Assignment 7

Due on SEP 3 - 9, 2018 23:59 IST

1. A client server application is to be developed for a bank. The bank wants to implement an online transaction system for its customers. Develop a class diagram using UML notation that captures the major components of the system.

2. A company needs to develop a software system to manage its inventory. Develop a data flow diagram using DFD notation that captures the major processes involved in managing the inventory.

3. A university wants to develop a student management system. Develop an entity-relationship diagram using ERD notation that captures the major entities and their relationships.

For questions 4 to 6:

A delivery truck company has developed a package delivery system that calculates the delivery time for each package. The system takes into account factors such as distance, weight, and volume of the package.

4. The delivery time (in minutes) for a package is given by the formula:

\[
t = 0.1w + 0.5d + 1.5v + 100
\]

where:
- \( t \) is the delivery time (in minutes)
- \( w \) is the weight of the package (in kg)
- \( d \) is the distance (in km)
- \( v \) is the volume (in cubic meters)

5. The company wants to ensure that the delivery time is within a range of 100 to 500 minutes. Develop a data flow diagram using DFD notation that captures the major processes involved in calculating the delivery time and ensuring it falls within the specified range.

6. Develop a decision tree using DTD notation that captures the major decision points involved in calculating and checking the delivery time.

For questions 7 to 9:

A supply chain management system processes orders from suppliers and makes deliveries to customers. The system integrates with various supply chain partners using web services.

7. Develop a class diagram using UML notation that captures the major components of the supply chain management system.

8. Develop an entity-relationship diagram using ERD notation that captures the major entities and their relationships.

9. Develop a data flow diagram using DFD notation that captures the major processes involved in managing the supply chain.

For questions 10:

A logistics company provides transportation services to various clients. The company uses a fleet of trucks to transport goods. The company wants to optimize its transportation routes to reduce transportation costs.

10. Develop a decision tree using DTD notation that captures the major decision points involved in optimizing transportation routes.

For questions 11 to 13:

A software development company is working on a project that involves developing a custom CRM system for a client. The company wants to ensure that the CRM system meets the client's requirements.

11. Develop a decision tree using DTD notation that captures the major decision points involved in developing the CRM system.

12. Develop an entity-relationship diagram using ERD notation that captures the major entities and their relationships.

13. Develop a data flow diagram using DFD notation that captures the major processes involved in developing the CRM system.