

Online Compiler using Mobile Cloud Computing

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Abstract: During the recent times we have seen the rapid growth in the usage of smartphones. As we know, smart phones should possess PC-like functionality, but hardware resources such as CPUs, batteries and batteries are still limited. In order to overcome this resource problem, we connect the phones to cloud servers to transfer their computational burden to the servers. There are many researchers who have proposed different architectures to use resources of the server in the cloud for mobile devices. In order to overcome this resource problem, different researchers have proposed different architectures to use resources of the server in the cloud for mobile devices. We propose a conceptual architecture of mobile OS as a server Platform, which enables user mobile OS applications on cloud server via network. Mobile OS is mainly designed for physical smart phone and are useful to construct a server platform. Here we propose system in which we don't require to install the software instead we access the software through a cloud server. In our project we will use python software in server and will be accessing that through mobile cloud computing which improves the execution time and energy consumption significantly. Before the remote execution we need to perform two tasks viz. code partitioning and state migration. We are using software as a service. SAAS is a method of software delivery with the help of which we access software and its functions remotely as a web – based service.

Keywords: - Compiler, mobile computing, software as a service, cloud computing, web services

1. Introduction

Cloud computing is an internet-based computing which provides convenient as well as on demand network access and also provides the SAAS platform. The number of smart phone users and mobile applications are growing rapidly. There are various developers who construct many kinds of applications for various platforms. There is a huge number of increase in smart phones but they don't provide pc like functionality because of the limitations like battery power, processor and large memory. In order to overcome these limitations, we proposed a conceptual architecture of operating system as a server platform. It enables user to access the cloud services via network. In this paper, we propose a system that instead of installing software in mobile device we access that software through cloud server.

We can use mobile operating system as a server platform which enables many users to use resources on remote cloud server. Here we are using mobile operating system as a server platform because those are able to run not for smart phone but

also for x86 platform.

2. Problem statement

In the upcoming area of real world of study cloud computing is the next big thing. It provides the cloud services. In order to utilize the resources computer like hardware is required. Due to limitations of hardware resources in smart phones as compared to PCs, their functionality also suffers. Till the date, cloud computing is a job not meant for mobile devices due to the complexity as well as the fact that mobile internet connection to connect to remote network is not easy also hinders it further. This along with the lack of cloud integrative mobile applications causes user to face many problems regarding the cloud services. So our problem statement is that to implements Cloud Computing Architecture for Mobile Devices. User can utilize software as a service Process from the cloud server, without installing the software in the user mobile.

3. System architecture



Fig. 1. System architecture

In this python program, some actions like login, creating Program and then saving, reset, updating error checking and executing are supposed to be performed first. In this program login is done first using user id and password. If either of user id or password is wrong, the login access will be denied otherwise it will go to next page. After that python program is created by the user which is saved and then followed by compilation procedure. In this procedure of compilation program is compiled on SAAS server, if an error occurs, the error message will be given to the user. Then updation of that program can be done and once the compiling process is completed, it will automatically generate class file on server. After the completion of compilation process, the execution

takes place where the output is shown on user mobile OS in which a proper internet connection is required.

4. Implementation

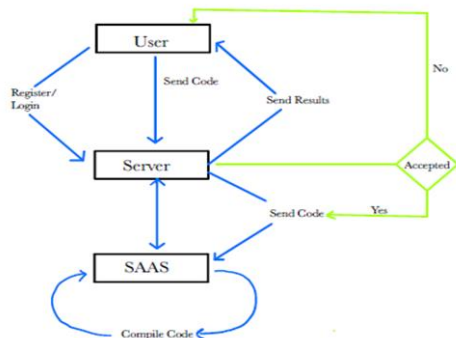


Fig. 2. Implementation

The entire description of the system is given by above figure. As shown in the fig., firstly the registration process is carried out by the mobile user. Client is able to login to the server only if he/she has a login id and password. Once the access is granted to the user, the code can be sent to the server. Then this code is sent by the user to the SAAS. Compilation of code is carried out at this SAAS platform code which is followed by sending it back to the server. After this the compiled code is sent back to the client.

A. Databases

MYSQL is used for implementing the application or for the backend process of the application. The application is based on Data mining concept. SQL is a special-purpose programming language designed for managing data held in a relational database management system (RDBMS).

B. Important module and algorithms

The technology used for designing and implementation of this project is python. We use the C4.5 algorithm. This algorithm is used for classification of objects.

The C4.5 algorithm is used to generate decision tree from a dataset.

The PyQt module is used for designing the GUI. For designing QtGui, QtNetwork, QSql, QApplication, QWidget, etc. objects are used. PyQt is a GUI widgets toolkit. It is a Python interface for Qt, one of the most powerful, and popular

cross-platform GUI libraries. PyQt is developed by the British firm Riverbank Computing. It is used to create Graphical user interfaces with Python. The PyQt API contains more than 20 modules which have more than 400 classes. PyQt is an advanced GUI toolkit. It has a rich set of widgets.

5. Future scope

This system can be further used in centralized infrastructures where users can be provided with mobile operating system with their own level of security as well as application level management as needed by the organization within the premises of their infrastructure without internet and over the air.

6. Conclusion

The project aims at creating & compiling Python code in the cloud. As compared to the current scenario where each machine need to separate installation of compilers. This would eliminate the need to install compilers separately. So we can check our code at the server. Advantage of this project is that whenever the compiler package is to be upgraded it can be done easily without again installing it on each and every machine.

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