

VOICE AND GESTURE BASED HOME AUTOMATION SYSTEM

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ABSTRACT

It is now common to control home appliances and electronic gadgets through an Infrared remote control. These tasks can also be done more easily. The primary motive of proposing a new system of hand gesture control is to eliminate the need for the elderly/disabled people to use a physical remote but rather use simple gestures. Gesture means a movement of part of body. Gesture Recognition is the technology that is used to identify physical actions. It recognizes hand, arms, head or any part of the body. So the goal is to provide a human interface to the computer. The devices can be controlled not only by using gestures but also by using voice commands as well. Smart assistant such as Google assistant can be used for this purpose

Keywords: IoT, Arduino, Flex, Google Assistant, Gesture and Voice commands.

I. INTRODUCTION

We live in an exciting generation where commonly used everyday appliances i.e. "things" are becoming smart! "Things" that have sensors can communicate to other "things" and can provide control to more "things". The Internet of Things (IoT) is upon us in a huge way and people are rapidly inventing new gadgets that enhance our lives. Smart Building not only refers to reduce human efforts but also energy efficient and time saving. In this paper, everyday appliances are connected to sensors and sensors give status of appliances to the web. Controlling home appliances and electronics gadgets through an Infrared remote control is now in general. But the same controlling tasks can be done more easily. Primary motive of proposing the new system of hand gesture remote control is to remove the need to look in to the hand held remote and to search for a specific key for specific function. Gesture means a movement of part of body. Gesture Recognition is the technology that recognizes the movement of body. It recognizes hand, arms, head or any part of the body. So, the goal of Gesture Recognition is to provide interface of human body with computer via mathematical algorithm. This paper presents a novel system to control home appliances through hand gesture as a remote-control device. In this paper, not only by gestures the devices are controlled by using voice with the help of digital assistant like Google Voice Assistant.

II. LITERATURE REVIEW AND PREVIOUS WORK

The construction and conversion of ordinary homes into "smart homes" has seen a tremendous rise in recent years. This can be ascribed to technologies such as the Internet of Things, sensors, smart phones, smart appliances, cloud computing, and digital assistants such as Amazon Alexa, Google

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