Implementation of Cloud computing for Mobile Users

[1]P.Dileep [2]S.Tirupati Rao

[1]Associate Professor, Dept. of Computer Science and Engineering,
Geethanjali College Of Engg. and Tech, Keesara, Hyderabad.
[2]Professor, Dept. of Computer Science and Engineering,
Geethanjali College of Engg. and Tech, Keesara, Hyderabad.

Abstract-The main objective of this paper is to enhance the use of cloud computing services and also to progress the user experience in the cloud. Cloud computing enables highly scalable services to be easily consumed over the Internet on an as-needed basis, one of the important feature of the cloud services is that users' data is usually processed remotely in unknown machines that users do not own or operate. Furthermore, users may not know the machines which actually process and crowd their data. While enjoying the convenience brought by this kind of new tool, users also start disturbing about losing control of their own data. The data processed on clouds are often outsourced, leading to a number of issues related to accountability, including the handling of personally identifiable information. This kind of computing will provide huge advantages for businesses including low initial capital investment, shorter start-up time for new services, lower maintenance and operation costs, higher utilization through virtualization, and easier disaster recovery that make cloud computing an attractive option. Information reports suggest that there are many benefits in shifting computing from the desktop to the cloud. Limited energy and wireless bandwidth are the main constraints for mobile computing. Cloud computing will provide energy savings as a service to the mobile users, though it also poses some exceptional challenges.

Keywords: Cloud computing, mobile users

I. INTRODUCTION

Cloud Computing can be defined as a system that is concerned with the integration, virtualization, standardization, and management of services and resources". The advantages of cloud computing include minimized capital expenditure, consumption and efficiency improvement, high computing power, location and device independence and finally very high scalability. Cloud computing brings a scenario in the field of Information Technology that gives a model where a user who wants to gain access to the software without licensing it, platform to run this software and the infrastructure can access these services on pay-per-use basis. The cloud platform will also provides a huge amount of data storage to the user who can utilize it. Moving data into the cloud offers more convenience to users since they don't have to care about the complexities of direct hardware management.

The cloud heralds a new era of computing where application services are provided through an Internet. Cloud computing can increase the computing capability of mobile systems. Cloud computing presents a new method to supplement the current consumption and delivery model for Information Technology services based on the Internet, by given that for dynamically scalable and often virtualized resources as a service over the Internet. To date, there are a number of notable commercial and individual cloud computing services, including Amazon, Google, Microsoft, Yahoo, and Sales force. Details of the services provided are abstracted from the users who no longer need to be experts of technology infrastructure.

Advantages

➢ Use of cloud computing services is easier, faster, economical and also efficient.

➢ Cloud computing provides many advantages for businesses including low initial capital investment, shorter start-up time for new services, lower maintenance and operation costs, higher utilization through virtualization, and easier disaster recovery that make cloud computing an attractive option.

➢ Cloud computing can provide energy savings as a service to mobile users, though it also poses some unique challenges.

II. LITERATURE SURVEY

Based on the study of various literatures available in this topic, a brief report is presented in this section about the various approaches proposed in the last several years.

In Reference Hoang t.Dinh, chono lee, Ping Wang[1], Mobile users accumulate rich experience of various services from mobile applications (e.g., iPhone apps, Google apps, etc), which run on the devices and/or on remote servers via wireless networks. The rapid progress of mobile computing (MC) becomes a powerful trend in the development of IT technology as well as commerce and industry fields.

In Reference Wenny Rahayu[2], Together with an explosive growth of the mobile applications and emerging of cloud computing concept, mobile cloud computing (MCC) has been introduced to be a potential technology for mobile services.

MCC integrates the cloud computing into the mobile environment and overcomes obstacles related to the performance (e.g., battery life, storage and bandwidth), environment (e.g., heterogeneity, scalability, and availability), and security (e.g., reliability and privacy) discussed in mobile computing.

In Reference R.Bose et al [3], the author provide scientific research relay as much on the dissemination and exchange of data sets as on the publication of conclusions. Based on a comprehensive survey of lineage research and previous prototypes, we present a Meta model to help identify and assess the basic components of systems that provide lineage retrieval for scientific data products. By referring this paper, I applied the way of transmitting the data in an effective way

In Reference E.Barka et al [4], they discussed about the Session Initiation Protocol (SIP) is a Signaling protocol used for establishing and maintaining communication sessions involving two or more participants. SIP was initially designed for voice over IP and multimedia conferencing, used to maintain session for clients.

Optimal program partitioning for computation offloading depends on the trade off between the computation workload and the communication cost. The computation workload and communication requirement may change with different execution instances. Optimal decisions on program partitioning must be made at run time when sufficient information about workload and communication requirement becomes available. Our cost analysis obtains program computation workload and communication cost expressed as functions of run-time parameters, and our parametric partitioning algorithm finds the optimal program partitioning corresponding to different ranges of run-time parameters.

From the above literatures, we Conclude that the direct cloud service provider (CSP) to other entities in the cloud and theses entities can also delegate the tasks to others. Then entities are allowed to join and leave the cloud in a flexible manner, As a result, data handling in the cloud goes through a complex and dynamic hierarchical service chain which does not exist in conventional environments.

III. PROPOSED METHOD

A service provider owns and manages resources (such as processing, memory, storage), and users access them via the Internet.

For example, Amazon Web Services

Simple Storage Service (S3): let users store personal data

Elastic Compute Cloud (EC2): perform computations on stored data

- There are several benefits in shifting computing from the desktop to the cloud.
- The primary constraints for **mobile computing** are limited energy and wireless bandwidth.
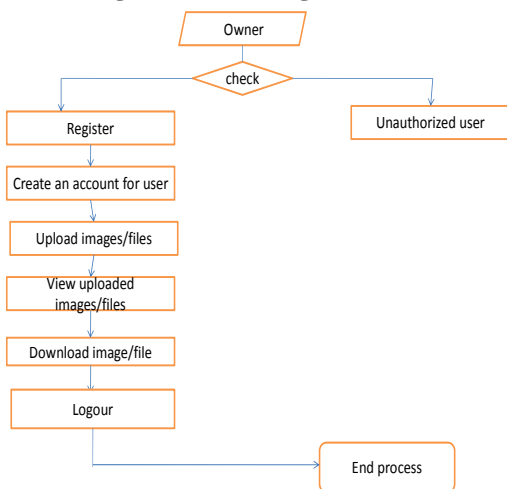
Data Flow Diagram / Flow Diagram

Fig 1 Data flow Diagram for a user

DATABASE TABLES
DATABASE TABLE FOR LOGIN

Field	Type	NULL	Key	Default	Privileges
user_id	int(11)	NO	PRI	(NULL)	select,insert,update,references
user_first_nam	varchar(100)	NO		(NULL)	select,insert,update,references
user_email	varchar(100)	NO		(NULL)	select,insert,update,references
user_pass	varchar(100)	NO		(NULL)	select,insert,update,references
user_registered	Datetime	YES		(NULL)	select,insert,update,references

Table 1: Table for Registration

Field	Type	Null	Key	Default	Privileges
file_id	int(11)	NO	PRI	(NULL)	select,insert,update,references
file_title	varchar(100)	NO		(NULL)	select,insert,update,references
file_desc	varchar(300)	YES		(NULL)	select,insert,update,references
file_path	varchar(200)	YES		(NULL)	select,insert,update,references
users_user_id	int(11)	NO		(NULL)	select,insert,update,references
file_key	varchar(20)	YES		(NULL)	select,insert,update,references

Table 2: Table for files

IV. IMPLEMENTATION AND RESULTS

The following screen shots show the implementation of cloud computing for mobile users.
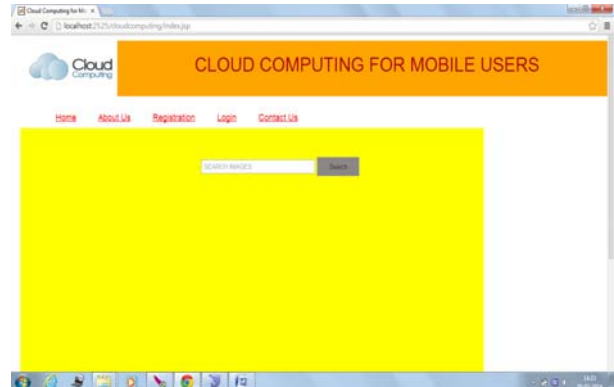
HOME PAGE

Fig. 2 Homepage

The above page is the Home page named Cloud computing for mobile users. It consists of a Search box for searching images. Above figure shows different Menu options like Home, About Us, Registration, Login and Contact Us.
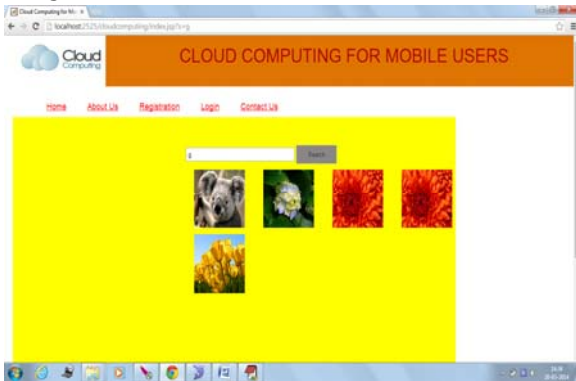
SEARCH

Fig. 3 Search

Displaying images that start with a letter "g"

REGISTRATION PAGE

If user is new to this application, he/she has to register in to the application and also can select her/his user type

Fig.4 Registration Page

LOGIN PAGE: It contains Text area for user name and Password and a "submit" button.

Fig.5 Login Page

CONTACT US

It displays information asking feedback from customers to improve services.
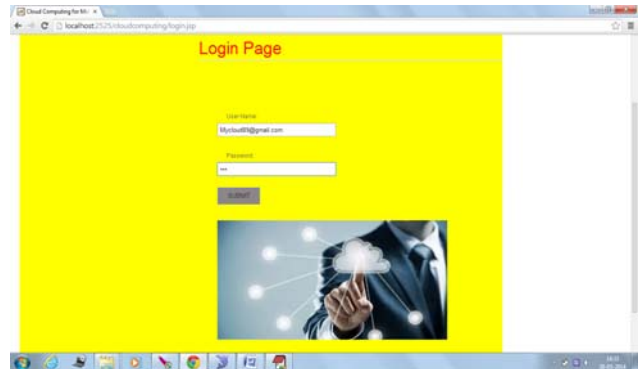

Fig.6 Contact Us

Fig.7 login by a user

The above Page represents a user entering his user name and password

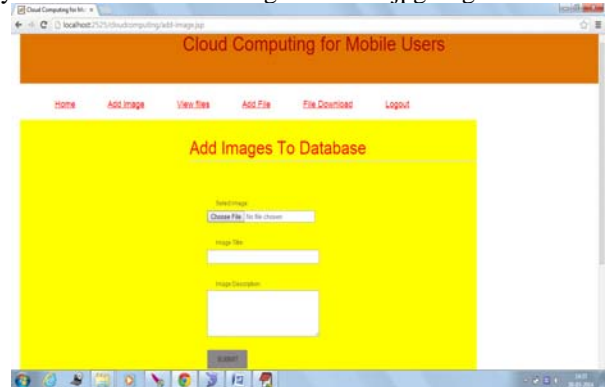**ADD IMAGE:** This module can be used to add any image by user. User can add image of either jpg or gif format.

Fig. 8 User can Add image

VIEW IMAGES: This module shows all the images already uploaded by user

Fig. 9 View already uploaded images

ADD FILE: This module can be used to Add files along with file title and file description.
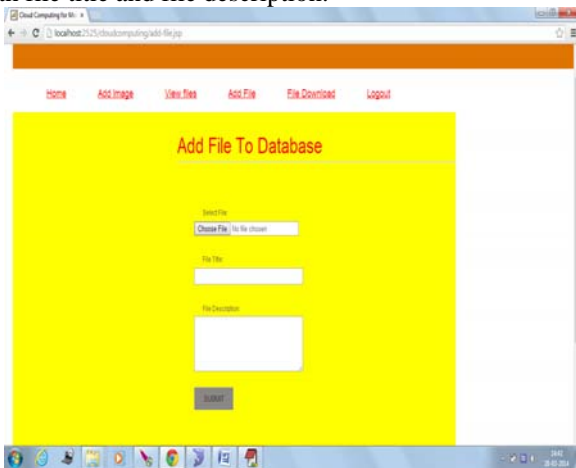

Fig. 10 User Can Add Files Here

FILE DOWNLOAD: In this module all the files that can be downloaded by the current user which were uploaded by him on click of download. A key is Generated and sent to mail.

Fig.11 Showing list of files that can be downloaded

ENTER KEY: Secret key received to mail id is fetched and entered in below text box and generate key is selected. If key is matched file download starts.
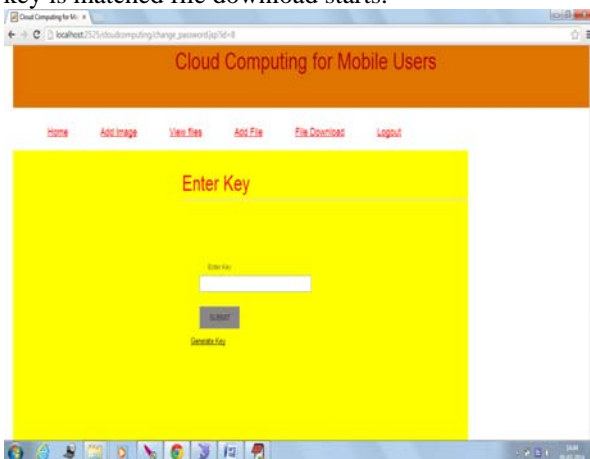

Fig. 12 On click download

V. CONCLUSION AND FUTURE SCOPE

Our analysis suggests that cloud computing can potentially save energy for mobile users. However, not all applications are energy efficient when migrated to the cloud. Mobile cloud computing services are significantly different from cloud services for desktops because they must offer energy savings. The services must consider the energy overhead for privacy, security, reliability, and data communication before off loading.

Before developing the tool it is necessary to determine the time factor, economy and company strength. Once these things are satisfied, then further steps are to determine which operating system and language can be used for developing the tool. Once the programmers start building the tool the programmers need lot of external support. This support can be obtained from senior programmers, from book or from websites. Before building the system the above considerations are being taken into account for developing the proposed system.

REFERENCES

1. Wang C. and Z. Li, "Parametric Analysis for Adaptive Computation Offloading," ACM SIGPLAN Notice, vol. 39, no. 6, 2004, pp. 119-130.
2. CNN.com, "Battery Life Concerns Mobile Users," 23 Sept.2005; www.cnn.com/2005/TECH/ptech/09/22/phone.study.
3. Google Tech Talk, "Away with Applications: The Death of the Desktop," 4 May 2007; http://video.google.com/videoplay?docid=-6856727143023456694.
4. J. Paczkowski, "Iphone Owners Would Like to Replace Battery," All Things Digital, 21 Aug. 2009;http://digitaldaily.allthingsd.com/20090821/iphone-ownerswould-like-to-replace- battery-att.
5. J. Kincaid, "Google Privacy Blunder Shares Your Docs without Permission," TechCrunch, 7 Mar.2009;
6. K. Yang, S. Ou, and H.H. Chen, "On Effective Offloading Services for Resource- Constrained Mobile Devices Running Heavier Mobile Internet Applications," IEEE Comm. Magazine, vol. 46, no. 1, 2008, pp. 56-63.
7. M. Newborn, "A Parallel Search Chess Program," Proc. ACM Ann. Conf. Range of Computing: Mid-80's Perspective, ACM Press, 1985, pp. 272-277.
8. M. Creeger, "CTO Roundtable: Cloud Computing," ACM Queue, June 2009, pp. 1-2.
9. M. Armbrust et al., "Above the Clouds: A Berkeley View of Cloud Computing," tech. report UCB/EECS-2009-28, EECS Dept., Univ. of California, Berkeley, 2009.
10. McMillan R., "Hacker: I Broke into Twitter," PCWorld.com, 1 May 2009; www.pcworld.com/businesscenter/article/164182/hacker_i_broke_into_twitter.html.
11. Wolski R. et al., "Using Bandwidth Data to Make Computation Offloading Decisions," Proc. IEEE Int'l Symp. Parallel and Distributed Processing (IPDPS 08), 2008, pp. 1-8.
12. McMillan R., "Salesforce.com Warns Customers of Phishing Scam," PCWorld, 6 Nov. 2007; http://www.pcworld.com/businesscenter/article/139353/salesforcecom.