

NAJAH UNIVERSITY

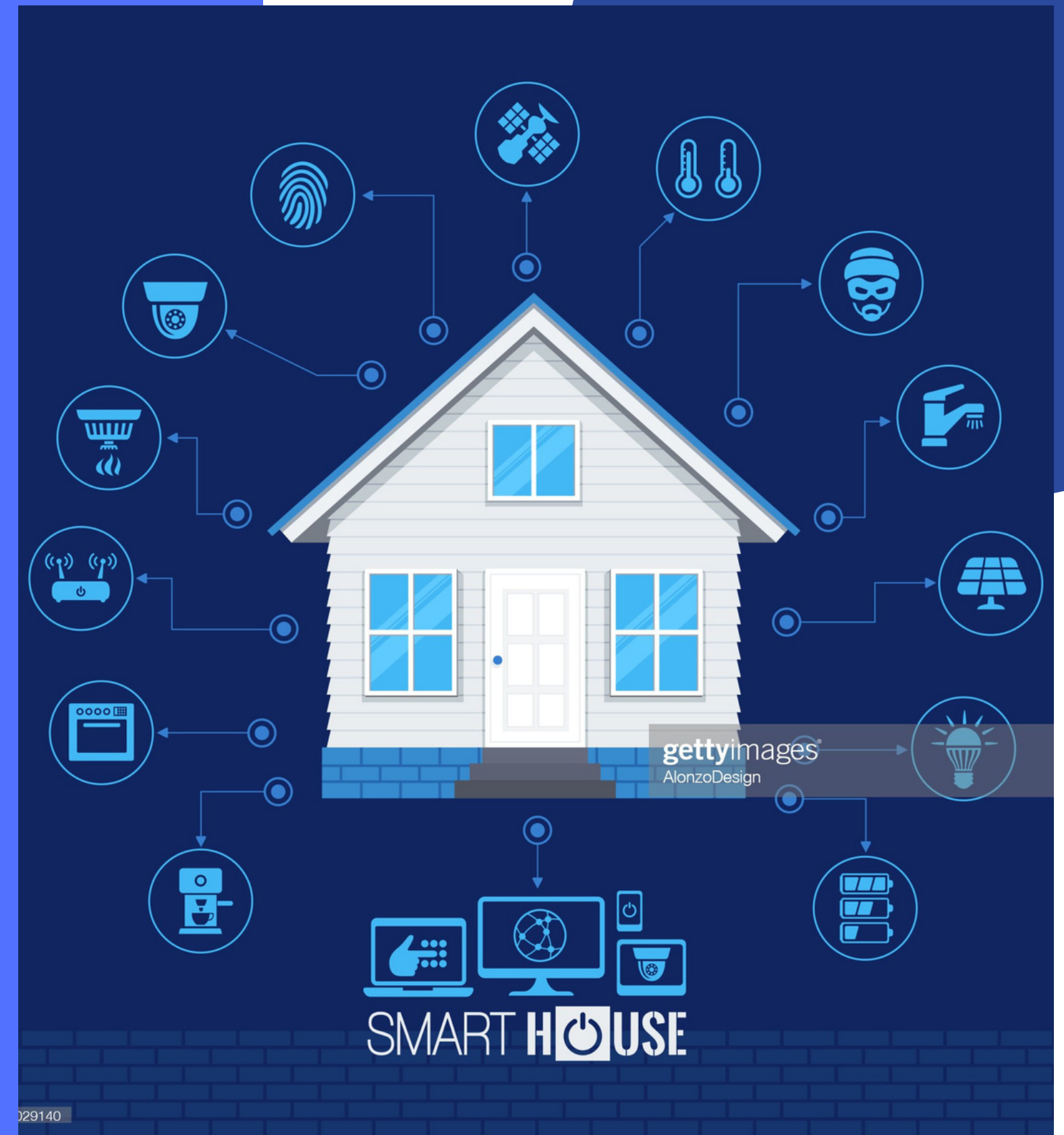


SMART HOME

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PROBLEM AND OBJECTIVE



Motivation

1

TIME SAVING

It saves your time and makes you use it wisely

2

CONVENIENCE

You can count on it to do your home chores especially for disabled people.

3

ENERGY EFFICIENCY

controlled in a smart way

4

MODERNITY AND LUXURY

it is Fancy to have a smart house



IMPLEMENTATION

*SUBSYSTEM , COMPONENT AND
MOBILE APP*



1 AIR CONDITION SYSTEM

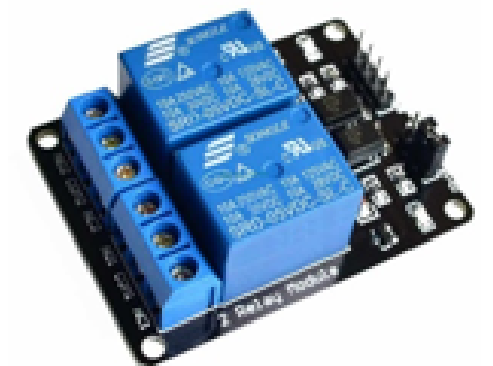
This system is responsible for maintaining a certain temperature level.

1 HOW IT IS WORK ?

When the read temperature is greater than a certain threshold the fan will turn on, and when it's lower it turns off. The user can control the threshold value from the mobile app.

2 TOOLS :

- *Temperature Sensor*
- *Relay*
- *12v Fan*



2 OUTDOOR LIGHTING SYSTEM

This system can be managed in an automatic or manual way .

1 HOW IT IS WORK ?

When a motion is detected and the luminous intensity is lower than a certain level the lamp will be on. Also, the lamp can be controlled from the mobile app.

2 TOOLS :

- *12v Lamp*
- *Motion Sensor*
- *Relay*
- *LDR*



3 FIRE DETECTION AND ALARM SYSTEM

This system basically depends on smoke detection.

1 HOW IT IS WORK ?

When the smoke sensor detects smoke the system turn on the buzzer. Also, the user can turn on/off the buzzer but, still can see the detection state.

2 TOOLS :

- *Smoke Sensor*
- *Piezo Buzzer*



4 INDOOR LIGHTING SYSTEM:

This system can be managed in an automatic or manual way .

1 HOW IT IS WORK ?

It depends on the luminous intensity level to turn on the LEDs. Also, the user can turn it on/off from the mobile app.

2 TOOLS :

- LDR
- Resistor
- LEDs



5 WATER TANK FILLING SYSTEM

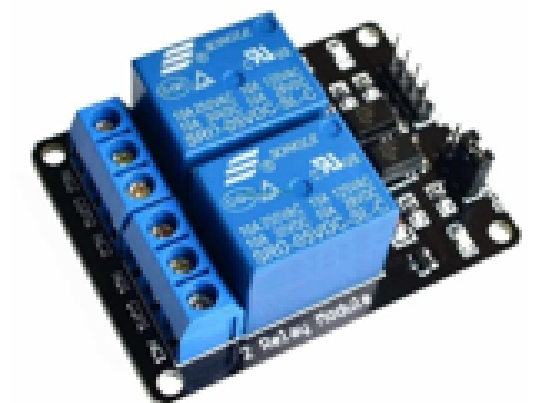
The system's responsibility is to fill the water tank in an automatic or manual way.

1 HOW IT IS WORK ?

When the water level gets lower than a certain level the system will start the water pumping into the tank. Also, the user can turn on the pump manually from the mobile app.

2 TOOLS :

- *Water Level Sensor*
- *12v pump*
- *relay*



6 IRRIGATION SYSTEM

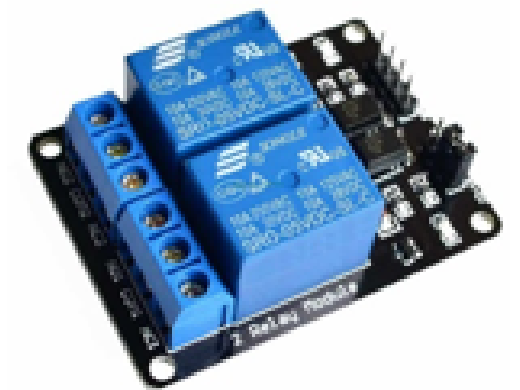
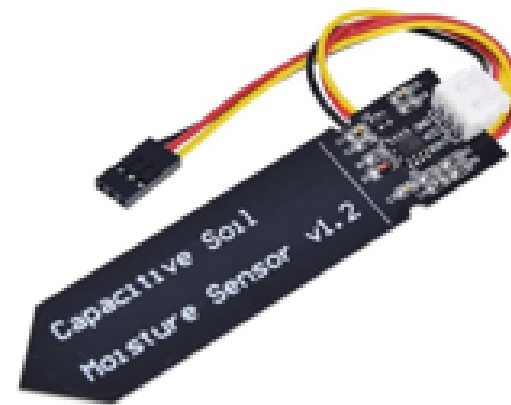
This is an irrigation system to irrigate the crops

1 HOW IT IS WORK ?

When the soil humidity is lower than a specific value the system will automatically run and start irrigate. Also , the user can contol it from the Application.

2 TOOLS :

- *12v pump*
- *relay*
- *soil moisture sensor*



7 MONITORING SYSTEM

This system gives the user the ability to monitor his home whenever he wants.

1 HOW IT IS WORK ?

as it contains an ESP32Cam connected directly with the Android app. The user can open the Android application and start monitoring his home easily.

2 TOOLS :

- *ESP32Cam*



8 HOUSE GATE SYSTEM

This system is responsible of open and closing the house gate in a manual way(from the mobile app) and opening automatically by the motion sensor.

1

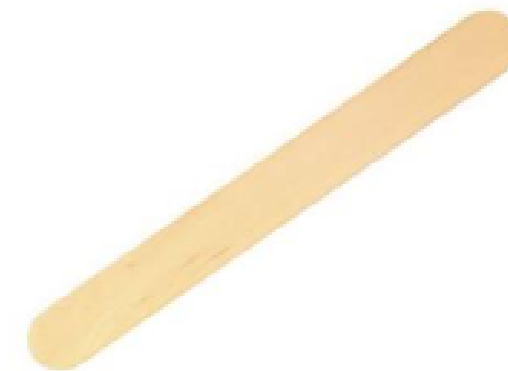
HOW IT IS WORK ?

The gate system work through an ice cream stick tied to the motor which stops as a barrier behind the door when it is in a closed position to prevent anyone from entering and if someone wants to enter, the stick will move away from the door. in the automatic mode, if there is a motion from the motion sensor then the gate will open, and when the motion stops the gate will close.

2

TOOLS :

- *servo motor*
- *ice cream stick*
- *motion sensor*



MOBILE APP.

THIS IS THE SOFTWARE WHICH
GIVE THE USER TO CONTROL
AND MONITOR THE HOUSE
REMOTELY.

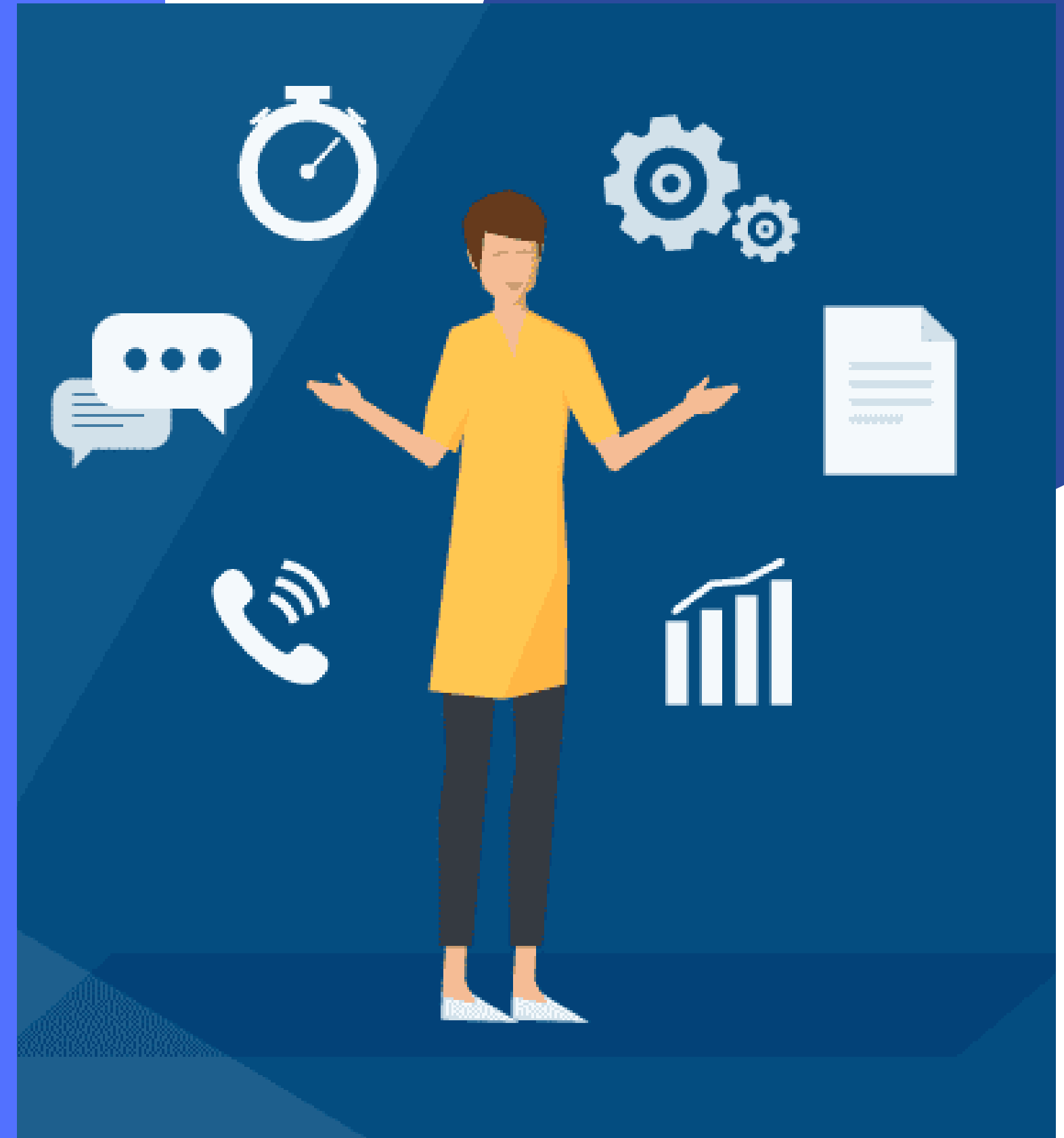


Welcome

You can see the Information about the
systems from menu icon of AppBar.

CONSTRAINS

CHALLENGES WE FACED IN THIS
PROJECT



CONSTRAINTS

- 1 the lack or high price of the component .
- 2 Learn and master flutter language.
- 3 Dealing with some parts of the project that need a special process.

FUTURE WORK

- 1** Making the monitoring system more sophisticated and dependent on the movement and sound surrounding it and making it rotatable to cover more area
- 2** Giving the user the ability to control the windows and doors of the interior rooms
- 3** Increase the security of the house by setting a password to enter the house and operating an alarm if an attempt is made to open the main door by force

THANK

YOU