

SMART HOME With SOLAR TRACKING



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Introduction

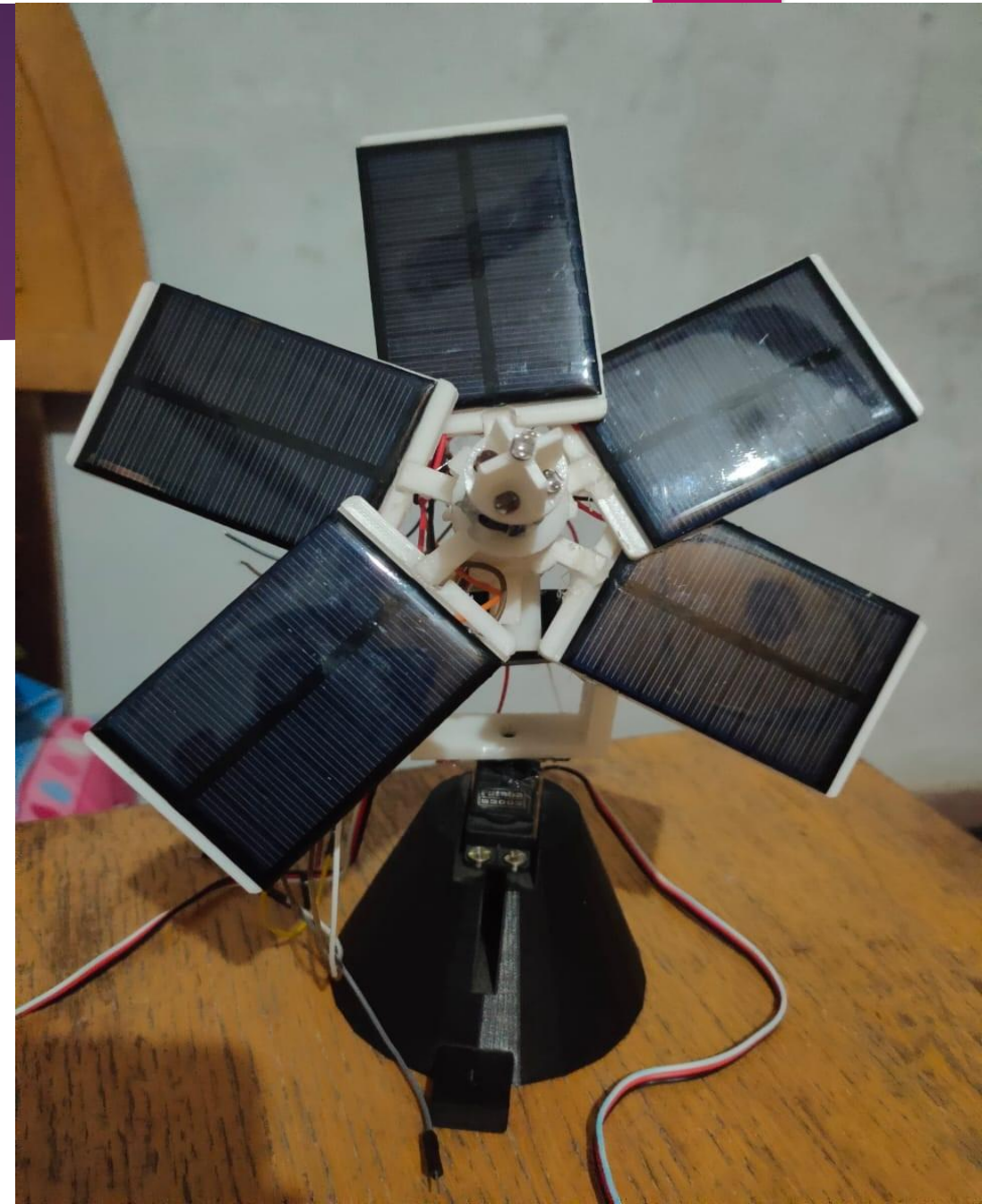
❖ What is a Smart Home

- ▶ A home that uses automation to control devices and appliances
- ▶ Can include things like lights, thermostats, locks, and security systems



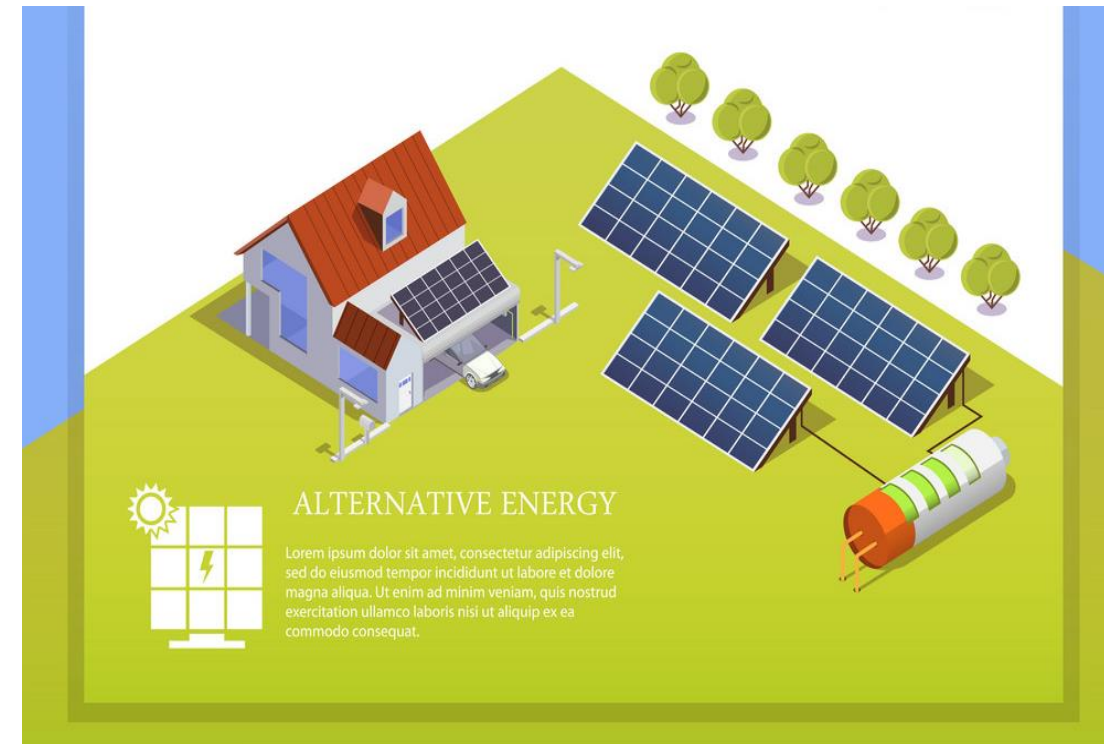
What is a Solar Tracking

- Solar tracking is the process of orienting a solar panel or array towards the sun's position throughout the day in order to maximize its solar energy output. This is achieved through the use of a tracking system that adjusts the angle and orientation of the solar panel or array in response to the changing position of the sun in the sky.



How do smart home and solar panels work together?

- ▶ Smart home devices can help you save energy by automatically adjusting your thermostat, turning off lights when you leave a room, and scheduling your appliances to run during off-peak hours.
- ▶ Solar panels can also help you reduce your energy costs by generating electricity from the sun.



Some Components in Arduino

► Screen

What is the screen model?

What the screen do?

Why this screen?

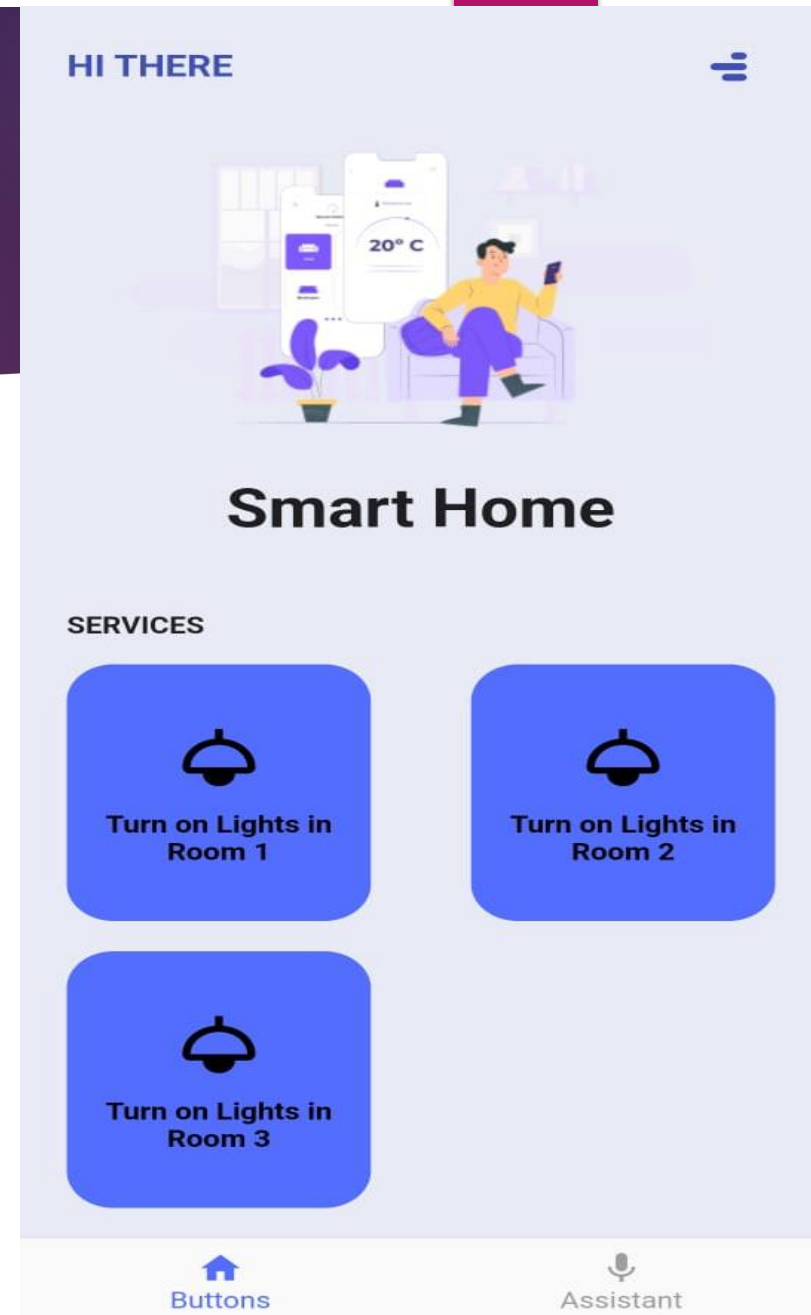
► Bluetooth

What the Bluetooth do?

Smart Home Application

► Lights

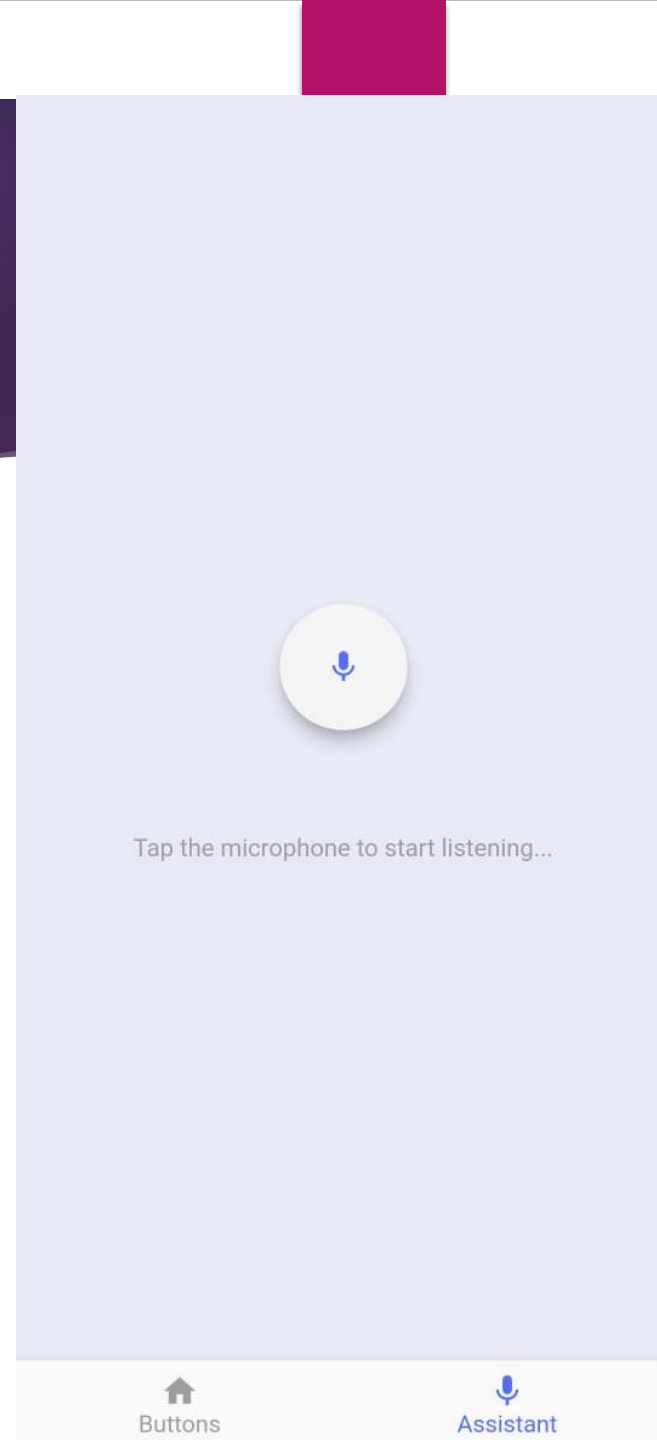
Controlling the Lights Using The Application With Buttons.



Smart Home Application

► Lights

Controlling the Lights Using The Application With Assistant.



Smart Home Features

► Fire Sensor

A fire sensor is a device that detects the presence of fire or smoke or gas and alerts individuals to the potential danger.

► The goal of the fire sensor

the goal of placing a fire sensor in the home is to provide an early warning system that can help prevent fires from causing serious damage

► Fire sensor name and how to operate?



Fire Sensor is Running

Smart Home Features

► Water Sensor

A water sensor is a device that detects the presence of water or rains and sounds an alarm to alert the user

Rain Sensor is Running

Smart Home Features

► **Smart Garage**

A smart garage with sensors utilizes various sensors to monitor and control the garage door, ensuring enhanced safety, automation, and convenience for the user.