A Cloud-Based File Hosting and Sharing System for Heterogeneous Users

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ABSTRACT

Online file sharing is practice of sharing files among different user across the internet. Common forms of file sharing are FTP (File Transfer Protocol) model and P2P (Peer-to-Peer) file sharing network. Another common form of sharing files over the internet is for a user to upload files to a website and allow other users to download them from the website. There are lots of issues to consider when developing such website. This research developed a cloud-based file hosting and sharing system for heterogeneous users. We report the design, development, implementation and preliminary results

Keywords: Cloud-Based File Hosting, File Sharing System, Heterogeneous Users and Web Based Developments

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1. INTRODUCTION

The National Institute of standards and technology has defined cloud computing as “a model of enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g networks, Servers, storage applications and services) that can be rapidly provisioned and released with minimal management effort or services provider interaction”. Users of an online file sharing website who use features like upload, download, share, search e.t.c would want a website that is very interactive and fast and not annoying in the lot of post backs and flashing screens. Another issue is the visualization of their file system where users have a limit to upload files. The normal web based file folder view would be good, but if there are other types of visualizations it would be great. Another important issue to consider is the location where the website stores the uploaded files. Two places where one can store the uploaded files are database and server which is the cloud storage facility provided by the system. Organizations are under constant pressure to optimize asset utilization and ensure business alignment without comprising services delivery. It’s a challenging juggling act; especially as shrinking IT budgets block access to technology solutions that can help break down information silos, ultimately reduce cost and risk.

1.1 Research Aim and Objectives

The aim of this research work is to develop a files hosting and sharing system where users can upload files to the cloud storage facility and other users can then download files.

1.2 Objectives

The main focus of this work is to come up with a better understanding of file hosting and sharing applications and standard. To increase the knowledge of all and sundry with regards to review of past research work on file hosting and sharing and develop a onetime encrypting algorithm for encryption file. To be able to analyze the issue of file storage and the implementation of the proposed design. Focus on applications and standards that are widely used and have been widely deployed.

1.3 Significance of Study

To successfully protect file hosting and sharing with cloud storage facility, management has several significances which include, it will expose the management of the software as a services under cloud computing department to a better services and experience.

This research work is finally going to show online software as a service under cloud computing management can be setup and maintained properly.
It will go a long way to boost the personal moral in the following ways;

1. In cultivating dependence and encourage the habit of systematic study.
2. Encourage to put into practice the principles and theories learnt in file hosting and sharing system.

1.4 Limitation of Study

By viewing the processing activities in the files hosting and sharing system, it has a limited file upload size due to the local machine which it can run on. On registration, users have a fixed memory allocation which can later be upgraded by administrator. User can't change their username because upon registration, a folder begins created for the user automatically by system using the username. All uploaded files by this user will be saved into created folder to attain an organization file system, changing of username will affect the way users file has been organized. However, due to time constraint and unavailability of steady power supply not all button on the website are functioning.

2. RELATED WORK

There are a lot of file sharing websites online. Some famous site www.rapidshare.com, www.box.net etc. However, www.box.net is websites have a lot of cool features and is also very interactive. All the websites which serves the purpose of online file storage/sharing usually have a size limit to upload files and some have size limit to download files per hour due to space and bandwidth constraints
Moreover, FTP is a common standard for file sharing and is used by a lot of people today. Also, peer-to-peer has a Bit Torrent which is well known under P2P file distribution client application. P2P is best known for sharing files online.

3. RESEARCH METHODOLOGY AND FRAMEWORK

In order to achieve these, structured system analysis and design methodology(SSADM) were used; because SSADM is an internationally accepted software engineering model mainly used in most result oriented analysis. Even though many P2P file-sharing systems have been proposed and implemented; only very few have stood the test of intensive daily use by a very large user community. The BitTorrent file-sharing system is one of these systems. Measurements on Internet backbones indicate that BitTorrent has evolved into one of the most popular networks. In f act, BitTorrent traffic made up 53 % of all P2P traffic in June 2004. As BitTorrent is only a file-download protocol, it relies on other (global) components, such as web sites, for finding files.

There are different aspects that are important for the acceptance of a P 2 P system by a large user community. First, such a system should ha v e a high availability. Secondly, users should (almost) always receive a good version of the content (no fake files). Thirdly, the sys- tem should be able to deal with flash crowds. Finally, users should obtain a relatively high download speed. In this paper we present a detailed measurement study of the combination of BitTorrent and Supernova. This measurements study addresses all four aforementioned aspects.

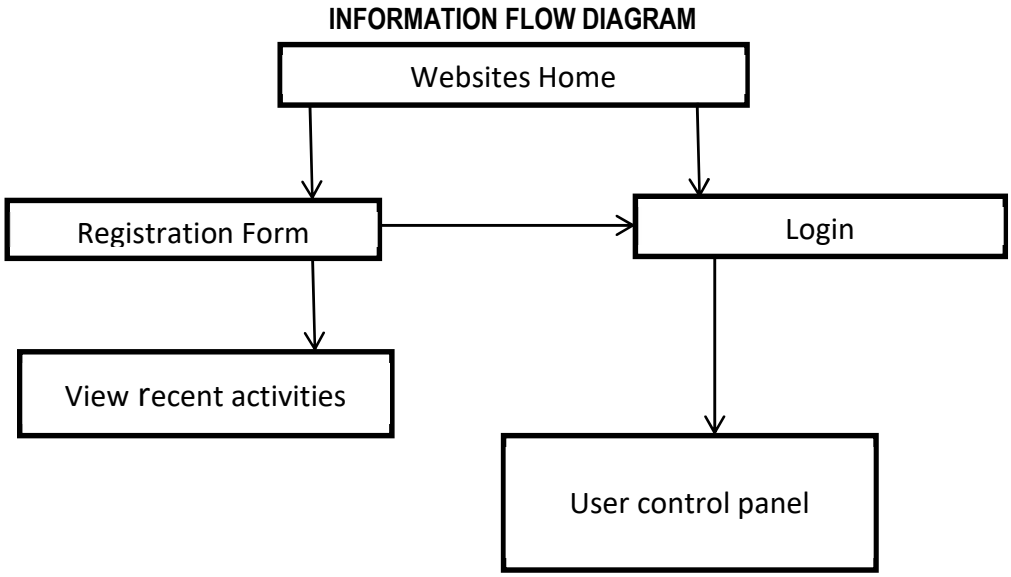

Fig. 1: Information Flow Diagram

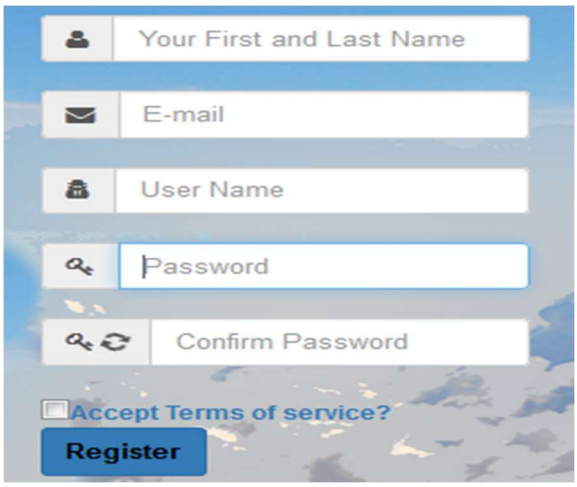

Fig 2: User registration form

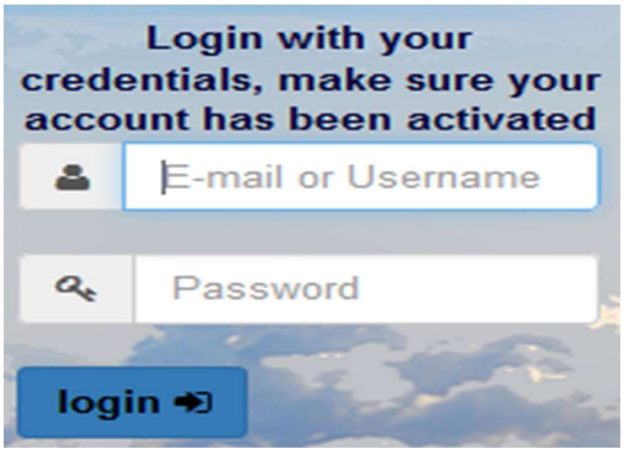

Fig. 3: User Login Form

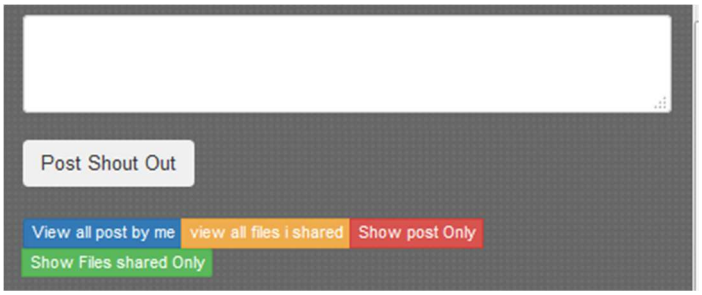

Fig. 4: Text area for posting shout-out

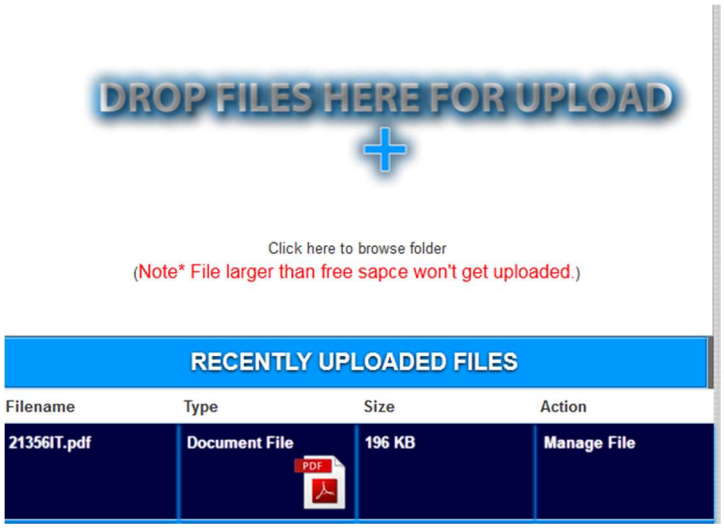

Fig. 5: Interface for uploading file.

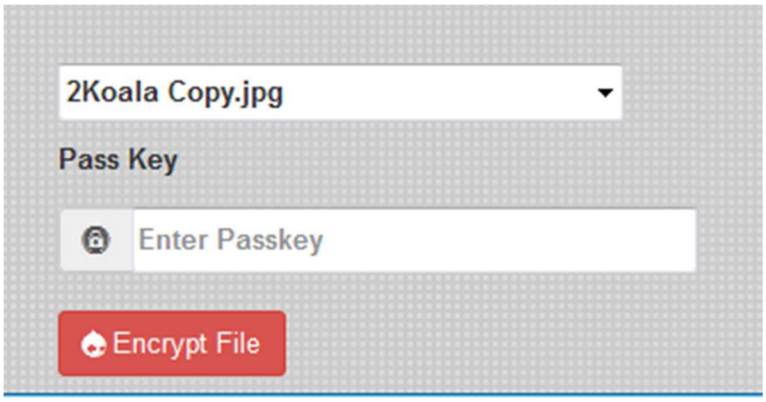

Fig.6:. Interface for encrypting file.

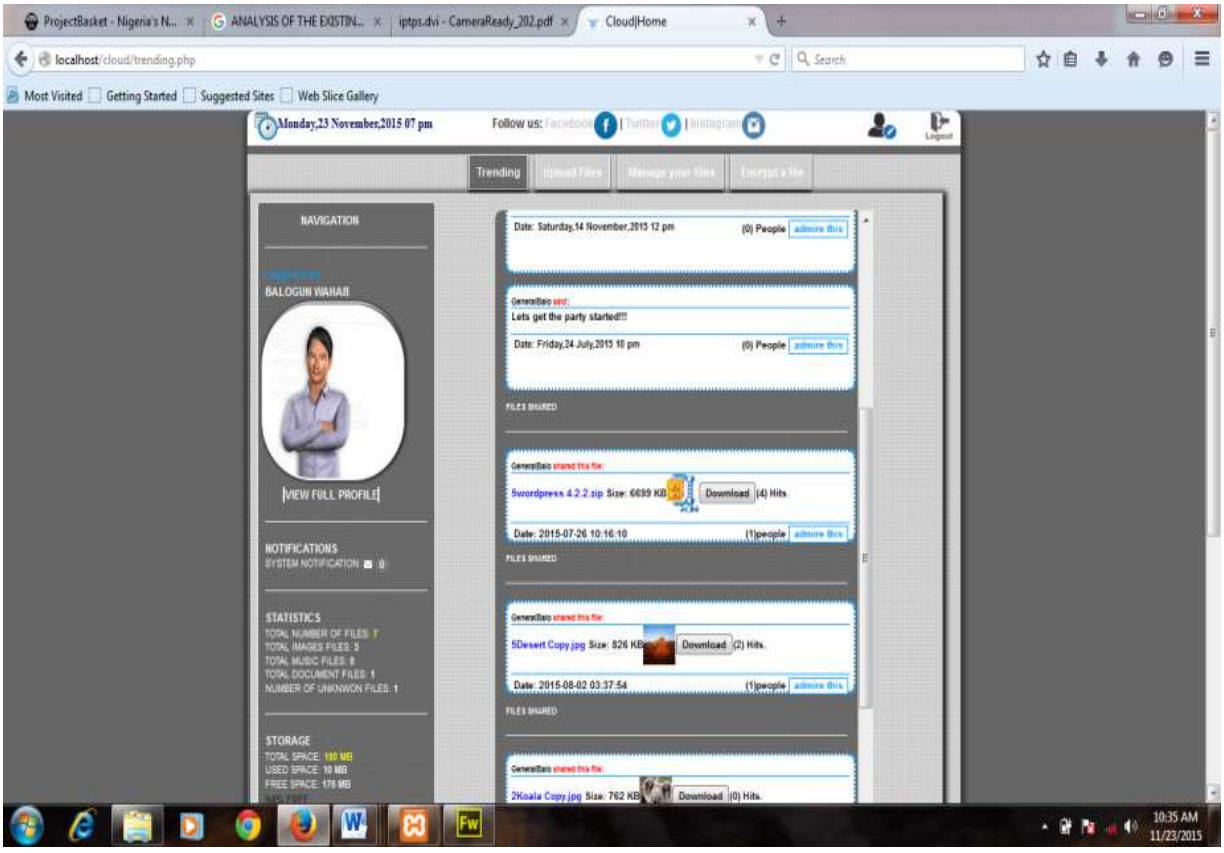

Fig.7: Users timeline

Fig.8: User interface for uploading file

Fig.9: User interface for managing uploaded files

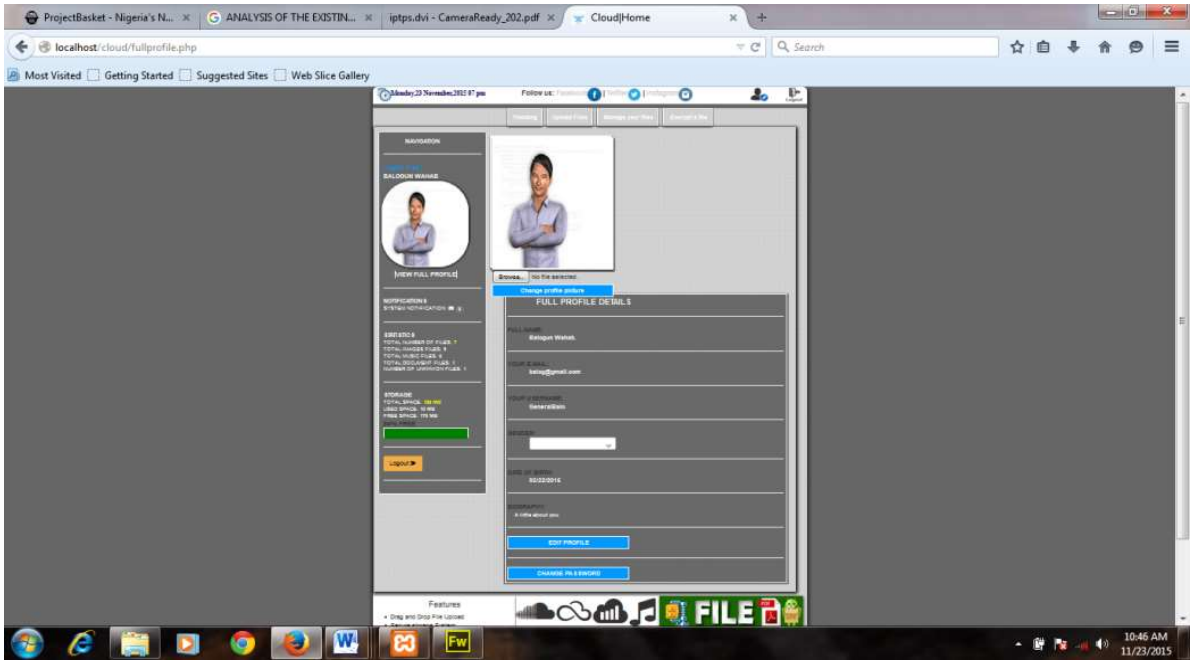

Fig.10: User interface for viewing and editing users' details.

Browse | Structure | SQL | Search | Insert | Export | Impor

#	Name	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	username	varchar(11)	latin1_swedish_ci		No	*None*	
3	password	varchar(32)	latin1_swedish_ci		No	*None*	
4	email	varchar(100)	latin1_swedish_ci		No	*None*	

Fig.11:. Structure of admin Table

Browse | Structure | SQL | Search | Insert | Export | Import

#	Name	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	None	AUTO_INCREMENT
2	uid	int(11)			No	None	
3	filename	varchar(250)	latin1_swedish_ci		Yes	NULL	
4	extention	tinytext	latin1_swedish_ci		Yes	NULL	
5	type	varchar(50)	latin1_swedish_ci		Yes	NULL	
6	size	varchar(250)	latin1_swedish_ci		Yes	NULL	
7	path	text	latin1_swedish_ci		No	None	
8	filedescription	text	latin1_swedish_ci		Yes	NULL	
9	privacy	int(2)			Yes	NULL	
10	dateuploaded	datetime			Yes	NULL	

Fig.12. Structure of Storage table

Browse | Structure | SQL | Search | Insert | Export | Import

#	Name	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	None	AUTO_INCREMENT
2	fullname	varchar(200)	latin1_swedish_ci		No	None	
3	email	varchar(200)	latin1_swedish_ci		No	None	
4	username	varchar(200)	latin1_swedish_ci		No	None	
5	gender	varchar(12)	latin1_swedish_ci		No		
6	dob	varchar(30)	latin1_swedish_ci		No		
7	bio	text	latin1_swedish_ci		No	None	
8	user_dir	varchar(350)	latin1_swedish_ci		Yes	NULL	
9	password	varchar(35)	latin1_swedish_ci		No	None	
10	date_registered	datetime			Yes	NULL	
11	alocated_memory	int(11)			No	None	

Fig.13: Structure of User Table

4. PROGRAMMING LANGUAGE USED

So many programming languages were considered in the cause of designing this software. A lot of factors were put into consideration which includes online database access, data transmission via networks, database security, database retrieval online, multi user network access, online data capture, etc. The choice for PHP-MySQLwas made to enable us achieves the above set objectives. Moreover, PHP-MySQL is very user friendly and enables the design of an interface that can be modified programmatically. Also MySQL database is a robust database that can guarantee database integrity, database protection, and accommodate large database.

5. CONCLUSION

File hosting and sharing, is a service where data is remotely maintained, managed, and backed up. The service is available to users over a network, which is usually the internet. It allows the user to store files online so that the user can access and share them from any location via the internet. The provider company makes them available by keeping the uploaded files on an external server. This gives users using cloud storage services ease and convenience. Cloud storage can reduce costs, simplify IT management, improve user experience, and allow employees to work and collaborate from remote locations. This simplifies sharing and collaboration among staff, and easing IT logistics as a whole.

The project work has exposed a lot of information relating to the activities of file hosting and sharing. Also it has been observed that with the trend in technology, most businesses are computerized and with the computerization of the process for information sharing, the people can easily share and backup their file.

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