Project Report

On

"CLOUD BOX"

Submitted to

Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal

Partial fulfilment of the degree in

Bachelor of Engineering

(Computer Science and Engineering)

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B.E. VI Semester

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Session 2018 - 2019

DECLARATION

I hereby declare that the present Dissertation work **"Cloud Box"** is original work carried out under the guidance of **Asst. Prof. Prakriti Kapoor** Department of Computer Science, **St. Aloysius Institute of Technology, Jabalpur**. It has not been submitted by me in part or full to any University for any examination before. This work has been carried out by me at the Rajiv Gandhi Proudyogiki Vishwavidyalaya during the academic session 2018 - 2019.

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CERTIFICATE

This is to certify that the dissertation entitled

"Cloud Box"

Is a bonafied work and it is submitted to the

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ABSTRACT

Cloud computing is now days emerging field because of its performance, high availability, low cost. In the cloud many services are provided to the client by cloud. Data store is main future that cloud service provides to the companies to store huge amount of storage capacity. But still many companies or workstations are not ready to implement cloud computing technology due to lack of proper security control policy and weakness in protection which lead to many challenge in cloud computing. The primary objective of designing this data center or data storage is to learn the importance of accessing our data from anywhere around the world, create a secured & easy to handle storage for a small number of users, to prevent Data access from unauthorized access, and also performs some of the tasks like data updating, deleting, appending.

Keyword: *Cloud computing, Authentication.*

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1. INTRODUCTION

1.1 Problem Definition

Traditional storage platforms such as hard disks or other kinds of physical storage devices have long lost their sheen. The days when these physical storage devices ruled the technology world is long gone and people are shifting towards the more advanced and attractive technical option of cloud for storing their files and data.

Cloud storage becomes an increasing attraction in cloud computing paradigm, which enables users to store their data and access them wherever and whenever they need using any device in a pay-as-you-go manner .

From the perspective of data security, which has always an important aspect of quality of service, Cloud computing and data storage inevitably poses new challenging security threats. The data stored in the cloud may be frequently updated by the users including insertion, deletion, modification, appending, reordering,etc.

1.2 Hardware Specification

1.2.1 Processor: Intel Core i3

1.2.2 Primary Memory: 4 GB

1.2.3 Hard Disk: 1 TB

1.2.4 Operating System: Windows 7 and up

1.2.5 The above specified requirements are the minimum required to run the application

1.3 Software Specification

1.3.1 Database: MySQL

1.3.2 Web Browser: Chrome or Firefox

1.3.3 Tools used

1.3.3.1 Android Studio V3.2 - Android Studio is the official IDE for Android development, and includes everything you need to build Android app.[5]

1.3.3.2 SketchWare IDE V3.9.2 - Sketchware lets you build mobile apps using lego-like blocks. Block language lets you go beyond prebuilt widgets, allowing your application to be flexible and scalable.[4]

1.3.3.3 Sublime Text Editor V3.1.9 - It natively supports many programming languages and markup languages, and functions can be added by users with

plugins, typically community-built and maintained under free-software licenses.

1.4 Technology Used

1.4.1 For Web-based application

1.4.1.1 HTML5- HTML5 is a new version of the language HTML, with new elements, attributes, and behaviors, and a larger set of technologies that allows the building of more diverse and powerful Web sites and applications. It extends, improves and rationalizes the markup available for documents, and introduces markup and application programming interfaces (APIs) for complex web applications.

1.4.1.2 CSS3- CSS3 is the latest evolution of the Cascading Style Sheets language. It brings a lot of long-awaited novelties, like rounded corners, shadows, gradients, transitions or animations, as well as new layouts like multi-columns, flexible box or grid layout.

1.4.1.3 JavaScript- JavaScript runs on the client side of the web, which can be used to design / program how the web pages behave on the occurrence of an event.

1.4.1.4 PHP- PHP is a server-side scripting language designed specifically for web development. PHP can be easily embedded in HTML files and HTML codes can also be written in a PHP file.

1.4.1.5 MySQL- MySQL is the most popular Open Source Relational SQL Database Management System. MySQL is one of the best RDBMS being used for developing various web-based software applications.

1.4.2 For Android application

1.4.2.1 XML- Extensible Markup Language (XML) is a markup language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable. The design goals of XML focus on simplicity, generality and usability across the Internet. It is a textual data format with strong support via Unicode for different human language.

1.4.2.2 Java- Java is used in a wide variety of computing platforms from embedded devices and mobile phones to enterprise servers and supercomputers. Java applets, which are less common than standalone Java applications, were commonly run in secure, sandboxed environments to provide many features of native applications through being embedded in HTML pages.

2. LITERATURE SURVEY

2.1 Existing System

2.1.1 Google Drive- This is a 'pure' cloud computing service, with all the apps and storage found online. It is a file storage and synchronization service developed by Google. It allows users to store files on their servers, synchronize files across devices, and share files. You can use it via desktop top computers, tablets like the iPad or on smartphones. All of Google's services could be considered cloud computing really: Gmail, Google Calendar, Google Reader, Google Voice, and so on. Microsoft's OneDrive is very similar to Google Drive and offers much the same services.[2]

2.1.2 Dropbox- Dropbox Commonly used by boys and staff to store their documents and images. You might set your phone to automatically send all pictures you take with it into your Dropbox account, so that even if you lose your phone, the pictures will still be available to you up in space; you might use it to access your documents at home, and then save changes to it.[2]

2.1.3 Amazon Cloud Drive Storage at the big retailer is mainly for music – and they would certainly prefer it is music that you have bought from them.[2]

Common Features:-

- Both are third party services.
- They offer a basic amount of free storage: –
    - Dropbox: 5 GB
    - Google Drive (linked to Gmail account): 15 GB

• After that, the user has to pay a yearly or monthly subscription fee. E.g. Google Drive: 100 GB - $4.99/month; 200 GB - $9.99/month

2.2 Survey

2.2.1 **Research Paper-** An Approach for Data Storage Security in Cloud Computing written by Deepanchakaravarthi Purushothaman and Dr.Sunitha Abburu. Published in IJCSI, Vol.9, Issue 2, No. 1 [1]

Cloud computing is the most demanding and emerging technology throughout the world. Cloud computing is an Internet based computer technology. The major thing that a computer does is to store in the available space and retrieve information whenever requested by the authenticated user. It also allows developer to access the highly scalable, reliable, secure, fast, inexpensive,

infrastructure that Amazon uses to run its own global network of web sites. From the viewpoint of data security, which has always been an important aspect of quality of service, Cloud Computing unavoidably poses new challenging security threats for number of reasons.

- Unauthenticated person don't attack the authorized file
- Avoids Collusion attacks
- Malicious data modification attack
- Dynamic data operations

2.3 Proposed System- Cloud Box

Features:-

- User Interface
  - Simple User Interface to use
  - Easy storing, retrieval and updating of data

- Data Security
  - Data will be secured as data is stored directly in database as BLOB datatype.

- File Types
  - All types of data files can be stored
  - Different file types will have different tags for proper segregation.

- Navigation
  - It offer a directory structure; this facilitates navigation and organization easily

- Sharing
  - File Sharing through WhatsApp

- File versioning
  - Files versioning is maintained for every single file stored in the cloud for a period of 30 days. Users could track the changes performed on the file and also can find the date and time at which the change was performed.

3. SYSTEM ANALYSIS

3.1 System Requirements

3.1.1 Hardware Requirements– Refer Page 1

3.1.2 Software Requirements- Refer Page 1

3.1.3 Technology Used- Refer Page 2

3.2 Applicable Diagrams

3.2.1 Data Flow Diagram: *A two-dimensional diagram that shows how data is processed and transferred in a system. The graphical depiction identifies each source of data and how it interacts with other data sources to reach a common output.*

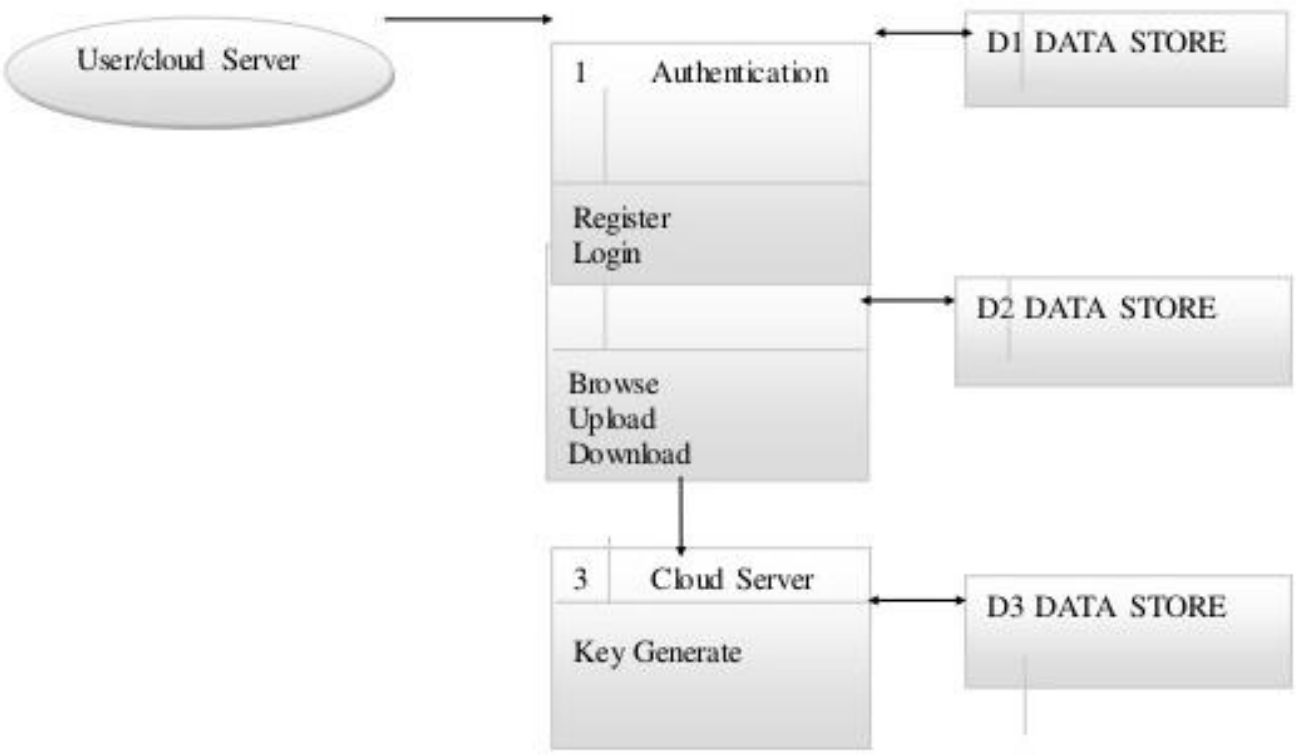

Fig. 3.1 Data Flow Diagram

3.2.2 Activity Diagram: *Activity diagram is a loosely defined diagram to show workflows of stepwise activities and actions, with support for choice, iteration and concurrency. UML, activity diagrams can be used to describe the business and operational step-by-step workflows of components in a system.*

Fig. 3.2 Activity Diagram

3.2.3 Use Case Diagram: *A use case diagram is a type of behavioural diagram created from a Use-case analysis. The purpose of use case is to present overview of the functionality provided by the system in terms of actors, their goals and any dependencies between those use case. User register login file upload to cloud server key response to user cloud server*

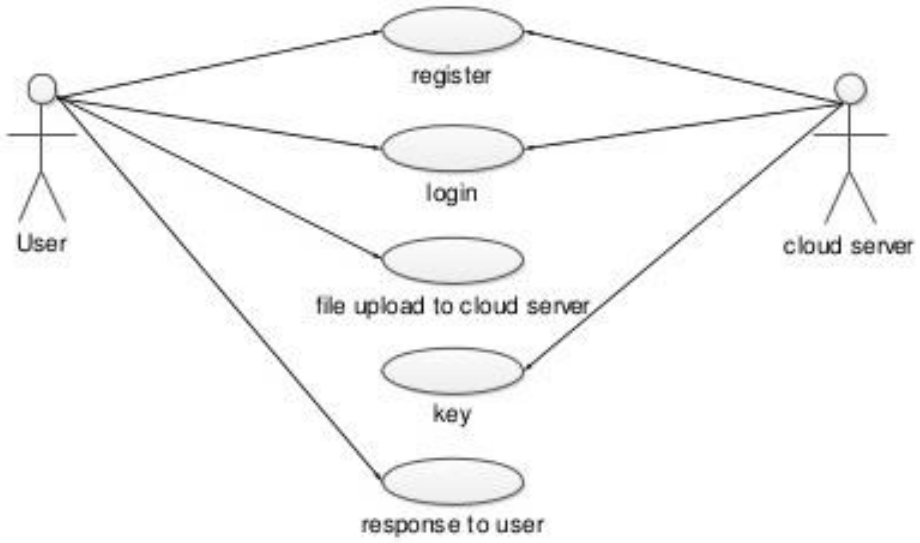

Fig. 3.3 Use - Case Diagram

3.2.4 Sequence Diagram: *A sequence diagram in UML is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a message sequence chart. Sequence diagrams are sometimes called Event-trace diagrams, event scenarios, and timing diagrams*.

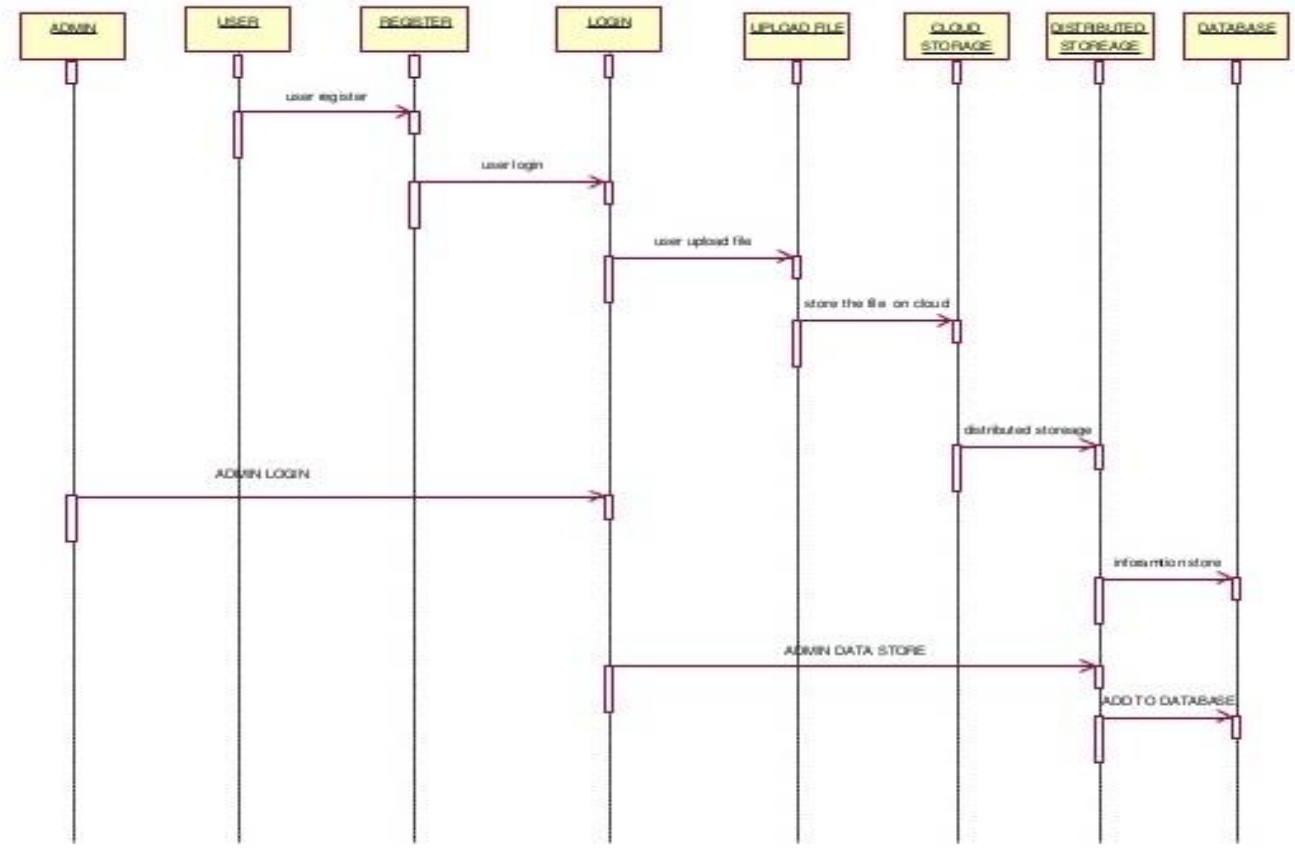

Fig. 3.4 Sequence Diagram

3.2.5 Collaboration Diagram: *A collaboration diagram shows the objects and relationships involved in an interaction, and the sequence of messages exchanged among the objects during the interaction. The collaboration diagram can be a decomposition of a class, class diagram, or part of a class diagram. It can be the decomposition of a use case, use case diagram, or part of a use case diagram*

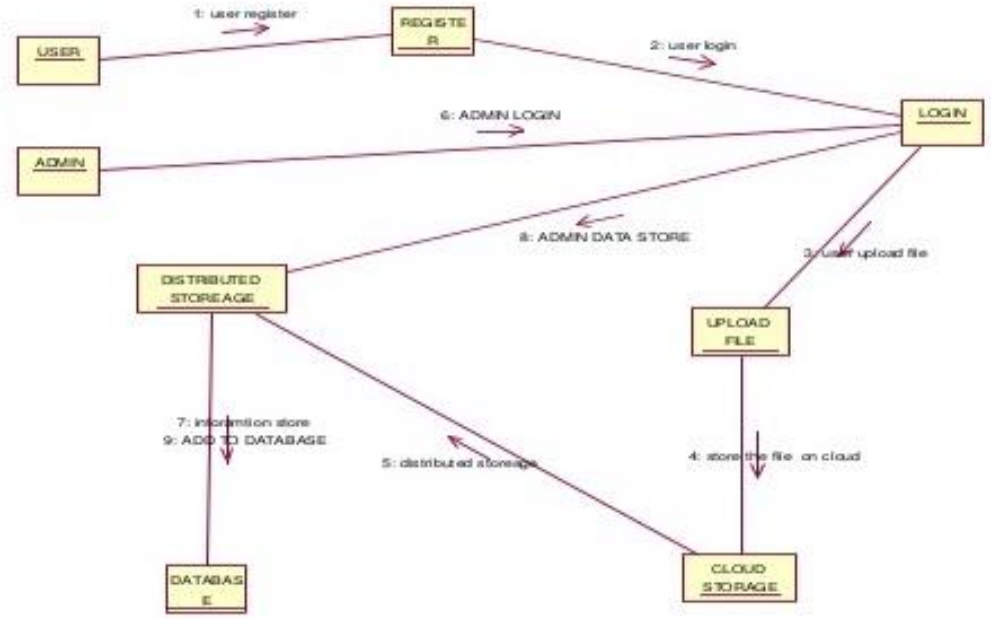

Fig. 3.5 Collaboration Diagram

3.2.6 Entity – Relationship Diagram:

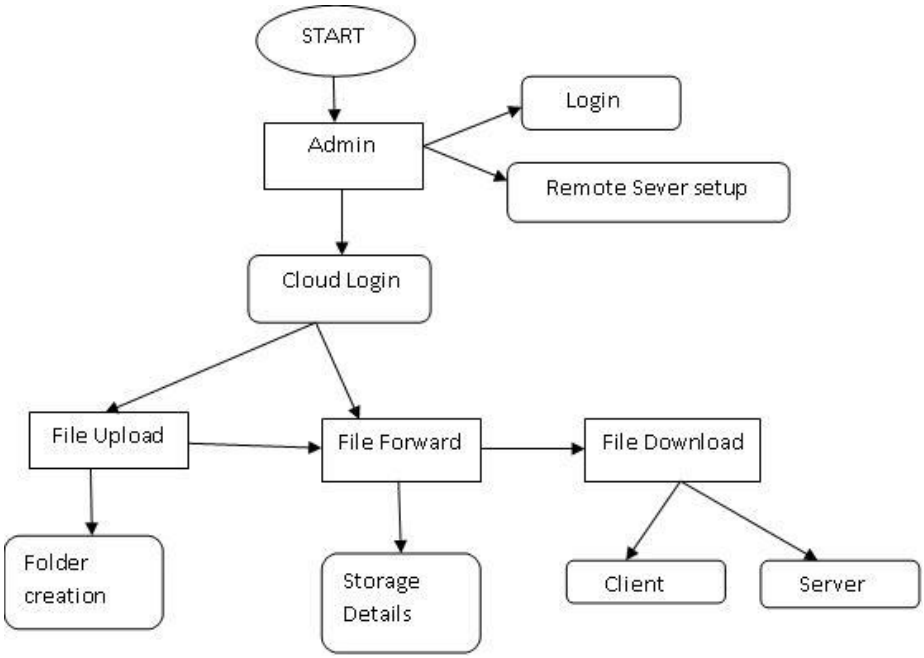

Fig. 3.6 ER Diagram

4. RESULTS

4.1 Display View

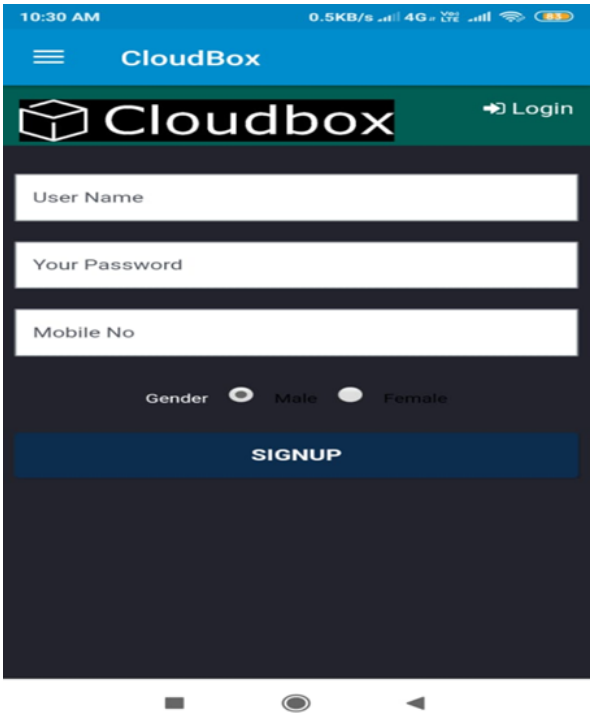

Fig. 4.1 Sign Up Page

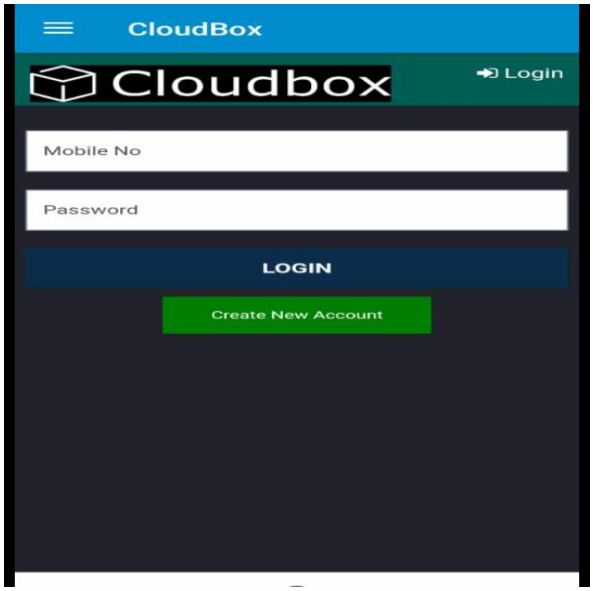

Fig. 4.2 Login Page

Fig. 4.3 File Upload Page

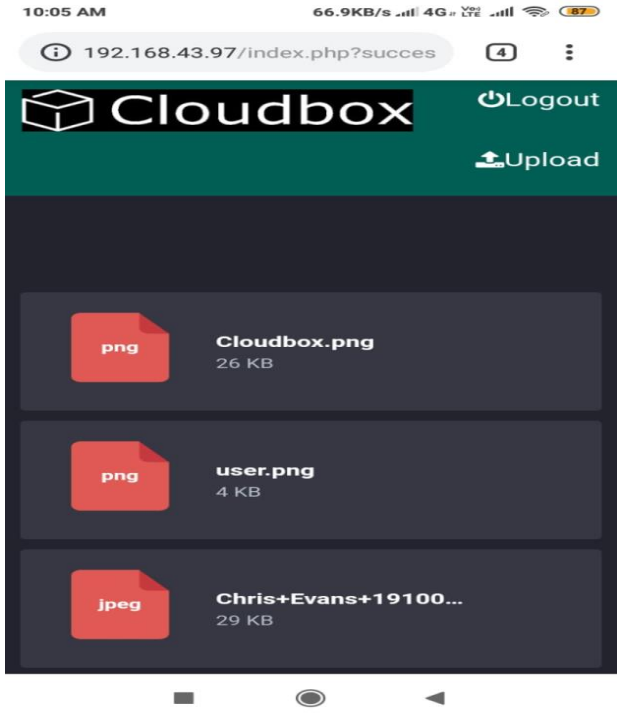

Fig. 4.4 Document Stored Page

5. CONCLUSION & FUTURE ENHANCEMENTS

This project report briefly explained the problems of data security in cloud data storage and also provided a way out to ensure user correctness. We believe that data storage security in Cloud Computing, an area of challenges and of dominant significance, is still in its infancy to be identified. We envision several possible directions for future research on this area. It allows Third Parity Auditor to audit the cloud data storage without demanding users' time, probability.

- We have successfully designed a cloud based storage software – CloudBox.
- We can have access to our stored data at any time, at any place with Internet Access.
- CloudBox is currently in testing phase (*Unit testing done*, *Module testing done*, *Integration testing done*) where only a limited number of users can have access.

In this report we proposed a key generator method for security proof to avoid hacking in cloud infrastructure. The key generated by service provider regarding user queries will send to their respective registered login id. In the existing ones the key will be displayed to the user and hence there is a chance for hacking user details. To avoid such circumstances, the user must get their details with their respective key generated by the service provider.

6. REFERENCES

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