



United International University (UIU)

Dept. of Computer Science & Engineering (CSE)

Mid Term Exam Trimester: Fall 2022 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) Define the concept of a System? Depict a typical Ride Sharing System having only major components. 3
b) Compare among usual activities conducted into Development Phase and Deployment Phase of SDLC. 3
c) Mention the major features of DSS (decision support system). 2
[CO1]

2. Suppose you are working in a software development company and your company has decided to develop a Mobile App for Ride Sharing purposes like Uber for UIU community. The company assigned you as the system analyst to do a proper analysis and to propose an excellent expected product's feature list. Answer the following:
a) Mention the major sources for system study or information gathering for the proposed product mentioned in question 2. 3
b) Mention the guidelines you want to follow, when you will conduct an interview of an expert in the above-mentioned domain. 3
c) Suppose you want to do a survey on UIU students regarding the product expectation mentioned in question 2, write down a tentative questionnaire having 5 sample questions and proper format. 2
d) Shortly brief on the major four steps need to follow for finalizing the feature list for any software product in a systematic way. 2
[CO2]

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

FlyHigh Airlines wants to install a system to automatically process their ticket ordering and keep record of the customers and their purchase history. When a customer enters the systems, they must log in if they are recurring customers and must sign-up, if he/she is new. All the customer information is stored in a data table. After logging in, the customers can search for available flights to a certain destination and get the required list

in sorted order from least to most expensive tickets. Additionally, customers may filter the ticket preferences. All the information of current flights is available on data tables and always updated as needed. Once the order has been made, the system prompts them to finish payment digitally (card or paypal) and sends a one-time OTP pin to the customer's phone which needs to be given input within 1 minute. Once it's placed, the total ticket payment including the tax is calculated. As soon as the ticket is ordered, the customer gets an automated email with the ticket details. The system also sends reminder notification about the flight 6 hours before the boarding. Aside, the information is used by the system to provide promotional emails containing cheap flights and offers by analyzing the type and destination of the flights each customer has ordered over the past year. Consider necessary Data Tables as per needed.

- a) Draw the Use case diagram for the above scenario (show at least one extend and one include relationship in the diagram). 4
- b) Write down the descriptive form of a major use case shown in the use case diagram for the above scenario. 4
- c) Mention the major rules for drawing a DFD (data flow diagram). Draw a DFD diagram for the scenario mentioned in question 3. 2 + 2 = 4

[CO3]