

Implementation of an Intelligent Universal Remote Control System for Home Appliances

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Abstract- Smart home is the latest technology; number of devices increases in the home it's hardened to control all that particular devices. To abate this problem an intelligent universal remote control system is proposed. All the homey mechanisms are under controlled through IOT. Communication between user/household and IOT is done using Wi-Fi. It's easy to control mechanism's anytime and anywhere. It will display the connected devices on the display screen of the remote controller. The remote will display the sampled devices at display screen of the remote controller. This controlling is through Wi-Fi so Raspberry pi3 processor was used. Real time prototype was implemented to verify the proposed scheme. This evaluation results show's that an intelligent universal remote control system for home appliances through IOT is useful for smart home.

Index Terms- Easy to control, Smart home, Efficiency, Flexibility

I. INTRODUCTION

The goal of this paper is to develop an intelligent universal remote control system. Present days remote controls suffer from several problems they have too many buttons and too few uses. Universal remotes are hard to learn and may require several button presses to achieve a simple function, while equipment specific remotes don't control enough devices so one must keep multiple remotes handy. I proposed a design of a universal remote control system for home appliances which greatly simplifies the control of multiple devices.

One can imagine a situation where a person has lost some of his/her physical dexterity or mobility, and in the absence of Suitable controls would need a helper to manage her/his home, with the attendant expense and loss of independence and privacy. But with

adequate automation this person might be able to stay independent.

The internet of things: Internet of Things (IoT) is a concept and a paradigm that considers pervasive presence in the environment.

Wireless and wired connections and unique addressing schemes are able to interact with each other and cooperate with other things/objects to create new applications/services and reach common goals. The goal of the Internet of Things is to enable things to be connected anytime, anyplace, with anything and anyone ideally using any path/network and any service.

Internet of Things is a new revolution of the Internet. New types of applications can involve the electric vehicle and the smart house, in which appliances and services that provide notifications, security, energy-saving automation, telecommunication computers and entertainment are integrated into a single eco system with a shared user interface.

With the Internet of Things the communication is extended via Internet to all the things that surround us. The Internet of Things is much more than M2M communication, wireless sensor networks, 2G/3G/4G, RFID, etc. These are considered as being the enabling technologies that make "Internet of Things" applications possible.

II. RELATED STUDIES

Currently the majority of devices and appliances in smart homes are equipped with a remote controller, which includes a number of buttons and wireless transceivers. This setup provides higher operational complexity around the space with numerous devices or appliances. Thus, the idea of the universal remote controller (URC) is introduced to integrate multiple

functions of home devices or appliances into one single remote controller.

Nevertheless, various functions and buttons of a URC results in more complicated operations, the device or appliance can be automatically detected via a network and AUI is dynamically generated from descriptions and properties of the device or appliance.

III.EXISTING SYSTEM

The below mentioned existing system obtain using infrared system [IR] for controlling of home appliances. Here uses [PPCB] Point –n – press control box control the home appliances and PPCB's are connected to peer to peer remote controller [PPRC] is a protocol to replicate a storage volume to another control unit in a remote site. PPRC can be used to provide very fast data recovery.

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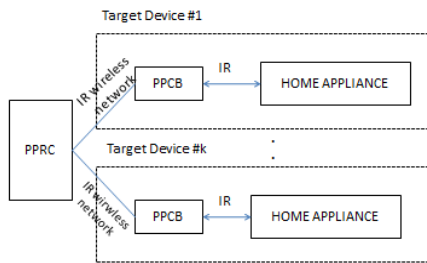


Fig:1 Existing URC

IV.PROPOSED SYSTEM

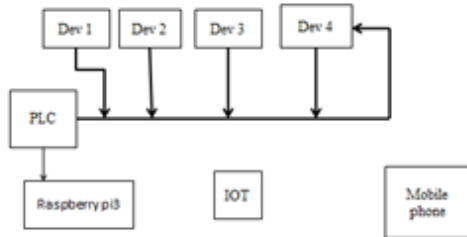


Fig:2 Proposed System Block Diagram

The current system is the block diagram representation of proposed system. Universal remote control system is a technique to reduce the confusion between appliances. In the present all home

appliances connected to power line controller[PLC].This power liner is connected to raspberry pi3. Raspberry has internally Bluetooth and wi-fi .For controlling home appliances wi-fi is used extremely our own selves used raspberry pi3.it has 40 pin description, it runs at 1.2GHZ speed. The particular appliances are controlled through a mobile phone by using internet of things[IOT].

V.HARDWARE IMPLEMENTATION

The below mentioned is the hardware representation of URC. This device is mainly used for controlling home appliances. Here this device controlling home appliances. A 12-0-12 step down transformer is used for 12v DC it converts 230v Ac to 21v Dc. Relays are used for switching purpose and variable capacitor is to vary the capacitance.



Fig:3 Hardware Implementation Of Urc

VI.RESULTS

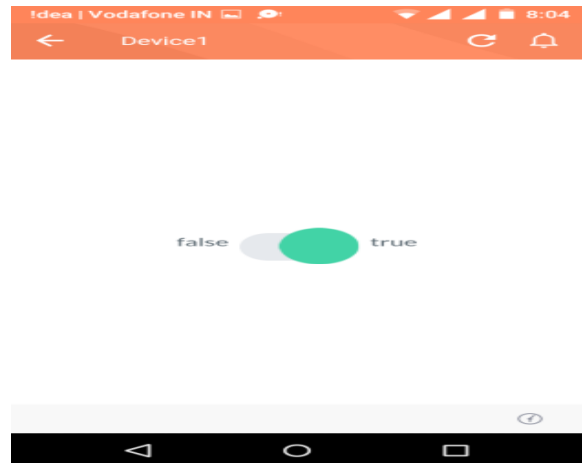


Fig:4 Represents True Condition



Fig:5 Represents False Condition

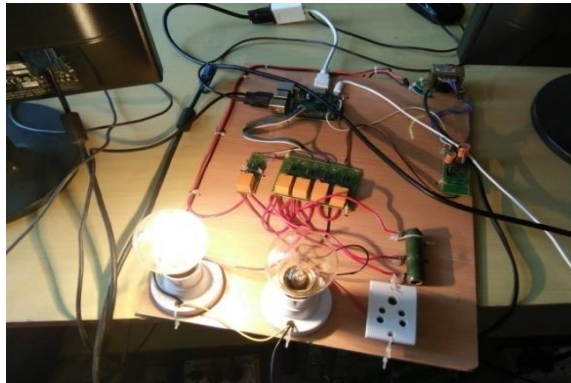


Fig:6 Represents True Condition I.E Light Is On

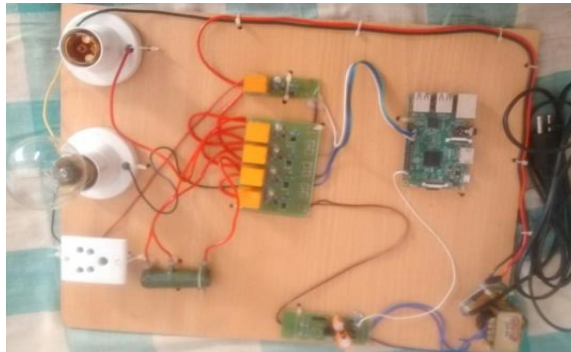


Fig:7 Represents False Condition I.E Light Is Off

VII.CONCLUSION

In this paper, we introduced mobile device based on universal remote control system. An intelligent universal remote control system is proposed for controlling connected devices/appliances. In smart homes through IOT python language was used for coding purpose it is very simple to understand and short length programming language. The advantages

of universal remote control system are smart home, user friendly, adding convenience to your daily life. This system can also be used for industrial purpose. An intuitive control system with a set of user-friendly operations. This is one future work area where our prototype can improve.

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