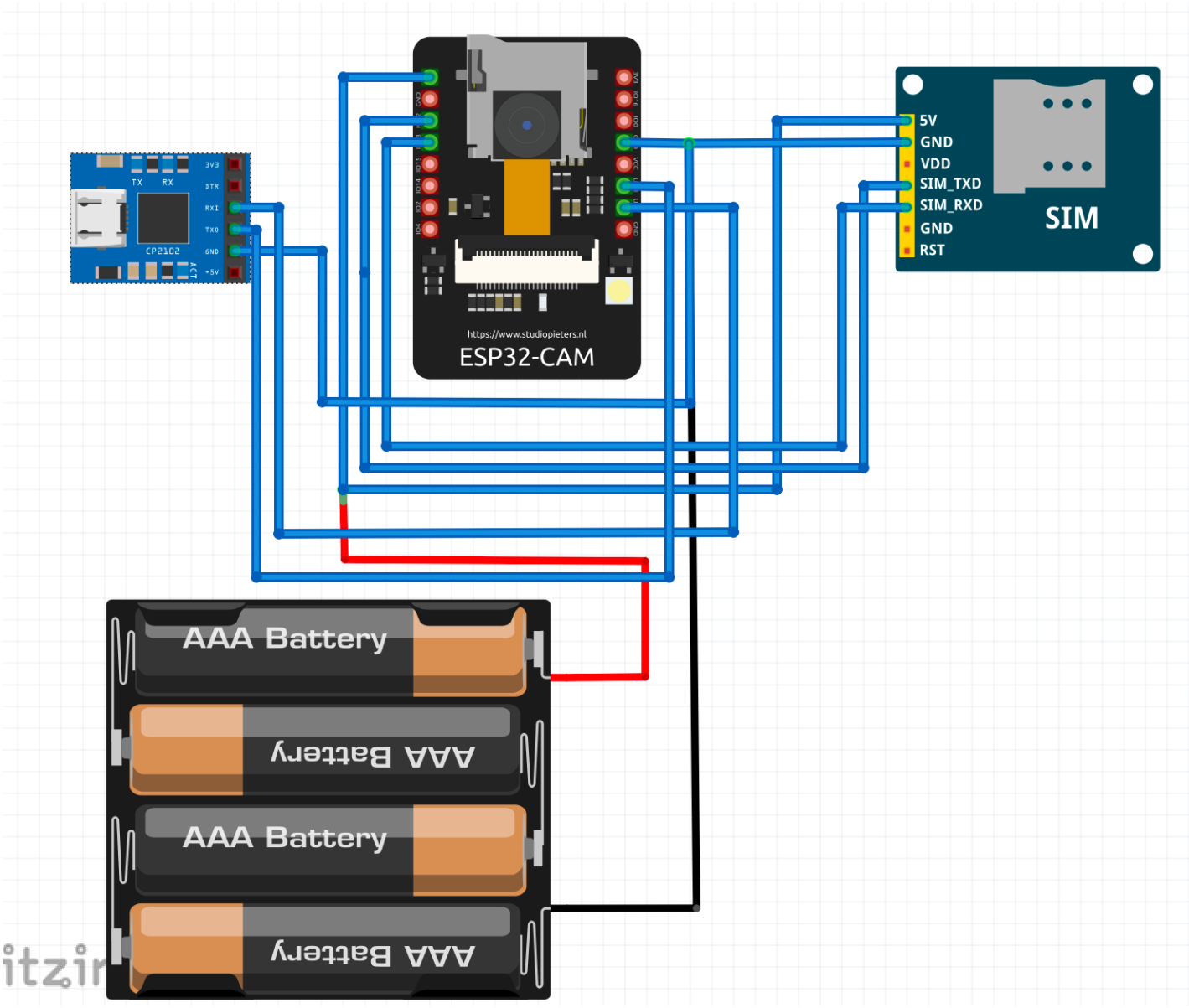
Assignment 02

Group 20

Hardware circuit diagram

The goal of this project is to capture an image using the ESP32-CAM module and send it over the MQTT protocol using SIM800L GSM module.



Hardwares

ESP 32 CAM

The ESP32-CAM is a low-cost, low-power system-on-a-chip (SoC) microcontroller board that integrates a camera module with a Wi-Fi and Bluetooth module. The ESP32-CAM can capture images and stream video over Wi-Fi,.

The GSM module Sim800L

It is a hardware device that enables communication between devices over the GSM network. It allows devices to send and receive SMS messages and make phone calls

Power Supply

We provided 4.8 V to ESP 32 cam and GSM module, GSM modules require a power supply voltage between 3.3V to 5V. It is important to check the specifications of your specific ESP32-CAM board and GSM module to ensure that you provide the correct voltage and do not damage the devices

Micro SD card

The Micro SD card is used to store the captured image or video. It is connected to the ESP32-CAM module and can be easily removed for data transfer.

Breadboard

The breadboard is used for prototyping and connecting the ESP32-CAM module and the SIM800L GSM module to other components

Jumper wires

The jumper wires are used to connect the ESP32-CAM module and the SIM800L GSM module to the breadboard and other components. They are used to transfer signals and power between different components.

USB to UART
converter that allows a microcontroller board, such as the ESP32-CAM module or the SIM800L GSM module, to communicate with a computer or other devices that use a USB interface.

Approximate cost

Components	Price
ESP 32 cam	Rs.2690.00
GSM module sim 800L	Rs.2580.00
USB to UART	Rs. 900.00
1.2 V batteries x4	Rs. 480.00
Battery holder	Rs. 475.00
Breadboard	Rs. 280.00
Total	Rs.7405.00

Reference

Project
https://github.com/DmitryLapshov/esp32cam_sim800Lv2_proof_of_concept

Pricing
https://lk-tronics.com/shop/
https://www.daraz.lk/products/18650-battery-holder-4-cell-i134412259.html