

A Hybrid Online Compiler

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Abstract- While learning various languages, some of the common problems experienced by them included installing compilers and setting paths.. In order to minimize system resources, the programming language should be stored in a directory where it can be accessed without installing any software. Online Compiler is a web tool that enables people to modify and execute code without requiring any software. A remote user can create programs and compile them from the servers. Online Compiler proposed system's main idea is to help students who want to learn programming language without installing a compiler in their system. This application works on the web which works online. Various testing has been done for the proposed system and the implementation of the proposed system was carried out successfully.

Keywords- On-Com, Cloud compiler, Online Compiler, C compiler, C++ compiler, Java compiler, Python interpreter.

I. INTRODUCTION

An online compiler is an online system to test programs. The system can compile and execute code, and test them with pre constructed data. The output of the code will be captured by the system and compared with the standard output. The system will then return the result.

This application can be used to write a program, compile and debug it online. In this proposed system, users have four online compilers namely, Online C, C++, Python and JAVA compiler. These compilers provide an online compiler service, so no need to install a separate compiler on each PC

II. LITERATURE SURVEY

The authors Shubham Chourasiya, Sneha Gadhave, Tushar Bhatt, and Renuka Kulthe [1] speak about "Online java compilers with editors". A Java program is written and compiled using the compiler. If a user doesn't have a JDK, JRE then he can get connected to the server having a security editor which encodes and decrypts the file. The main aim is to simply write a program and compile and debug it online.

Mehare Suraj, Paliwal Poonam, Pardeshi Mangesh, Begum Shahnaz [2] speaks about "Private Cloud Implementation for Centralized Compilation". Separate their programs. The programs are then stored on the cloud and compilers of Java, C, C++ and assembly language will be installed on the cloud and the clients can use those compilers for the compilation of codes. The codes will be compiled centrally and the results will be displayed on the application.

Shan A S, Mr. Jithin Babu [3] speaks about "Online Language Compiler Using Cloud Computing for

Android Mobile Online Programming" allows the user to write and edit the compilation of the programs which will be managed by the cloud by forwarding the request to the required processor. The user can select their own programming language while compiling program/code is written and sent to the respected compiler.

The authors Sajid Abdulla, Srinivasan Iyer, and Sanjay Kutty [4] introduce that software would be provided to the end user using a SAAS cloud. It aims to create an online compiler that helps to reduce the problems of portability of storage and space by making use of the concept of cloud computing. This provides a terminal to write a code and thus compile it using a private cloud. The errors and output of the compiled program can be stored conveniently.

The author Ansari Mohd. Arshad, Khan Arshiya, Shaikh Sana, and Mirza Zainab [5] deal with the creation of an Integrated Development Environment for different languages to code, compile and run the code using browser-based IDE. Cloud computing introduces a major change in how users store information and run applications' users can compile and run the program and save it. Any authorized user can access their documents and applications from any computer over any Internet connection.

1. Summary of Literature Survey:

Thus, by referring to all the papers, the analysis made is that there are many compilers that compile various programming language code into others but only one language is compiled to another. Some of them require a centralized compiling scheme. Every Compiler is needed to be installed on the individual system in order to compile the code. This results in wastage of memory. Few Compilers in existing systems are online but can compile only one particular programming language. Thus, the

proposed system is a smart hybrid compiler which can compile multiple languages on a one platform.

III. PROPOSED SYSTEM

The main aim of On-Com is, Users can easily write a program, compile and debug it online. This proposed system has four online compilers namely, C, C++, Python, and JAVA. These four compilers provide an online compiler service, so no need to install a separate compiler on each PC. The user can download his code after compiling. Users can switch between the languages. Users can modify the program after he encounters the error.

Users can switch between the themes. The design is user friendly and any kind of user can make use of it without any difficulty. The online compiler frontend was developed using HTML5, CSS 3, JavaScript and for the backend development Python3, C, C++, Shell were used. Python Django (Version:2.5) was used for the web framework. The proposed system has five modules. Each module has its own functionalities.

First module Permits the user to write code in C programming language the Code will be compiled by the C Compiler and the compilation result will be shown by the Compiler on the output screen. The same procedure follows for other modules like C++ and Java. Fourth module Permits the user to write code in a python programming language and the Code will be compiled by the python interpreter followed by The compilation result will be shown by the interpreter on the output screen. The final module is basically used to download the written program code into a text file with the particular programming language extension.

IV. RESULTS

1. Hosting on Internet:



Fig 1. Hosting on Internet.

The main aim of On-Com is the website will be available online and users can use anywhere on any device. So, to

make the localhost available online on the internet SSH tunneling is used and localhost.run will generate a URL which is available across the internet.

2. On screen C programming:

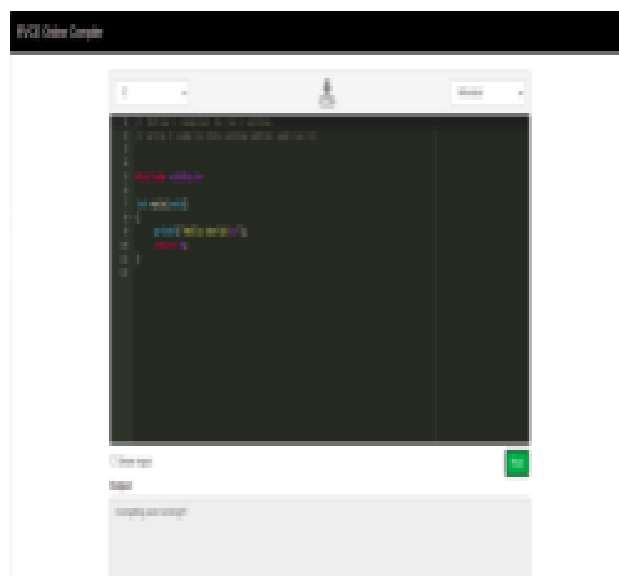


Fig 2. On screen C programming.

This is the default code for C programming. Users need to select language in the dropdown menu and the default code for each programming language will be present in the code editor. Users can edit the code, compile and execute using the run button.

3. Download of Python Code:

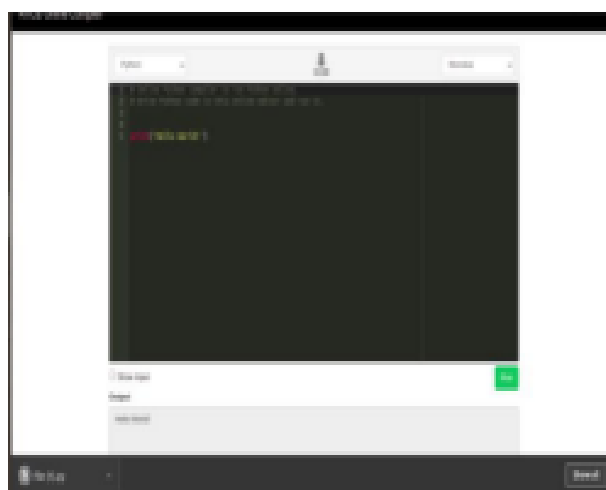


Fig 3. Download of Python Code.

Users can download the code which is written in the code editor. The program file will be downloaded with the extension .py for python, .java for java, .c for C and .cpp for C++ programming.

4. Different User Interface:

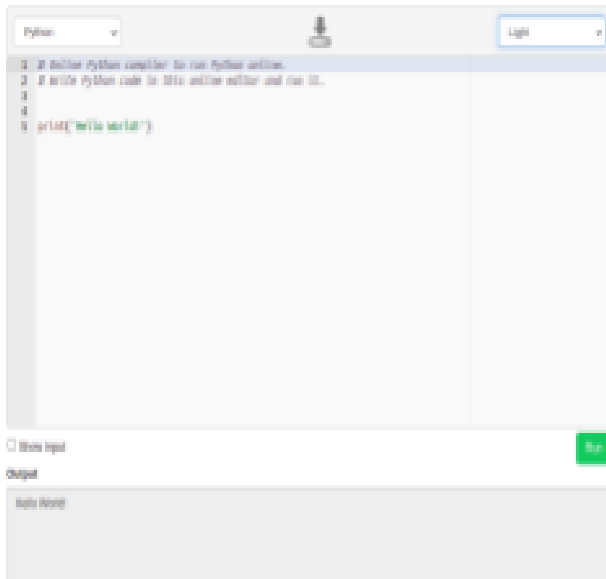


Fig 4. Different User Interface.

Users can switch between different themes for better user experience. There are 4 different user interface themes in this proposed system.

V. CONCLUSION

This proposed system will eliminate the need to introduce the compilers independently, along these lines it causes a developer to get the prompt or the utmost helpful device to incorporate the code and eliminate the errors at the centralized server. This can be concluded by the proposed cloud compiler is thought to be the best performer among the different compilers and it is simple to use and user friendly.

Users will be able to run programs of various languages and the results are compared with standard output. This proposed system will help students to code online without any installation of software or compiler. The code can be downloaded so that the user can get help out of it.

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