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Implementation Artificial Intellegence for Smart Residency

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ABSTRACT

Intodays Robotic Era the customization and modification of residential home are running trends.This can be possible by using the artificial intelligence in which we are converting our living room in different kind of environment like Disco, pub and party house and study environment plus traditional functions environment according to our need. We can customize and covert our single environment of residential home in a such a way we are applying the entire artificial intelligence for controlling the each system available in the residence like we can ON and OFF the Lights,Fans and also smartly we can operate a switches from remote location. Digitally we can operate the AC system. Each appliance in the residence under the observation and control of user it will save the electricity and provide the high level of security and safety. The system can be possible to implement through configuration and synchronization of different types of cross platforms that are Rasbiance, Android and some kind of database.

Keywords-Home automation, Smartphone, Arduino, Wi-Fi, Home appliances, Arduino board, sensors

I. INTRODUCTION

The value of our live can be improved by automatic various instruments. There is a always problem for handicapped peoples to access the day to day life appliances. The basic idea of the smart residency is accessing the appliances with smart phones from the remote locations. Our main objective is controlling the home appliances from both indoor and outdoor. And the major objective is to accessing the appliances without much the interfacing to human. By understanding day to days schedule according to that device will get automatically switched ON and OFF.

Smart Home is the term commonly used to define a residence that uses a Home Controller to integrate the residence's various home automation systems. The most popular Home Controllers are those that are connected to a Windows based PC during programming only, and are then left to perform the home control duties on a standalone basis. Integrating the home systems allows them to communicate with one another through the home controller, thereby enabling single button and voice control of the various home systems simultaneously, in

preprogrammed scenarios or operating modes. Automatic hand gesture recognition has been a very industrious research area in recent years with interesting applications such as human computer interaction -HCI, robot control, home automation, and sign language interpretation.Using the system of HCI and hand gesture recognition smartly home appliance can be accessed by the user .

II .EXISTING TECHNOLOGIES

A. Home Remote Automation System Based on Smartphone

Recently, technological developments have given huge contribution to improve the quality of human life and welfare. This technology can be used to monitor and control the use of electrical energy and electronic devices at home to facilitate the user . Microcontroller is used as a support tool for controlling the electric current, as example, the control system with SMS (Short Message Service) on the mobile phone as a remote control system automatically. The concept of electric current controlling using this technique is easy, however the process will spend much data storage since there will be a lot of SMS sent from the GSM module data transmission due to the electric current is updated in every second . Therefore, in order to reduce the data storage, the control system of electric current is made by using an online space that connects to Smartphone via internet. Smartphone is chosen because this phone has many features, such as accessing the mobile web, has an operating system, QWERTY keyboard and a touch screen. In other words, the Smartphone is a small computer which has the capabilities of a phone and computer in the same time.

In the Smartphone, the technology which is applied known as Mobile Web Application . Mobile Web Application is the easiest application to learn, to be standardized, most available, and the easiest to be distributed. Mobile web application is also the only platform that is available and capable to be run on all mobile devices, using a standard set and the same protocol with a web desktop that is designed for Smartphone

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B. Smart Home Automation using IOT

Homes of the 21st century will become more and more self-controlled and automated due to the comfort it provides, especially when employed in a private home. A home automation system is a means that allow users to control electric appliances of varying kind. Many existing, well-established home automation systems are based on wired communication. This does not pose a problem until the system is planned well in advance and installed during the physical construction of the building. But for already existing buildings the implementation cost goes very high. In contrast, Wireless systems can be of great help for automation systems. With the advancement of wireless technologies such as Wi-Fi, cloud networks in the recent past, wireless systems are used every day and everywhere.

C. Hand Gesture Recognition

automatic hand gesture recognition has been a very industrious research area in recent years with interesting applications such as human computer interaction (HCI), robot control, home automation, and sign language interpretation. The overall problem is bit difficult due a number of problems including the complex nature of

static and dynamic hand gestures, complicated backgrounds, and obstructions. Attacking the problem in its broad view needs to elaborate algorithms requiring demanding computer resources. What encourages us for this work is a real time home automation problem, in which we are interested in operating a robot by hand pose signs given by a human. Due to real-time operational requirements, we are interested in a computationally proficient algorithm.

Modelling Human Behaviour in Smart Home via Machine Learning Techniques.The potential of "Internet of Things" to transform lives is gradually being realized by its current applications in agriculture, cattle management ,smart energy management,healthcare and a number of other domains.It is very clear that Internet Of Things has the power to tackle a multitude of problems.One such problem that we are looking here in this paper is increasing energy consumption. Automation solutions for conserving energy have been around for quite a while, but their extreme high costs do not really give justice to residential,commercial and industrial faculties. Internet Of Things can definitely be seen as an affordable technology in driving down the costs of energy price hikes.Increasing energy consumption has already become a critical area of focus where in utilities,faculties,government, energy providers and most importantly end customers are concerned and associated

III .PROPOSED SYSTEM

User can access the appliances through the smart phones and using the switch board.The LM35 temperature sensor,IR sensor,LDR sensor ,Relays these sensors are connected to the Arduino for controlling the home appliances.

User can send the command to his smart phones using GSM module to the Arduino.After getting the command Arduino can control the appliances according to the user request.

As the person enters/exit into the rooms using sensor the appliances will get on/off. Respectively when stranger will enter through window buzzer will ring automaticallyrecentsystem overview

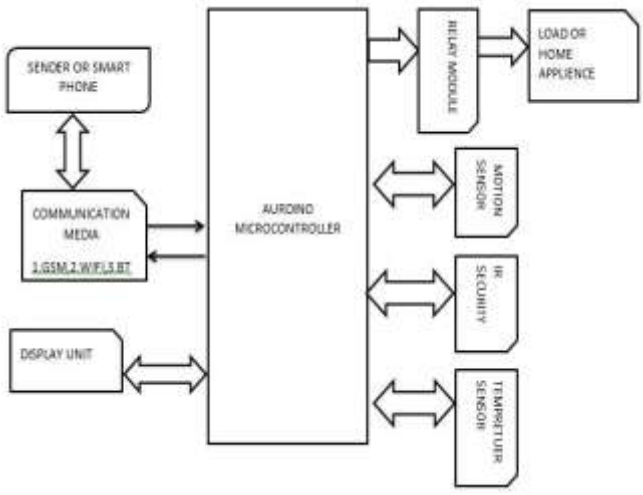

Fig1: smart residency System stucure

.IV.CONCLUSION

This system can provide easy access of home equipments from the remote location by simply using a smart phone. Without the using smart phone and traditional switch board the appliance can be control by just entering the person in the room.

In order improve the standard living in home, this system provides Android based application to control .

Main focus is to control home equipments like fan, AC, Bulb etc.

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