

Surveillance Car

Team -4

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Motivation and Use case

Motivation :-

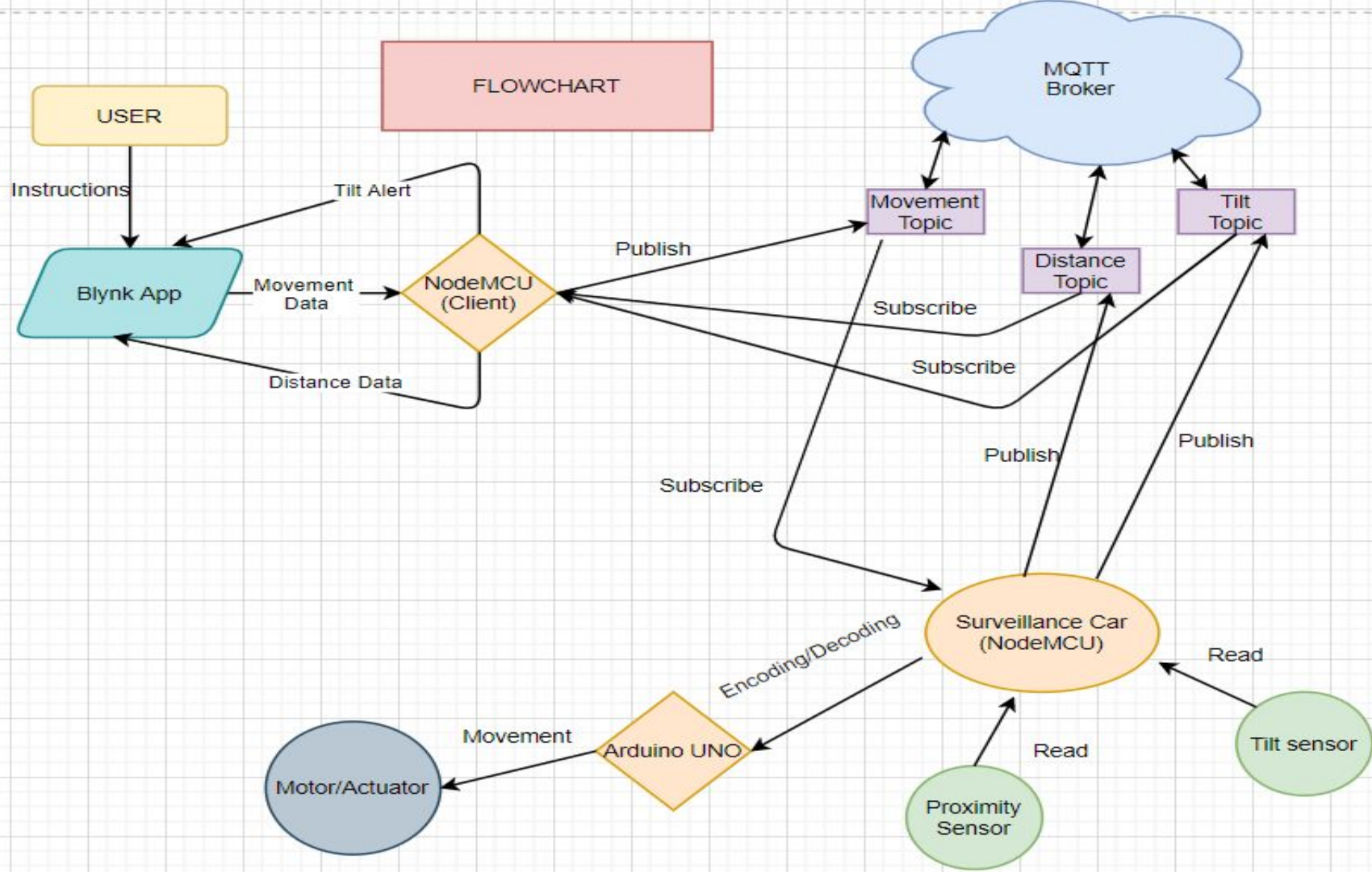
To use all the concepts learnt from the IoT course and decided to put them into use such as - MQTT, ESP8266 WiFi module, Blynk App, Sensors and Actuators, NodeMCU, Arduino, Timers.

Use case :-

- Military and defence.
- Harsh terrain research without putting yourself in danger.

Features

- Remote controlled movement.
- Multiple Users
- Remote access of sensed data from the car.
- Alert popup when the car starts to flip.
- Distance from the nearest object to avoid crashing.



Working

The working depends on the connection of NodeMCU and Arduino and the constant data flux between them. The protocol we decided to use for data sharing is MQTT.

Basically for control, We use a joystick in the Blynk app and send the x , y coordinates of the joystick to user NodeMCU and use these to determine the direction of movement requested.

We publish these directions to MQTT topic and the car reads these directions and controls the motors accordingly.

The sensor data is published to MQTT from the car every 5 sec and is read and displayed on the Blynk app on the user side.

Hardware

Components -

- Micro-controllers

NodeMCU, Arduino.

Actuators-

L298N Motor driver, Motors.

Sensors-

Tilt sensor, Ultrasound Proximity sensor.

