ANALYSIS AND REPORTING OF PROGRAMMING SKILLS USING MOBILE CLOUD BASED COMPILER

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Abstract

Cloud Computing is a growing technology which enables on demand network access to resources . In mobile cloud computing there is access to remote servers rather than local servers using portable devices and it is also shaping new environment for computing where user is free to move while working and there is no need to work at a specific location . Installing compiler manually is very crucial task because it consumes lot of space. In this paper mobile cloud based compiler is used to compile and execute programs which is hosted on private cloud. We can use this compiler remotely through any network via smart phone or any portable device which will help us to avoid installation of compilers on every machine.

Key Words: *mobile cloud computing, cloud serve ,compiler, private cloud.*

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1. INTRODUCTION

Cloud computing is a rapidly growing technology that shares computing resources and provides them to other devices on demand. Thus, it reduces the cost by providing access to shared resources, you don't need to spend money on hardware, software or to buy expensive software licenses. Cloud computing services are also offered based on consumption of services this is beneficial for industries which may face boom and quite times in their business. Cloud also removes the need for you to be in the same physical location. Small companies can store their information on cloud which helps them to reduce the cost required for purchasing storage devices.

Instead of hosting services on your own device, cloud computing enables users to use a service over the internet and also to store any information .One prior condition requires to access any information from cloud is that you should have internet connection. Cloud allows to access information and computer resources from anywhere provided that network connection is available. There are different types of cloud available such as private cloud, public cloud, hybrid cloud and community cloud, you can subscribe to any one of these depending on your requirements.

This Paper aims to describe a mobile cloud based compiler which is hosted on private cloud. Private cloud is dedicated to single organization and it is best for the organization where computing needs are unpredictable. This compiler provides compilation and execution services to the remote user enabling user to write code even from their portable devices such as smart phone.

1.1 Mobile Cloud Computing

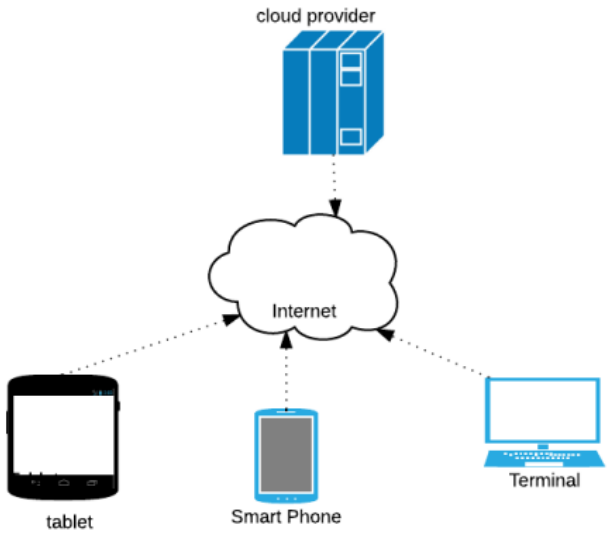

Fig 1: Mobile Cloud Computing

Now a days' mobile devices are essential part of life. They provide access to resources anytime, anywhere. . Combination of cloud computing and mobile computing is nothing but mobile cloud computing. It have features of both. It support various type of cloud base services. Mobile cloud computing is an infrastructure that supports data and outside data processing of mobile devices.

It is used in various applications like gaming ,e-learning , health care.

Advantages of mobile cloud computing are scalability, multithreading and improved reliability.

Smart Phones, Google Map, Gmail, GPRS are already using this mobile cloud computing to enhance the user facilities. For mobile cloud computing we need phone with a internet.

In case, if we want to launch any new application there is no need for customer to every time update and purchase hardware and software. Customer don't need to pay for features that they do not use.

2. LITERATURE SURVEY

More and more people carry smart-phone so we can use cloud compiler which can be used in education system where user can write programs on their smart-phones and get it execute it[1].

We can easily write a java program and compile it and debug in on-line. The client machine doesn't having java development kit. The paper aims to describe a compiler which helps to reduce the problems of portability and storage space by making use of the concept of cloud computing[2].

Online compiler which has ability to use different compilers. It allows the programmer to pick up the fastest or the most convenient tool to compile the code and remove the errors. Moreover a web based application can be used remotely through any network connection which is platform independent[3].

The web based IDE can be developed to code in the cloud. Users can do programming in various languages like C, C++,Ruby by using web based application[4].

An application for JAVA and .NET languages has been developed. Moreover, a web-based application can be used remotely throughout any network connection and it is platform independent[5].

Cloud Documentation and Centralized Compiler for Java and Php. paper suggests a project that mainly deals with the creation of Integrated Development Environment for the java language to code, compile, run, test and debug the code using the browser based IDE through the Internet and a web browser[6].

We can create a private cloud over intranet for centralized compilation of codes of languages[7].

3. SYSTEM ARCHITECTURE

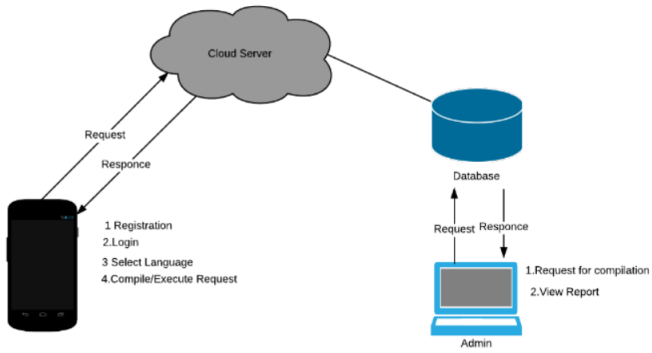

Fig 2: Architecture

This system consist of three main modules:

1. Android User 2. Administrator 3.Cloud server

1. Android User- Each android application user is provided with user id and password to access android application. Once user is authenticated then he/she can access the application. After successful login user can see whether administrator has assigned any task to him/her if yes then they can perform intended task. User can write code in any programming language which is available in that system after writing code user can request for compilation to the compiler which is present on cloud. If compilation is done successfully then user can request for execution and the final output will be available to user on his/her smart-phone screen.

2. Administrator- Administrator has the authority to manage all the activities. Like user, admin can also register and login to the system .He/she can assign tasks to the single user or group of users by selecting required option. Admin can also request compiler for compilation and execution of programs.

3. Cloud server- compilers are hosted on cloud server.

4. FUTURE SCOPE

This project can be used in colleges for maintaining records about students performance in college regarding assignment submissions, this can also be used in other institutions which offers computer programming training. IT industry can also use this project so that their employees will have more flexibility for writing code that is they can use smart-phones to write their code there is no need that they should write their codes on desktop. As everyone can write their code from smart phones you can write code from any location i.e whether you are at garden, office, gym, train etc.

5. CONCLUSION

Cloud computing is technology which is rising rapidly. All services provided by clouds that we can access through mobile platforms as we are using mobile cloud computing. In Today's world everyone is carrying smart phones and tablets for personal or business use , by taking benefits of these technologies we are implementing a project 'Analysis

and Reporting of programming skills by using mobile cloud based compiler'.

Our implementation is a private cloud on which the server would be hosted. An android application would be provided to the end user. The application will have a text editor and a terminal. The user would be given an option to select the language in which he wants to compile the program. It will send a compile request to the compiler on cloud server and return the output to the user..

As compared to current scenario for writing a program everyone required a desktop or laptop. So in this project every android user can write/run/execute program through their smart phone.

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