SYNOPSIS

ON

ONLINE CODE EDITOR

anangpuria

Submitted in partial fulfillment of
Bachelor of Technology in
Information Technology (Semester VII)

B.S. ANANGPURIA INSTITUTE OF TECHNOLOGY AND MANAGEMENT
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1. Introduction:

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 your ideas on how to approach other projects that require you to integrate a code editor to show some functionality.

Let's get started by creating our usual three files:

- index.html - for our markup
- style.css - for styling
- app.js - for the function(s)

To get started with our markup, we'll be needing three textarea tags which will correspond with the id of the language we'll be compiling. To actually show the compiled code, we will also need an iframe which will allow us to insert an html document into an existing html page. Make sure to set ids for each tag so we can communicate with these elements in JavaScript.

2. Aim & Objective:

Online code-editor is a tool that resides on a remote server and is accessible via browsers. Some online code editors have basic features like syntax highlighting or code completion similar to text editors while others are like complete IDEs.

For any developer, be it amateur or professional, often the liberty of using a local code editor may be unavailable. As online code-editors are fast, efficient and greatly popular, it is a familiar tool among developers. If you have used one, ever wondered how it can be made? This module will guide you through the process that can be followed to build your own code-editor for HTML, CSS and JS code snippets. Implementing the project will add an immense value to your profile.

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.

You are free to use JavaScript instead of JQuery but it is recommended to use JQuery as it is lighter to implement

3. Functional Requirements:

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 your ideas on how to approach other projects that require you to integrate a code editor to show some functionality:

4. Scope :

This project is intended for making use of today's popular technology Cloud Computing for Integrated Development Environment. Currently, there are lots of IDE's, both open-source andcommercial, in the market. Usually they provide lots of extensive features to developers to ease application developers life. However, there are two simple but substantial problems with today'sIDE's. First is they require intensive CPU and memory usage which is not available all the time and since these applications are installed on specific system, it prevents portability.

By combining Cloud Computing technology, this project will remove the requirement forpowerful systems and provide portability to developer

5. Requirements :

- Code Editor Requirements

  One of the most important functionality expected from an integrated developmentenvironment is a code editor which will ease the developer's life. Code editor will be the maininterface that developers deal with. It supports variety of programming language with highlighting,syntax checking, auto-indentation and language specific auto-complete.

- Debugger Requirements

  Debugger is the main tool that developers can test and debug their target program.Debugger of the product should allow setting and displaying breakpoints on the code. It will alsoprovide functionality of stopping/continuing of the execution of debugger. Finally,

it will provide anexpression interface where user can enter an expression and observe the value of expression at eachstep.

- Terminal Requirements

  As an important part of the software development process, an integrated developmentenvironment should provide a command line interface where user can work in old fashion andaccomplish complicated tasks such as configuring git synchronization. Main component of CLI will bethe terminal. Terminal will allow user to run UNIX command on his own workspace and also runpredefined programs such as mvn, svn etc. Terminal will also provide auto-complete by list ofavailable commands and browse in the command history.

- Interface Requirements

  This group of requirements is related to external interaction of the workspace with outerworld. For user to interact with the workspace, product will provide both command line interfaceand graphical interface. Command line interface will be UNIX like and graphical interface will allowtabbed navigation of windows, hierarchical view of workspace etc.Again as an external interface, product will support a synchronization interface for external-services. Through this interface, user will be able to synchronize his workspace with external serviceslike GitHub and SVN.

6. Hardware and Software Requirements

Hardware:

- **System:** 64-Bit Operating System, x64-based processor
- **Processor:** more than i3-4030U CPU @ 1.90GHz 1.90 GHz
- **Hard Disk:** ~40 GB
- **Monitor:** 15 VGA Color
- **Ram:** 256 Mb

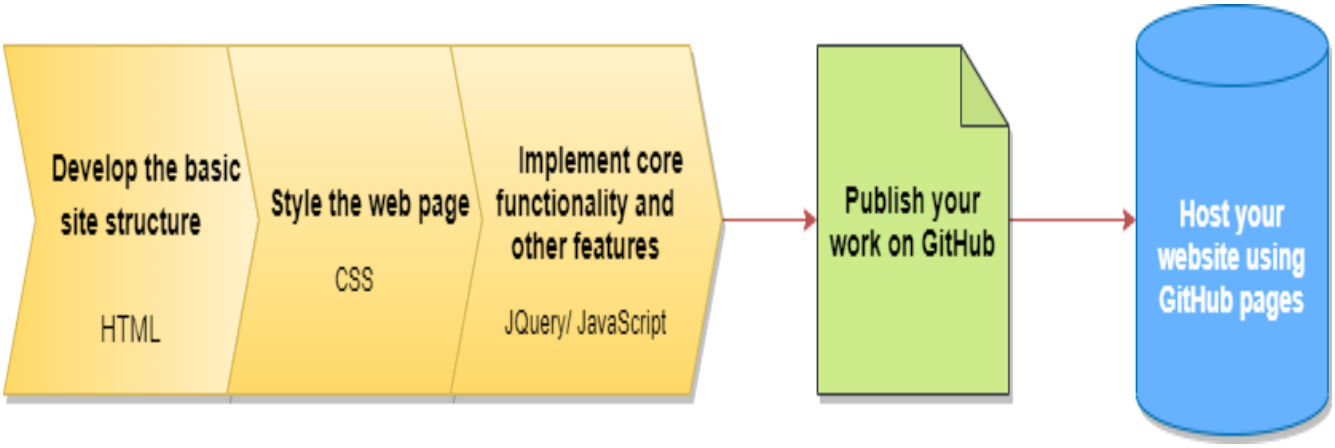
Software:

- Server running on Windows Server/Linux OS
- Backend Connectivity Jar Files and JDBC Connector
- iText Jar Files
- SQL database
- Java Swing applet
- PDF Drive Opener
- ODBC Connection
- SQL Workbench 8.0 CE

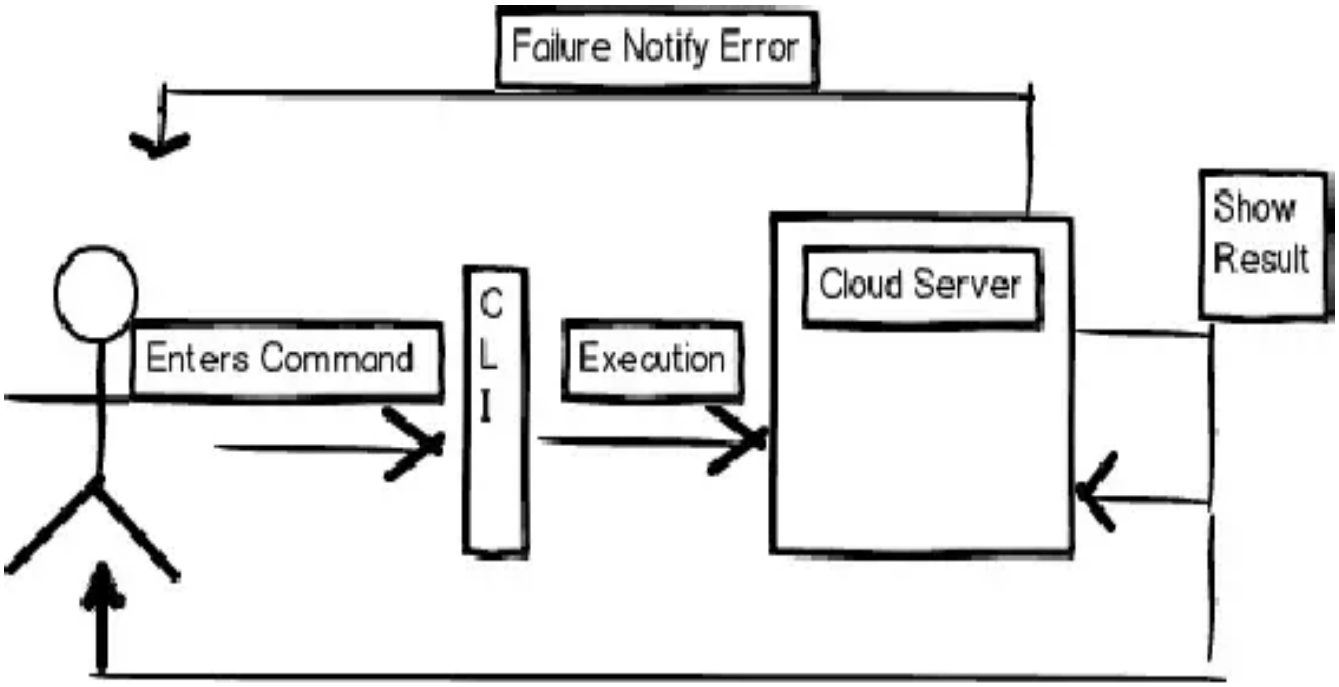
7. Technology Used:

- Html
- Css
- Jawascript
- Relational Databases
- SQL Server
- SQL Workbench 8.0
- DSN Server
- Github

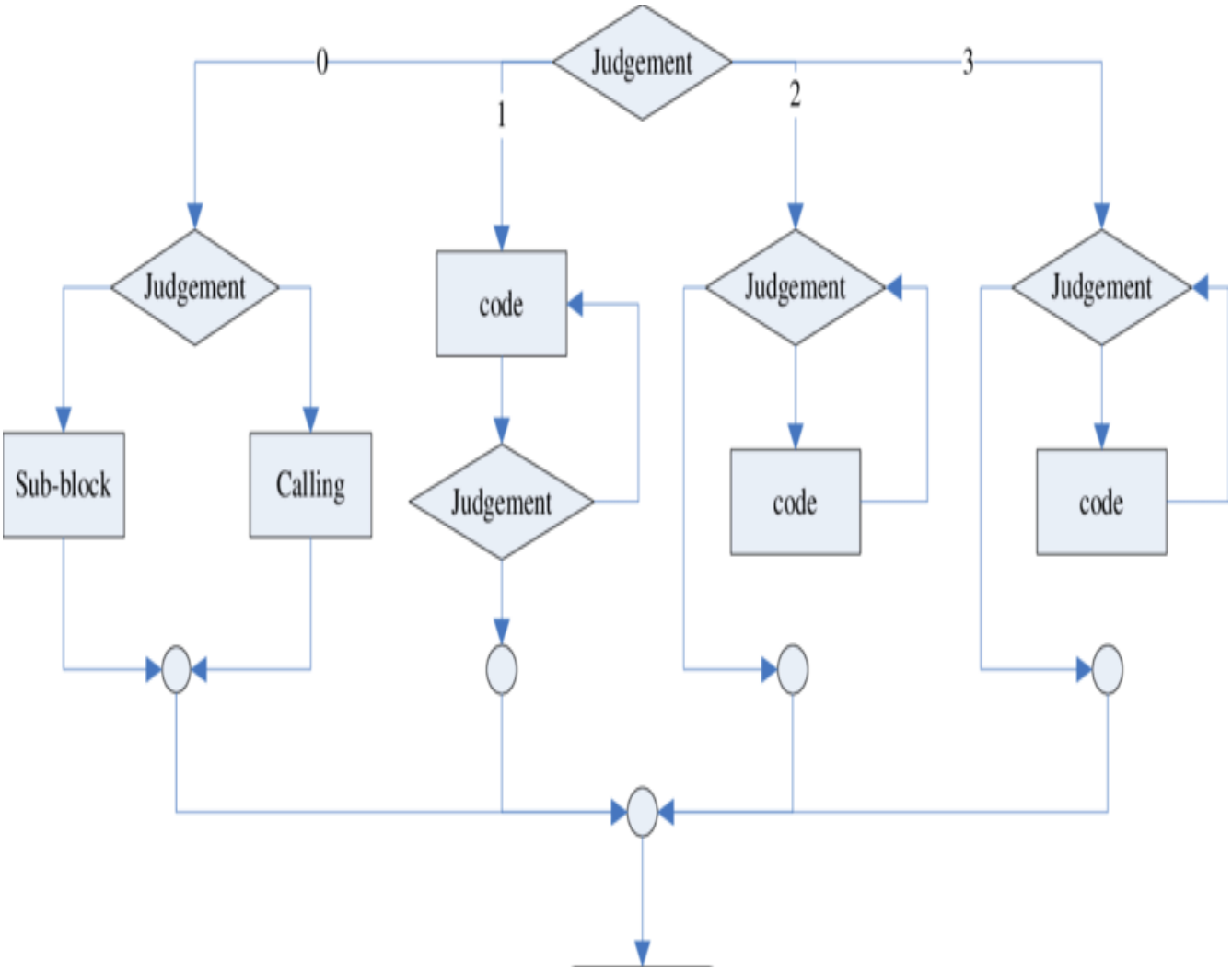
8. Architecture of the System:



9. Data Flow Diagram:



10. Flow Chart:



11. References:

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- Let’s Develop an Online Code Editor/Compiler Like HackerRank - DEV Community
- Build a Live Code Editor with HTML/CSS/JS | Enlight
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- Crio Projects - Online Code Editor (JQuery) | Crio.Do | Project-Based Learning Platform for Developers