

Software Engineering Design II – Coursework

Work to be carried out and submitted in groups of five, six or seven.

Choose **one** of the following concepts:

- An interactive visitor guide to the local area, targeted at travellers arriving at the South Kensington underground station, to be located in the booking hall. The guide will provide information about local museums, shops, hotel accommodation and other facilities.
- A museum guide to be sited in the entrance to the Science Museum, Natural History Museum or V&A. The guide will provide a personalised suggested tour depending on a visitor's individual interests with previews of some of the exhibits and background information.
- A library guide to be sited in the entrance to the Imperial College and Science Museum Libraries. The user will be able to enter details of a book or journal and the system will show whether the item is available and display a plan of the floor and shelf where it is located. If the user enters a topic of interest, the system will suggest suitable titles that are in stock and again display their location.

1. Prepare a document which first states which system you have chosen to design and then contains:

a) A PACT analysis of your system:

- The relevant characteristics of the people who will be using it
- The activities for which they will use the system (for example booking a hotel)
- Any special details of the physical and social context of use
- Relevant technologies, constraints, etc.

The part should be about 500 words in length

b) Suggested user requirements techniques:

- Suggest, giving reasons, which user requirements techniques would be useful for gathering more information for the design of the system
- Describe the details of how this requirements work would be carried out (which end users or other interested parties would be involved, where the data gathering would be conducted, etc.).

You are not required to actually carry out the requirements work for the coursework, although of course this would be a crucial phase of a real life design project.

This part should be about 500 words in length

c) Justification of design choices:

- Explain how the results of the analysis of people, activities, context and technology has influenced the way your system is designed. You should cover:
 - i. How users will physically interact with the system (both input and output)
 - ii. The main principles behind the design of your screens or other display devices – link this to the sketches specified at point e) below.

This part should be about 500 words in length

d) Usage scenarios:

- Provide two usage scenarios to show different aspects of your design in use and different types of user.

Note: your prototype for part 2 of the coursework will be based around these scenarios.

The two scenarios together should be about 500 words in length

e) Screen layouts:

- Sketch one draft screen design for each scenario
- Annotate the sketches to show animation, blinking, etc., sounds, functions which are not otherwise obvious, and colour (if the sketch is not in colour)

The screen designs should occupy half a page each.

2. Build a prototype:

- Build a prototype to demonstrate the 'look and feel' of the design provided in part 1 of the coursework. Use Visual Basic, HTML, Flash or some other suitable language. Your prototype could include simulations of any non-standard devices such as touch or voice operation if you have included such things in your design.
- Your prototype should cover the scenarios you prepared in part 1 of the coursework. If it is not possible to cover all aspects of these, you should be able to explain why in your final report.
- The prototype need not be fully operational. It should, however, give a good impression of the overall structure, aesthetics, usability and intended functionality.
- Try to produce a prototype that would convince a potential client to commission a full working version.

3. Evaluate the prototype:

- You should evaluate your prototype for usability and record the results.
- Record the procedures, the results and explain which technique(s) you used and why.
- You are not required to modify your software to take into account your evaluation results, but will be required to explain the main changes you would make in the supporting documentation for your prototype.

DELIVERABLES

1. Your report from part 1 of the coursework.
2. The prototype on floppy disk or CD
3. Supporting documentation giving:
 - Technical details and any necessary instructions for running or exploring your prototype
 - A description of why you have chosen your particular evaluation technique(s) (250 words), a description of how you carried out the evaluation (250 words), and an evaluation report (500 words) giving a brief summary of the prototype evaluation results, and other relevant material, e.g. any questionnaire or interview structure used, raw data collected, list of tasks undertaken by users, sample notes of a user trial session.
 - A set of recommendations for any changes that you would make to your design, based on the prototype evaluation (250 words).