

## **Introduction And Problem Statement**

IOT Based Home Automation provides a solution to control your home appliances from anywhere around the world.

### **Tasks:**

Alarm clock rings, then

1. Room lights are turned ON
2. Window curtain opens
3. Water heater (Geyser) in bathroom switched ON
4. Water tap opens and tub fills with water
5. Music starts playing when person enters the bathroom
6. After several minutes, water in the jug starts boiling (I-e: Electric kettle is turned ON). If there is no water in the kettle, the system must inform the user.
7. Garage door opens when user tries to enter using 1 layer identification via finger print scanner.

## **Concept Design/Proposed Methodology**

The first step would be to make an alarm clock using DS1307 clock module with arduino. This alarm module works using I2C Protocol. A 3.2" LCD screen would be used to display the alarm clock and MP3 music player. The LCD Screen will be connected with Arduino. When the alarm clock rings, a relay connected will turn on the room light. aREST dashboard platform will be used in order to automate room lights, electric kettle, water geyser etc. The curtains will roll over using a servo motor controlled through Arduino. The geyser will be turned on using a relay and the water tub will be filled with water by opening the water tap using another servo motor and a water level sensor which will tell whether the tub is filled or not. When tub is filled with water, water level indicator will tell arduino to close the tap. Similarly, the electric kettle will be turned on based on relay switching after a certain time after the alarm rings. The garage door will open after finger-print recognition. The finger print sensor will recognize the thumb/finger print. The user's thumb/finger prints will be stored in admin mode. The finger print will be matched with the print in memory.

The whole project will be carried out in a professional way. The client will get to know progress on each and every stage.

## **Objectives/ Goals**

The primary objective of this project is to convert your home into smart home. Home automation provides ease of operation and gives you the whole control of your house using a single application which enables you to control your home appliances from anywhere around the world. Any of the house appliances can be controlled over Wi-Fi using Internet Of Things. Automated door-locking facilitates more safety, application can save a lot of precious time. Also, human lives can be saved from short-circuits or electric shocks by elimination of conventional wall switches.