United International University (UIU)
Dept. of Computer Science & Engineering (CSE)
Mid Term Exam   Trimester: Summer 2023   Marks: 30   Time: 1 Hr 45 mins
Code: CSE 3411   Course Title: System Analysis & Design

"Any examinee found adopting unfair means will be expelled from the trimester / program as per UIU disciplinary rules."

Answer the following questions:

1. a) Depict and shortly brief on the steps of "Prototyping SDLC" method. Mention the major advantages of it as an SDLC method.   3

    b) Mention some major activities of the following SDLC steps: Construction/Development, Deployment.   2

    c) Mention key features of the following types of software system: ERP, DSS.   2

    [CO1]

2. Suppose you are working in a software development company and your company has decided to develop an **Online Food Ordering System (OFOS)** software**.** Answer the followings questions:

    a) Mention the major sources of information you should explore/study for gathering proper information about the system. Justify the purposes/objectives for selecting the different sources of information gathering with respect to system study and analysis purposes.   4

    b) Shortly brief on the major different steps needed from info gathering to finalize the feature list of **OFOS** software. Why gap analysis/ value adding feature concept is important for the sustainability of the **OFOS** system.   3+1

    [CO2]

3. Mention the purposes of different types (at least three) of Feasibility Analysis required before developing the OFOS software product mentioned in question 2.   3

    [CO4]

4. Consider the following scenario and write down the answers of the questions mentioned as follows:

    Playground Games, a game development company, is deeply immersed in the development of the highly anticipated racing game called **Forza Horizon**. The collaborative efforts of the team, consisting of developers, a versatile designer, quality assurance testers and a project manager, drive the progress of the game.

To safeguard the integrity of the development process, the platform employs robust authentication mechanisms. Each team member has a unique login, and access to project-related data and resources is restricted based on their roles and permissions.

The project manager creates a development platform that serves as a centralized hub for collaboration, task management, and communication. He also sets deadlines, and tracks progress using the development platform's task management features that uses <u>data storage</u> to organize and maintain tasks and activities. The versatile designer, design environments, intricate tracks, and sleek vehicles, visual assets and audio elements stored in <u>audio and visual asset databases</u> for reuse.

The gameplay programmers bring the designer's vision to life. They meticulously implement the game mechanics, user interface, and overall gameplay experience using the audio and visual assets. In addition, the developers prioritize efficient <u>storage and retrieval</u> of important game-related and game-users related data (such as saved games, user profiles, user choices etc.). While the focus is on collaborative development, the gameplay programmers occasionally work on multiplayer programming aspects, enabling players to enjoy multiplayer features in the game. Quality assurance testers perform continuous testing, reporting any bugs or issues they encounter through the platform and store the reports in a <u>bug-database</u> for retrieval. Through efficient communication and collaboration, the team successfully brings the racing game to fruition, capturing the excitement of the virtual racing world.

a) Draw the Use case diagram for the above scenario (show at least **one extend/include** relationship in the diagram).   4
b) Write down the descriptive form of **one major use case** shown in the use case diagram for the above scenario.   4
c) Draw the Swimlane diagram for the whole game development process.   4

[CO3]