

Portable Code Compiler

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ABSTRACT

The interest of coding aptitudes is soaring and not just only for designers, writing computer programs is assuming a greater job in each profession way. The main importance of 'Code-Up' is to learn to code interactively. In this project we are providing interface with different levels of question to enhance their programming skills based on the level of the questions solved. We are using Servlet, JSP and oracle database with Model 2 architecture so that request and response can be handled easily. We are using reflection Application Program interface (API) and runtime API for the execution and compilation of the code at runtime. An online based program compiler to enhance platform independent services for multiple languages support. Regardless of dynamic working nature of compiling the program, it is also capable of handling multiple request of code execution. Even though it is specially designed for student programmers who want to learn and improve their knowledge about the multiple languages and understand the various complexities of code to be improved before implementing it into real world software as a part or a component. This platform provides a web portal where one makes their account for daily improvement as well as to-gather information about their coding knowledge growth and other important guide. It will help indivisible, mainly student to increase their knowledge in the field of coding. The present working code compiler is available but it has a slate limitation it won't execute all the programming languages. Moreover it might sometime throw an error.

Some of the language like java IDE (Integrated Development Environment) (Eclipse, Net Beans) takes up a lot of space in the personal computer but the portable code compiler is completely mobile and can be accessed from anywhere in the world.

KEYWORDS: Code-up; Cloud Compiler; Web Based; Multi Languages etc

I. INTRODUCTION

To enhance the programming skills based on the level of the question solved. To provide different coding platform to code in different languages (C, Java, Python). One can judge themselves on the score basis and heir rank in the leader board. An option for uploading existing code is also available.

A lot of further modifications can be done to improve or increase the scope of the project. The project is completed with the simple and basic use of languages like Servlet, jsp, html, CSS and java script.

The topic as the name suggests is a online coding website that provides the user with information regarding the various programming language and the different level of programming language to solve challenges into for those specified language. The user can solve challenge according to his or her need directly or can visit the site and look for the most popular language to decide in which language he/she will take challenge. The page provides description to the various programming language so that if a student is confused to choose between any two or more language by going through the website one may arrive at a final single decision of choosing the specified language. There are signup and login section provided so that the user can easily

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however reliable version control has yet to be implemented. Team collaboration can sometimes be the main reason for the difficulties with online compilers, as for the security reason, some online-cloud based compilers do not allow users to share their source code with other user profiles. Online compilers have also provided the feature of importing sharing project with colleagues which is a temporary solution to the currently facing problem. Syntax highlighting is additional problem for some online compilers, which is still unresolved. Basically, cloud-based compilers give a platform free condition to code, aggregate, investigate and execute programming programs. The motivation behind this is the lack of availability of such compilers in the literature that provide the combination of both: cloud and open-source computing technologies. These programs can be easily performed through android application interface and a web browser using any internet enabled device.

II. REQUIREMENT ANALYSIS

A. Technical Feasibility

This is very efficient as user can access it from any location. This web site stores all the information about the different programming language and we can see different options on just a click. The concept of web designing is implemented here which gives an interactive view to the user.

B. Economical Feasibility

This is economical as there is no need of extra investment as there is detail information about the different programming language. Not much of hardware tool is required for this.

III. METHODOLOGY ADOPTED

Here we can learn different programming languages and getting the information about the that programming languages. Simple concepts of Servlet, JSP, HTML, CSS and JavaScript are used to create this website. The designing of the page is done as per the convenience of the user, so that the user can interact easily. Then it operates with the help of web browser and user can easily access to it.

IV. ARCITECTURE

Model 2 (Model View Compiler) :-

Here, we will be using Model View Controller Architecture because it is suitable for enterprise level applications. This architecture has 3 main components (View, Controller and Model)

View: View is concerned with the viewable resources using the following component:-

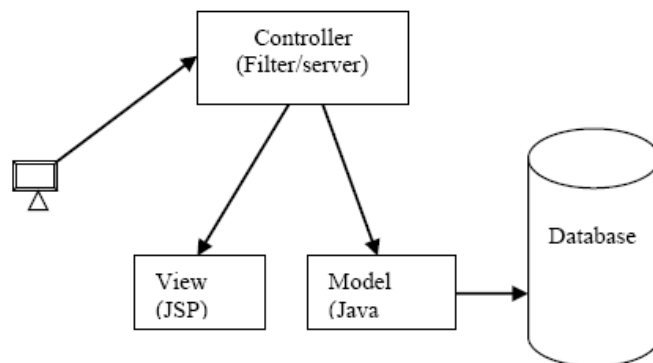
- HTML
- CSS
- JavaScript

Controller: This layer is also called presentation layer. Controller is responsible for taking request from client side and if database access is required, it forwards the data to the model layer

Model: Model is divided into 2 Sub-layers:

- Business Layer
- DAO (Data Access Object) Layer

Business layer consists of the plane java code. It forwards the request to DAO layer for validation and modification.



V. LIMITATION AND FUTURE PROSPECTS

Limitations:

- No calculation of time and space complexity
- Access to the internet
- Blockage of Malicious

Code Future aspects:

- More programming language can be added.
- Courses can be added.
- Review and rating can be added.
- Leader board

VI. RELATED WORK

The paper presents a web-based compilation system. It helps any particular user to compile any code file on the go, based on computer languages like C, C++, Java& Python. A review was done on different topics which would be a hurdle while designing the code compiler. Some of the key ideas are described as follows: The paper [1], provides different strategies and plans that have been experimented in order to enhance understanding of Prolog to Computer Science graduates in the Institute of Automatics at AGH University of Science and Technology is given. Of course the topic of difficulties with technique Prolog is not new. The paper has records of different ways implemented in teaching Prolog to Computer Science students. These recorded experiences help build an interactive web portal for teaching support. Also different guidelines to be kept in mind are also given. A prototype implementation which is based on (Doku Wiki) is also outlined by the respective paper.

The paper [2], focuses on solving the problem of storage and portability of compilers. The client need not to introduce any compiler, just needs to present the program into the UI given. The controller ultimately decides which compiler server the program should be assigned to compile, depending on the design of backend compilers. Then servers intended to compile the programs will compile and execute the programs. The output is then displayed to the user on his screen. The dispersion of burden on the controller is checked by contrasting the complete reaction time of the projects in both sequential and equal program designation to compilation level. The paper [3], provides a solution for various which makes it difficult for programmers to compile programs of a certain programming language on any machine they use, which offers open-source compilers which are cloud based. We provide the necessary system, imminent partners, foreseen highlights, and potential difficulties of sending such sort of compilers, considering the best in class endeavours in this unique circumstance. The paper [4], proposed a Meta-scheduler design to be utilized on Cloud Computing situations. The essential thought process of the Meta-scheduler design is to deal with the accommodation of

administrations to the server in a proficient way and furthermore to deal with the framework concerning the matrix assets having a place with the Cloud. Furthermore, this Meta scheduler also aims of building the best pool of available resources for the basic implementation of the requests which are issued by the users. To handle this, an economy model situated in approach of supply/request is received. Additionally, the paper presents a different approach for the communications between pairs of entities of the collaborative environment. This architecture extends the hierarchical model and implements the communication via hierarchical P2P scheme. The central idea on this model is to make use of the upper level Meta-scheduler (named Super-scheduler) to control partial overload and to impose performance under service demand.

VII. SYSTEM REQUIREMENT

Software Requirements

- Operating System
- Tomcat server
- Oracle Database
- JDK & GCC compiler

Hardware Requirements

- Personal Computer
- Net Connectivity

VIII. PROPOSED ALGORITHM

The system is eventually intended for the software developers. Product will be deployed to web site and an android application. All users of this system will make use of the same via a website or an application. There is availability of cloud server where all the client information is kept and all the execution is carried out. Website and Android Application will only be the interface for the user data and the execution of provided functionalities.

Users are required to register through the interface provided on the website and android application. Whenever a new user is registered, all the required data will be created in the server-side database. The user can log in or logout of the system at instant of time he wishes to. Each operation that the user wishes to perform or performs will directly replicate on the database stored on the server. User will be able to compile programs on language specific compilers and debuggers (C, C++, Java, python, etc) available on the system.

integrated development environment according his own convenience. One assumption about the product is that it will always be used on mobile phones and Desktop, Laptop, PCs that have enough storage. If the device does not have enough hardware resources or a proper internet connection available for the application, there may be scenarios where the application does not work as intended or even at all. Cloud manager acts as an identifier, It identifies the programming language used in the program/code and sends the program/code to the respective compiler. Once the program/code is compiled successfully it generates the accurate outputs. The proposed system showed how web services and cloud services could be combined to eliminate the problem of storage, making it useful for different user from wide variety of backgrounds. Also, the storage can be eliminated by simply creating user account and have their private space for files and project sharing.

IX. IX. SNAPSHOTS



Fig1. Home Page

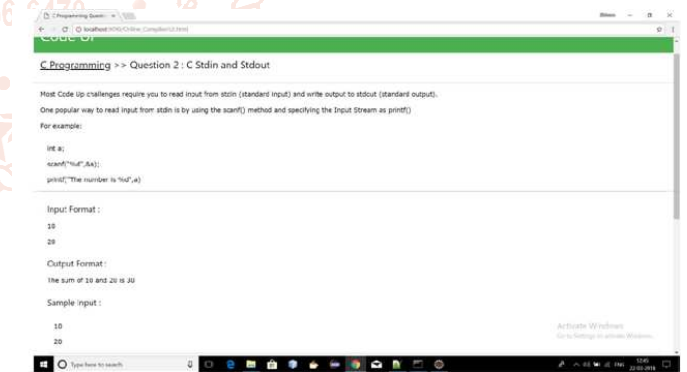


Fig2.Input/ Output Format

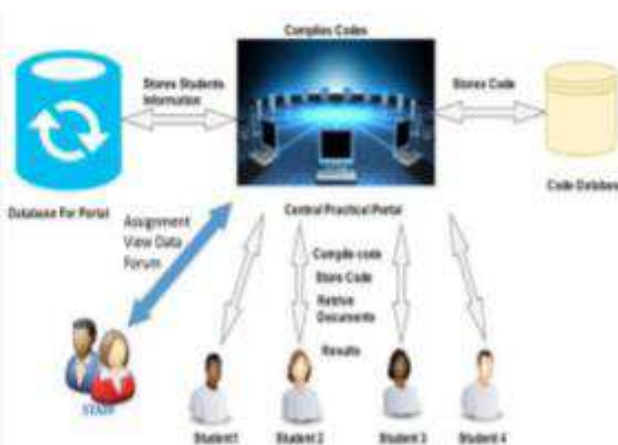


Fig1. Overall System flow

Compiling and running the programs will be executed on cloud server so that user will be able to access his own

CONCLUSION

Cloud Computing is a technology which enables the users to utilize the services like computation, storage and data retrieval. The technology can be used without any technical details of the system's configuration and physical location of the network provider. The most approaching idea behind developing this technology is to eliminate the installation of multiple compilers in a device or a system as it is a compiler for multiple-languages. Cloud computing is also known as centralized repository for multiple-language compilers where in, the best feature is user's will have a facility of storing the programs and accessing their files through their registered credentials. Also this technology has a personalized authentication process to maintain the high data security. Cloud computing helps in cost reduction and

reduces waste of paper. Data on cloud computing gets upgraded and updated automatically after regular interval of time which makes this technology more effective and efficient for the user to use.

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