UNIVERSITY OF EMBU

2016/2017 ACADEMIC YEAR

SECOND SEMESTER EXAMINATION

THIRD YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF COMPUTER SCIENCE

CSC 324: USER-CENTERED DEVELOPMENT & EVALUATION

DATE: APRIL 10, 2017   TIME: 11:00AM-1:00PM

INSTRUCTIONS:

Answer Question ONE and ANY Other TWO Questions.

QUESTION ONE (30 MARKS)

a) Briefly, discuss why requirements specification precedes architectural design in the software development process. (3 marks)

b) Explain how you, as a user interface designer, might get feedback on an interface before coding even starts. (3 marks)

c) Explain the difference between throw-away and evolutionary prototyping approaches.

(4 marks)

d) Discuss two reasons why actual software development process activities are *iterative* for interactive systems. (4 marks)

e) Describe two problems associated with usability requirements engineering. (4 marks)

f) Briefly explain why a designer's model of a system will be different from the end-users'.

(4 marks)

g) Describe two problems with 'think aloud' usability evaluations. (4 marks)

h) Discuss the benefits of observational rather than lab based evaluations. (4 marks)

QUESTION TWO (20 MARKS)

a) Explain the distinction between a process-oriented and a structure-oriented design rationale technique? Would you classify psychological design rationale as process or structure oriented? Why? (10 marks)

b) You have been asked to design a commercial web-site. Users will be able to browse or search for music and then download it to their hard disk and any associated devices, such as MP3 players. Briefly explain how you would identify the potential end-users of such a service and then explain how you would conduct a summative evaluation for these users once the system had been built. (10 marks)

QUESTION THREE (20 MARKS)

a) Task analysis breaks user's activities into a series of goals and sub-goals. In order to print a document, you must first select the 'print' command. You must then select the printer, the number of copies and so on. Briefly describe the benefits that task analysis can offer to the design of interactive computer systems. (10 marks)

b) Discuss five specific principles that support learnability in a software system. (10 marks)

QUESTION FOUR (20 MARKS)

a) In user-centered development of a software product, discuss five benefits of involving the user in almost all the stages of development. (10 marks)

b) Discuss five Shneiderman's Golden Rules of Interface Design. Justify why each rule is important. (10 marks)

QUESTION FIVE (20 MARKS)

a) Consider the following diagram of the Seeheim user interface architecture.
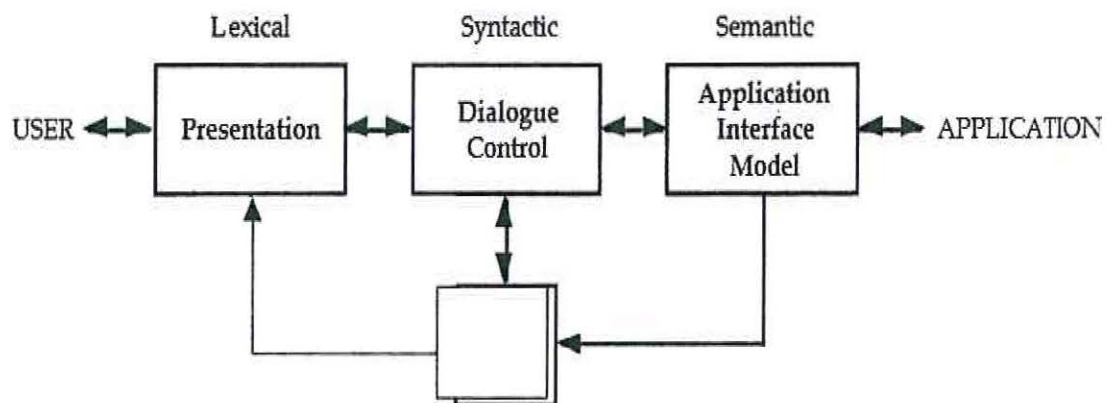
    (i) Describe briefly the function of the three main boxes.   (5 marks)
    (ii) The lower unlabeled box is called "the switch", why is it there?   (5 marks)

b) Discuss the following two query techniques of requirements gathering. In each case, give the most appropriate scenario when they can be best used.   (10 marks)

    (i) Interviews
    (ii) Questionnaires

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