Name : Muhammad Shahzeb

Roll # : Sp22-bse-073

Assignment : Software Concepts

Submitted to : Mam Mehwish Sabir

Date : 6/5 /2023

Question:- Difference between Static and Dynamic Modelling…?

In software engineering, there are two primary methods used to comprehend and describe various system components: static modelling and dynamic modelling.

Static Modelling: Static Modelling is concerned with capturing the structure, arrangement, and connections between distinct system components. It is mostly focused on the system's static (i.e., non-evolving) features. Static models offer a snapshot of the system at a specific point in time and aid in comprehending the architecture, entities, properties, and relationships between them of the system.

The following static diagrams are frequently used in static modelling:

Class Diagram: Displays classes, along with their characteristics, methods, and relationships, to represent a system's static structure.

Object Diagram: Shows the actual objects and their associations, illustrating instances of classes and their relationships at a certain time.

Package Diagram: Shows how classes are organized into namespaces or packages, highlighting dependencies and connections between them.

Component Diagram: Shows how a system's physical and logical components interact with one another.

Deployment Diagram: Shows how software and hardware are related by showing how software components are physically deployed on hardware nodes.

Dynamic modelling: Dynamic modelling focuses on simulating how system components behave and interact over time. It records dynamic features such as occurrences, state changes, a series of deeds, and interactions between various system components.

Use Case Diagram: Demonstrates the functional needs and user interactions by illuminating the interactions between actors (users or external systems) and the system.

Sequence Diagram: Shows the sequence of messages sent and received as well as the order in which actions were taken to represent the interactions between objects in a system across time.

An activity diagram shows activities, decisions, and parallel or concurrent actions while describing the workflow or process flow within a system.

State chart Diagram: Represents an object's various states and how those states change in response to external factors like events or conditions.

Collaboration Diagram: Highlights structural links and message flows while illustrating the dynamic interactions between system elements.
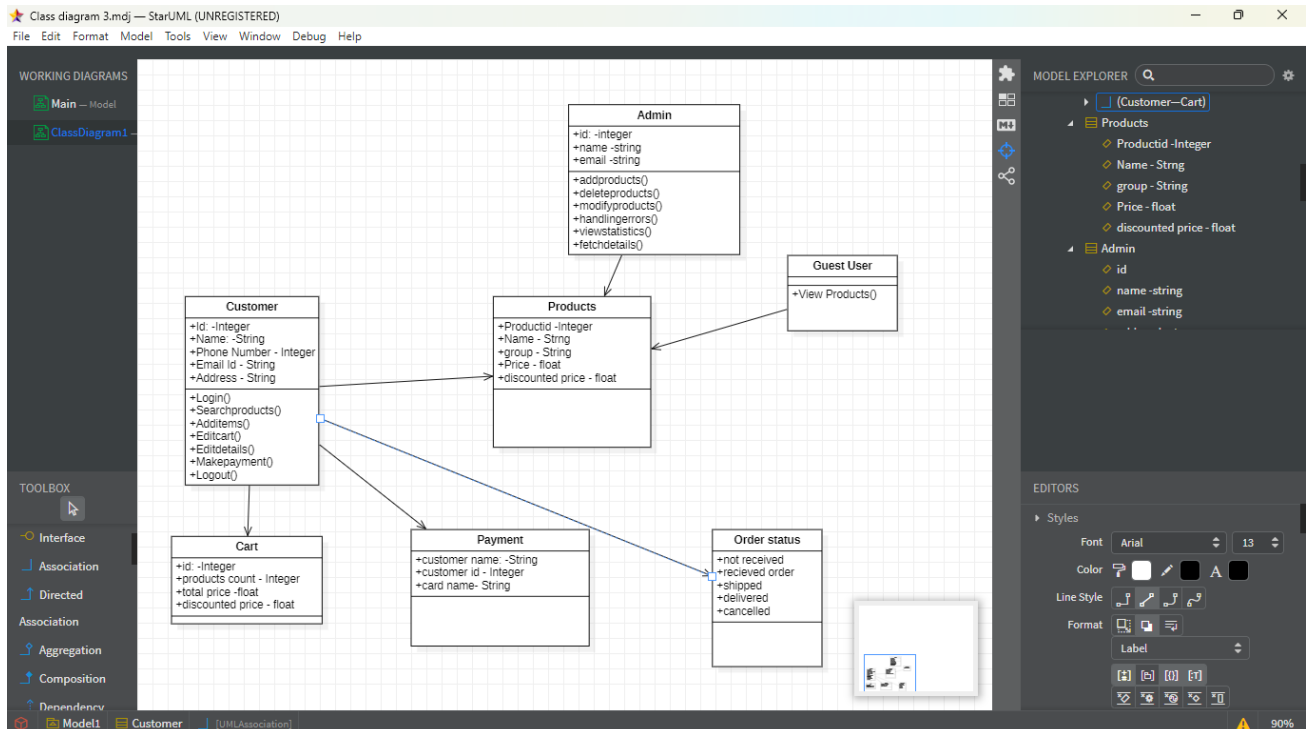
Together, these diagrams give a complete picture of the system's static structure and dynamic behavior since they complement one another.

Question:- Diagrams for Online Shopping System.

Use case diagram
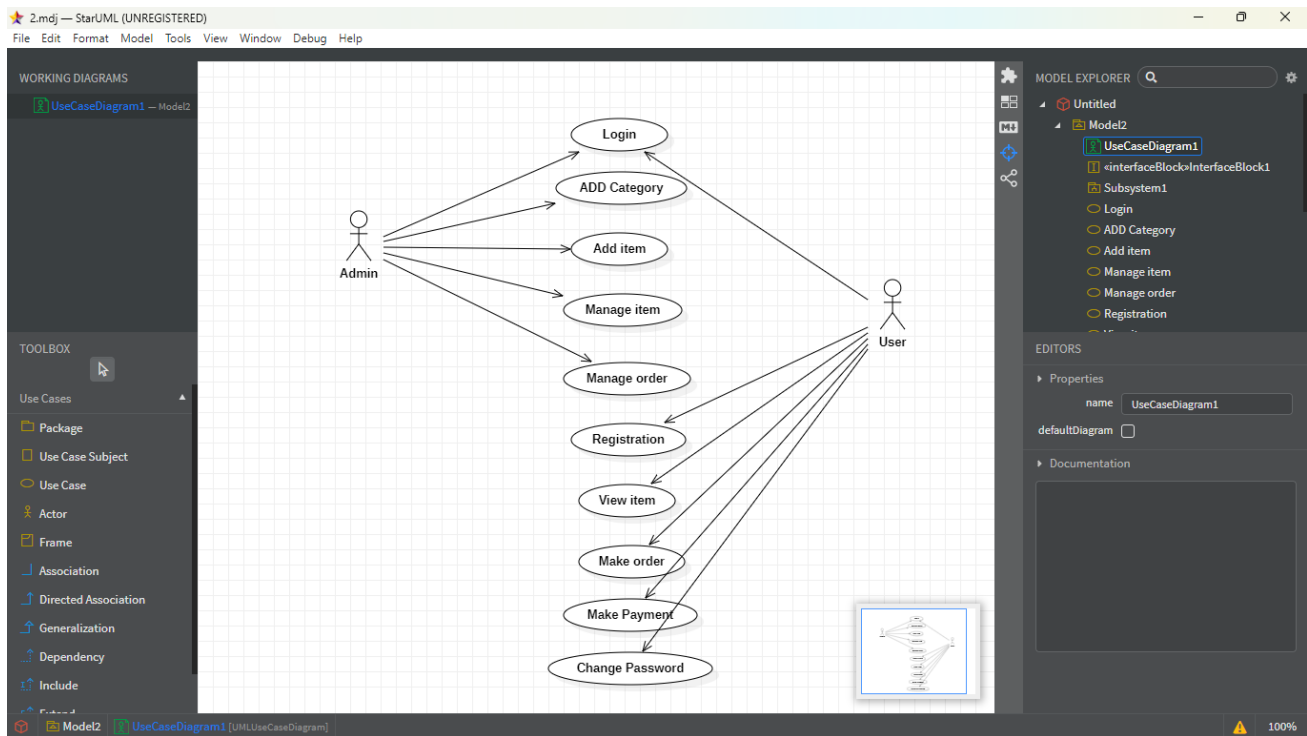
Class diagram

Sequence diagram