

Web Based Multi-Language Programming Compiler

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Abstract—Programming is one of the essential areas taught in university studies of Computer Science and other engineering degrees. Web based multi-language compiler is able to compile all types of platforms viz. C, C++, JAVA, C#. This compiler is itself a powerful tool to handle multiple languages, so there will be no need of having multiple compilers available on a machine. At present, it is necessary to install multiple compilers to be installed on the machine for compiling the user program. This tool eliminates the need for installing multiple compilers on a machine. It supports the compilers of C, C++, JAVA and C#.

Keywords—Online Code Editor (OCE), Online Compiler, Web Based Editor, Multi-Language Editor, Code Editor, Codepad.

I. INTRODUCTION

At the time of learning languages like C, C++, JAVA etc. the beginners have to install different compilers on the machine. Sometime user has to face the problem of configuring the compiler for executing the program. Secondly if they want to execute the same program on the other machine then they need to do the same procedure of installing the compiles for executing the program. To solve these problems, the WBMLPC(Web Based Multi-Language Programming Compiler) is a powerful tool for compiling the source code written using different platforms.

II. WEB BASED MULTI - LANGUAGE PROGRAMMING COMPILER FOR LEARNING PROGRAMMING

Nowadays, programming is one of the essential areas taught in university studies of Computer Science and other engineering degrees, as well as in diplomas of Computer Science. At present, it is a knowledge acquired through theoretical classes and the practice with different tools for programming such as editors, compilers, linkers, debuggers or interpreters. In addition to this we find teacher tutorial classes. Being included in all programming subjects, compilers generate the executable programs made of the instructions written by the programmers. Compilation is a process carried out

by means of the succession of a set of operations through which, using the instructions written in a programming language, we obtain the code written in another language that is understood by the computer. This is how we obtain executable programs. The Web 2.0 is at its very peak, this fact and the change in the web navigators' function allow to make use of them as production tools such as text editors, spreadsheets or, as we expound in the present work, a compiler. In this way we can move a Multilanguage IDE from a computer to a Web page. Web Based Multi - language Programming Compiler - is an application which greatly lightens the student's workload at the initial stage of programming. Its use is especially intended for subjects where the students must learn how to make programs. During this initial period they will neither have to deal with the complexities of the installation and the configuration of these types of tools, nor with the understanding of multiple options which they present. Therefore students can concentrate on the comprehension of programming structures and the programming language to be studied. The use made of the compiler in this initial stage is restricted to create programs from a set of instructions free of errors. The student will have written these instructions and the compiler will have helped to correct them. This way in later stages of the learning process and once the students have acquired the basic knowledge of the programming structures and the programming language, they can start using compilers with more complexities in the installation and configuration tasks as well as with a higher number of options. The knowledge acquired by the students in this first stage of the learning process helps them to get a better comprehension of the use and handling of the compilers.

III. PROPOSED SYSTEM

Web Based Multi - language Programming Compiler interface is simple and intuitive. An interface defines the communication boundary between two entities, in this case between the students and the

application. The concept is completely online application. The editor present on the web site, user first registers the site and then gets the ID and PASSWORD. Input the ID and PASSWORD on user login page shown in Figure 3.

After the student identification, s/he must choose the programming language with which s/he is going to work. This can be performed from the selection language menu. Figure 4. Once the programming language is chosen, the screen on Figure 5 will be displayed. The tabs menu located at the top of the screen, offers users the navigation through the editor, the files, the tutorials and other sections. Working of the editor is shown in Figure 1.

The students can manage their files using the available options. They can also load files in the server and work with them. Under the tabs menu, the tools bar can be found, whose options make it possible to work with different files and the code. After saving the file, compile program. Then the window will display the error message or success message on screen.

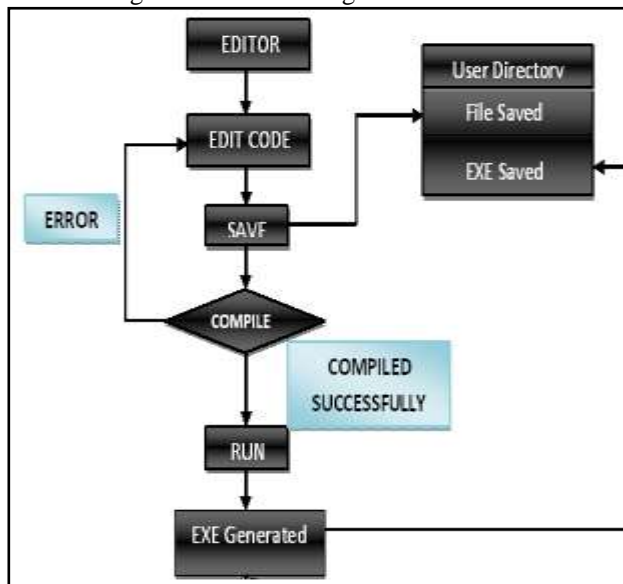


Figure 1.Flowchart for editor

During compilation and execution of program the server will work as shown in figure 2.

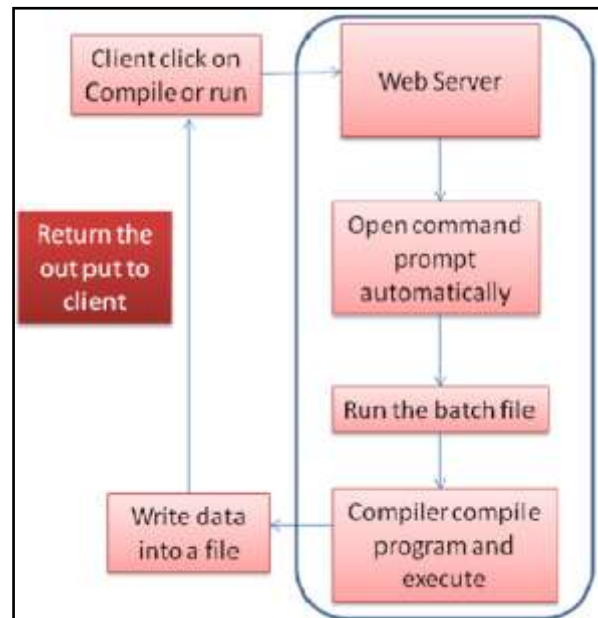


Figure2.Working of server

The output of the program will be display on command prompt. As its any web based application, so in a case where number of programmers working any different location need to contact other members or need to share their code with each other. So to make it possible, we are providing features of Group Chat & Code Sharing, where members sitting at different location can share their code & executable files. Figure 6 shows the screen for Code Share. For the help of new Programmers we have provided the facility of online tutorials as shown in Figure 7. An admin login account is there which currently is only been able to monitor the login & logout session.

IV. EXPERIMENTAL RESULTS



Figure 3.Login Page[8]

Figure 6 .Code Sharing[8]



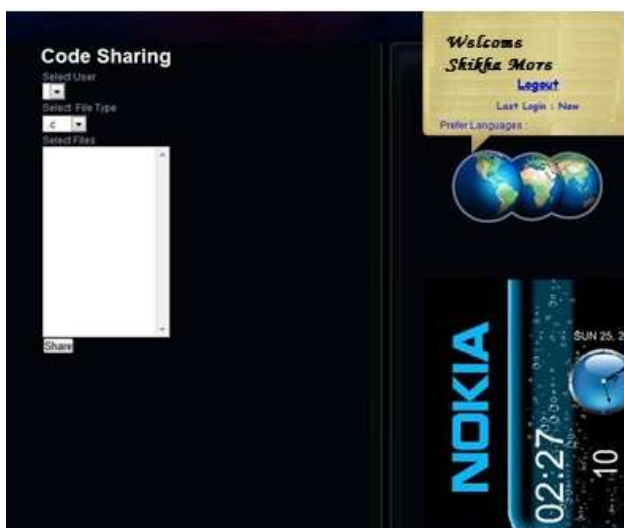
Figure 4.Language Selection[8]



Figure 7 .Tutorials [8]



Figure 5 .Code Editor[8]



V. CONCLUSION

This work proposes an interesting initiative in the field of e-learning: to portray interactive applications on-line for didactic use. A simple compiler accessible from the Web provides students with an easy way to learn at the initial stage of programming studies. Web Based Multi - language Programming Compiler makes use of multimedia contents to support teachers in the teaching process. These contents show how to work with the on-line compiler and with the programming language. Apart from these there are further advantages, such as having at students and teachers' disposal the compiler through the Web and the possibility of making use of it at any time and from any computer with an Internet connection. Thus barriers of time and space are eliminated. Students will have access to the compiler, the contents and the files with which they have been working. Besides, there is no need to save the work in store devices or to install software. To have remote virtual laboratories increases their efficiency and reduces the costs of the resources used in learning. Web Based Multi - language Programming Compiler could not compete with the powerful traditional IDE's due to its limitations for the expert software development, but undoubtedly it fills the void that exists in the area of teaching programming at the initial stage.

REFERENCE

- [1] Cayetano Guerra Artal, Maria Dolores Afonso Suarez Idafen Santana Perez, Ruben Quesada Lopez, "OLC On-Line Compiler to Teach Programming Languages" International Journal of Computers, Communications & Control Vol. III (2008), No. 1, pp. 69-79.

- [2] P. Brey. "Evaluating the social and cultural implications of the internet". Volume 35, Issue 3 (September 2005). ACM Press.,pp. 240-270.
- [3] Lawson, E.A. Stackpole, W. (2006). "IT education - online education." 7th conference on Information technology education SIGITE'06. (October 2006). pp 30-47.
- [4] R. Rheeder, R. Diseko, G. Lautenbach. "The design of interactivity for a web based learning environment at a higher education institution." IADIS International Conference e-Learning" 2007.pp 111-117.
- [5] W. Nejd, M.Wolpers "European e-Learning: Important research issues and application scenarios".L3S Research Center and University of Hannover.pp 35-48.
- [6] K. Fraser. "A blended Learning Approach to Teaching" Introduction to Multimedia", The E- Bit! .AISHE Conference 2006.pp 147-152.
- [7] H. Samaras, T. Giouvanakis, D Bousiou, K. Tarabanis. "Towards a New Generation of Multimedia Learning Research".AAE Journal 2006. pp 38-45.
- [8] Figures from "Web Based Multi-Language Programming Compiler", Project for B.E. Final Year, R.T.M Nagpur University