Model-View-Controller

Pattern/Architecture

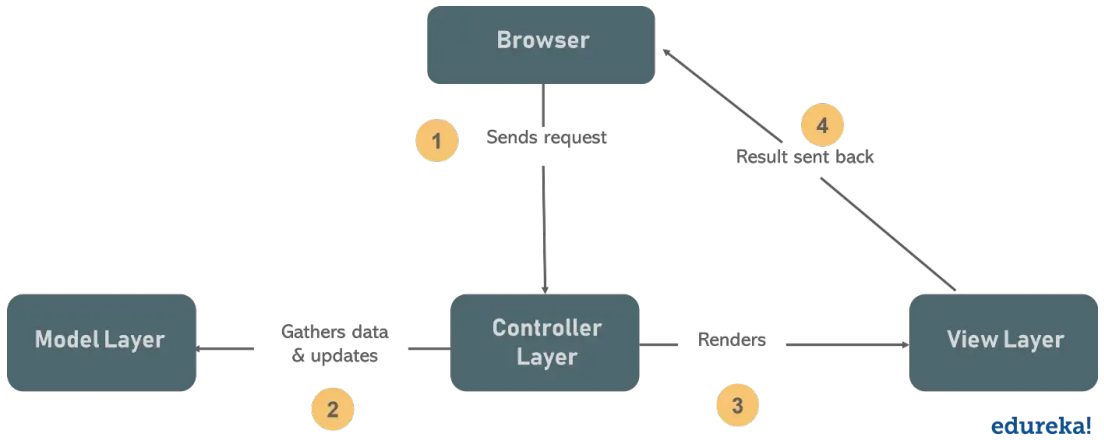
- ***Design Pattern***, in software engineering, is a technique to solve a commonly occurring problem when designing software.
- ***Designing Model,*** specifies what type of architecture you use to solve the problem or design the model.

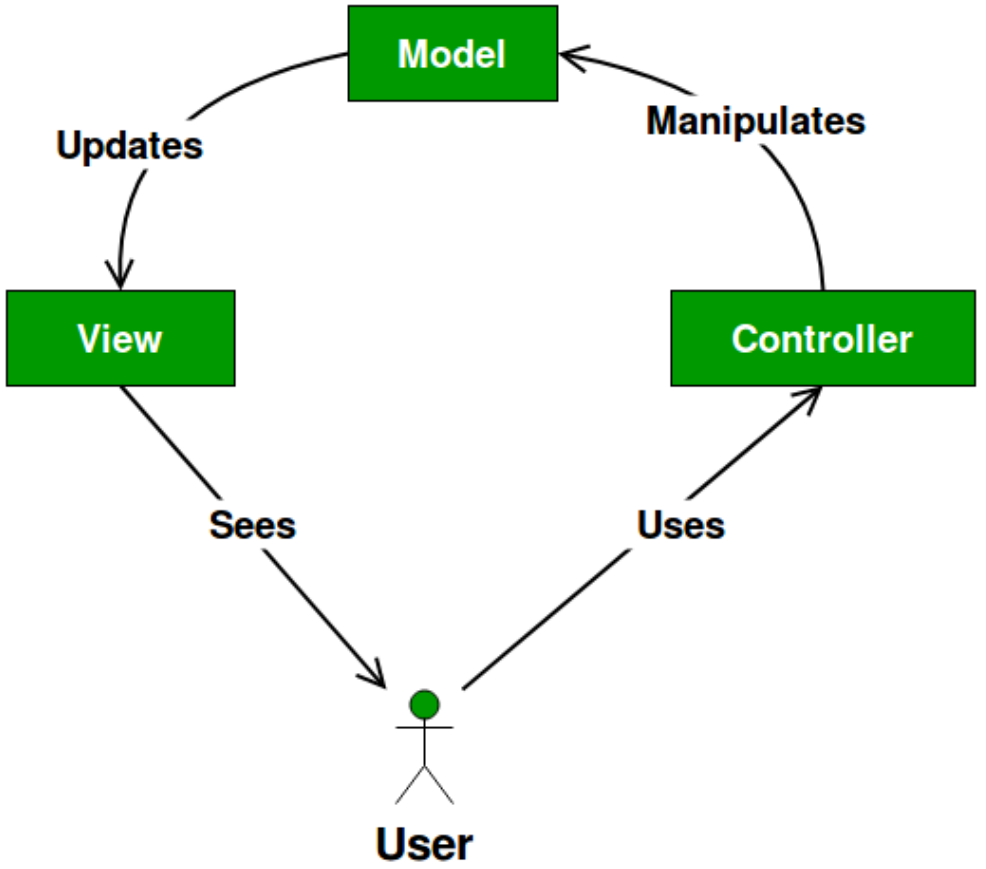
MVC Architecture

- Model designs based on MVC architecture follow the MVC design pattern and they separate the application logic from the user interface when designing software.
- ***Model*** — Represents the business layer of the application
  - The model represents data and the rules that govern access to and updates of this data. In enterprise software, a model often serves as a software approximation of a real-world process.
- ***View*** — Defines the presentation of the application
  - The view renders the contents of a model. It specifies exactly how the model data should be presented. If the model data changes, the view must update its presentation as needed.
- ***Controller*** — Manages the flow of the application
  - The controller translates the user's interactions with the view into actions that the model will perform.

MVC Architecture

- The Model contains only the pure application data, it contains no logic describing how to present the data to a user.
- The View presents the model's data to the user. The view knows how to access the model's data, but it does not know what this data means or what the user can do to manipulate it.
- The Controller exists between the view and the model. It listens to events triggered by the view (or another external source) and executes the appropriate reaction to these events. In most cases, the reaction is to call a method on the model. Since the view and the model are connected through a notification mechanism, the result of this action is then automatically reflected in the view.





Source: MVC Design Pattern – GeeksforGeeks, MVC Architecture in Java | Edureka (medium.com)

Example

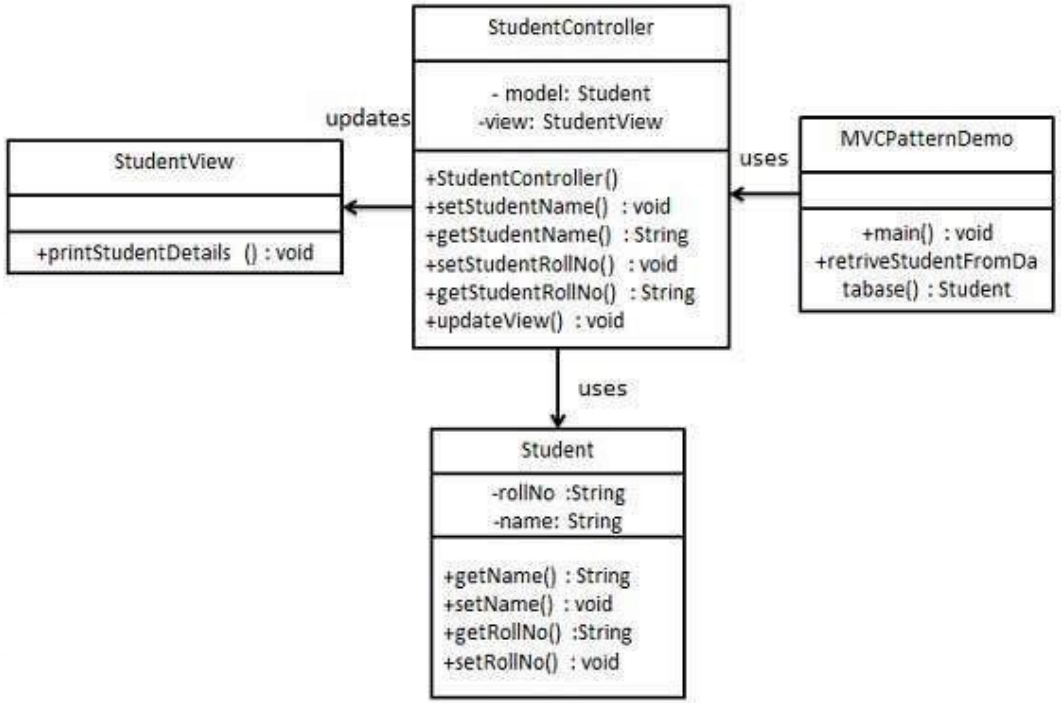


Image source: https://www.tutorialspoint.com/design_pattern/mvc_pattern.htm

Reference

- MVC Architecture in Java | Edureka (medium.com)
- MVC Design Pattern – GeeksforGeeks
- Examples of Model–View–Controller Pattern (utsa.edu)
- Design Patterns - MVC Pattern (tutorialspoint.com)