Home Automation using Gesture Recognition and Wireless Communication

Mentor - Dr. Arzad Alam Kherani

Mayank Chaturvedi 12040870

Saurabh Raj 12041340

Athulitha Yashaswini 12040610

Proddutoori Vamshika 12041150

**Introduction:**

Home automation is a rapidly evolving field, which involves the automation of household activities using smart devices and the internet of things. Gesture recognition technology is a powerful tool that allows users to control their home automation systems with hand gestures. In this draft, we will discuss the concept of home automation using gesture recognition through wireless communication.

**Home Automation using Gesture Recognition through Wireless Communication:**

Home automation using gesture recognition through wireless communication involves the use of wireless resources that detect the user's hand gestures and send signals to the home automation system. The home automation system then interprets these signals and executes the corresponding commands.

For example: If the user wants to turn on the lights, they can simply make a hand gesture that is recognized by the wireless source. The wireless source then sends a signal to the home automation system, which turns on the lights. Similarly, the user can control other devices like fans, air conditioners, and doors using hand gestures.

Gesture recognition system that leverages wireless signals (e.g., Wi- Fi) to enable whole-home sensing and recognition of human gestures. Since wireless signals do not require line-of-sight and can traverse through walls, WiSee can enable whole- home gesture recognition using few wireless sources. Further, it achieves this goal without requiring instrumentation of the human body with sensing devices. We will implement a prototype of WiSee using USRP and evaluate it in both an office environment and a two-bedroom apartment.

Application would be controlling a monitor, music player and home appliances.