Object Oriented Analysis and Design using Java

UE19CS353

MVC Spring Framework

MVC (Model-View-Controller) is one of the most widely used software design pattern for app and web development. The Model View Controller design pattern separates concerns into model, view and controller. The model contains data, view has the UI logic and controller has the backend code for application logic.We can separate the business logic from presentation logic. MVC architecture can be implemented in java using two approaches. We can create a desktop application using swings or we can create a web application using Java Spring framework. To implement MVC pattern we need to follow a step-by-step procedure.

Step1: Create the Model

'Model' is the part of your application that contains the data and provides the same to the app. It also updates the data on the disk upon receiving a call from the Controller.

Step2: Create the View

For this part, you can either use Eclipse IDE or NetBeans. The View segment of your application shows what the Controller allows. In Eclipse, you would have to write the code, whereas NetBeans comes with drag-and-drop functionality to implement a simple GUI. View displays the data from model.

Step3. Create the Controller

The Controller is perhaps the most vital segment of the MVC application as it contains the logic for the Model-View interaction. The Controller includes three main functions. These methods are described below.

 startApplication: It starts the application by calling the View (In Java's Swing API, you set the setVisible property as true to make the JFrame visible)

 Extract data from Model

 Return data to View

Step4. Run the application

When the user wants to transmit or receive data, the Controller responds by asking or sending the data from the Model. After that, the Controller sends the result (success or error) back to the View. View also operated via the Controller, inquiring about the data or adding it to the Model. Finally, the Controller validates the data for updating by the Model.

Choose your own simple application and demonstrate MVC architecture.

Assessment: Total 5 Marks.

Problem Formulation – 1M

Model Class – 1M

View Class – 1M

Controller Class – 1M

Run the application – 1M