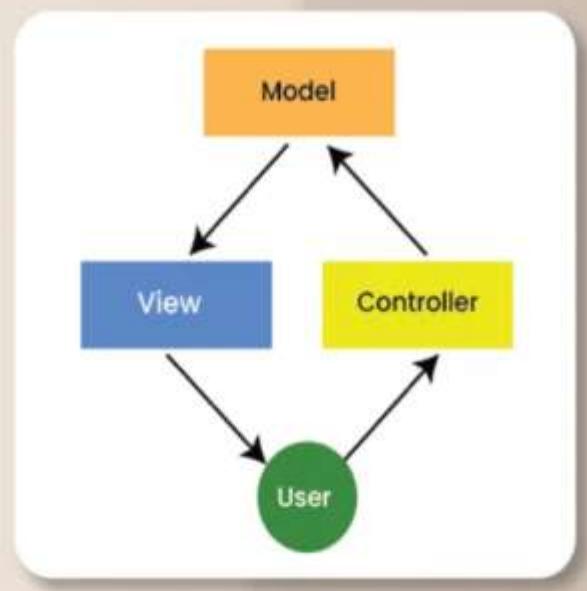


Architectural Design Pattern Report – Soul of Bangladesh

MVC Architecture



Introduction

“Soul of Bangladesh” is a cultural web platform designed to represent the core identity of Bangladesh through history, heritage, seasons, festivals, food, languages, and user-generated stories.

To ensure scalability, maintainability, and clean separation of concerns, the system architecture follows the **MVC (Model–View–Controller)** design pattern.

What is MVC?

MVC is an architectural design pattern that divides the application into **three independent components**:

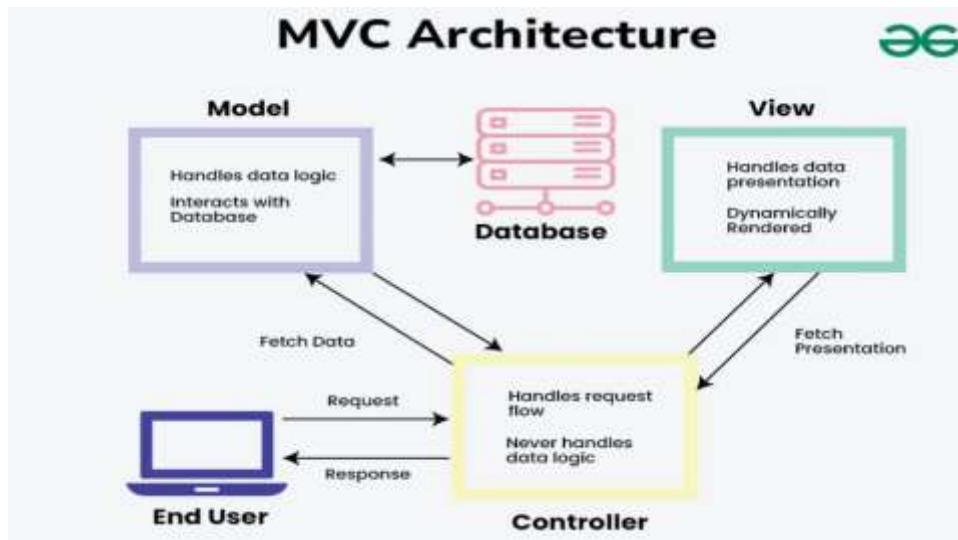
Component Responsibility

Model	Handles data logic, database queries, and business rules
View	Manages UI/UX, displays content to users (HTML, CSS, Tailwind, JS)
Controller	Works as the bridge between Model and View, handles user requests and system responses

This layered structure ensures organized code and a smooth workflow in both development and future expansion.

MVC Workflow in “Soul of Bangladesh”

1. A user interacts with the UI (View) — like submitting a story or browsing heritage pages.
2. The request is sent to a Controller.
3. The Controller processes logic and communicates with the Model if data is required.
4. The Model fetches/stores data from/to MySQL.
5. The Controller returns the processed result back to View for display.



Example:

User uploads a war story → View sends data → Controller validates → Model inserts into DB → Controller returns success → View updates UI dynamically.

MVC Project Structure (Used in this system)

Soul of Bangladesh/

```
|— app/
|   |— controllers/ (handles logic)
|   |— models/ (database operations)
|   |— views/ (UI pages)
|— public/
|   |— assets/ (CSS, images, icons)
|   |— index.php (entry point)
|— config/
|   |— database.php (DB connection settings)
|— routes/
|— README.md
```

Why MVC was chosen for this project

1. Clean separation of logic

No mixing of UI code with database or processing logic. Makes code neat and pro-level.

2. Scalability

New features like language learning, seasonal modules, voting, or chatbot integration can be added without breaking existing code.

3. Easy maintenance

Bugs are easier to track because each part (UI, logic, DB) is isolated.

4. Reusability

Components like database queries, controllers, and UI templates can be reused across multiple sections of the website.

5. Faster collaboration

Since code is modular, multiple developers can work simultaneously on different parts—UI, logic, and database—with conflicts.

6. Better performance & security

User inputs are handled in controllers, sanitized in models, and only safe outputs reach the views, reducing security risks like SQL injection and logic loopholes.

How MVC Benefits “Soul of Bangladesh” Specifically

Project Need	How MVC helps
Cultural modules (heritage, seasons, wars, language)	Separate controllers & views for each module
User content (stories, comments, reactions)	Secure model handling + dynamic views
Admin panel	Independent controller logic with restricted access
Future AI integration	Can be added as service without touching UI or DB
Design customization	UI can be upgraded anytime without affecting logic

Conclusion

The MVC design pattern was implemented to transform “Soul of Bangladesh” into a structured, scalable, secure, and developer-friendly system. This approach ensures long-term growth while delivering a smooth and interactive experience for users exploring the cultural heart of Bangladesh.