

**Mid Semester Assignment, Course: - Software Engineering
Course Code 102002029/102002036**

Deadline: - Mentioned on SIC

Marks: - 30

Program: - BS (CS), BS-SE

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Q1:

The Pizza Ordering System

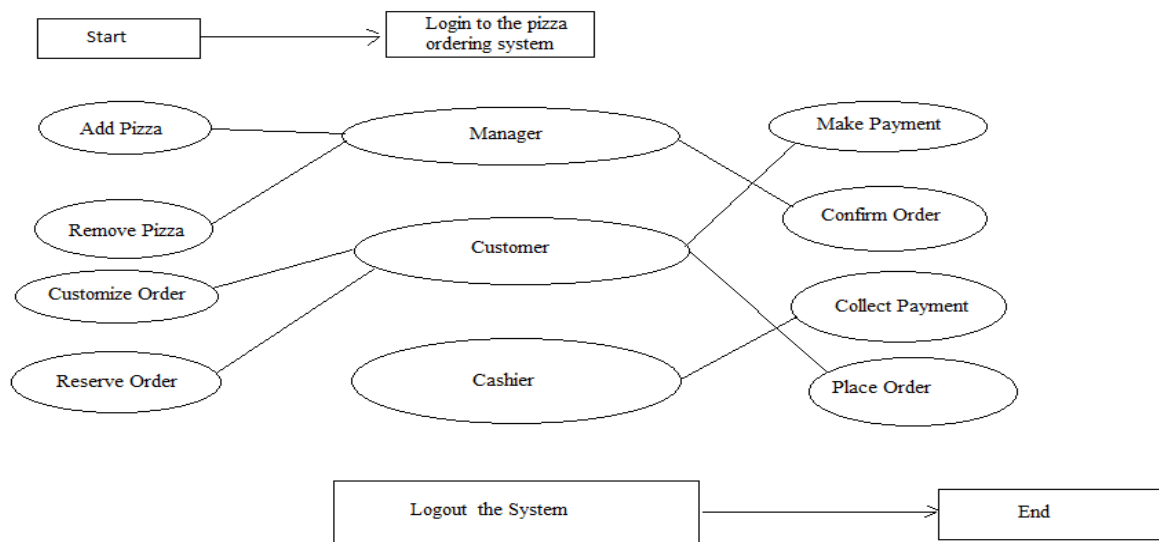
The Pizza ordering system allows the user of a web browser to order pizza for home delivery to place an order a shopper searches to find items to purchase ads, items one at a time to a shopping cart and possibly searches again for more items

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

The use case should show a relationship to two previously specified use cases, Identify Customer, which allows a user to register and log in, and Pay by Credit, which models credit card payments.

Ans 1:



Q2: Suggest how an engineer responsible for drawing up a system requirements specification might keep track of the relationships between functional and non-functional requirements. Functional requirements describe the system what it will do.

Ans: Non-Function Requirement:

Non-functional requirements describe the expectations but it is not concerned with the system

While drawing up a system requirements specification, an engineer might keep track of the functional and non-functional requirements by ensuring the following:

- The requirements needed to design meets the requirements such as compatibility, portability etc.
- Design the system so that it ensures the safety and security.
- Implementing the system in an efficient manner.

- The cost and time required for the development should not affect the design and implementation of the system.

Here the non-functional requirements defines what the expectation to get out are and the user requirements.

Functional Requirement:

The functional requirement defines the use of the developer knowledge. It does not conflict with each other.

The first step is to make the systems requirements document.

It is engineer responsible to prepare documents to each functional and non-functional requirement.

The engineer needs to prepare the document depending on this: Non-functional requirements need the natural language and functional requirements need the structured language to understand better.

- It gives the matrix that shows each requirement related to each other.
- It is very difficult to manage because the functional and non-functional requirements put efforts with each other on track of relationships.
- Non-functional requirements linked with functional requirements to list identify the system levels that have related each other
- The engineer needs to prepare the way to link the functional to non-functional to implement it.
- The functional requirements enforce the non-functional requirements that shall be recorded and tracked.

For example:

The user needs to search for the candidate list for the interview.

It is a functional requirement. That the search should return all the list of candidates who are attending the interview. It is a non-functional requirement.

Therefore, it helps the engineer to avoid overlap and that relates to each other.

And it keeps track the relationships between functional and non-functional requirements.

Q3: To reduce costs and the environmental impact of computing 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?

Ans: It is difficult to introduce agile methods into large companies for a number of reasons Project managers who don't have experience of agile methods may be reluctant to accept the risk of a new approach, as they do not know how this will affect their particular projects

Large organizations often have quality procedures and standards that all projects are expected to follow because of their bureaucratic nature, these are likely to be incompatible with agile methods. Sometimes, these are supported by software tools (example requirement management tools) and the use of these tools is mandated for all projects.

Agile method:

Agile methods seem to work best when team members have a relatively high skill level. However within large organizations there are likely to be a wide range of skills and abilities. And people with lower skill levels may not be effective team members in agile processes.

There maybe cultural resistance to agile methods, specially in those organization that have a long history of using conventional systems engineering processes.

Change management and testing procedures are example of company procedures that may not be compactable with agile methods. Change management is the process of controlling changes to a system so that impact of changes is predictable and costs are controlled. All changes have to be approved in advance before they are made and this conflicts with the notion of refactoring. In XP, any developer can improve any code without getting external approval for large systems there are also testing standards where a system build is handed over to an external testing team. This may conflict with the test first and test often approaches used in XP.

Q 4: Discover difficulties ambiguities or omissions in the following statement of requirements for part of a ticket-issuing system?

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?

Ans:

In this first if the person have no credit card. Then what? What's the process of cash.

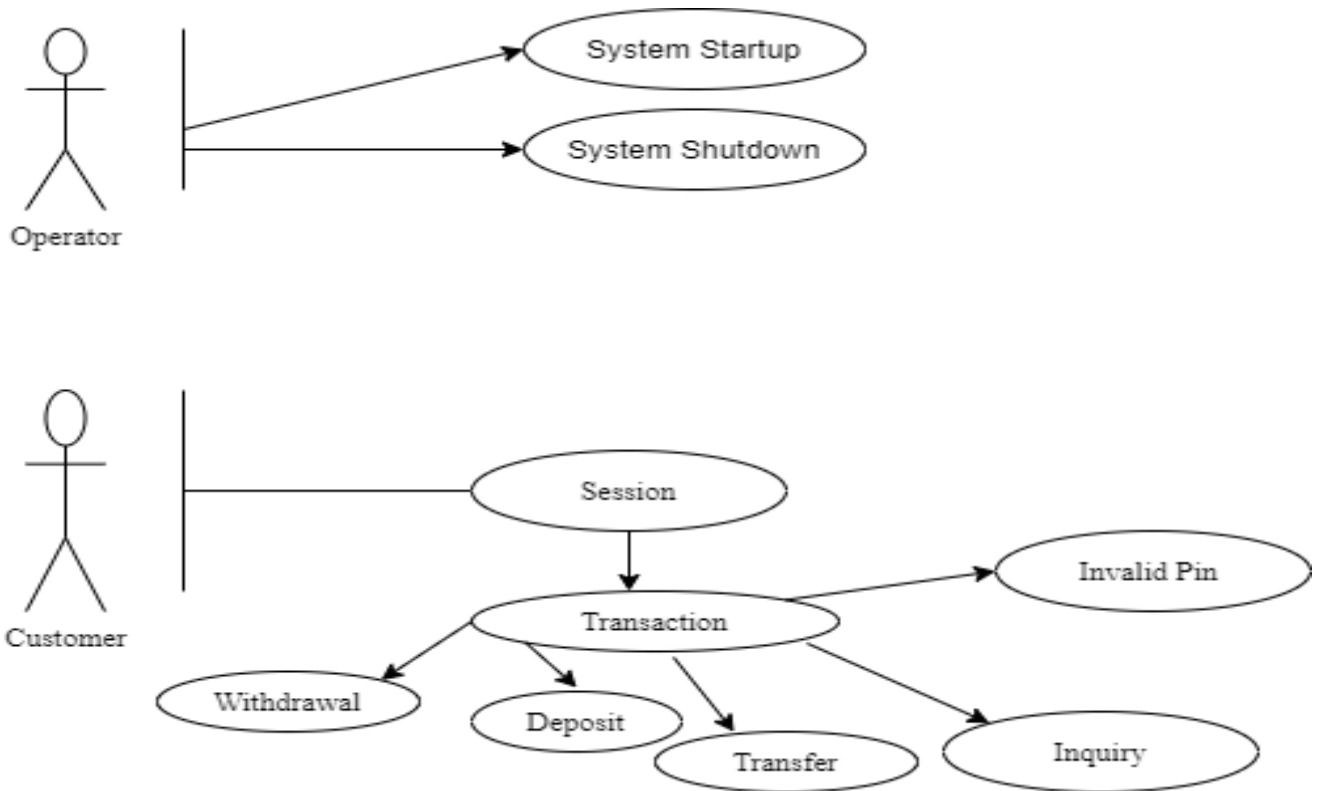
What if the person choose the wrong destination? So can he go back in options?

Is there a cancel option to change the destination?

Is there voice for blind who can't read?

Q5: 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?

Ans:



<https://app.diagrams.net/> using tool for diagram.