

Object Oriented Software Engineering

MIDTERM EXAM

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BS(SE)	Section : A

Question #1 (15 Marks)

Modelling is an important activity in everyday life. Explain how does it help to solve real life problems? Explain its importance in Software Engineering. Also explain that without modeling, what problems can be faced by a Software Developer during software development.

Answer No 1:

Modelling help to solve real life problems:

We often understand the real phenomena from their models. Toby is successful, we need to know the basics and how to handle them and how to use them. Modeling should be used not to understand real world phenomena, but to predict them. The modeling process is also a creative process. Of course, modeling is not just about IT. Samples are used in various parts of science, such as mathematics (points for phenomena that have no dimensions, lines that have no thickness or unity). Move or move objects without physical dragging). To solve the problem, we must first solve the model that describes the problem. Demonstrate several modeling steps through an assignment to qualify for the Student.

Modelling importance in Software Engineering:

Models are descriptive forms that are often used in software development. They are abstractions used to represent and communicate what is important in software development, they give help to avoid unnecessary detail and to help developers solve problems in the studio under complexity or development. Modeling of the software

help us to complete the product with in time and make the product in low coast, modeling give us reliable product and also its clear the requirements and fulfill the customer requirements and with the help of modeling the product give better performance.

In the software development process we build model between the following modeling types:

Domain modeling:

Domain modeling is the process of understanding and modeling contextual information for a particular problem, regardless of the decision to use the software system to solve the problem. A domain model represents important concepts in the context of a real-world problem.

Specification modelling:

Specification modelling assumes that a software system meets the needs of the context. A descriptive sample represents the software elements used in a software solution to a problem and is primarily concerned with defining a high-level summary of the services provided by that software.

Design modelling:

Design modelling describes the software system itself, with the allocation of responsibilities to its various parts, and its behavior and control flow.

Problems can be faced by a Software Developer during software development.

If the developers not modeling for the product so they fail to understand what the customer want. If the customer want to make me tree and the developer not modeling for the product so they made them plant or something different so the customer requirement not fulfill and waste coast and not develop the product with low coast and not complete the project with in time and the developer face more problems and challenges.

If the developer opinion that build software without modeling but it's create difficulties for the developer so that is not the right way to interact directly with the software. Sometime you take a small project and take the project easy and not modeling for that so at last the software create difficulties.

Question #2 (15 Marks)

Analysis Model is composed of 3 individual models. Name and explain all three. Mention how each one of them is represented.

Answer No 2:

The analytical model has three main objectives.

1. Explain what the customer needs
2. Create a foundation for software design requirements.
3. Set up a set of requirements that can be reviewed once the software is ready.

The analytical model bridges the gap between system level definitions, which define the overall functionality achieved with software, hardware, data, individuals, and other elements of the system and software design.

- The model should focus on requirements that are visible within the problem or business domain. The level of abstraction should be relatively high.
- Each element of the analysis model should add to an overall understanding of software requirements and provide insight into the information domain, function and behavior of the system.
- Delay consideration of infrastructure and other non-functional models until design.

Domain Analysis:

Software Domain Analysis is the identification, analysis, and specification of the general requirements of a particular application domain, especially for the reuse of multiple projects in that application domain. . . [Object-Based Domain Analysis] Identify, analyze, and define common and reusable functions related to general objects, classes, substrates, and frameworks, especially in the application domain.

Analysis a modeling theory called structural analysis takes into account data and the processes that convert data into separate entities.

Data objects are designed to describe features and relationships.

The purpose of the data object integration process is to show that data changes as data objects flow through the system.

Another approach to analytics modeling, called objective analysis, is to define segments and how they work together to influence consumer needs. UML and unified processes are primarily object-oriented.

Object-Oriented Analysis:

The intent of Object Oriented Analysis is to define all classes (and the relationships and behavior associated with them that are relevant to the problem to be solved.

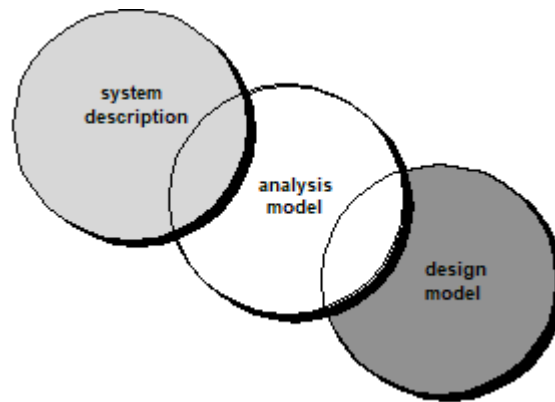
To accomplish this, a number of tasks must occur:

1. Basic user requirements must be communicated between the customer and the software engineer.
2. Classes must be defined.
3. A class hierarchy is defined
4. Object-to-object relationships should be represented.
5. Object behavior must be modeled.
6. 1 - 5 are repeated iteratively until the model is complete.

Class-Based Modeling:

This section describes the process of developing an object-oriented analysis model. The generic process described begins with guidelines for identifying potential analysis classes, suggestions for defining attributes and operations for those classes, and a discussion of the Class-Responsibility-Collaborator model. The CRC card is used as the basis for developing a network of objects that comprise the object-relationship model.

3 individual models represented.



Instructions for Assignment Submission

1. Write your names and Ids at the top of each paper of answer sheet.
2. Scan using simple scanner or the Cam Scanner of any android phone / Take Photo of each paper and save each photo with a number. E.g. photo of page 1 of answer sheet be saved with name 1.jpg, then 2.jpg and so on.
3. Make a PDF file of all the pictures and name it with your Roll Number, Name and Subject Name, e.g. "11512 - Sanaa Jeehan - OOSE".
4. Upload the file as it is or zipped.
5. Don't forget to check that the correct document is properly uploaded.