SIT 210 – Embedded Systems Development

Task 3.1 P

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1. System Overview
a) Role of Various Hardware Parts:

Arduino 33 IoT: This little computer is the main part that handles the sensor information. It checks the light sensor's readings to see if there's sunlight. Depending on what it finds, it sends signals to the IFTTT service using the internet.

Light Sensor: This device measures how bright the light is. It changes the light it detects into a signal that the Arduino can understand. The information from the sensor helps figure out if the terrarium is getting sunlight.

b) IFTTT Trigger System:

The IFTTT trigger system works by using web requests or MQTT messages from the Arduino. When the light sensor shows that there's enough sunlight, the Arduino sends a message to IFTTT. This starts an IFTTT applet that sends you a notification when sunlight is detected. If the light level drops too low, another applet sends a message to let you know that the sunlight is gone. This way, you get instant updates about how much sunlight your terrarium is getting.

c) Alert System:

The alert system uses IFTTT to send you messages when sunlight is detected. You can get notifications in different ways:

Mobile Alerts: You receive push notifications on your phone through the IFTTT app.
Email Alerts: Emails are sent to your registered email, giving you information about when sunlight is detected or when it stops.

Testing the System
To check if the system works, start by making sure the light sensor is working properly. Test the sensor in different lighting situations and watch the Arduino's serial output to see if it reads the light levels correctly. Then, see if

the Arduino sends this information to IFTTT by changing the light levels and checking if the right notifications come through. Finally, try to mimic real-life conditions by placing the terrarium in different light settings.

CODE LINK –
https://github.com/puniaruj/SIT-210--Embedded-Systems/tree/main/Task%203.1P

YOUTUBE VIDEO LINK –
https://youtu.be/QYtc8XAIQDM