

Essence of Cloud for Data Transmission Using Virtual Cloud Servers

Sudhakar Avareddy¹, Syed Abdul Haseeb², Syed Tahseen Afsar³, Balgopalkrishna⁴, Megha G⁵

Assistant Professor, Department of CSE, Ballari Institute of Technology and Management, Ballari, Karnataka, India¹

U.G. Students, Department of CSE, Ballari Institute of Technology and Management, Ballari, Karnataka, India^{2,3,4,5}

ABSTRACT: Cloud Storage is an attractive concept in IT field since it allows the resources to provision according to the user needs. It provides services on virtual machine whereby the user can share resource, software and other device on demand. Cloud services are supported by both proprietary and open source systems. The idea is about to provide cloud storage to store and upload the data for students and staff as study material. The designed cloud storage is hosted by Virtual Cloud Servers. The Cloud facilitates staff with a separate and limited space to store and upload data with its own access privileges. The platform used to implement the idea is Ubuntu 16.04 LAMP Stack.

KEYWORDS: Cloud Storage, Cloud Services, Open Source, Internet.

I. INTRODUCTION

Cloud computing is a computing environment, where resources such as computing power, storage, network and software are abstracted and provided as services on the internet in a remotely accessible fashion. The main aim of cloud computing is providing services. It provides resources, such as servers, connections, storage and other necessary tools to construct an application design according to the need of the organizations, making it quick, easy and economically viable. If the services are provided over the internet, then it is a public cloud or an external cloud. And if it is provided within an organization through internet cloud to interact with the clients but keep their data secured, is within a private cloud. In this work we propose and discuss the design and Implementation of the cloud service in college campus. We have seen the implementation of cloud on for college level. We are going to design a cloud setup for institutions like college where request patterns and infrastructure are quite different from commercial settings. The college can benefit significantly from private cloud infrastructure to service its various branches, research, and teaching requirements.

It provides various types of services, some of the important services are SaaS, PaaS and IaaS.

1. **Software as a service (SaaS):** It is a model of Software deployment whereby according to the demand of the customer a provider provides licensed application for the specified time.
2. **Platform as a service (PaaS):** Generates all facilities required to support the complete cycle of construction and delivery of web-based applications wholly available in Internet with built in services so there is no need of downloading software or special installations by developers.
3. **Infrastructure as a Service (IaaS):** It provides resources, such as servers, connections, storage and other necessary tools to construct an application design according to the need of organizations, making it quick, easy and economically viable.

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Website: www.ijirset.com

Vol. 6, Issue 6, June 2017



Fig 1: Cloud Services

The Fig 1 shows the working of cloud services with the cloud clients using appropriate protocols for interaction between the SaaS, PaaS, IaaS.

II. RELATED WORK

The System has been implemented in working platform of PHP, HTML for Front – end and MySQL and JavaScript for database connectivity.

The Modules of this system will visual the user the whole concept of Real time Data transmission, and the working of front – end with databases. The Techniques of the proposed system are used for the display of new functionality for User UI and Acceptance with Softwares.

The Details entered by user are safely stored especially the Password is been encrypted using the MD5 () Hashing Technique. Files been uploaded are separately maintained in a folder in present directory and the upload limit can be modified based on usage by users. The Feedback mechanism is taken out in a very basic way, yet it will cover the concept of SQL for updating the tuples which have been already created.

Girish L S^[1] proposes a process framework for supporting the cloud computing and it is proposed that PaaS clouds would have long term commitments because of unavailability of alternative solutions. To meet the quality of private cloud for college setup for virtual lab effectively as well as efficiently.

Vinay Khedekar^[2] introduces the cloud computing technology for making the private cloud for college setup and its basic concepts for installation. The popularity of the private cloud for college like virtual lab as well as deployment of private cloud is explained. The paper describes various open source software's to deploy private clouds. A comparative study is made about these open source software's based on their architectures and setup. Cloud implementation, programming language, database compatibility and OS compatibility.

III. DESIGN

A. IMPLEMENTATION

The entire system is divided into three main modules: Registration and Login, Upload and Download Section and Feedback.

- 1. Registration and Login:** User needs to register first, and after successful registration, an Email is sent to the Admin with the name and USN of user for the approval of account. Once it has been approved by the Admin, the

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Website: www.ijirset.com

Vol. 6, Issue 6, June 2017

system will allow the user to Login with their credentials such as Email and Password and then the users can login to the system.

- 2. Upload and Download Section:** Users should provide their Name and Description of the file. Uploading of the documents can be done in any format i.e. (PDF, DOC, EXE, VIDEO, MP3, ZIP, etc...) with respect to the max file size i.e. restricted to 10 MB here at present. It can be increased variably depending on the usage via Admin.
- 3. Feedback:** Users can fill-in the basic feedback form about their personal views on the currently developed site by providing their official email – id respectively. The later job of Admin is to query the database and gather the feedbacks given by the registered users.

The Fig 2 (a) below depicts the Data Flow Diagram of Level 1 for Modules Interaction with the user and admin. (b) Shows the Architectural Diagram of whole working mechanism of Cloud Setup starting from the User Registration, Verifying the credentials along with cloud services support.

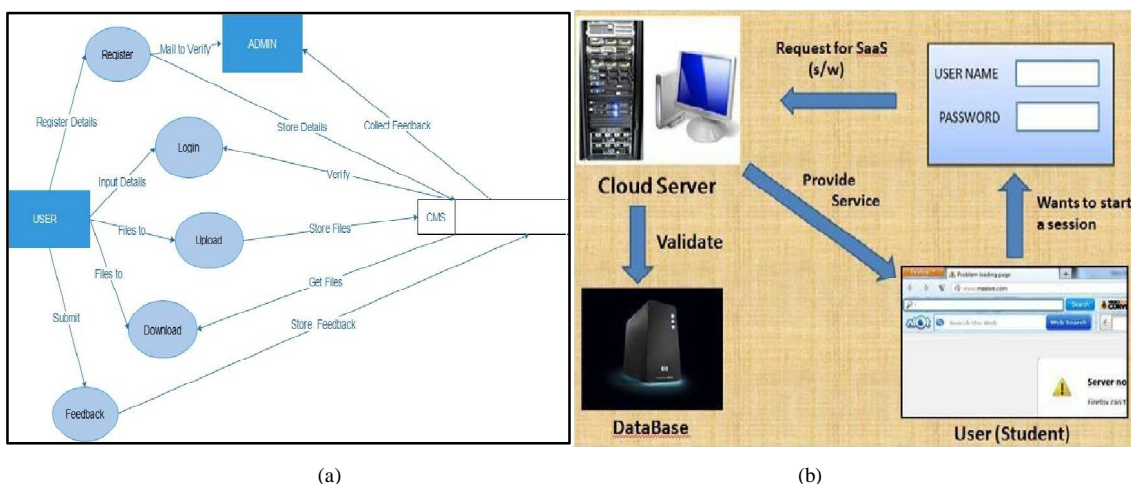


Fig. 2. Design of Cloud Setup (a) Modules Interaction with the Database (b) Working Diagram of Cloud Setup

B. SCOPE

For Colleges, Universities, Schools and other educational institutions having cloud^[3] storage and data backup can make a lot of things easier. E.g. Files can be created, edited, shared and securely stored. All of that content can be backed up so that it could never be lost.

Additional software and platform can be included in cloud for the benefit of students. Softwares as well as platform must be updated with new versions. More features must be added with advance security measures. This cloud infrastructure helps organization for upgrading their facilities and adding new features to all users of it. It will reduce the hardware cost as well as software installation efforts.

IV. PROPOSED SYSTEM

The problem with the existing system is that there are multiple servers at each lab, which leads to the problem in accessing the data when there is no availability of the staff. Taking this into consideration, here we will implement a

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Website: www.ijirset.com

Vol. 6, Issue 6, June 2017

cloud storage or setup a cloud for college campus placed in a remote area that will be managed by a delegated team or a staff, the separate storage for a staff is provided where they will upload the data and store it within their own privileges. The user can register, the admin checks for the details and activates the user account, user can then login, access the data, upload and download the data, and lastly user will be notified with the current events if any and can give a feedback in the feedback portal.

V. EXPERIMENTAL RESULTS

1. The Proposed System is implemented in working platform of PHP^[3], HTML for Front – end and MySQL and JavaScript for database connectivity.
2. The Proposed Modules of this system will visual the user the whole concept of Real time Data transmission, and the working of front – end with databases. The Techniques of the proposed system are used for the display of new functionality for User UI and Acceptance with Softwares.
3. The Details entered by user are safely stored especially the Password is been encrypted using the MD5 Hashing Technique. Files been uploaded are separately maintained in a folder in present directory and the upload limit can be modified based on usage by users. The Feedback mechanism is taken out in a very basic way, yet it will cover the concept of SQL for updating the tuples which have been already created.

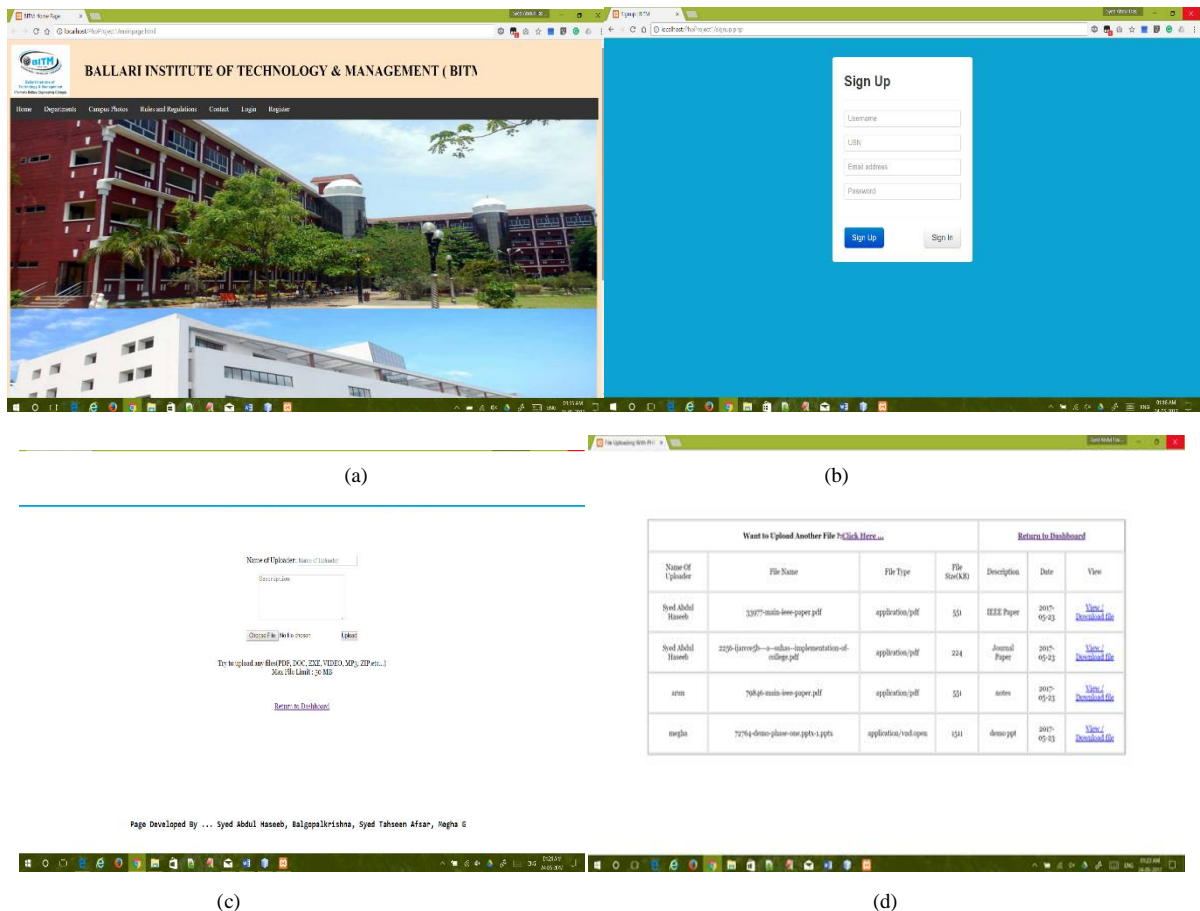


Fig. 3. Snapshots from Webpage (a) Homepage of College Site (b) Signup Page for User Registration (c) Upload Page for Data Upload (d) Download page for Data Download

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Website: www.ijirset.com

Vol. 6, Issue 6, June 2017

The Fig.4 below is a table that depicts the working of System with possible inputs and displaying the possible outputs, the expected output of the system is been observed with the actual output, if the outputs are matched then the test case for that particular input and output is correct, otherwise it's been rejected.

Test Cases for User			
Sl No.	Test Case Description	Expected Output	Actual Output
1.	SignUp: Username: Valid USN: Valid Email: Valid Password: Valid	Successful Login.	Successful Login.
2.	SignUp: Username: Valid USN: Invalid Email: Valid Password: Valid	Login unsuccessful	Displays Enter valid USN, Login unsuccessful
3.	SignUp: Username: Valid USN: Valid Email: Invalid Password: Valid	Login unsuccessful	Displays Enter Correct Email form, Login unsuccessful
4.	SignUp: Username: Valid USN: Existing USN Email: Valid Password: Valid	Login unsuccessful	Displays already Existing USN, Login unsuccessful
5.	SignUp: Username: Valid USN: USN Email: Existing Email Password: Valid	Login unsuccessful	Displays already Existing Email, Login unsuccessful
6.	Login: Email: Valid Password: Valid	Successful Login.	Successful Login.
7.	Login: Email: Invalid Password: Valid	Unsuccessful Login.	Wrong Details, Unsuccessful Login.
8.	Login: Email: Valid Password: Invalid	Unsuccessful Login.	Wrong Details, Unsuccessful Login.
9.	Login: Email: Invalid Password: Invalid	Unsuccessful Login.	Wrong Details, Unsuccessful Login.
10.	Logout	Logged out successfully	Logged out Successfully

Fig. 4. Test Cases Table for User Interaction with System

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Website: www.ijirset.com

Vol. 6, Issue 6, June 2017

VI. CONCLUSION

Cloud computing is an everlasting computing environment where data is delivered on-demand to authenticated devices in a secured manner and users utilize a shared and elastic Infrastructure. From a proper analysis of positive points and constraints on the system, we can safely conclude that the proposed system is a highly efficient GUI based System. The Campus Management System would be helpful by using cloud concepts like upload, download, maintaining confidentiality, security with the data. The Proposed System can be used in Educational Organization and in commercial departments.

REFERENCES

- [1] Girish L S, Dr. H S Guruprasad., "Building Private Cloud using OpenStack", IJETTCS, Volume 3, Issue 3, May – June 2014.
- [2] Vinay Khedekar, "Study of Cloud Setup for College Campus", International Journal of Advanced Research, Computer Science and Software Engineering, Vol2, Issue 10, October 2012.
- [3] Sonali Yadav, "Comparative Study on Open Source Software for Cloud Computing Platform: Eucalyptus, Openstack and Opennebula", International Journal Of Engineering And Science", Vol.3, Issue 10, October 2013, pp 51-54, ISSN (e): 2278-4721, ISSN (p):2319-6483.