

Software Engineering

Mid Semester Assignment

Course Code: 102002029/ 102002036

Course Title: Software Engineering

Instructor: Engr. Ghassan Husnain

Program: BS CS (Software Engineering)

Total Marks: 30 Time Allowed: 48 Hours (2 Days)

Note: Attempt all Questions:

Q.1: The Pizza Ordering System

(08 marks)

The Pizza Ordering System allows the user of a web browser to order pizza for home delivery. To place an order, a shopper searches to find items to purchase, adds items one at a time to a shopping cart, and possibly searches again for more items.

When all items have been chosen, the shopper provides a delivery address. If not paying with cash, the shopper also provides credit card information.

The system has an option for shoppers to register with the pizza shop. They can then save their name and address information, so that they do not have to enter this information every time that they place an order.

Develop a use case diagram, for a use case for placing an order, **PlaceOrder**. The use case should show a relationship to two previously specified use cases, **IdentifyCustomer**, which allows a user to register and log in, and **PaybyCredit**, which models credit card payments.

Q.2: Suggest how an engineer responsible for drawing up a system requirements specification might keep track of the relationships between functional and non-functional requirements. (04 marks)

Q.3: To reduce costs and the environmental impact of commuting, your company decides to close a number of offices and to provide support for staff to work from home. However, the senior management who introduce the policy are unaware that software is developed using agile methods, which rely on close team working and pair programming. Discuss the difficulties that this new policy might cause and how you might get around these problems. (06 marks)

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Q.4: Discover difficulties/ ambiguities or omissions in the following statement of requirements for part of a ticket-issuing system: *(04 marks)*

An automated ticket-issuing system sells rail tickets. Users select their destination and input a credit card and a personal identification number. The rail ticket is issued and their credit card account charged. When the user presses the start button, a menu display of potential destinations is activated, along with a message to the user to select a destination. Once a destination has been selected, users are requested to input their credit card. Its validity is checked and the user is then requested to input a personal identifier. When the credit transaction has been validated, the ticket is issued.

Q.5: Using your knowledge of how an ATM is used, develop a set of use cases that could serve as a basis for understanding the requirements for an ATM system. *(08 marks)*
