their organisation to get better and more usable software products to market. They have hired you to do this for them.

   (a) Your first task is to explain the iterative design cycle (or process) to the Spaghetti Code Development team. Outline the four key stages of the design cycle, activities that happen at each and their key outputs, and how stages relate to each other.

   [9]

   (b) Developers have developed an initial Android application and want you to evaluate it so they can develop it more. It is not fully functional, many of the

features and functionality are missing. However, most of the user interface exists. Describe a suitable evaluation technique that could be used. Be sure to justify why the technique you suggest is appropriate to use on this application, and explain the limitations of what can be discovered from using the technique you suggested.

[4]

[End of Paper]