Crypto home

Rishabh Agarwal
rishab.aggarwal8@gmail.com
Inderprastha Engineering College, Ghaziabad,
Uttar Pradesh

Pranjal Kalra
pranjalkalra1994@gmail.com
Inderprastha Engineering College, Ghaziabad,
Uttar Pradesh

Sourabh Bhasin
souravsourabh20008@gmail.com
Inderprastha Engineering College, Ghaziabad,
Uttar Pradesh

Prasoon Srivastav
prasoonsri22@gmail.com
Inderprastha Engineering College, Ghaziabad,
Uttar Pradesh

Archana Bhalla
archana.bhalla@gmail.com
Inderprastha Engineering College, Ghaziabad,
Uttar Pradesh

ABSTRACT

The motive of this project is to provide data integrity, Data security for cloud, removing the problem of limited storage. Crypto Home aims to provide cloud sever which can be accessible from anywhere, anytime. The main scope of this report is providing solutions for the security of the data. When we want to download the uploaded file from the cloud, an encrypted key will be needed and that key is provided by the cloud server and is present in the form of encrypted data.

As the present scenario is everyone needs their task to be automated and easily accessible over traditional manual approach. As over past few years the internet users around the globe have increased in huge amount. Internet of Things (IoT) is the red-hot internet technology. IoT is being used in many industries for automating the devices used in manufacturing. In Home Automation it controls home appliances with the help of computer and an IoT device. We can control basic functionalities and other technical features with a computer or any smart-phone from any part of the world with the help of internet and this process is called home automation.

Keywords: *Crypto home, Data security, Internet of Things.*

1. INTRODUCTION

Cloud Storage is the technology which is in trend from few years before that public did not trust cloud storage and used it because of security issues. Nowadays every one stores their data in the cloud as they feel more secure in cloud storage. Cloud is most widely used technology now as it provides much functionality. Cloud Computing provides access to data from anywhere in the world over the internet no need of highly configured hardware.

Automation is something that has taken the world from manual work, as we know in old days when computers were not there data used to be stored and managed was manually done in files and folders. But with the help of computers work automated to and searching the records became easy. Likewise in this 21st Century automation is very needed for ease of work. Home automation is something which controls appliances in the home and can be switched on and off with a click of a button from the smartphone while you are not at home.

This system will help in many fields:

- Having own personal cloud storage at home.
- Device for home automation.
- Smart Homes.
- No storage limitations

2. METHODOLOGY

This device will work in the following manner. Hardware required for the projects are Raspberry Pi, Internet Connection, Router, Relay (for connecting electrical devices) and external hard drive (depend upon user).

Cloud Server will be setup in Raspberry Pi on the local IP address that will be easily accessible using LAN or WLAN, but to use it outside home port forwarding will be done, in according to access it from any part of the world.

For home automation a web user interface will be made for turning the switch on and off, and it will be uploaded to a server and our client will be raspberry pi and the relay connected to it, from raspberry pi the web user interface will be connected using port forwarding on a different port from Cloud, then it will be accessible from any mobile or laptop from specific IP and port address, eg: 101.52.26.245:5454

3. SYSTEM IMPLEMENTATION FOR CLOUD

- **Clients:** Each user can access the cloud with a web browser or login in using the mobile app they just need to enter the IP address of their cloud and user interface will be available for them.
- **Admin:** One admin will be setup at the beginning of the setup procedure that will have main rights of the cloud server and it will be any one person from the family.

4. FUNCTIONALITIES OF HOME AUTOMATION

- Motion detection using PIR sensor
- Person counter using IR sensor
- Home automation will control following appliances:
- Lights on/off
- Fans on/off
- On/off other appliances

5. SYSTEM IMPLEMENTATION FOR HOME AUTOMATION

Doors will have IR sensor to count the number of the person entering and exiting the room. PIR motion sensor will also be attached to it, as soon as it detects the motion it will **SWITCH ON** the lights and fan or AC in the room. It will remain **ON** until the value of counter remains 1, as soon as counter goes 0 all lights and fan in the room will be **switched off**. Relays will be used to switch ON and OFF the appliances. The main Micro-controller will be connected to the internet so to provide turn OFF and ON the light remotely from any corner of the world.

6. CONCLUSION

Cloud Computing is the latest and used technology which is developed a lot this day, and the main component of which is Cloud Storage. Cloud Storage which is introduced with some limit, in this paper we removed the Limit in cloud storage and made it easy expandable at a very low cost or we say at an affordable price.

7. FUTURE WORK

We will try to bring artificial assistant with home automation that with speech recognition all task is performed or we say a system like JARVIS & currently the data generated from sensors is not being saved in our cloud storage in future will we merge both cloud and home automation so that the data that is generated from sensors saves in our cloud only.

We will also add a camera for security feature adding face recognition in it using Open CV and also include sensors for detecting air quality of the home.

8. REFERENCES

[1] Baris Yuksekkaya, A. Alper Kayalar, M. Bilgehan Tosun, M. Kaan Ozcan, and Ali Ziya Alkar "A GSM, Internet, and Speech Controlled Wireless Interactive Home Automation System", 2006, IEEE Transactions on Consumer Electronics, Vol. 52(3), pp. 837 - 843.
[2] R.Piyare, M.Tazil, "Bluetooth Based Home Automation System Using Cell Phone", 2011, IEEE 15th International Symposium on Consumer Electronics, Singapore, pp. 192 - 195.
[3] Sanjay Ghemawat, Howard Gobioff, Shun-Tak Leung. The Google file system[C]. Proceedings of the 19th ACM Symposium on Operating Systems Principles. New York: ACM Press, 2003:29-43.