CodeLive Editor - Project Report

Introduction

The CodeLive Editor is a web-based code playground designed to provide an interactive environment for writing and previewing HTML, CSS, and JavaScript code in real-time. It simulates an in-browser IDE experience.

Abstract

This project enables users to write and preview code instantly through a split-screen interface, with options to switch between layout modes. It incorporates Monaco Editor for rich editing features and leverages live preview via iframes. The project also supports template loading and code sharing through URL compression.

Tools Used

- React: UI framework for building components
- Monaco Editor: Source code editor (used by VS Code)
- LZ-String: For compressing and decompressing code snippets
- HTML/CSS/JS: Core technologies used for rendering and interactivity
- Figma/Tailwind CSS (optional for styling)

Steps Involved in Building the Project

1. Set up a React application and install Monaco Editor.
2. Create state hooks to manage HTML, CSS, and JS code.
3. Render a live preview using an iframe and the `srcDoc` attribute.
4. Implement layout toggles: split view, editor only, and preview only.
5. Add support for templates and dynamic loading.
6. Implement URL-based code sharing using compressed parameters.

Conclusion

The CodeLive Editor provides a functional and user-friendly platform for rapid front-end prototyping and code experimentation. With real-time preview and easy sharing, it serves both beginners and professionals in learning and collaboration contexts.