Android Based Online Java Compiler using Cloud Computing

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Abstract— The number of smart phone users and mobile applications are growing rapidly. The number of smart mobile users using the social application but it not providing pc like functionality. The android phones provided the hardware resources which remains still limited. The android phones does not compile the java program because of hardware limitation like CPU power, memory, battery life. To solve this problem, connect the smart phones to powerful cloud server. In our paper we uses the SAAS service for Online Java Compiler. SAAS is compatible services of cloud computing. It means so many services providing in cloud. Our propose system deals with the Online Java Compiler in android phones. We are using SAAS service it uses the java software in cloud server and accessing that software through the smart phones and executing the program in smart phones. It improves of our smart phone significantly in terms of execution time and energy consumption.
Key words: Java Compiler, CPU power

I. INTRODUCTION

It is a competitive world and very fast world everything in the universes is depends on internet .In this internet world all the things are online so we created software called Android based Online Java Compiler using Mobile cloud computing. Cloud computing is an internet based computing which is enables to provide convenient as on demand network access. Which provide cloud computing environment specifically for smart phone users.

We proposed system that without installing software in smart phones and accessing that Java software through the cloud server. We are using the java software in cloud server and accessing to allow smart phone users to easily tap into the power of the cloud and to free themselves from the limit of processing power , memory and battery life of a physical smart phones.

In proposed system using the java software at server side and connect through the internet that using smart phone run the java program inside the cloud server. In our paper, we can easily write a java program on android phone and compile it on online java compiler. The client machine does not require java development kit.

The output of the code is store in most convenient way. Also, the trouble of installing the compiler on each system is avoided.

II. PROBLEM DEFINATION

In this paper, we are using cloud computing for Online Java Compiler. Cloud computing provides the cloud services but android smart phones have less functionality so it cannot utilize this cloud computing resources because of their hardware resource limitation.

We proposed system that without installing software in smart phone using and accessing that software through the cloud server .We are using the java software in cloud server and accessing that software through the smart phone cloud computing using android smart phones. We are implement Software as a Service for cloud computing. It is providing the

Service for using the software services. Android mobile user can utilize SAAS service from the cloud server, without installing the software in the user android mobile, so we can compile java code using android smart phones .It provides the portability for the user to compile programs. It reduces the time for the user, compiler code analysis that effectively reduces the transferred data size.

III. SYSTEM ARCHITECSTURE

fig1. System Architecture

Fig. 1: System architecture

This architecture of online cloud based java compiler is consist of various component such as an android user, server system and SAAS platform which is used to compiled the code send by the user. The working of this compiler is as follows

In this architecture, user is able to create an user account with user id and password, that means this system can provide the authentication to an user .If the user is authenticated then he/she is able to write the code on eclipse editor .When the code writing is completed then user can send this code to the server .At server side SAAS platform is used by using this platform the code send by the user is compiled. This SAAS platform can compile the code if any error occur then it send error message to the user with line number. In this user is able to correct that error send this code again to the server. If all errors are get removed then it compiling the code and it send this compiled code the user in an output form.

This working of an system can be illustrate using the sequence diagrams
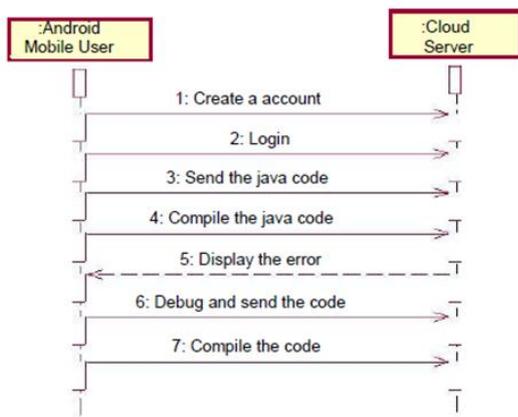
Fig. 2: Sequence diagram

This sequence diagram gives the description of our system. After registration user can login with user id and password, then send code for the compilation, server can compile the code give the compiled code to the user.

IV. IMPLEMENTATION

This picture shows the register window of our project. Using this page user can able to register the users. This page includes the information about user.
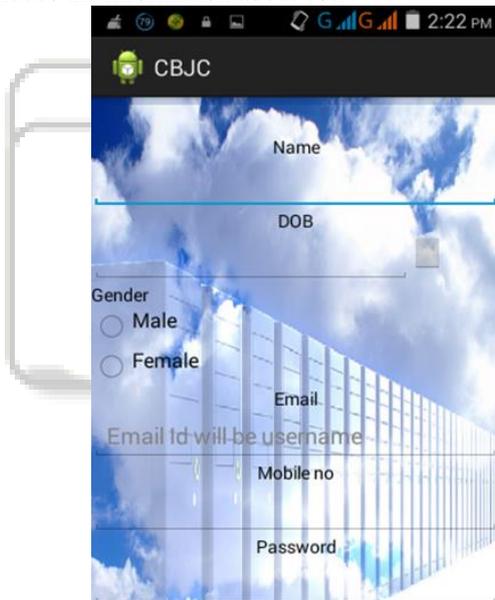

Fig. 3: Registration window

This picture shows the home page of the system. From this option we can choose the one of the option .Compile code, my code result, challenge code and my solution options are present in this page.

Fig. 4: Home page of system

After access of server user can write the code here. It shows the eclipse editor to write the code.
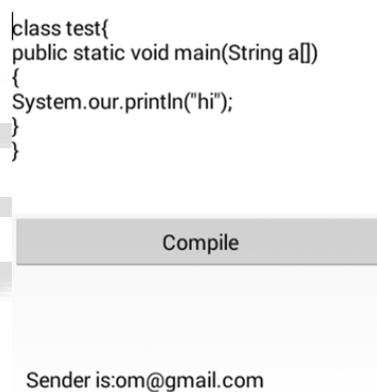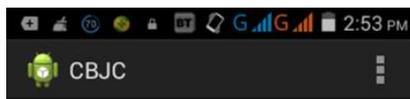

Fig. 5: Eclipse window

If any error occur in the code this window shows the error message to the user. After that user can correct that errors and that code send to the server for compilation.

```
class test{
public static void main(String a[])
{
System.our.println("hi");
}
}
```
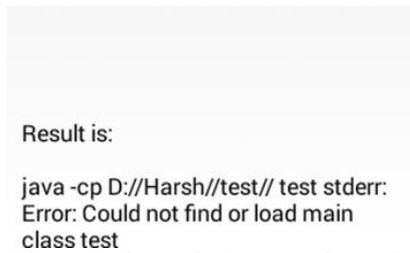
Result is:

```
java -cp D://Harsh//test// test stderr:
Error: Could not find or load main
class test
```

Fig. 6: Eclipse window to write code

This window shows the result of the compiled code.


```
class Hi{
public static void main(String args[])
{
System.out.println("Hi");
}
}
```

Compile

Challenge

Select friends mail

om@gmail.com

```
java -cp D://Harsh//test// Hi stdout:
Hi
```

Fig. 7: Compiled code window

V. CONCLUSION

In current scenario each machine need to install compiler separately. This would eliminate the need to install the compiler separately. Another advantage of this scenario is that without installing software in mobile devices accessing that software through cloud server. We are using java software in server and accessing that software through the mobile device, improves the performance of our mobile cloud computing significantly in terms of execution time and energy consumption.

VI. ACKNOWLEDGMENT

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