Smart Green House

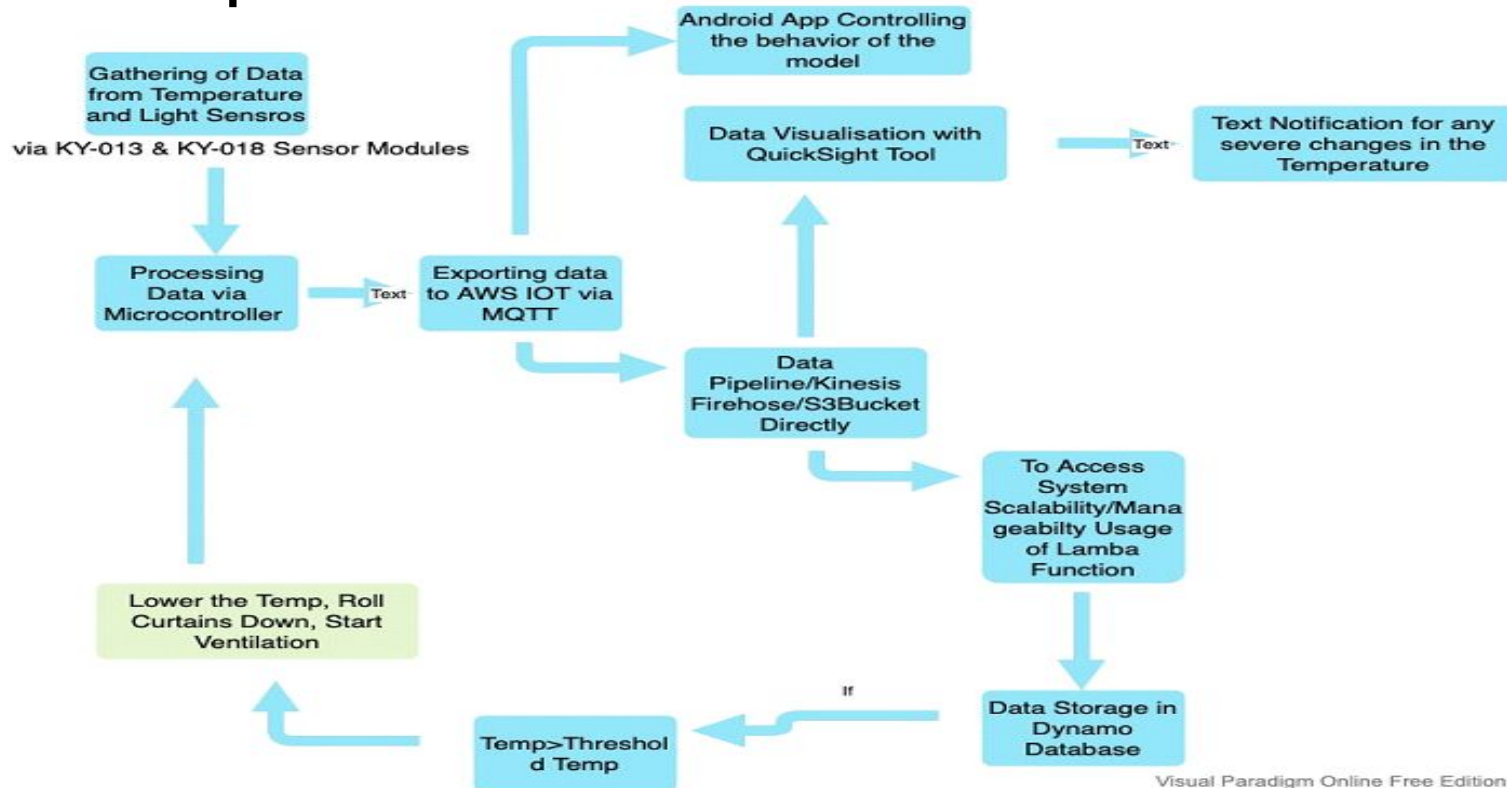## A project for advanced embedded lab

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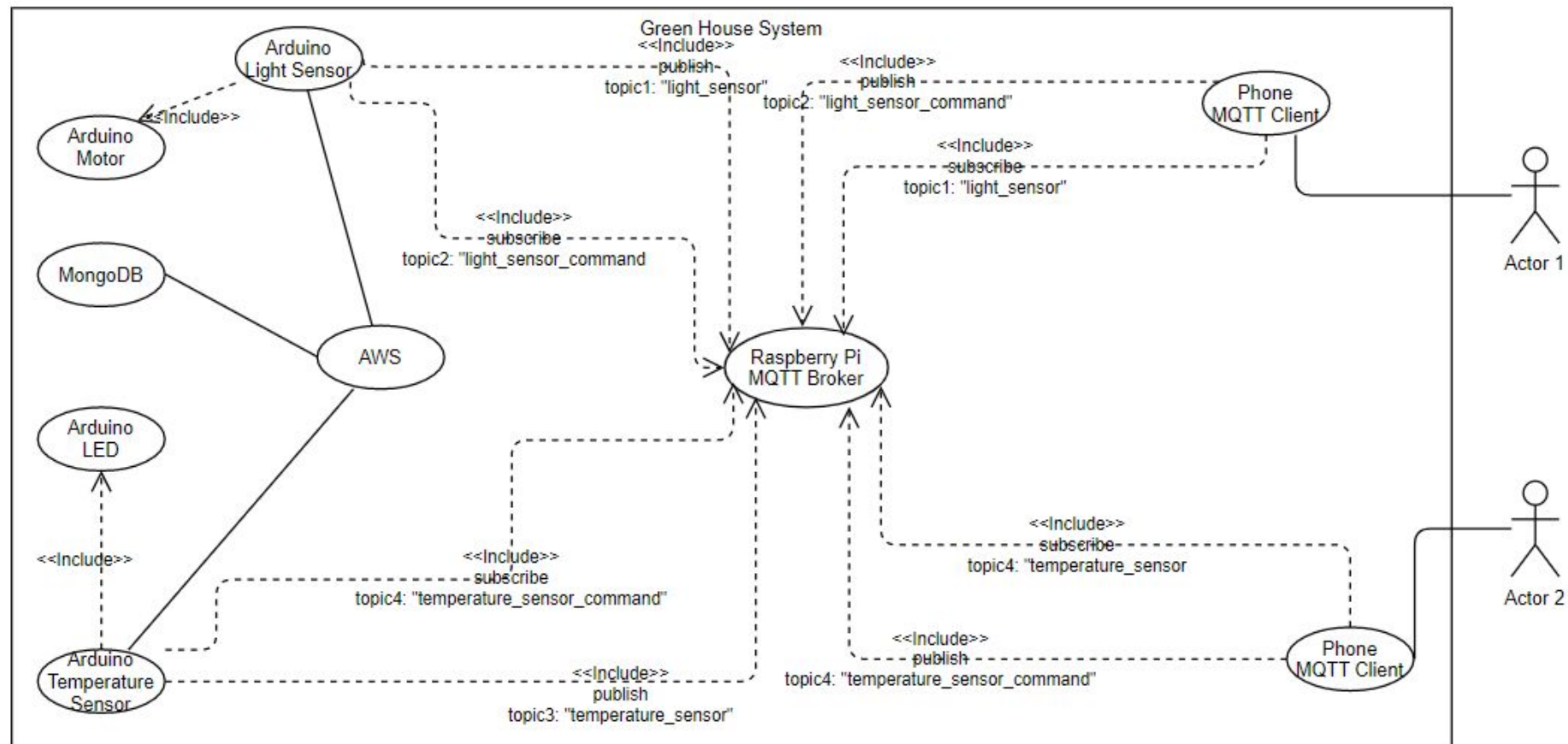Muhammad Rohail Usman

Motivation

- For Green House, the control of Light and Temperature is very important

- Smart Green House: Employs a distributed system in which microprocessors and sensors are communicating through WSN techniques

- Our smart agriculture specifies the environmental constraints of a greenhouse where we can manage our crop by handling data from temperature sensors and light sensors

GreenHouse Automation

Concept Description

Gathering of Data from Temperature and Light Sensros via KY-013 & KY-018 Sensor Modules

Processing Data via Microcontroller

Text

Exporting data to AWS IOT via MQTT

Android App Controlling the behavior of the model

Data Visualisation with QuickSight Tool

Text

Text Notification for any severe changes in the Temperature

Data Pipeline/Kinesis Firehose/S3Bucket Directly

To Access System Scalability/Manageabilty Usage of Lamba Function

Lower the Temp, Roll Curtains Down, Start Ventilation

Temp>Threshold Temp

If

Data Storage in Dynamo Database

Use Case

Used HW/ SW

Arduino Uno Wifi Rev 2
Raspberry Pi 3
KY-013 Temperature sensor (NTC)
KY-018 Photo-resistor
KY-053 Analog-Digital Converter
RB 35 Motor
LED
DHT (used instead of KY-013)

Arduino
Mosquitto Broker
Network Analyzer
Mobile SSH
VNC Viewer
MQTT Dashboard

Technical Implementation

Code Demonstrated in Arduino IDE

Demonstration (Video)

AWS Bridge Connection