



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2011/2012
SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE IN COMPUTER ENGINEERING
SSE 403: USER INTERFACE DESIGN AND IMPLEMENTATION

DATE: WEDNESDAY 18TH APRIL 2012

TIME: 2.00 P.M. - 4.00 P.M.

INSTRUCTIONS : Attempt question 1 and any other two questions

Question 1

Pesa Nyingi bank is planning to implement an online system that is meant to accommodate intermittent users up to the expert users. The System should be able to register new users who hold a bank account with the bank so that after authentication by the systems manager they can be able to login and check their balances online as well as making online payments.

Required.

- a) Design a workflow diagram showing the roles played by the different actors during the online registration process stating any assumptions made. (4 marks)
- b) Suggest an appropriate an appropriate interaction style giving reasons for your chosen method (2marks)
- c) Sketch an appropriate design to capture account holders information during the online registration process (4 marks)
- d) Using the Lucid design framework explain how you would go about designing the above interface (12 marks)
- e) Explain four design principles that you will follow in coming up with the design above (8 Marks)

Question 2

- a) Explain four different human considerations that a designer one is supposed to take into account while designing a user interface (12 Marks)
- b) Outline the goals of task analysis and modeling (8 Marks)

Question 3

You have been requested to design an online voting system to be used by all voters in the forthcoming elections.

Required

- a) Describe the different user groups that should be taken care of by the interface design explaining the unique features of the group (12 marks)
- b) User interface design involves collecting data. Discuss the different methods that can be used while designing the above system. (8 Marks)

Question 4

- a) With the aid of a diagram explain the four pillars of design according to Shneiderman (12 marks)
- b) Quality assurance is a very important process in user interface design. Explain the different methods that could be used in this process. (8 marks)

Question 5

- a) Explain the different types of menus giving examples of cases where each could be used in user interface design (8 marks)
- b) Discuss the statement “Part of the challenge of interface design, implementation, testing, etc., is that it is *embedded* in a design process of the (application) software itself, as well as entailing its *own* design process.” (6 marks)
- c) Compare the spiral and waterfall models for software engineering and how each handles interface evaluation and design. (6 marks)