Tell us about MVC

MVC, which stands for Model-View-Controller, is a software design paradigm that helps address issues related to the structure and organization of code in programs. This model divides the program into three main components:

1. Model:

   * Represents objects or data in your application and the business logic that processes this data.

   * The model is independent of the user interface or data display.

2. View:

   * Is responsible for displaying data to the user and interacting with them.

   * It does not have its own business logic and receives data to display from the model.

3. Controller:

   * Handles user input and interacts with both the Model and the View.

   * Ensures proper handling of events and calls from the View, as well as interaction with the Model to update data.

The core idea is to achieve separation of concerns. This allows modifying or extending one layer (e.g., the view) without affecting other layers (such as business logic or data). It also facilitates testing and development of the program.

The interaction process along these components can be described as follows:

   ** User interacts with the View (e.g., by clicking a button or entering text).

   ** The View sends a message (event) to the Controller about the occurred event.

   ** The Controller processes this event, may interact with the Model to update data, and sends new data for display.

   ** The View updates its content according to the received data from the Controller.

The Model-View-Controller helps simplify the distribution of responsibilities in your application and improve its structure, making the code more understandable,

testable, and maintainable.