Hybrid Compiler

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Abstract: typically for executing the program of any language basic necessity is that particular language compiler must be installed on machine. Now for executing programs of different languages it becomes overhead of installing each compiler. How good it would be if all these compilers are installed centrally and could be accessed using various mediums, from these evolved an idea of hybrid compiler which is described in these paper, hybrid compiler in the sense describes the idea of integrating the compiler of different languages under one roof and making them accessible through various mediums like sms, Bluetooth, internet etc. also an android application of same compiler is implemented so that we can execute the program remotely and receive output or any error message on the mobile itself.

Index Terms: Simple Compiler, Hybrid Compiler, Bluetooth, Android Applications.

1 Introduction

TODAY there are huge networks due to increase of computer use. This network consists of a server and many clients. The network needs an administrator to handle the server and a client. The administrator has to do it manually with the help of keyboard and mouse. If he wants to pass a message to a client he has to give the command manually as of what operation he wants to do with the client. This network handling process cannot be done remotely as when the administrator is not the system he cannot handle the network which makes his presence compulsory. Today in order to execute a program from any programming language we need a compiler and editor on the system where we intend to execute the program.

1.1 Current System for Compiling a Program:

Today to compile a program we have to have a JDK (java development kit) and JVM (java virtual machine) installed on the system where we want to compile a program. Then we need to have editor on the system where we can write a program then we have to save the program manually to a folder from where later it can be compiled. Then we have to open a command prompt where first we have to set the path where the program is saved. Then we have to compile the program first. If there are any errors in the program we have to go to the editor again and make changes to the program and save it again. Then again we have to compile the program. Then after no errors we have to use JAVA command to run the program and view the output. For any changes in the output we have to go to the editor and make changes and fire JAVA command in the command prompt to view the changed result. Thus this makes java programming more tedious. In the same way for running the program of different languages different compilers need to be installed on the system.

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2 Limitations of Traditional System

1. Existing system is administrator dependent; Administrator has to perform the tasks on the network manually on sitting on the server.
2. Existing system is compiler dependent. Compiler should be installed on each pc in order to run the application.
3. All commands to compile and run are to be typed by hand.
4. The program should be saved manually every Time.
5. The programs cannot be executed remotely i.e. without sitting on the system or pc.
6. We have to set a path to the server if the computer is in the network. So if the server is not available we cannot run the application as no compiler is available.

3 Proposed System

When trying to find appropriate solution we thought of developing administrator presence network control using a mobile and also we thought of developing a compiler free program execution environment which will support a LAN, WIFI network and a GSM and Bluetooth based phones.

3.1 Architecture

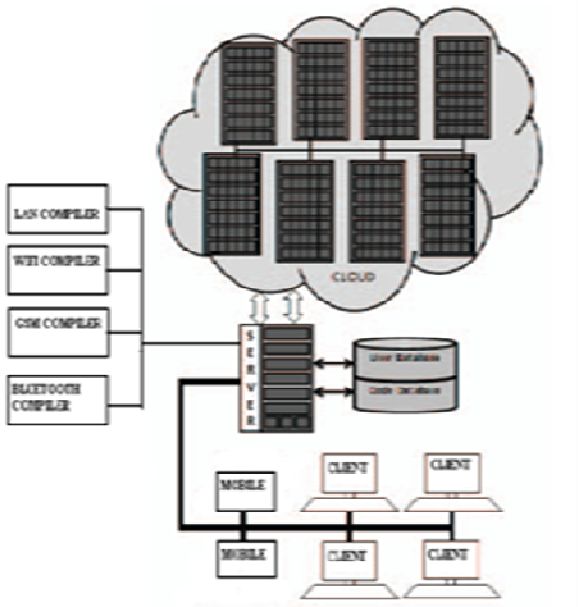

Fig 1: Architectural Diagram for Hybrid Compiler

3.2 Working

There are mainly four user classes:

3.2.1 GSM phone user :

In this user class any person can control network and compile a program by just sending message to the server and get a reply of the output back from the server.

3.2.2 Bluetooth phone user :

In this user class any person can control network and compile a program by using the Bluetooth available on the phone and send it to the server and get a reply of the output back from the server.

3.2.3 LAN user :

In this user class a client connected to the server via LAN can write a program in the project editor and send it to the server and get the output/ error back in the editor.

3.2.4 WIFI user :

In this user class a client connected to the server via WIFI can write a program in the project editor and send it to the server and get the output / error back in the editor

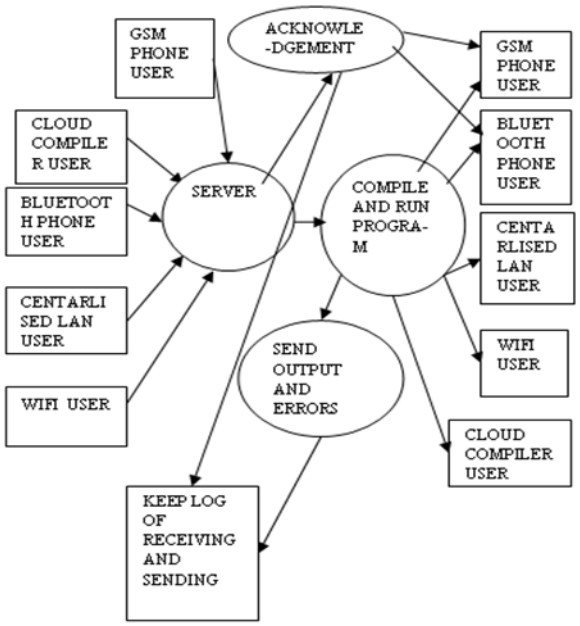

Fig 2: Working of Compiler

4 USE OF THE PROJECT

The purpose of this project is to integrate compilers of various languages at one central location and make them accessible to the user through different mediums. This becomes very useful application for students to become familiar with different programming environments and also helpful in companies to handle their project remotely. This application would be also very useful for conducting online university examinations.

4.1 Project flow.

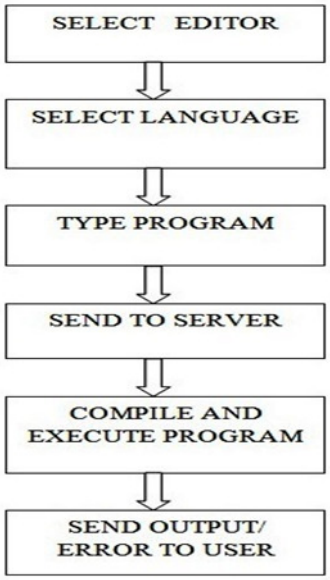

Fig 3: Flow of Hybrid Compiler

5 CONCLUSION

By integrating and enhancing the capabilities of different technologies we have developed an application which would help in ease of program execution. One of the main goal we have achieved is we can calculate the time required for program execution accurately which is not possible in standalone computers.

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