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Enlightening Wisdom

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Code Editor

Submitted to:

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Project Presentation Outline

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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 questionnairies 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.

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Introduction

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.

The Problem Statement

❖Code editor for html, css and javascript using react.

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Survey of Existing Systems

❖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!

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Survey of Existing Systems

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 – it's a pretty simple and straight forward software that doesn't take much to learn how to use.

CONS-

- Being able to run/test the code without using another software would be very helpful

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.

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Survey of Existing Systems

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.

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Objectives

❖ Using <u>the perfect code editor</u> 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, auto-correction, 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.

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Requirement Analysis

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

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Solution Proposed

I have used REACT technology for my project as React is a way to build user interfaces. It is only concerned with what you see on the front-end. React makes user interfaces very easy to build by cutting each page into pieces. Let's say one of your friends posted a photograph on Facebook. Now you go and like the image and the you started checking out the comments too. Now while you are browsing over comments you see that the likes count has increased by 100, since you liked the picture, even without reloading the page. This magical count change is because of ReactJS. React is a declarative, efficient, and flexible JavaScript library for building user interfaces. 'V' denotes the view in MVC. ReactJS is an open-source, component-based front end library responsible only for the view layer of the application. It is maintained by Facebook. React uses a declarative paradigm that makes it easier to reason about your application and aims to be both efficient and flexible. It designs simple views for each state in your application, and React will efficiently update and render just the right component when your data changes. The declarative view makes your code more predictable and easier to debug. A React application is made of multiple components, each responsible for rendering a small, reusable piece of HTML. Components can be nested within other components to allow complex applications to be built out of simple building blocks. A component may also maintain an internal state – for example, a TabList component may store a variable corresponding to the currently open tab.

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The Outcome Discussion

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 language-specific. 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.

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Conclusion and Limitation

In the end, we have:

- A code editor that can compile HML,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.

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