

A STUDY ON THE SMART HOMES USING (IOT)

Grezzello Fernandes¹, Febster D'Silva², Mithun D'Souza³ and S Sathyanarayana⁴

Abstract: Internet has become a daily necessity to utmost of the effective participants in which they interact and communicate among themselves by switching data and information sensed about the environment. Due to IOT they relate autonomously to the real world events and offer us with services with or without direct human involvement. This paper we use IOT for energy efficient Environmental Conditions recognizing and supervising in Household. This paper we will see how to run fully smart environment condition monitoring by various sensors for providing required data to automatically adjust the comfort level in homes by optimize use of energy. We make use of predictions here for automatically detection and resolution of any problem in the devices. It will send complaint by email or SMS to needed experts for service and it will also beep or notify with the help of notifications on his phone the owner. This gives a vast advantage on the smart home systems using Internet of Things.

KEYWORDS: Effective participants, Smart Homes, Predictions, IoT.

I. INTRODUCTION

The IOT refers to a wireless network between objects usually the network will be wireless such as household appliances. The term "Internet of Things" has come to elaborate a large quantity of technologies and study disciplines that allows the Internet to reach out into the actual world of physical objects.

Prolonging the current Internet and keeping connection, communication, and inter-networking between physical objects and devices is a growing trend that is often referred to as the Internet of Things. The IoT, also indicated to as the Internet of Objects, will change everything including ourselves. IoT signifies the upcoming evolution of the Internet, taking a vast leap in its ability to gather, scrutinize, and distribute data that we can convert into information data, knowledge and ultimately, wisdom and Understanding [3].

The Internet of Things (IoTs) can be defined as relating daily objects like smart-handphones, Internet(web) TVs, sensors and actuators to the Internet where the devices are logically linked together allowing new forms of interaction between objects and people, and between things themselves [1].

Nowadays anyone, from anytime and everyplace can have connectivity for everything and it is expected that these connections will prolong and create an entirely advanced dynamic network. IoTs technology can also be related to create a new concept and wide improvement space for smart households to run intelligence, luxury and to improve the quality of life. Modern

¹ *Aloysius Institute of Management and Information Technology (AIMIT) Mangalore, Karnataka, India*

² *Aloysius Institute of Management and Information Technology (AIMIT) Mangalore, Karnataka, India*

³ *Aloysius Institute of Management and Information Technology (AIMIT) Mangalore, Karnataka, India*

⁴ *First Grade Women's College, Mysore*

progresses in electronics and communications Technologies have lead to the miniaturization and upgrading of the functioning of computers, networking and sensors. These changes have given rise to the expansion of numerous home mechanization technologies and systems. According to, home automation can be beneficial to those who need to Access home appliances while away from their home and can amazingly improves the lives of the disabled.

II. RELATED WORK

Home automation has been so beneficial for science fiction writing for many years, but has only flattered practical since the early 20th Century ensuing the widespread introduction of energy into the home, and the rapid advancement of IT.

Home Automation is automation of the home-based, housework or household action. Home automation may comprise centralized control of lighting, HVAC (ventilation, air conditioning and heating air conditioning), appliances, security locks of gates and doors and other systems, to provide better-quality suitability, comfort, energy efficiency. Home automation for the ageing and disabled can provide increased quality of life for persons who might then require caregivers or institutional care.

The popularity of home automation has been rising greatly in past years due to much higher affordability and easiness through smartphone and tablet connectivity. The idea of "IOT" has tied in closely with the commercialization of home automation. Through the integration of IT with the home environment, systems and appliances are able to interconnect in an integrated method, which leads in the convenience, efficiency, and energy safety benefits. However, problems with complexity, competition between vendors, several mismatched standards and the expenditure have limited the penetration of home automation to homes of the rich, or motivated hobbyists.

Home automation can be described as introduction of technology inside the home environment to provide luxury, security and energy effectiveness to its occupants ^[3]. With the summary of the Internet of Things, the research and application of home automation are getting more trendy ^[4]. Different wireless technologies that can support some form of remote data transfer, identifying and control such as Wi-Fi, Bluetooth, RFID, and cellular networks have been used to embed various levels of intelligence in the home ^[3].

Various of the home automation systems that are been made commercial are now been made available and can be divided into two categories: locally organised systems and remotely organized systems. Locally well-ordered systems use an in-home controller to achieve home automation. This permits users wide-ranging use of their automation system from within their home via a stationary or wireless interface. Remotely controlled systems (RCS) use an Internet connection with an existing home security system to let the user complete control of their system from their mobile, personal computer, device, or via telephone from their home security provider. ^[2]

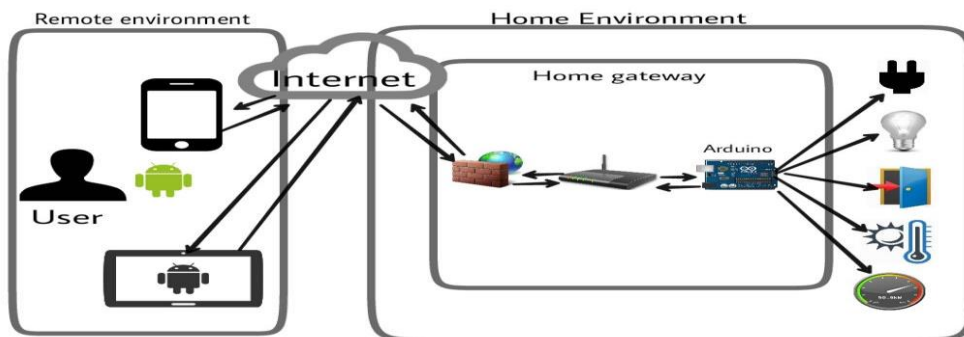


Figure 1. Overview of Conceptual Architecture.

III. NEED

We need energy capable, flexible system, which detect the fault in the devices automatically and generate a retrieval process to resolve the identified problem. As in many situations several people are not able move much from one place it is necessary for them to develop a system, which needs less human interaction. To improve the standard of living it is necessary to change home condition according to the mood of the user without any disturbance. So we need a much smooth system, which provide all the above facilities in low price and less energy consumption.

IV PROPOSED DESIGN

We use different sensors (light, temp, level) to accumulate the data to comprehend the environmental conditions and also to sense any fault in devices. It is necessary to act devices according to the inhabitant requirement. Home PC continuously observe sensors values and control the devices consequently. If drawback found it report to cloud server. Here user can change some settings and see the devices functionality and working.

We build one Registration Application where Specialists, Hyper market vendors and other service provider will register on it. They provide their details like type of service and their service timing etc. Finally Cloud Server will apply data mining on data sets. It also sends mail or SMS to the Specialist and send details to the Owner We can connect any number of users on cloud server hence it supports multi user system characteristics. Here we can use only one cloud server but we can connect lots of numbers of users to it via pc, or any android devices.

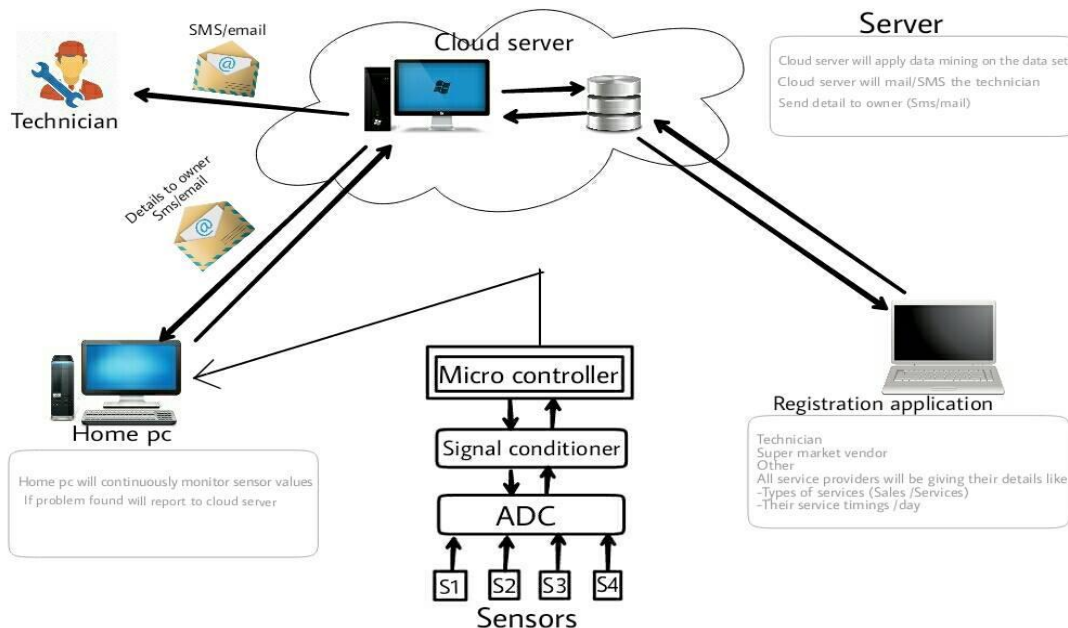


Figure 2. Proposed Architecture.

V. RESULTS

Through the internet the user can control the appliances and lights of this house using his mobile phone or laptop from any part of the world. The units can be controlled within their home using a

remote. In these paper, we proposed a different technique that will give us better results. Which include prediction by providing warninigs to the user if problem occurs in any device. First we collect different sensors values and analyse it with the help of a microcontroller, which can be monitored and controlled with a pc, or any android device connected to it. If there is a problem found in any device we alert the owner and the related technician about the problem.

VI. SCOPE AND FUTURE WORK

Our system currently consists of SMS and email notification but in the future we will try and implement voice alerts.This system can be extended to include various other possibilities,which could include home security features such as to open door and detecting motion.

VII. CONCLUSION

In smart home systems, all the electrical appliances are integrated together in the house. The approaches which are going to use in home automation include those in the building automation as well as the control of domestic activites, such as television, collers, tube,lights,refrigerator and washing machine. Our system doesn't just monitor the environment issues, it also studies inhabitant requireiments. We also send notification to the user and send mail or SMS to the required authority regarding the problem in this paper we are trying to optimize computer intelligence by minimizing human interaction between. Growth of such Smart Home is Achieved by using internet of things technologies. By using these system we can help in minimizing cost, and also flexible smart homes which will adjust its environment conditions and rectify its mistakes with energy savings.

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