HOME SECURITY SYSTEM

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ABSTRACT:

Home security system has been a major problem were the crime is increasing and everyone wants to take a correct measure, to prevent the intrusion. The home safety is one of the most important requirements for security. Security and automation is a major issues in our day to day life. Nowadays, the requirement for home safety is a serious demand. People always want to find the new methods to enhance their comfort. This includes ideas for building daily works little bit easier or even eliminating some of the works. So , people wants security in their own home. Here we try to develop low cost home security system using cloud computing. The aim of this project is to develop a wireless network security system in the absence of home owner, if some dangerous instance happen in home like fire or theft enter in home this system send SMS and Email to the user. We are using wifi module(ESP866) , PIR sensor, Gas sensor, arduino uno etc. Wifi module ESP866 chip is used to communicate internet. PIR sensor is used to identify and detected the human motion. Gas sensor is used for gas leak detection. This is project is collect the data from an array of sensors and to send it over SMS and Email. Hence ATmega microcontroller was used to obtain the data from the sensors. Next part is to send the acquired data over to the thing speak account and for doing that we use an ESP866.think HTTP allows us to call a particular URL if the Think http is triggered. Then we have to put that url that is got from the IFTTT applet for the particular sensor. Before the ESP866 days we had the Ethernet shield which was rather expensive. The ESP866 is very cheap and gets the work done.

INTRODUCTION:

Home security is the majority essential requirements for people. Many technology like IT technology, network and automatic control technology and some remote home safety monitoring and home security alarm are developed today, this technology's becomes a more and more realistic today. People are always trying to discover the new methods to enhance their comfort life, they are trying to making their daily duties little bit easier or even eliminating few of their duties. Now a days people want to fix some of the smart appliances inside their home in order to control their house tasks. The home security system is helps the user the flexibility to make active or de active the system easily by using an sms.

Security problems have grown so radically that the require to remotely control and safe housing and marketable properties also assumed major importance. Even though there have been many ways to develop and execute a fully efficient and reliable home safety system, none of those was really able to infiltrate the market. One of the statistical data is reveal that a home without any security system is three times more likely to be busted into compared to those which are equipment with a security system. [12]

People can kept their personal information and confidential information in home because people thinks home is safety place. Each individual can be found and it represent one of the supreme investments in their life. It is an important part of people lives and development in this area means more comfort for any individual.

Now a days home safety system has been a major difficulty were the crime is growing and everybody wants to take a accurate evaluate to avoid the incursion. The home security is the major essential requirements for safety . Security and automation is a prime problem in our routine life. The require for home safety, nowadays is a grave demand. People are always trying to discover the new methods to enhance their comfort. In addition, daily home works like varying light color or room temperature, house safety is another feature. Since it can drop personal and expensive objects and documents, it is natural that the people would like to protect it.

Nowadays wireless communication(WSN) is rising day by day. This has forced us to make use of mobile phones to remote control home appliances and to get a feedback SMS regarding the safety and security of the house. Remote appliance also used to control system which can control different types of house appliances by sending a SMS from a users mobile phone and monitor the security and safety of the home just sending sms and email.

In modern days some of the typical mechanism is modified. To develop a new methods for controlling, what happens within the house need to be easy to utilize and understand. People want ways for simplifying their works and they want adapting them in the modern world. The smart appliances make be easy to incorporate in the home environment.

As well the features which all device is accomplished of implementing, the network must offer all the interface. The smart appliances are control and program to interface. All IoT products are profit from embedded technology which allows them to communicate to others or with the users throughout the Internet.[14]

Home safety is the most important one for every house owner either in an individual house or an apartment. People must want to ensure that the home is installed with the perfect home safety monitoring system, if people are at first time home or out of home people must want to ensure. Some of the wireless home and industrial automation and security system can be used to provide safety for housing, industrial, and for all domestic and commercial purposes using some of the cloud technique

High-class home security is the selection of sensors is very essential. A control system is good, if the sensors is used to evaluate, the preferred variables are able to transmit the deliberate values of variables to the controller. It is critical that the sensors gives perfect measurements of the variables to be controlled at the suggestion point in the control loop. IoT technology was introduced to the smart home security implementation, smart home has qualified great changes. Smart home includes safety, security, medical treatment, data processing, entertainment and business at home.[13]

To improve the occupant's safety, security and feasibility, home safety system is critical in the field of automated home. The requirements of the home security system should be low cost, easily installation, faster response, and low power consumption. All these kinds of home security should be fully measured and the control system should be a user friendly. The home occupants is require to be informed immediately in case of the emergency. Here, a presents an analysis and performance of a cost efficient intelligent home that monitors home safety , controls some of the home appliances, and gets feedback from sensors by SMS.

Some of the important factor to consider we talk about home automation is Security. Home security is a very essential feature of home automation and maybe the most critical one. Home security made some of the drastic changes in the past few years and continue to move on much more in the coming years.

Earlier home safety systems is having an alarm if somebody enter in home the alarm will be go on. But now much more smart safe home appliances is there. Therefore to designing a system which can alert the user and others of an interloper break in by sending a warning to their mobile phones. The user will also have the capability to stop or start the alarm remotely using just their mobile phone. This system will help the users to preserve their homes by placing the system on the doors, or windows and monitoring the activity through their mobile phones.

The safety and security consideration have not been taken into description properly. The use of Bluetooth or Wi-Fi for communication, it doesn't provide an infinite range. Zigbee contains lower power consumption compare to Bluetooth and Wi-Fi. Thus, there is an urgent need to design completely reusable, smart and insidious wireless home security and automation monitoring system architecture.[11]

Now a days home safety is very important feature, predominantly with the kind of theft or vandalize. In olden days people protected the homes when they leave by using locks and key. But now such kind of systems can be simply broken and people without aware of it. So, now a day home security system is moved to the next stage where the control lies in the hand of the house owners.

The home security system refers to domestic environment that improves the quality of the occupant's life by facilitating a flexible, comfortable, healthy, and safe environment. The internet based home security has a advanced residential area because the rapid development of computer and network. The remote monitoring and controlling of a house using internet needs a computer, which is very large in size and heavy to carry around.

The home security system is the most recent tendency that people are looking for in housing, apartments, offices, etc. Many wired technologies have been working for ensuring the home safety, but they are suffering from disadvantages like complexity and higher costs. Recently, progress for provided that home safety is by using wireless technologies which have proved to be beneficial in terms of cost and complexity.

People always try to find the new methods to enhance their comfort. This includes ideas for making daily tasks easier or even eliminating some of the duties. People wants security in their homes.

To develop a wireless network security system in the absence of home owner, if some dangerous instance happen in home like fire or theif enter in home this system send SMS and Email to the user. Here they are using wifi module(ESP866) , PIR sensor, Gas sensor, arduino uno etc. Wifi module ESP866 chip is used to communicate internet.PIR sensor is used to identify and detected the human motion. Gas sensor is used for LPG gas leak detection. Here to collect the data from an array of sensors and to send it over Email. Hence ATmega microcontroller was used to obtain the data from the sensors. Next part is to send the acquired data over to the thing speak account and for doing that we use an ESP866 think HTTP allows us to call a particular URL if the Think http is triggered. Then we have to put that url that is got from the IFTTT applet for the particular sensor. Before the ESP866 days we had the Ethernet shield which was rather expensive. The ESP866 is very cheap and gets the work done.[15]

LITERATURE REVIEW/RELATED WORK:

In modern days security plays an important role in every aspect. Home security system has been a major issue were crime is increasing and everybody wants to take proper measure to prevent intrusion. In addition there is need to automate home so that user can take advantage of the technology advancement [1].

In latest years, there has been a huge growth in the world of intelligent devices for home automation. Such gadgets are designed in order to ease the interaction between people and daily home duties. Although individually they are simple to work with, each appliance has its own configuration interface which adds overhead to the general user experience[3].

Security and automation is a prime concern in our day-to-day life. The approach to home and industrial automation and security system design is almost standardized nowadays[6].

In previous past, home automation systems are abstruse and complicated due to the system hardware but nowadays these systems are used by many people across the world with modern technologies. Many research contributions have been published pertaining to the home automation and automatic security systems. The fundamental information regarding the home automation and security systems implemented with Arduino and GSM technology are given here [9]

Some researchers used Bluetooth technology in networking environment as well as automation systems for instance; developed an application for home automation using Bluetooth technology [9].

Paper 1

In paper one author has designed and implement the PLC based home security system based on GSM module. The automatic controlling process is done by PLC instead of embedded controller. A PLC is an example of a hard real time system since output results must be produced in response to input conditions within a limited time, otherwise unintended operation will result.

PLC reads the status of the external input devices, e.g. keypad, sensor, switch and pulses, and execute by the microprocessor logic, sequential, timing, counting and arithmetic operations rendering the status of the input signals as well as the pre-written program stored in the PLC. The generated output signals are sent to output devices as the switch of a relay, electromagnetic valve, motor drive, control of a machine or operation of a procedure for the purpose of machine automation or processing procedure. Anti-theft security system utilizes an embedded system design with Dual Tone Multi Frequency (DTMF) and a GSM to monitor and safeguard a car. It secures the car from theft. Upon activation, it automatically demobilizes the car by disconnecting the ignition key supply from the car battery [1].

Paper 2

it presents one solution for establishing a low power consumption remote home security alarm system. The system, based on WSN and GSM technology, can detect intrusion, fire etc and send alarm message remotely and also can let user listen the prerecorded voice messages which convey some information about intrusion. Along with that system can be remotely armed and disarmed as well. The hardware of this system includes the radio transceiver XBEE, microcontrollers Atmega8, Atmega16 and Atmega162, SIM300 GSM module etc. The system software developed in C language on CVAVR compiler has the ability of collecting, wireless receiving and transmitting data, and can send a piece of alarm short message and calls to the 15 numbers stored in the system when some dangerous condition has been detected. With the advantages of reliability, easy usage, complement wireless, and low power consumption, the system also has practical value in other fields.With the development of IT technology, network and automatic control technology, a remote home security monitoring and alarming system becomes more and more practicable today. By combining wireless sensor network (WSN) and GSM technology, we can design a remote home security monitoring and alarming system that can detect the theft, fire etc and send alarm message to the house owner's mobile phone. Wireless sensor network is composed of a number of wireless sensor nodes. By combining sensors and wireless communication, WSN can detect, collect and deal with the object information in its covering area, and send data to the observer. WSN technology has the advantages of wide covering area, able to remotely monitor, high monitoring precision, fast network establishment and reasonable cost.GSM network has the advantages of mature technology, wide covering area, long communication distance and so on.The remote home security system presented in this paper combines the advantages of WSN and GSM technology. Firstly, wherever the users are, once some risky instance happens in home, such as fire or thief intruding, this system can call and send SMS to the users through GSM network immediately, informing people the possible dangerous circumstances in home. GSM increases the reliability in terms of user being informed about the intrusion immediately because today almost every person carries a mobile phone. Secondly, the wireless sensor network established in home has the features of ease establishment, without use of cable, and low-power ingesting [2].

Paper 3

It presents a solution for connecting more devices into a signal entity which can be easily accessed at any time. The implementation integrates the functionalities of different home automation devices into a single application.

It enables connection of more types of home appliances like Nest Thermostat and Philips Hue Light Bulb in one system which can be remotely accessed.

The main advantage of having a gateway is that all configurations are done on a single device. In addition, mechanisms for ensuring security are then necessary only on that device. The solution proposed in this paper offers the modular implementation of a new open source smart home application. Though there are other projects which address this field, the system presented in this paper is easy to be integrated inside a real house. The proposed design offers users the possibility of easily totaling new functionalities [3].

Paper 4 - This paper presents a study and presentation of a cost effective intelligent home that monitors home security, controls home appliances, and gets feedback from sensors by SMS. The remote controlling and monitoring of a house using internet requires a computer, which is large in size and heavy to carry around. The wireless technology has some amazing achievements in the home automation via Bluetooth , ZigBee , and Wi-Fi and Global System for Mobile Communication (GSM) . The wireless automation diminishes the cost of the system unit as well as it is much easier to install. The GSM module system uses mobile network and is battery powered which makes home automation system safer from internet hacks. The GSM module has also been innovative to automobiles. GSM module can be interfaced with the car ignition system where the owner carries the mobile phone rather than to carry around the key [4].

Paper5 –

This paper considers architectural design of the system, as well as implementation guidelines. The proposed system favors methods that provide energy savings by dropping the amount of data transmissions through the network. Also, the framework explores techniques for localization, such that the position of the nodes can be used by algorithms that adjust temperature settings.

It proposes a wireless sensor network framework for indoor temperature regulation (WSN-FITR). Homes, classrooms, and halls are often heated up by a number of temperature controlled heaters.

This paper shows how the node localization methods can be used for room temperature optimization in order to offer the most ideal tradeoff between the time it takes to reach the wanted temperature at a specific part of the room and energy consumption. Even more, decrease of the required data transmission through prediction methods is measured, which is important in order to rise the battery life of the nodes and to extend the network lifetime [5].

Paper 6 –

In this paper, they have tried to increase these standards by merging new design techniques and developed a low cost home and industrial automated security systems. Security is main concern in todays world. The design of simple hardware circuit enables every user to use this wireless home security system with PIR sensor, Gas sensor, Smoke sensor and Main fuse Failure Detector at Home & Industries. It presents mobile controlled user friendly and low cost home and industrial automation and security systems. After a through study of literatures of all the topics that include home automation design and wireless networks. A simple system to improve the standards is developed. It is a real-time monitorable and remote controlled system developed with simple hardware which simplifies the possibility of error free security system. This system can be easily applied with maximum consistency and the high security with low cost is a special enhancement from the existing systems for Home security. The main program is developed by using embedded C language and converted to exe file by using Keil package. This program enables the interface between all hardware connected in microcontroller and sends appropriate signal to the User through GSM [6].

Paper7-

This paper mainly focuses on using wireless technology successfully for security. The system is SMS-based and uses wireless technology to transform the standards of living. It uses a GSM Modem to send an SMS to the home owner in case of an imposition. The project is grasped by interfacing an infrared trans-receiver with an ATMEGA16 microcontroller and a GSM Module. As the system uses GSM technology, it provides universal access to the system for security. In this paper, a low cost, user-friendly, simple, secure and universally acceptable solution for home security has been introduced. This approach has achieved the mark to control the device remotely using an SMS-based system satisfying user needs and requirements. The system is cost-effective as compared to the previously existing systems in the market and can be easily implemented with high reliability and security. The basic level of home security control and remote monitoring has been implemented. The system is extendible and more levels can be further developed. Hence, we can conclude that the required goals and objectives have been achieved [7].

Paper 8

this paper shows how to control home appliances, safety and security system using gsm technology with application of android through phone. Advantages of gsm is control of appliances can be done from remote places [8].

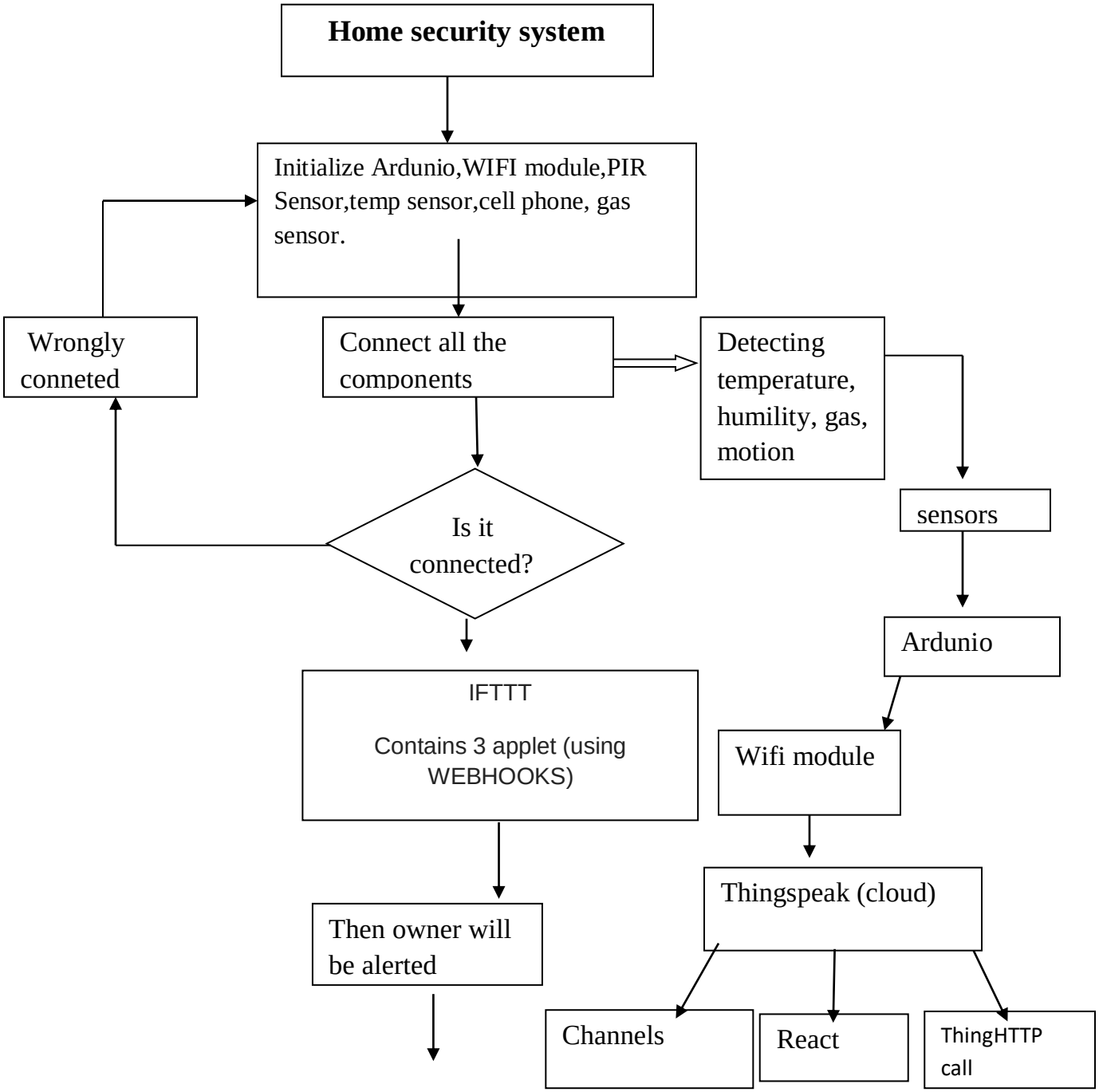
Paper9

The automation applications allows people to control the appliances used in their homes, offices, hospitals etc. It provides security system with cameras for controlling and monitoring activities around the home. This paper gives the system architecture and the calculated outcomes which are testing at different areas and locations of Karachi, Sukkur and Khairpur with different telecommunication networks used in Pakistan. Authors calculated performance of 81.6% in Karachi using Ufone, 90.6% is calculated with ZONG at Sukkur and 74.2% is received with Ufone at Khairpur. On the basis of calculated routcomes, it is proved that Ufone is better than the other selected telecommunication networks. The outcome of this study will be helpful for the students and researchers who want to put their efforts towards the scheming and expansion of automation & security systems. The future scope of proposed system will led to implement rigid security for schools and other educational institutes [9].

Paper 10

Our work mainly focusses on security aspect of the existing home automation system and also points out its drawbacks. It explains the concept of security and actual meaning of the word “intruder” in modern times. The paper highlights the faults of current home automation systems faced in identifying and preventing the sophisticated intruders from breaking into home. We encourage the researchers to consider a home automation system as one of the most important parts of home security and develop radical sensing technology to identify and guard the homes from skilled intruders. Security factor is most important when it comes to proper implementation and development of automated home security systems. Such system will definitely provide a sense of security to every person at home and will also put their mind at ease [10].

FRAME WORK:


Home security system
Initialize Ardunio,WIFI module,PIR Sensor,temp sensor,cell phone, gas sensor.
Wrongly conneted
Connect all the components
Detecting temperature, humility, gas, motion
sensors
Is it connected?
Ardunio
IFTTT
Contains 3 applet (using WEBHOOKS)
Wifi module
Thingspeak (cloud)
Then owner will be alerted
Channels
React
ThingHTTP call

End

SURVEY TABLE:

	Parameters					
List Methods/Protocols/models	**Software used**	**Hardware used**	**Sensors used**	**pros**	**cons**	**Year of publication**
[1] S.I. Azid and S.Kumar "Analysis, performance of a low cost SMS based home security system," Int. J. Smart Home, vol. 5, no. 3, pp. 15–24, 2011.	WPLSOFT PLC	Programmable Logic Controller(PLC),Switched Mode Power Supply(SMPS)025V DC,Relay, IR Sensor-3,Motor,GSM module,RS 232 , SIM (Short Messaging Service) ix. Mobile	IR SENSOR	**1.**The applications of SMS/GSM Based security system are quite diverse. 2.security level is high 3.The controlling of the system can be done by sending text to the GSM irrelevant of their presence near or far.	Causes electronic interferene, bandwidth lag	**2011**
[2] A. Aggarwal, "WSN,GSM based,Remote Home Security System," Int. J. Comput. Appl., pp. 41–45, 2012.	XBEE module , CVAVR compiler, EEPROM	Radio transceiver XBEE, microcontrollers Atmega8, Atmega16 and Atmega162, SIM300 GSM module	vibration sensor and the proximity sensor.	reliability, easy usage, complement wireless, and low power consumption, remotely enabling and disabling	LowCommuni-cation Speed. GSM interferes with certain electronics.	**2012**
[3]. D. Chaudhuri, "GSM module	Brillo operating system	Sensors , microcontrollers	PIR Motion Sensor	all configurations are done on a	It could integrate more types of	**2013**

based home automation system," vol. 5, no. 2, pp. 38–40, 2015.				single device. In addition, mechanisms for ensuring security are then necessary only on that device, flexible.	intelligent appliances in order to incorporate various kinds of home activities. on the board device can be developed more features for the currently added devices.	
[4].B.Risteska Stojkoska, A. Popovska Avramova, and P. Chatzimisios, "Applications of WSN, for indoor temperature parameter." Int. J. Distrib. Sens. Networks, vol. 2014, 2014	PIC C Compiler	GSM module, microprocessor PIC 18F4520, Electrically Erasable Programmable Read-Only Memory (EEPROM)	Passive infrared sensor, SHT75 Temperature and Humidity Sensor, Chubb Smoke Detector, Light Dependent Resistor	cost effective, AT commands used provide a flexible way to control and explore the services of the mobile, fast .	It can further be developed by introducing surveillance cameras with the service of third generation mobile network. The system can then stream live video to the user in the event of the emergency.	**2011**
[5]. M. Computing, "Gsm module Based,Home Security System Using App-Inventor for the Android Mobile Phone," vol. 4, no. 4, pp. 158–167, 2015.	MySQL	sensor unit, computing unit, communication unit	temperature, humidity, and light sensor.	self-organized and cost-effective	No Use of Different measured parameter, like light strength or humidity, since they can be influence the temperature parameter, no use of machine learning techniques for choosing the	**2014**

					better technique.	

	Parameters					
List Methods/Protocols/ models	**Software used**	**Hardware used**	**Sensors used**	**Pros**	**Cons**	**Year of publication**
[6] Anandan, R. "Wireless home, industrial automation security system using gsm module." Journal of Global Research in Computer Science 4.4 (2013): 126-132.	RS232 protocol, At commands, SMS	GSM modem, P89V51RD2 Microcontroller, ULN2003, IC (MCT2E)	PIR sensor, MQ-5 & MQ-2 gas and smoke sensors	Very cheap implementation. Can be manitained easily.	Sensors may get affected by changes in environmental conditions	**2013**
[7] Potnis, Mehek, and Ayesha Chimnani. "Home security system using GSM module." International Journal of Engineering Research and Applications 5.4 (2015): 143-147.	SMS, RS232	ATMEGA16 microcontroller, GSM SIM 300, ULN2803 IC, relay system-JQC-3FC/T73	IR Sensor	Can be used in any environment, takes action after the intrusion has occurred	Does not have a visual monitoring system in case the person wants to view the intrusion.	**2015**
[8].I. I. Pătru, M. Carabaş, M. Bărbulescu, and L. Gheorghe, "Smart home system," Netw. Educ. Res. RoEduNet Int. Conf. 15th Ed. RoEduNet 2016 - Proc., 2016.	Arduino software, App Inventor	GSM Mobile Handset, Reciever GSM Handset, Atmega 2560, relay module	MQ2, MQ7	Can be controlled using SMS if app is not working.	App is only for Android phones	**2016**
[9] Memon, Kainat Fareed, et al. "GSM	Arduino, SMS,	GSM SIM900A	motion sensor and	It uses many	Is more expensive	

based Android Application, Appliances Automation,Security Control System using Arduino." International journal of advanced computer science,applications 8.2 (2017): 206-210.	GSM based android software application	Module	PIR sensor, temperature sensor, smoke sensor	different types of sensors and has control even on the window locks unlike many applications. User can view a live stream via the internet	than most other systems	**2017**
[10] Chitnis, Sudhir, Neha Deshpande, and Arvind Shaligram. "An investigative study for smart home security,Issues, challenges, countermeasures." Wireless Sensor Network 8.04 (2016): 61.	SMS	GSM-GPRS, Atmel AVR-169	IR Sensor	This paper reviews many different Home Security systems and highlights their Issues.	Considers issues only from the customer point of view and not in terms of operational performance	**2016**

PROPOSED SYSTEM:

The proposed system involves five main components- Arudino UNO, Wi-Fi Module- ESP8266, sensors, ThingSpeak and IFTTT (if this, then that). These components together form the home security system.

The system can be used to detect the following:

1. Presence of an intruder.
2. Gas leak due to LPG gas
3. A rise in the temperature of the region above a certain critical level.

The sequence of events in case of the detection of any of the above conditions is:

1. The data is updated to the ThinkSpeak channel using the Wi-Fi Module
2. The ThingSpeak Channel records the data.
3. The React App on ThinkSpeak gets triggered based if the condition specified with respect to the field value is met.
4. As a result the ThingHTTP App that is linked to the particular React App is called.
5. The URL specified in the ThingHTTP App is called.
6. This utilizes the Webhooks service of the IFTTT platform to run the corresponding applet to execute the below mentioned actions.
7. An email is sent to the Gmail account of the user with the event that has occurred and the date and time of the event.
8. An SMS is sent to the user with the event that has occurred and the date and time of the event.

1. Arduino UNO

The Arduino UNO is a microcontroller on a single board. It is based on the ATmega328. It can be used to read sensors and has USB cable, which allows it to be extended to various other systems. The Arduino code is used to monitor the sensors. As soon as any sensor is triggered, the Arduino must communicate with the ESP8266 and must explain to the ESP8266 what it should do.

2. **Wi-Fi Module- ESP8266**

The ESP8266 is a System on Chip (SoC) that can connect to the Wi-Fi. It is responsible for sending the data. It must be flashed with the required firmware and it is sent instructions on how to create a TCP connection and also on how to communicate with ThingSpeak.

3. **Sensors:** Three sensors have been used in this system. They are the MQ-5 gas sensor, which senses LPG, PIR sensor, which detects presence in its field of view, and the temperature and humidity sensor, DHT11 that can be used in case of a fire.

4. ThingSpeak is a free IoT platform that allows the collection and storage of sensor data, which can be used to develop Internet of Things (IoT) applications. The first step is to create a channel with three fields (one for each sensor) using ThingSpeak. This allows for sensor data to be stored on the channel. Date can be imported or exported and visualized using MATLAB. Next, a React App must be created for each sensor operation. This allows for a ThingHTTP call to be invoked each time a certain condition is met with respect to the field data of each sensor. These conditions on the React App can be used to check for high temperature, presence of an intruder and gas leakage in case of the proposed system. Each React is linked to a ThingHTTP App. The ThingHTTP App corresponding to each address contains the URL of the applet event that must be triggered when the particular ThingHTTP App is called.

5. IFTTT (if this, then that) is a free service on the web that allows us to create and manage applets (sequences of conditions and actions). An applet can be triggered to use services like Gmail, SMS, Facebook, Twitter, etc. In the proposed system, three applets have been created. They check for presence of an intruder, gas leak, and critical temperature respectively. These applets use a service called Webhooks, which allows us to invoke events using URLs. The URL has been linked with the ThingHTTP App for each applet. Each applet will send an SMS to the user and an email to their Gmail account. The Email will contain the name of the event that has occurred along with the date and time of the occurrence.

IMPLEMENTATION / RESULT DISCUSSION:

The circuit has been designed with all the required components using a breadboard and some jumper cables as follows:

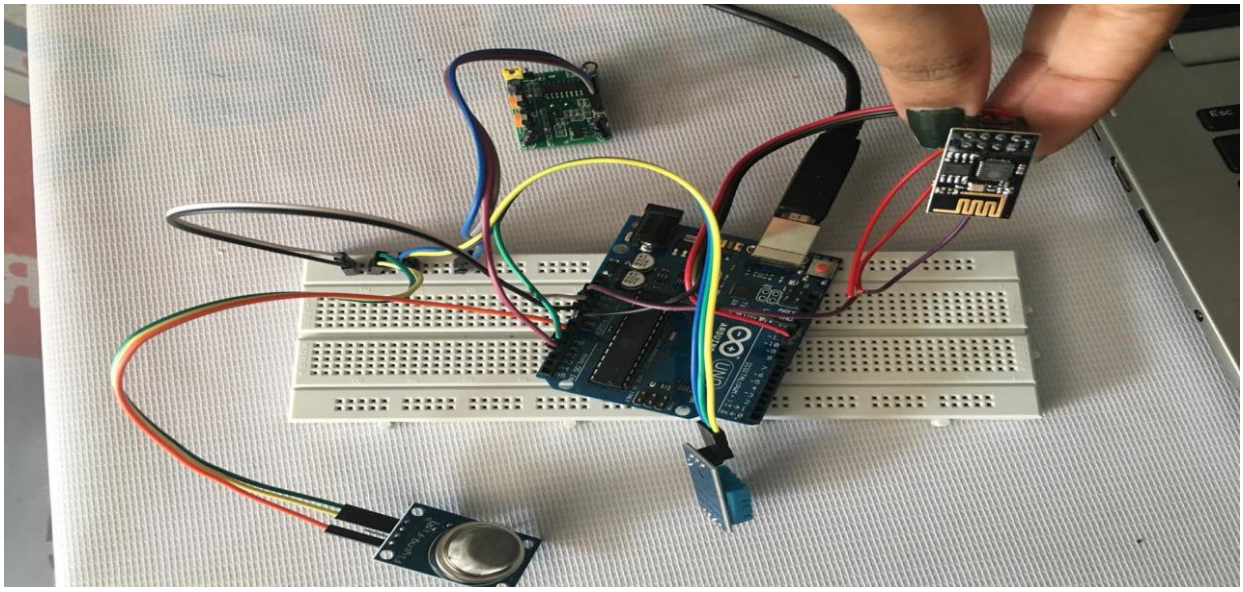


Fig. Snapshot of Implemented Circuit

The ThingSpeak platform has been implemented as follows:

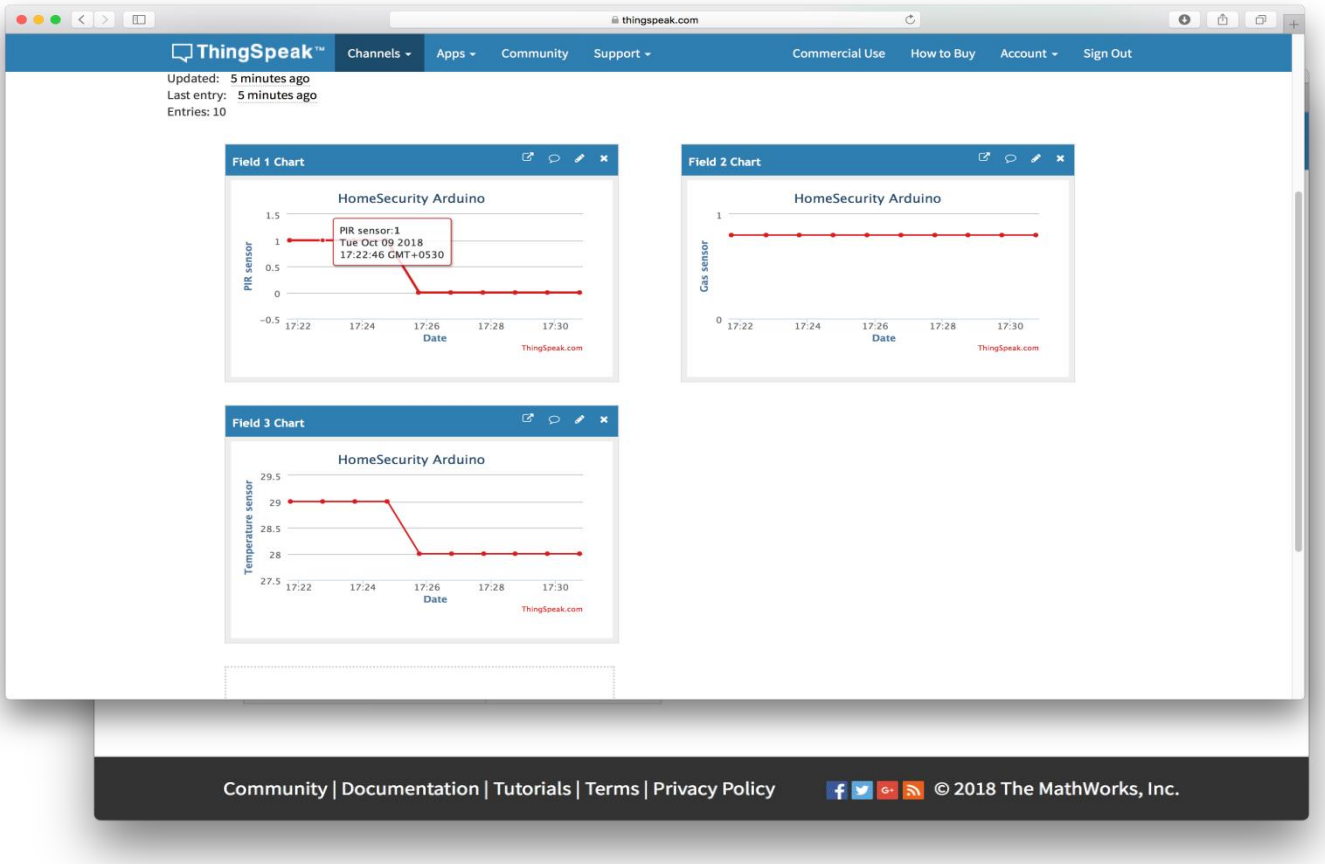


Fig. Data Stored on the Cloud via ThingSpeak

Fig. Implementation of ThingSpeak React Apps

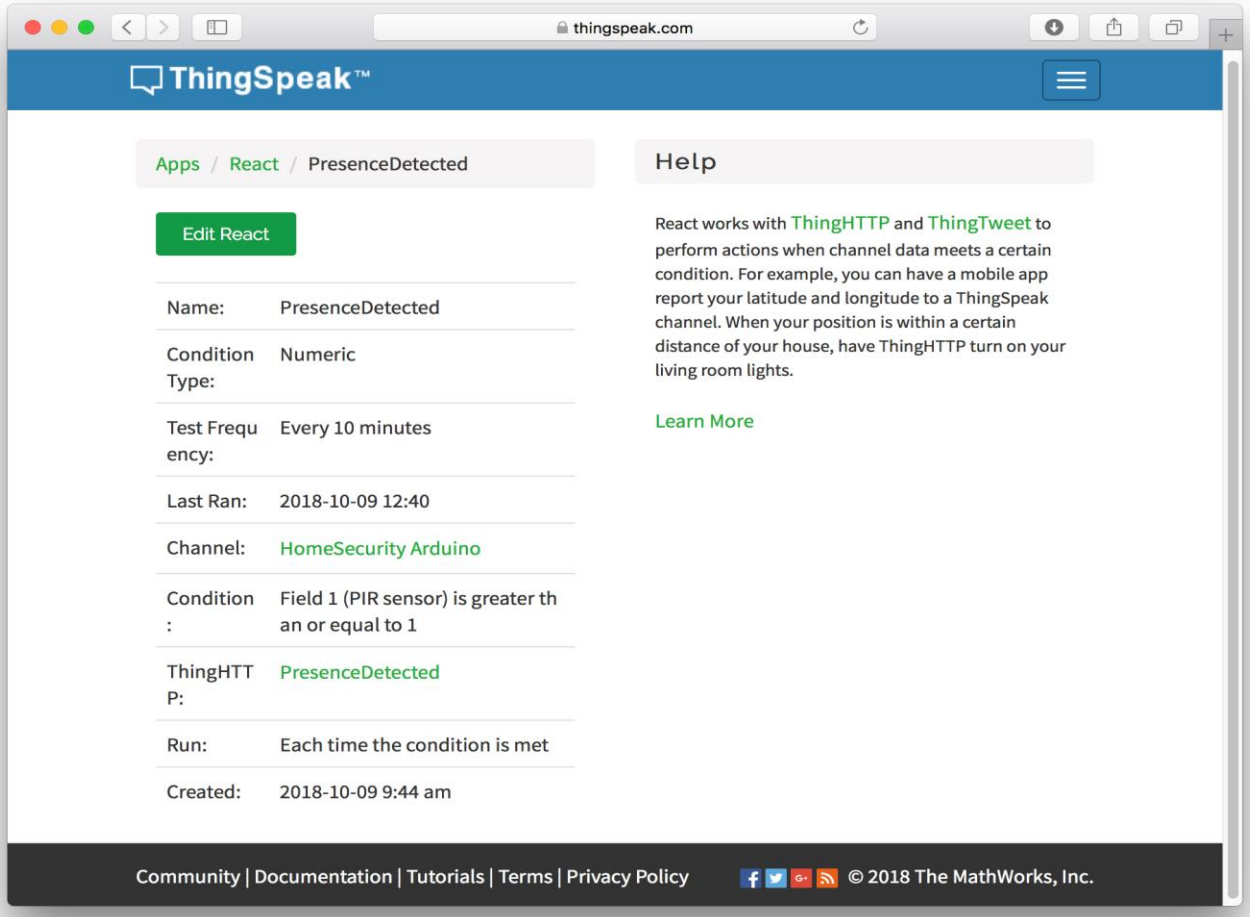


Fig. Implementation of ThingSpeak React App- “PresenceDetected”

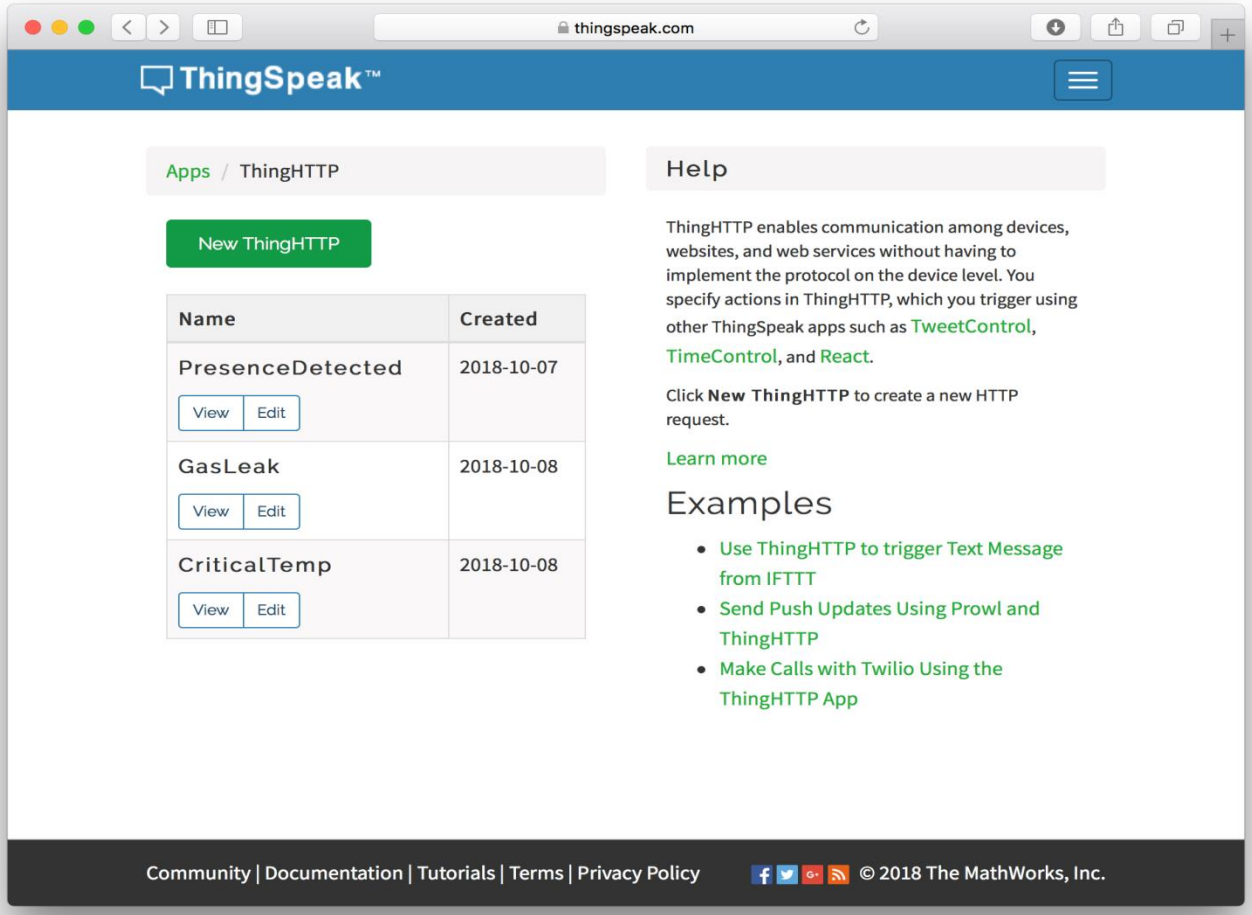


Fig. Fig. Implementation of ThingSpeak HTTP Apps

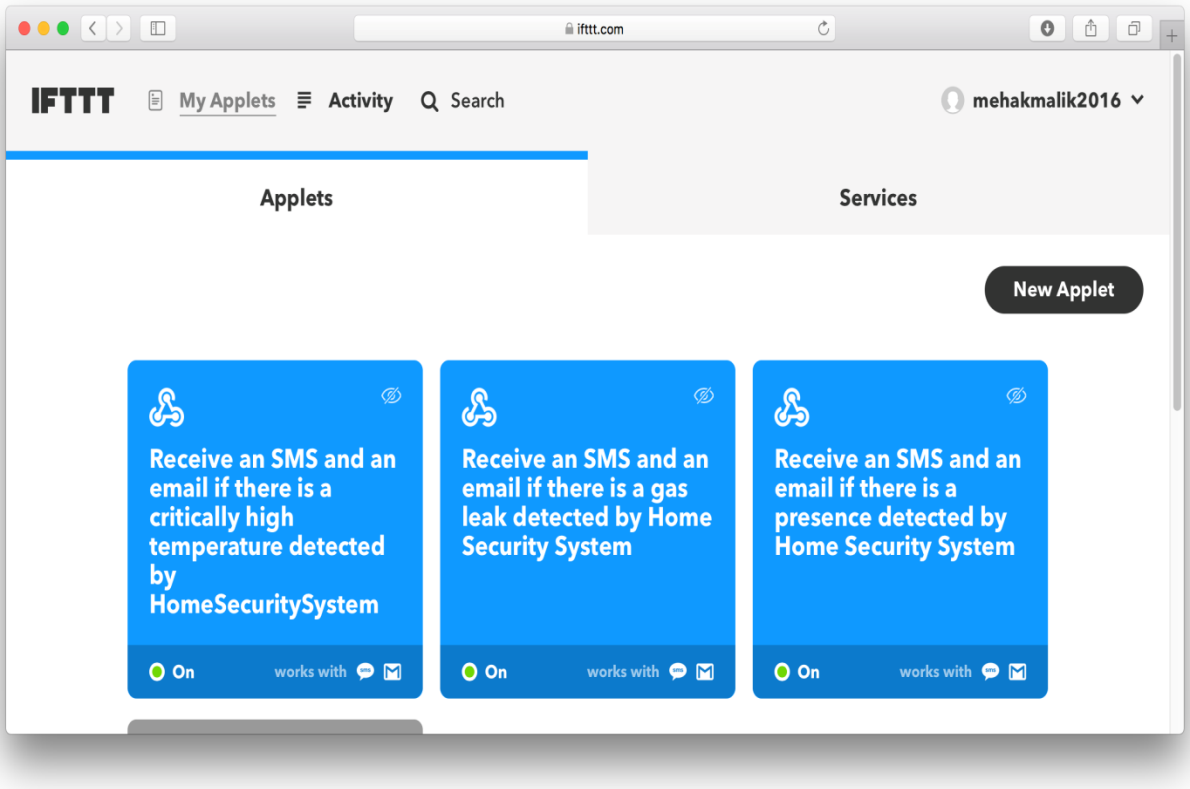


Fig. Implementation of IFTTT applets on the platform

Results Obtained:

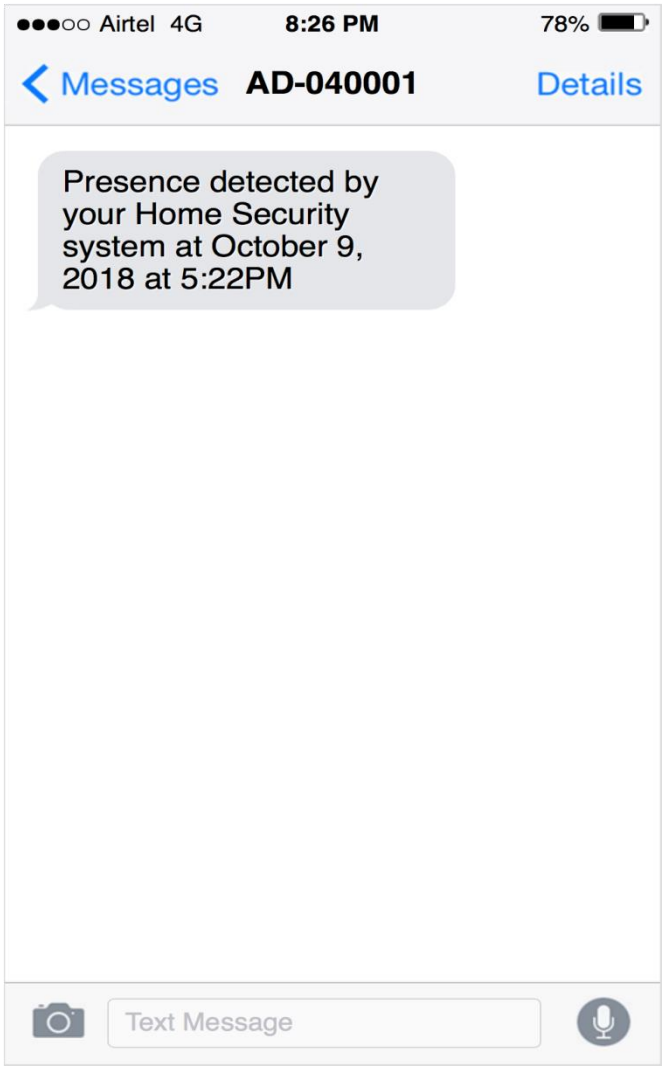


Fig. Screenshot of SMS received when intruder presence is detected.

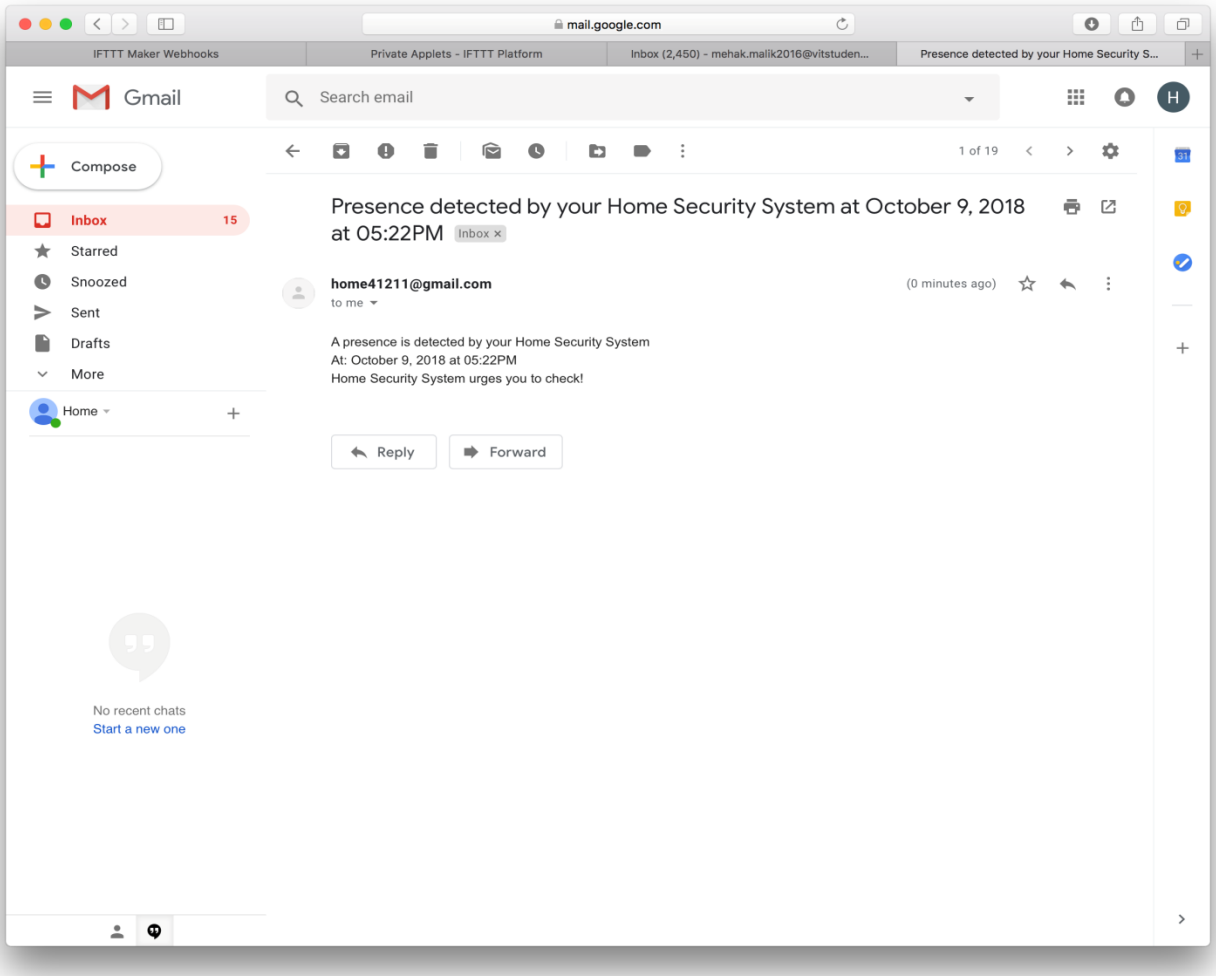


Fig. Screenshot of Email received when intruder presence is detected.

CONCLUSION AND FUTURE WORK:

Our project presents mobile controlled user friendly and cost efficient home security system.This project can be easily adapted to a real houses. Cost efficient home security system can be made that carries out basic functionalities and yet alerts the user in an interactive manner. Some of the extensive capabilities of our project is very interesting. From the convenience of smart phones a user is able to control and monitor. This make it possible for users to rest secure that their properties are protected and electrical appliances was not left running when they left the house to just list a some of the major uses of this system. Finally this home security system is easy to implemented with the maximum reliability and the high security with the low cost is a special enhancement from the existing systems for home security.

In future, we may be adding an array of sensors for each application or creating a separate systems for fire detection, temperature detection, smoke detection, light intensity detection, air quality detection and a separate security system outside doors using cameras. Our proposed system will led to implement rigid security for hospital, offices and industrial.

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