

## Lab 2: Writing a Project Narrative

### Objective

- To obtain a preliminary user-view and a process view of the system.

### Project Title: Online Code Editor with Live Preview

#### Project Summary and Overall Approach:

The Online Code Editor with Live Preview is a web-based platform aimed at providing users with a collaborative and real-time coding environment. This system allows users to write, edit, and execute code instantly, with a live preview of the output. The main goal is to create a user-friendly and efficient tool for coding enthusiasts, developers, and students, promoting experimentation and learning without the need for a local development setup.

#### User-View:

##### 1. Homepage:

- Users are greeted with an intuitive homepage that offers options to log in, sign up, and access a new code editor.
- A search bar facilitates the discovery of existing code snippets.

##### 2. Code Editor Interface:

- The core interface allows users to write, edit, and preview code in real-time.
- Features include syntax highlighting, autocompletion, and live preview panels for immediate visualization of code output.

##### 3. User Authentication:

- Registered users have a dedicated area for managing their accounts.
- Options include login, sign-up, access to saved code snippets, and personalized profile settings.

##### 4. Collaboration Features:

- Users can initiate collaborative coding sessions with real-time indicators for multiple participants.
- Shareable links facilitate collaboration, supported by a chat system for communication.
- Version history and code comparison tools enhance collaborative project management.

## **5. Dashboard:**

- A personalized dashboard provides an overview of recent projects, code snippets, and collaboration notifications.

## **6. Documentation and Support:**

- Resources such as documentation, support forums, and FAQs are available for users to learn about and get assistance with the application.

## **Process View:**

### **1. User Registration:**

- Users register by providing necessary details and activating their accounts through a verification email.

### **2. Creating a New Code Snippet:**

- Users navigate to the code editor, choose a language, and write or paste code.
- Real-time syntax highlighting, autocompletion, and live preview aid code creation.

### **3. Collaborative Coding Session:**

- Users create collaborative projects, share links, and collaborate in real-time with communication features.

### **4. Saving and Accessing Code Snippets:**

- Users save code snippets, access them from the dashboard, and edit or preview as needed.

### **5. Version Control:**

- The system automatically tracks code changes in collaborative projects.
- Users can revert to previous versions and utilize a visual diff tool for code comparison.

### **6. User Preferences and Settings:**

- Users manage their profile settings, customize editor preferences, and update account information.

## **Responsibilities of Team Members:**

### **1. Member 1:**

- Gathers information from stakeholders (developers, students, coding enthusiasts).
- Analyzes requirements and prepares a well-defined requirement set.

**2. Member 2:**

- Prepares modeling diagrams based on information provided by Member 1.

**3. Member 3:**

- Performs the construction activity, including coding and implementation.

**4. Member 4:**

- Performs verification, validation, and deployment activities to ensure the functionality and stability of the system.

**Common Project Narrative:**

The Online Code Editor with Live Preview project aims to provide a collaborative coding platform with a user-friendly interface and real-time features. The team, comprising members responsible for gathering requirements, modeling, construction, and validation, collaborates to deliver a robust and user-centric system. The narrative highlights the seamless user experience, emphasizing collaboration, version control, and customization features.