

CODE EDITOR

A Minor Project Synopsis Submitted to



**Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal
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**Bachelor of Technology
(Computer Science and Engineering)**

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1. Abstract

The world of internet is growing rapidly, many applications that previously created on the desktop start moving to the web. Many applications could be accessed anytime and anywhere easily using internet . Developers need tools to create their applications one of them name code editor . The purpose of this research is to design and develop a real time code editor application using web socket technology to help us collaborate while working on the project this application provides feature where users can collaborate on a project in real time . The authors using analysis methodology with conducting on a study of the current code editor applications distributing questionnaires and conducting on literature study. It is web application that provides workspace to writing perform, display the results of the code through the terminal and collaborate with the users in real time .The applications main features are providing workspace to make, execute and build the source code. This application supports Html , Css and Javascript.

2. Introduction of the Project

What is a code editor? It is a very important tool for a programmer's work. Regardless of whether you are developing your pet project solo, working in a team on a big project, or creating a web or mobile application, you will definitely need a code editor. A code editor can be a standalone application or built into an IDE. It provides a number of useful features that allow programmers to write code faster and easier.

Typically, code editors have syntax highlighting and allow you to automatically format your code. In addition, they allow you to quickly find and replace text, rename objects in code, and much more

While working on a specific project I realized that for either it is html, css or javascript I need to open different editors and at that time I was learning react so I decided to make one editor or platform for each of them.

3. Objective

Using the perfect code editor allows you to simplify and speed up the process of writing code. This is possible due to the fact that they provide useful features for automatic code generation, autocorrection, quick find and replace, and much more. Source code editors also allow you to quickly find and fix errors.

All code editors highlight the code in different colors, which makes the process of reading the code much more convenient and faster.

Compared to complex IDEs, which, in addition to the code editor, also include a compiler, debugger, and profiler, code editors load faster and also take up less memory. If you are working on a computer with few resources, then it is better to use a code editor.

In addition, code editors usually support a large list of programming languages, while IDEs have a limited number.

4. Scope

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5. Study of Existing System

There are many different code editors. You can find both free and paid code editors on the Internet. All code editors support different platforms and programming languages. Some of them support one or more programming languages, others are universal and allow you to work with almost all programming languages.

Let's list the most popular code editors:

1.UltraEdit is a cross-platform high-performance code editor that provides extensive customization options, as well as a lot of additional features.

PROS-

- Search and replace in files that are not open
- Cut and paste columns - I don't know any other program that can do this!
- Is a super fast and powerful text editor.

CONS-

- I'd like more free updates.
 - It'd be great to be able to make the text larger more easily.
 - I like UltraEdit so much I'm having trouble coming up with a third area for improvement!
- 2.Sublime Text is a cross-platform editor that supports a large list of programming languages and provides hotkeys and search tools. PROS-

- User friendly and intuitive.

CONS-

- Being able to run.

3.Visual Studio Code is a cross-platform code text editor that provides many useful features, as well as the ability to install extensions.

PROS-

Integrated Terminal window allows you to stay in one application to perform most required tasks.

- Customization options are robust. It is easy to modify VS Code to your own specifications.

CONS

- Inconsistent methods to change settings. Sometimes must be done in the JSON file. Sometimes in the UI.
- Application error messages sometime appear without enough information to resolve them.

4.Notepad++ is an open-source tool that works only on Windows systems. It supports various programming languages, but has limited functionality.

PROS-

- syntax highlighting
- multiple files opened at once in a tab view

CONS-

- comparison view

5.Vim is a cross-platform, stable, and reliable source code editor. It has features that help speed up the coding process, including auto-correct, auto-complete, syntax suggestion, and more.

PROS-

- undled in most Linux distributions.
- Very efficient once you get familiar with it.

CONS-

Steep learning curve

6. Project Description

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7. Methodology/Planning of the Project work

Code editor is a program designed for writing software in which developers utilize human-readable text to make code easier to parse and understand. They have built-in knowledge of programming languages, allowing different elements of the code (i.e., variables, keywords, functions, etc.) to appear in different colors and improve readability and analysis by developers.

Code editors can compile and run code. In addition to being able to print a code's output, these programs can also identify where and why a particular line of code fails to execute.

Dependencies:

The major requirement of the resources for designing and developing the proposed smart map is as follows.

- HTML
- CSS
- Javascript
- React
- Code mirror library

HTML: HTML stands for Hyper Text Markup Language. It is the standard markup language for creating web pages. It describes the structure of a web page. HTML consists of a series of elements. HTML elements tell the browser how to display the content.

CSS: stands for Cascading Style Sheets. It describes how HTML elements are to be displayed on the screen, paper, or in other media. It can control the layout of multiple web pages all at once and saves a lot of work. External stylesheets are stored as CSS files.

Javascript: is a scripting language, primarily used on the Web. It is used to enhance HTML pages and is commonly found embedded in HTML code. JavaScript is an interpreted language. Thus, it doesn't need to be compiled. JavaScript renders web pages in an interactive and dynamic fashion.

React :is a JavaScript library for building user interfaces. **React** is used to build single-page applications. **React** allows us to create reusable UI components.

8. Expected Outcome

A code editor is a program designed for writing software. Developers writing code using a code editor utilize human-readable text which makes code easier to parse and understand. I have designed a code editor which can compile code written in html, css, and javascript and can produce live outputs. I was earlier using code pen for my project and then got inspired from that therefore I decided to make a project similar to it. As I was learning react at that particular time so I decided to use the same for completing my project also I used code mirror library. Using the best code editor can improve the speed of coding. Code editors are programming languagespecific. Some editors support one or two programming languages whereas some support multiple programming languages.

This project is a good start for beginners, a new idea for intermediates and a refreshing hobby project for professionals. It involves the basic use of all of HTML, CSS and JS languages. Reason for following this tech-stack is that these languages are easy to use and are also fast in terms of execution time.

9. Resources and Limitations

All the project requires research and analysis investing some time on research and analysis will save much time in future to gather other information.

An online web code editor is most useful when you do not have the opportunity to use a code editor application, or when you want to quickly try out something on the web with your computer or even your mobile phone. This is also an interesting project to work on because having the knowledge of how to build a code editor will give you ideas on how to approach other projects that require you to integrate a code editor to show some functionality

There are various requirements (hardware, software and services) to successfully deploy the system.

These are mentioned below : **Hardware**

32-bit, x86 Processing system

Windows 7 or later operating system

High processing computer system without GPU or with

GPU(high performance)

Software

My sql

Hosting domain

10. Conclusion

In the end, we have:

- A code editor that can compile HTML, CSS AND JAVASCRIPT languages
- Interacting and Hosting APIs on RapidAPI.
- Using keyboard events in React using custom hooks
- Lots and lots of fun! ;)

At last, if you want to take the project to a deeper, here are some of the features that you could consider implementing:

- Login and Registration module – so that you can save your code in your own personal dashboard.
- A way to share code with other people over the internet
- Profile page and customizations.
- Pair programming on a single code snippet using Socket Programming and Operational Transformations.
- Bookmark favourite code snippets
- Custom dashboard of your code snippets (that are saved) - just like CodePen.

11. References

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