The Open University of Sri Lanka

Faculty of Engineering Technology

Department of Electrical and Computer Engineering

Study Programme	: Bachelor of Software Engineering Honours
Name of the Examination	: Final Examination
Course Code and Title	: **EEI4267 – Requirement Engineering**
Academic Year	: 2023/24
Date	: 16th August 2024
Time	: 0930-1230hrs
Duration	: **3 hours**

Section B

(Essay Questions) Answer all questions based on the scenario given below

Alex is a passionate football fan who loves attending live matches at Arena Field, the local stadium. However, Alex often faces difficulties purchasing tickets, especially for popular games, due to long queues and the possibility of tickets selling out quickly. Alex wishes there were a more convenient way to book tickets online, select seats, and even purchase merchandise without the hassle of waiting in line. To improve the fan experience, the management of Arena Field decides to develop an Online Ticketing and Merchandise System. This system will allow users to browse upcoming matches, check seat availability, and book tickets securely online. The system should be user-friendly, with fast page load times (within 3 seconds) and offer additional features like payment integration and the option to download e-tickets. Administrators will have the ability to manage match schedules, update ticket prices, and monitor sales. The system will differentiate between two types of users:

General Users (under 18) who have access to standard ticket options and limited merchandise.

Premium Users (18 and above) who have access to additional features such as premium seating options and exclusive merchandise.

The system must include secure login functionality with multi-factor authentication and display error messages for incorrect login attempts.

Question 1 [30 marks]

A. Identify four stakeholders involved in the Online Ticketing and Merchandise System described above. (4 Marks)

B. Provide brief descriptions and examples of User Requirements, System Requirements, and Business Requirements using the context of the Online Ticketing and Merchandise System described in the scenario above. (9 marks)
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C. Based on the scenario provided, identify and describe: (9 Marks)
  i. Three functional requirements for the Online Ticketing and Merchandise System.
  ii. Three non-functional requirements for the system.

iii. Three domain requirements that are specific to this scenario.

D. Briefly explain the purpose of the Agile Inception phase and its importance in a project like the one described above. (4 Marks)

E. Provide examples of two initial user stories that could be developed during the inception phase to guide the Agile development process for the Online Ticketing and Merchandise System. (4 Marks)

Question 2 [20 marks]

A. Explain the concept of Requirements Traceability Matrix (RTM) and its importance in a project like the Online Ticketing and Merchandise System described above.

(4 Marks)

B. Describe the key components in a RTM document. (4 Marks)

C. Based on the development of the Online Ticketing and Merchandise System for Arena Field, identify and explain at least three techniques that could be used to gather requirements from stakeholders. (6 Marks)

D. Based on the development of the Online Ticketing and Merchandise System for Arena Field, identify and explain at least three techniques that could be used for requirements elicitation. (6 Marks)

Question 3 [30 marks]

A. As a business analyst for the Online Ticketing and Merchandise System project, you have been tasked with preparing a Software Requirements Specification (SRS) document. Answer the following;

    i. What is the purpose of preparing SRS document for this project? (5 Marks)

    ii. Identify and describe the key fields that should be included in the SRS document.

(10 Marks)

    iii. Based on the Online Ticketing and Merchandise System project, prepare a use case diagram. (Note down the assumptions you have made in drawing the main use case if there are any.) (15 marks)

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