HOME AUTOMATION USING ARDUINO

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ABSTRACT

- The main aim of this project is to design and construct a home automation system using an Arduino board, that will remotely on/off home appliances connected to it.
- This provides an integrated system built to facilitate a smart home for the general public especially for the elderly and disabled as the conventional wall switches located in different parts of the house makes it difficult for them to go near to operate. These can not only be used at home but also on a larger scale like offices, industries, hotels, universities, etc.
- In this project we use micro-controllers like Arduino, ESP8266 (Node MCU) to help the consumer wirelessly control lights or automatically turn off lights in case no motion detected to save power consumption, a door lock keypad system to increase security in sensitive areas, a fire alarm system one of the basic needs for almost all newly constructed buildings, and also a plant monitoring system that can be used in farms, green-house, various labs, etc.

APPLICATIONS

- These smart home systems can be used for simple or elaborate tasks by integrating devices and gadgets inside and outside of your home.
- Control lights using PIR sensors: Street lights, washrooms, places where light is required only when someone needs to pass by or use it for a very short period of time so electricity is saved.
- Wi-Fi Controlled : Smart rooms, can be used to run appliances directly from the smart phone or any device connected to the internet.
- Smoke detector system can be used offices, shops and homes to detect fires. It can also be used to detect alcohol content ignorer to check if people are drunk driving, detect the concentration of harmful and harmless gases in the atmosphere.
- The smart door lock system can be used in homes, offices, and hotels. They provide a higher level of security as compared to the locks used nowadays. It saves time as we don’t need a key to lock and unlock the door. It has better access control as we might lose physical keys or forget them.

IMPLEMENTATION ENVIRONMENT

TINKERCAD

Tinkercad is an application that allows users to create, design and program Arduino projects without the need of hardware components. It is a free, online 3D modeling program that runs in a web browser, known for its simplicity and ease of use.

Thank You