<div align="center">

ADVANCED HOME AUTOMATION
correctness of the diagrams depends on the problem statement she gives so copy mindfully!

</div>

Termwork 1:

Ambiguities:

How will the system handle communication with different types of home automation devices?

How will the system handle device compatibility and interoperability issues?

How will the system handle power outages and other system failures?

Inconsistencies:

There are inconsistencies in the functionality and reliability of different home automation devices.

There are inconsistencies in the user interfaces and user experiences of different home automation systems.

There are inconsistencies in the pricing and availability of different home automation devices and

Incompleteness:

The system does not specify the range and compatibility of different home automation devices.

The system does not specify how it will handle the coordination and scheduling of different home automation tasks.

The system does not specify how it will handle the integration of different types of media and entertainment systems.

Functional Requirements:

The system should be able to control and monitor various home automation devices.

The system should be able to automate routine tasks, such as turning on lights or adjusting thermostat settings.

The system should be able to provide a customizable and user-friendly interface.

The system should be able to integrate different types of media and entertainment systems.

The system should be able to provide alerts and notifications to the user.

The system should be able to provide remote access and control of the home automation system.

Non-functional Requirements:

The system should be energy-efficient and eco-friendly.

The system should be reliable and minimize the risk of system failures.

The system should be scalable to accommodate different sizes and types of homes.

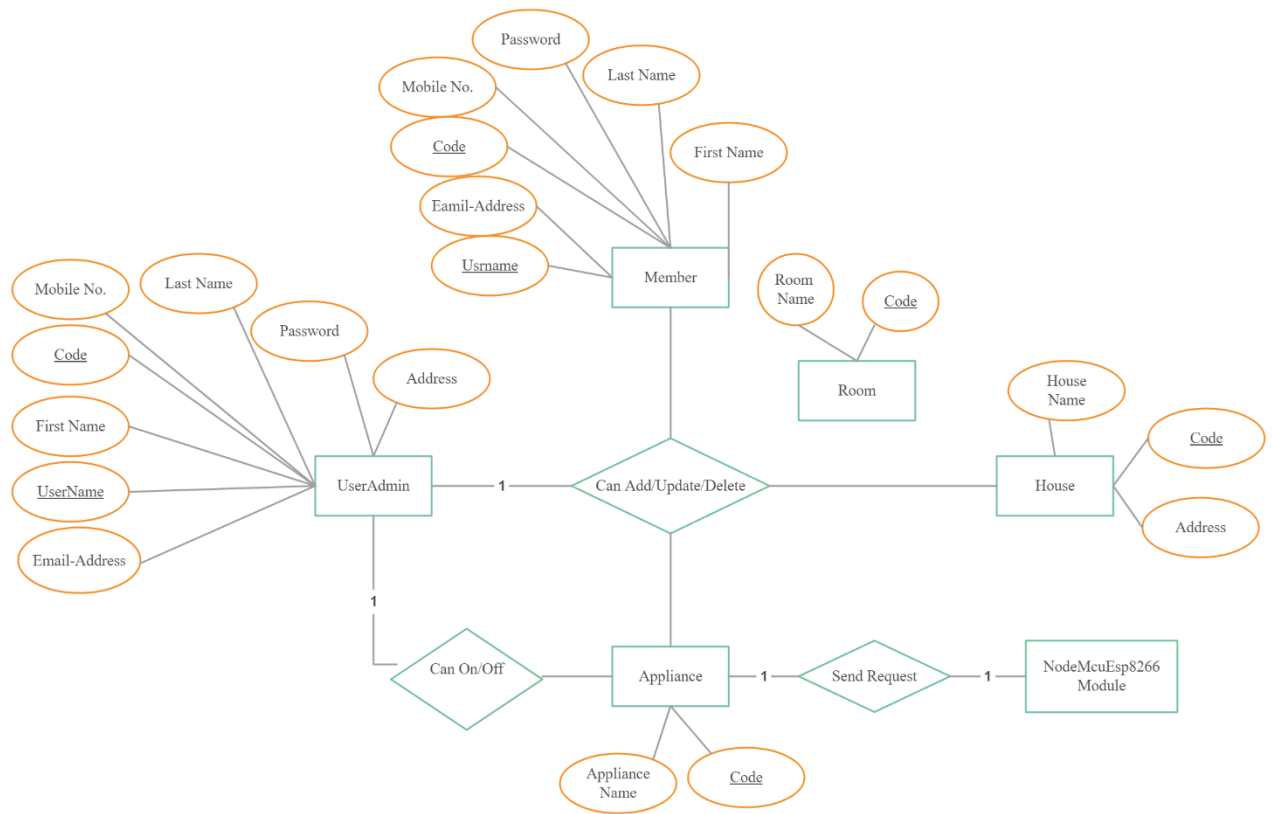The system should be secure and protect user data and privacy.

The system should be easy to install and use.

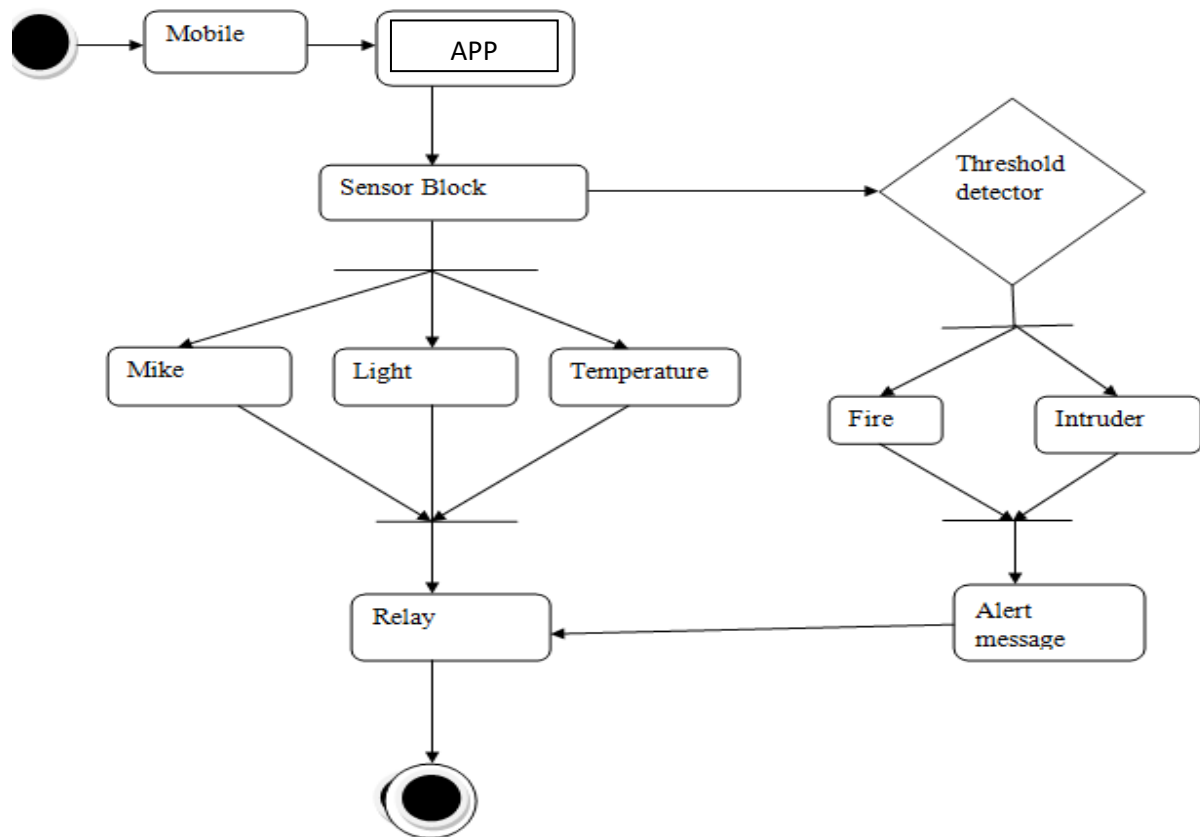The system should provide efficient and timely technical support to the user
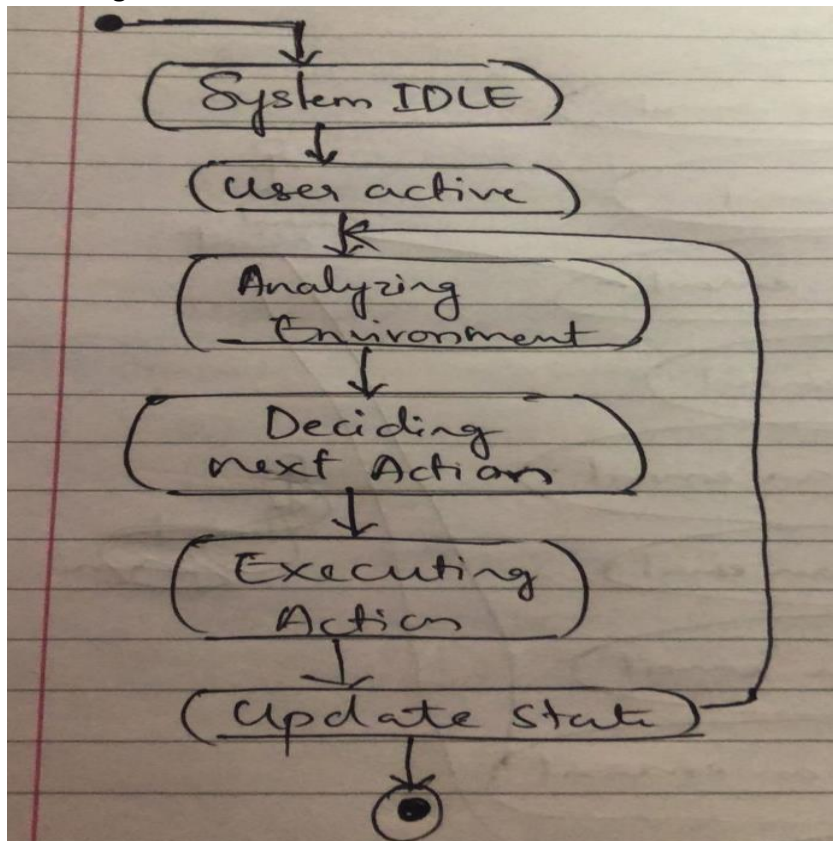
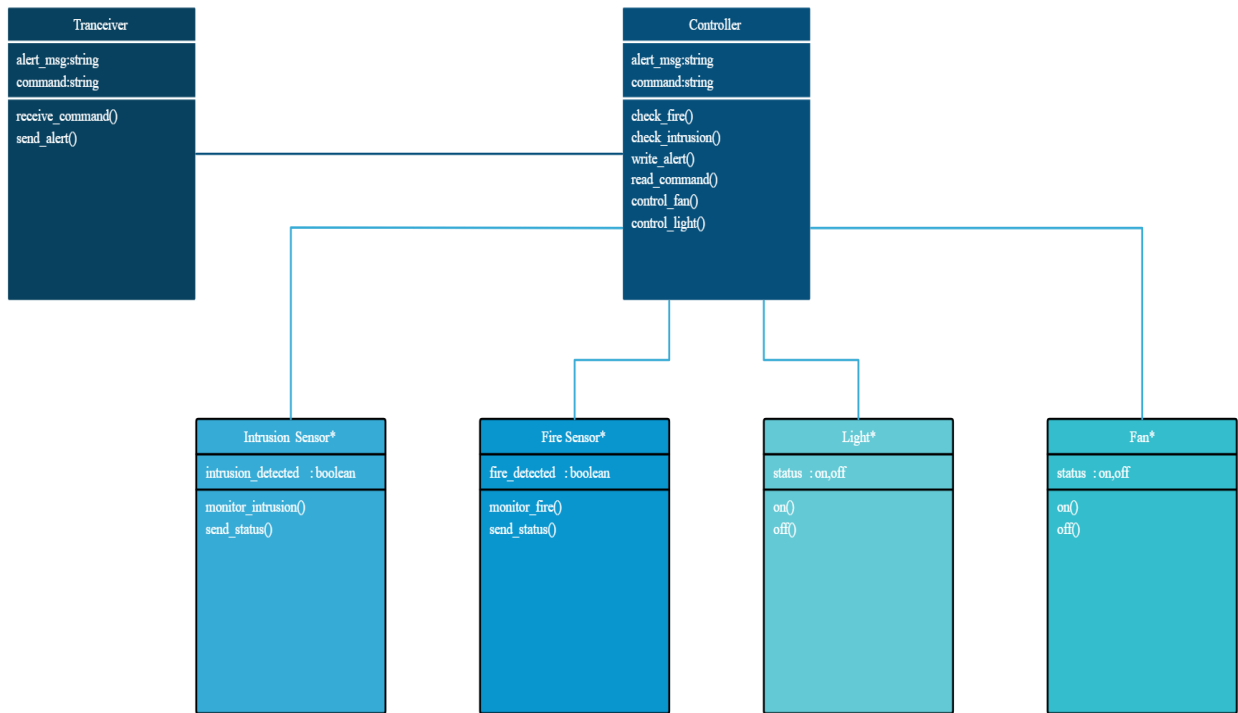**Termwork 2:**

Use case

Termwork 3:

Termwork 5:
activity diagram:

state diagram:

Termwork 6:

class diagram:

Tranceiver
alert_msg:string
command:string
receive_command()
send_alert()

Controller
alert_msg:string
command:string
check_fire()
check_intrusion()
write_alert()
read_command()
control_fan()
control_light()

Intrusion Sensor*
intrusion_detected : boolean
monitor_intrusion()
send_status()

Fire Sensor*
fire_detected : boolean
monitor_fire()
send_status()

Light*
status : on,off
on()
off()

Fan*
status : on,off
on()
off()

sequence diagram:

Android Application → GSM MODULE : Get_status

GSM MODULE → Microcontroller : Get_status

Microcontroller → GSM MODULE : returns_status

GSM MODULE → Android Application : returns_status

Android Application → GSM MODULE : on/off deivce sms

GSM MODULE → Microcontroller : command matching

Microcontroller → Devices : control_device

Devices → Microcontroller : status_change

Microcontroller → GSM MODULE : status

GSM MODULE → Android Application : update_status

Termwork 7:

Legend:

→ Internal Data Flow

⋯⋯⋅⋄ Data Flow over Home Area Network

— — Domain Boundary