Mobi-Educloud: One Step Forward for Educational System

Savi Moundekar[1] Prof.S.B.Guja[2]
[1,2]NBN School of Engineering

Abstract— in this paper, the concept of mobile cloud computing in regard with the education system is explained. From last several years, Information Technology has changed the human life to another dimension. The major contribution can be given to the introduction of the concept of cloud computing. Basically Cloud computing is an internet based computing service. These services are utilized for working on the immense data stored over the internet. Rather than just storing the data these services can also be used for communication and various other activities. Taking into picture the scenario of the most popular handheld device i.e. the mobile phones, it is considered as the most effective and convenient method of wireless communication. As moving forward with this advance and techno savvy world we can make the best use of mobile and cloud to make great changes in the educational system. Due to the rapid growth of educational institutions all over the world there is a need of developing cloud architecture which can help storing and processing large data produced by these institutions. The solution for storing the educational data into more systematic manner is Mobile Cloud Computing and it can be reached out easily to all kind of people in all regions regardless of any time and place constraint, this can raise the quality of education system to a new level.

Key words: Mobi-Educloud, Educational System, MCC

I. INTRODUCTION

The Concept of Web Services is not new to the world, it has been from many years into this environment to help users for various activities, the basic idea of web services is based on the client-server model to exchange information, and some new innovation in these web services is Cloud Computing. It has been one of the most prospering technologies among the professional of Information Technology and also the Business due to its Elasticity feature in the space occupation and also it provides better support for the software and the Infrastructure it attracts more technology specialist towards it.

What is Mobi-Educloud? It is a concept of a combination of Mobile with cloud this deals with the idea of use of mobile rather than the traditional system of only using computers for cloud services. And Educloud is nothing but a cloud service that will provide contribution in the education system. Basically in this paper different methods will be discussed on how the cloud services merge with the handheld devices for faster communication.

This part of communication using cloud is carried with a technique called Mobile Cloud Computing (MCC). MCC is the combination of mobile computing, cloud computing and wireless networks to bring rich computational resources to users.

The proposed system in this paper is intended for the communication of users of academic institutions. The administrator is going to handle all the activities in this system but the users also have the right to make changes in the given data, the data can be in the form of text document, audio files or video files. The following diagram will give the overview of how the data can be accessed from the cloud.
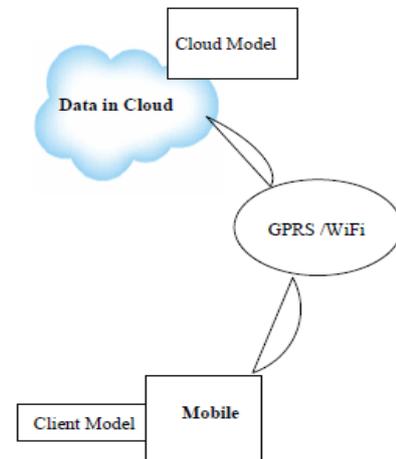

Fig. 1: The flow of communication between mobile and cloud.

This whole system is worked on the SAAS architecture, it is Software as a Service and can be described as "Software deployed as a hosted service and accessed over the internet". This is usually a application program offered by the cloud computing, it is a "one-to-many" model whereby an application is shared among multiple clients, this model is cost savings and add efficiency for both the user and provider.

A. User Interfaces

Each level of user will have its own privilege and interface to manage information. For e.g. the admin can monitor student's progress and make comment on it, student can view the progress and make changes if any. There is a facility for students to give feedback and also ask questions. To minimize the workload of system administrator it provides FAQ system.

B. Administrator Role

Administrator can also individually address each user with submissions, task assignments etc. This is directly minimize the time spent to individually monitor a student. Administrator has the rights to add groups, authorize users, etc.

C. Users and Characteristics

The users of the system are teachers, students and the administrators who maintain the system. The users are supposed to have basic information on how to surf on internet and computer basics. The administrators of the system to have more knowledge on how to maintain the system if there is any small issue then how to resolve it and focus on how better the system could be. The basic proper guidance should be given to students/user on the working of the system so that none of the user could make problems in handling the system.

For this system a private cloud is issued where this cloud is only oriented for a specific institution and only the members under this institution have the rights and access to

this cloud services for the members to use the services they need to be logged in to the system to access information and manage data that is being uploaded by the admin.

Fig. 2: Mobile Cloud Computing Architecture

II. DIFFERENT SYSTEMS

A. Existing System

In any educational system, important notifications, notices, information about any important event etc. are displayed on the notice board. In this manual system there is a possibility of not gathering whole data by the student in case he/she have not seen the notice board thus vital information is missed out by the student. It is not possible to stick every information on the notice board as it has limited space. Every department have their own notice boards so practically most of the time it is not possible for the students or staff to visit every department's notice boards.

B. Proposed System

The proposed system includes maintaining a private cloud in the college premises. This cloud will be installed on the local server (may be a computer). The cloud will host web services (such as broadcast message, n=view notifications etc.). The data related to students is stored on the MySQL database. The mobile application would require connecting to the remote server using Wi-Fi technology or mobile data. The users of this system are students and teachers. Teachers act as an administrator who can post important notifications, messages, notes or any other information regarding academics from their PCs or android app. Students can get instantly get the information on their android app. So, with the help of this system students would be able to gather important updates and notification anytime and anywhere.

C. Aims & Objectives

- User must be able to maintain his/her notes, schedule, to do's, reminders, etc. online using the web service.
- User must be able manage personal problems and notify the admin in case of leave needed.
- User must be able to join a particular group or leave it at will.
- Administrator can also individually address each user with task assignments, submissions, etc.

- Administrator must be able to add groups, authorize users, delete anything if required etc.

III. FEATURES OF THE SYSTEM

1) Manage notes:
The staff members can upload notes of their respective subjects for the students.
Students can upload their own notes to circulate them among their classmates.
The user can modify, add, and delete notes according to their requirements.
This service has medium priority as it will be used on average basis by the users.

2) Assign task:
The HOD can assign the daily task to its department staff and manage it.
Similarly teachers can assign their project task and subject assignments to students

3) Staff-student communication:
The main feature of the system is staff student communication that enables exchange of information between different users.
This feature has maximum priority as communication is the base service of this system.

4) Event creation
Events such as tech-fest at college level as well as cultural events information can be circulated.
Events can be created and managed using this service.

5) Resource/links:
Important links can be uploaded for other users to use.
These can be viewed by all users or group users depending on the access rights provided.

6) Manage to-do:
Students can create their to-do list which can be viewed by them any time which will help them to schedule their work or day.
Priority: Low.

IV. CONCLUSION

In this paper various aspects and models related to mobile cloud based communication are discussed. The software as a service (SaaS) architecture in the system has been implemented. The system provides facilities and various other features which give the user a user friendly interactive communication. Theft of information and misuse of user's account is not possible as all authentication rights are with admin. This creates a feeling of secured and safe communication in the users mind. It is cost effective as communication is done using Wi-Fi technology. Our system primarily focuses on building an efficient and user friendly communication system for the educational institutions. Apart from that, the application would support strong user authentication and quick transmission of data via the web service. Another noticeable feature of the entire application would be that no data would be stored on the user device in any form whatsoever.

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