

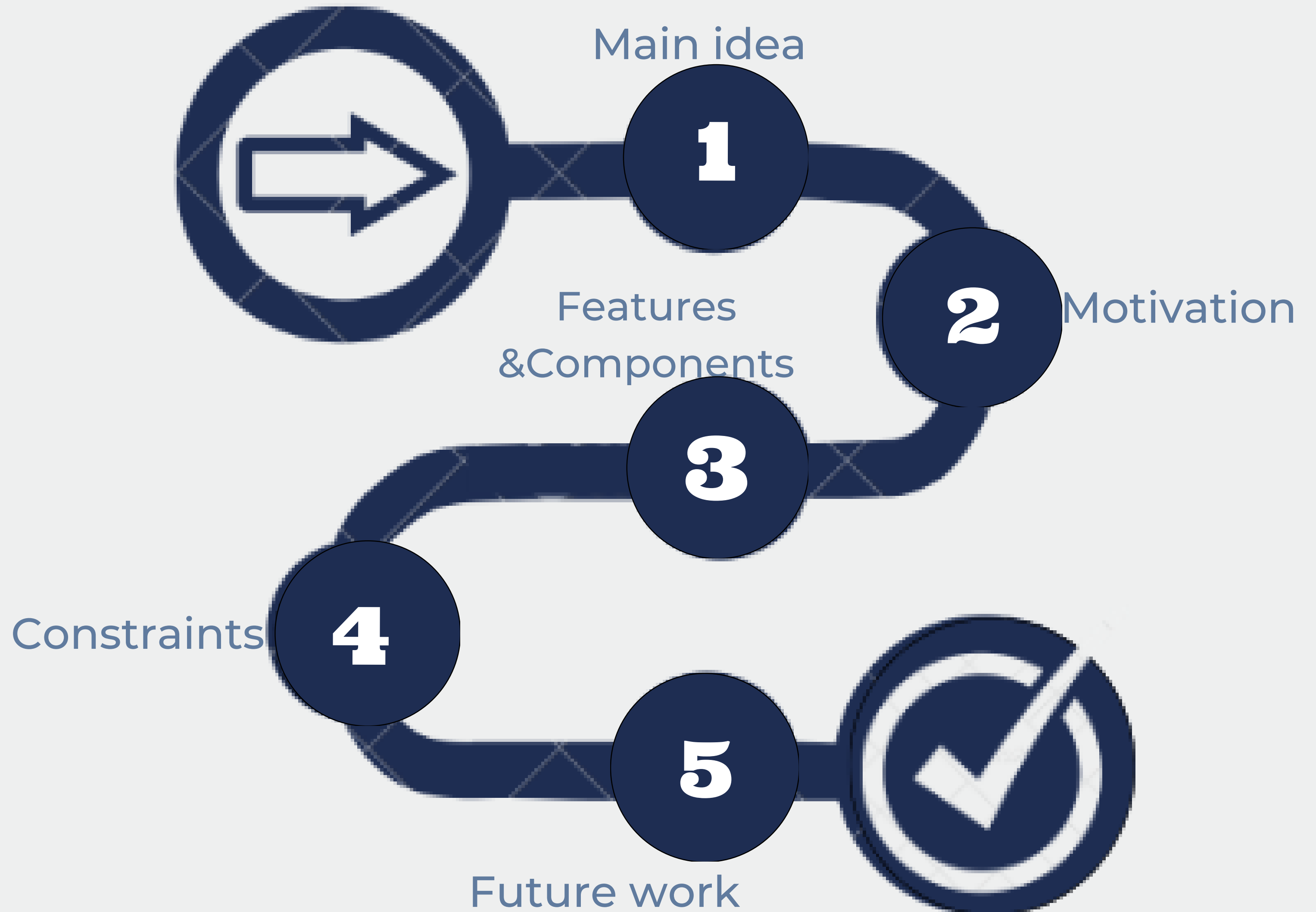
Glass cleaner machine



Supervised by:
Dr. Luai Malhis

Prepared by:
Nada Abu Hantash
Seema Ihbesheh

Outlines





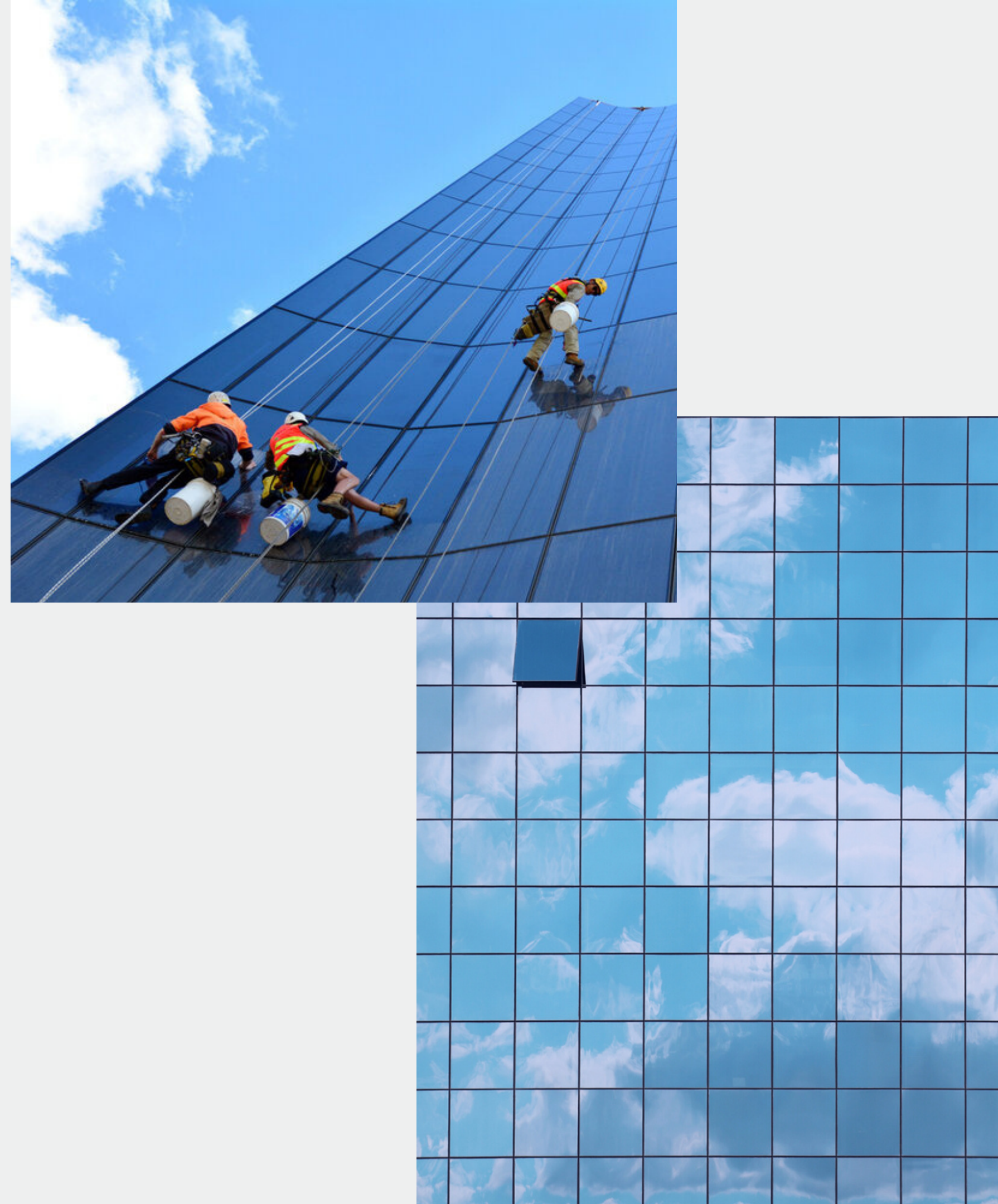
Main idea

A machine that cleans glass in an easy and safe way, either automatically or by manual control.



Motivation

- Because of the height of the buildings with glass panels and the traditional cleaning process using people, it is a difficult process that requires time and effort and puts people's lives at risk.





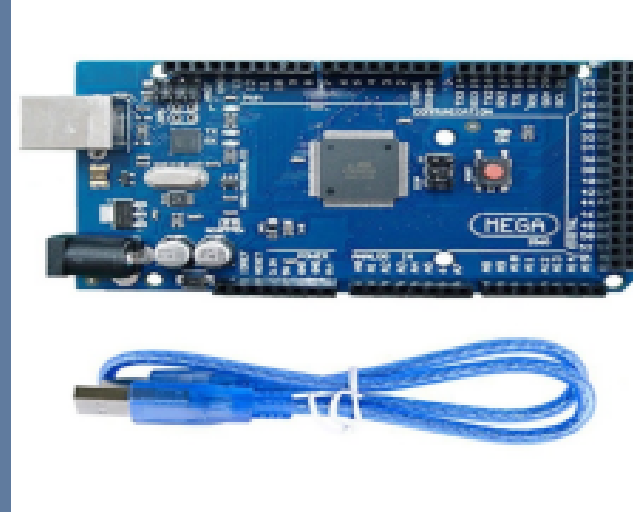
Features

- 1- Controlled manually using a web page or autonomously by moving randomly
- .2- Adding an Ultra Sensor to sense the end of the glass vertically
- 3- Add a limit switch buttons
- 4- Adding a sensor to sense the water level

Components



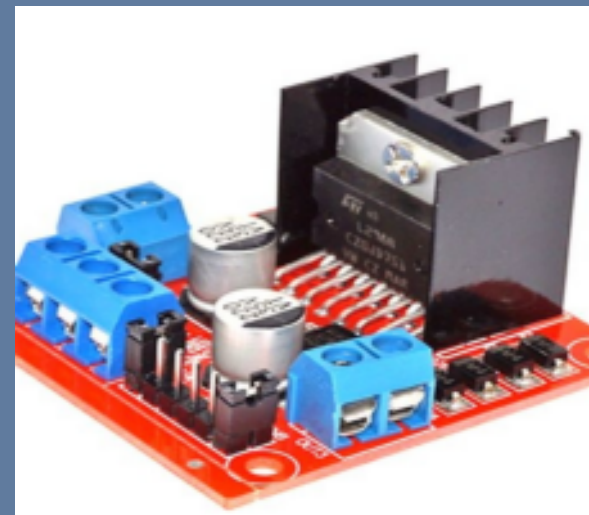
Esp 32 Cam



Arduino Mega



Stepper motor

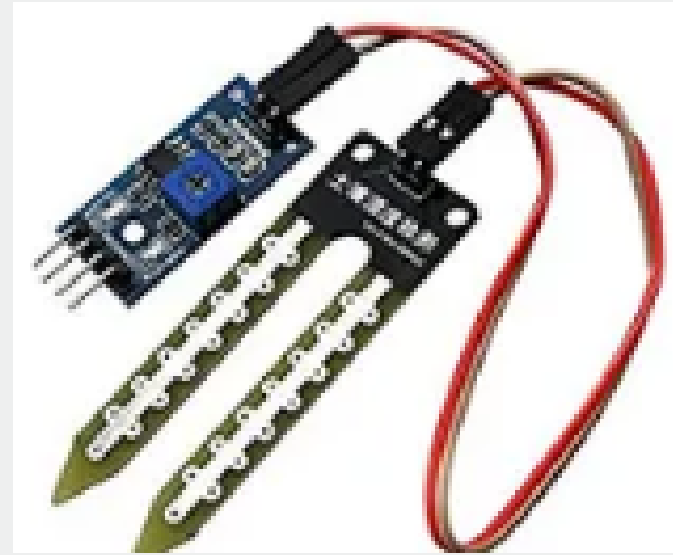


L298N Driver



water pump

Components



soil moisture



Dc motor

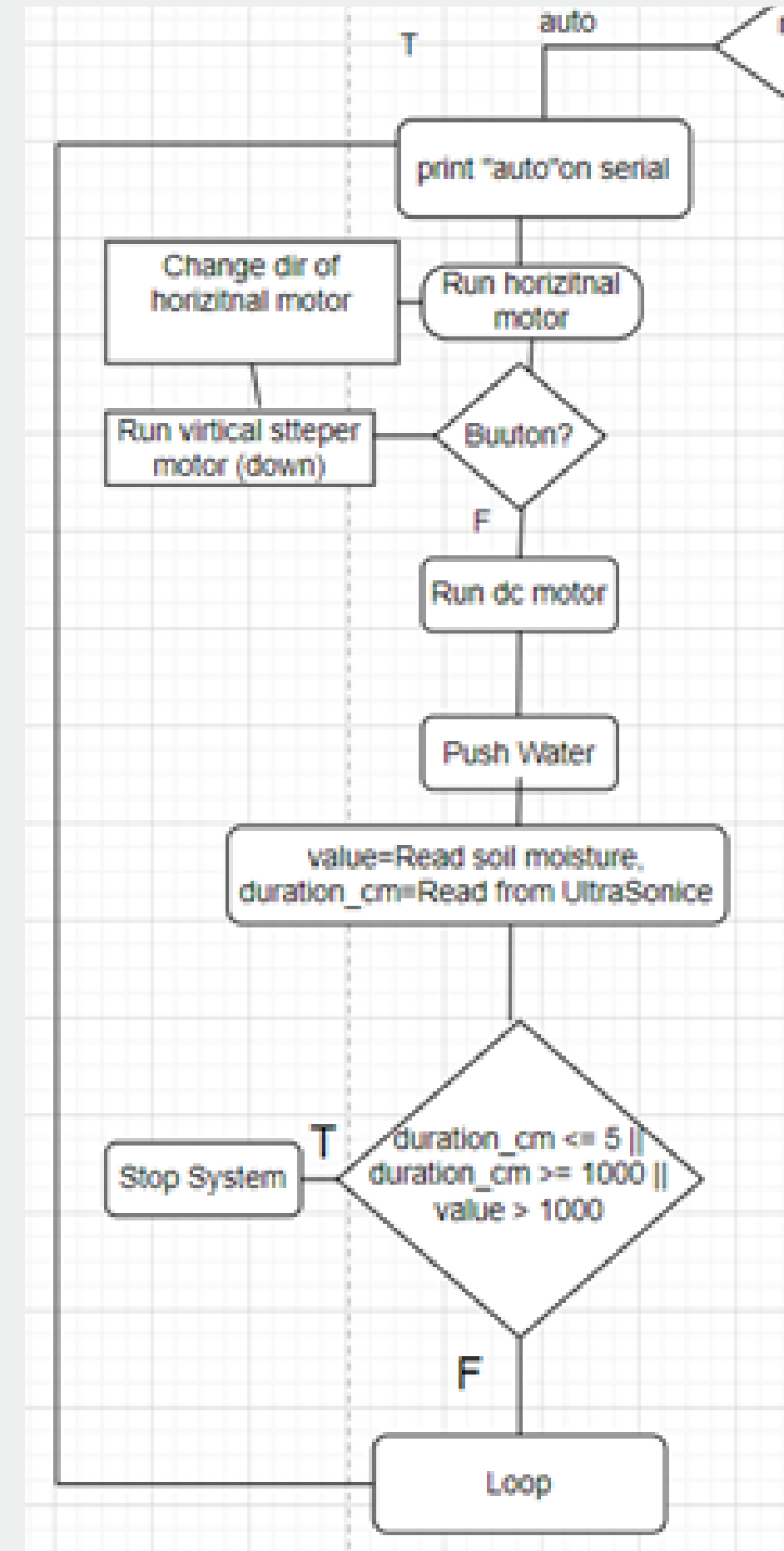
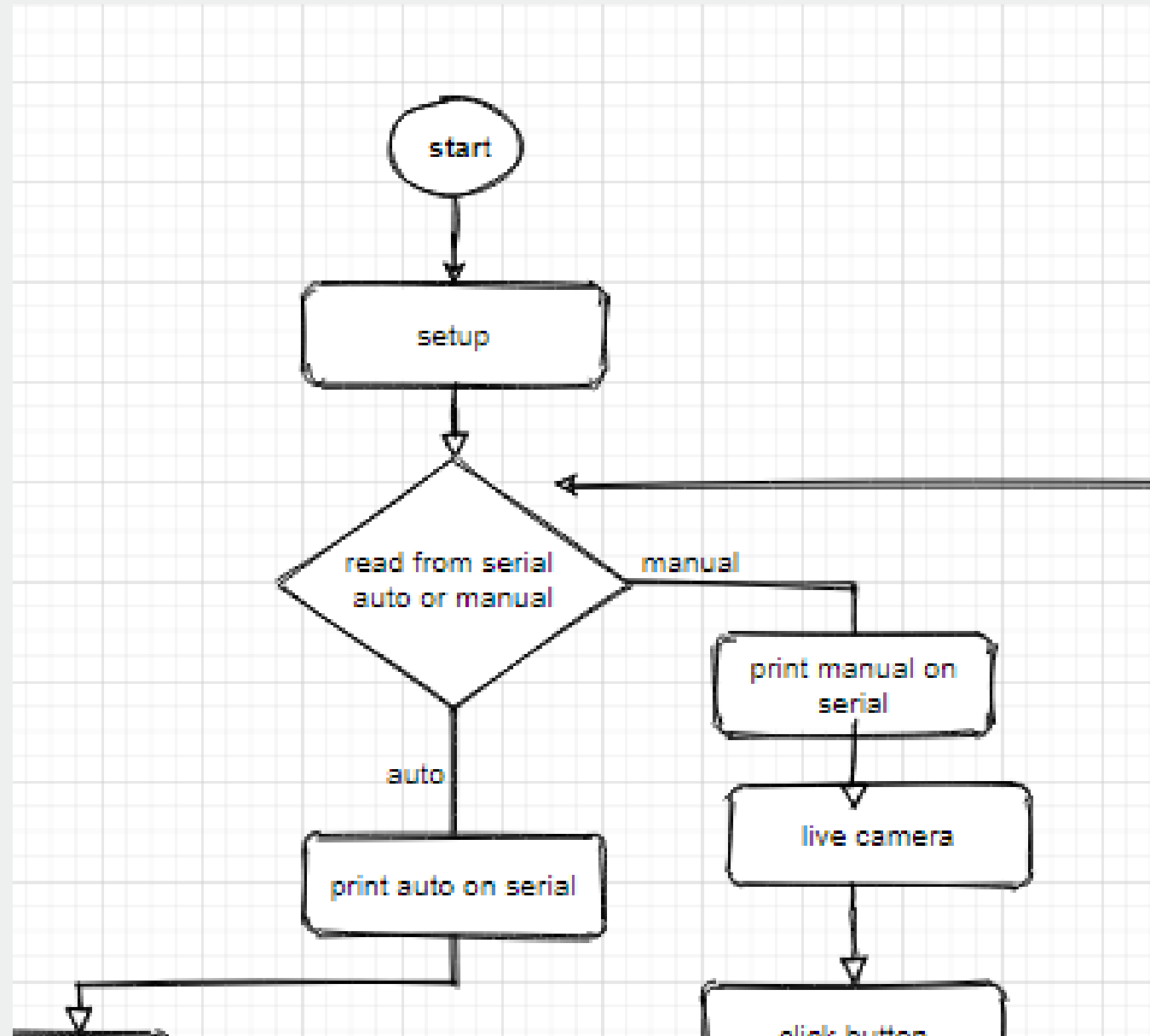


Ultrasonic

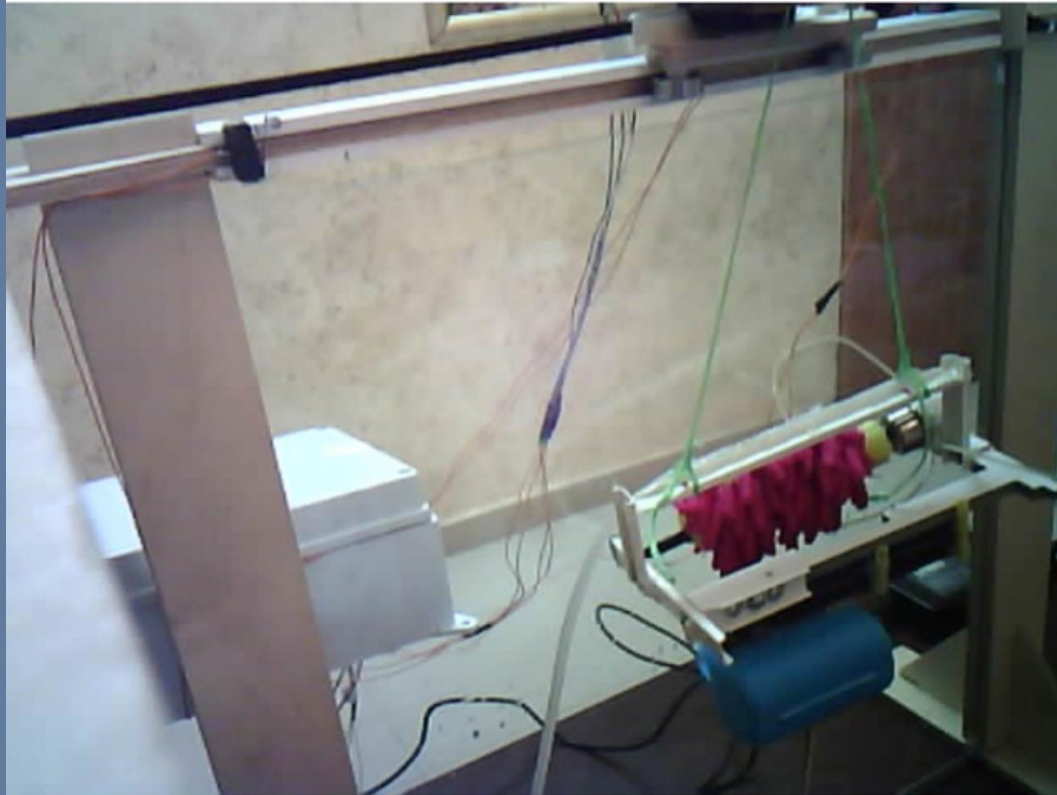


micro limit switch

who it work ?

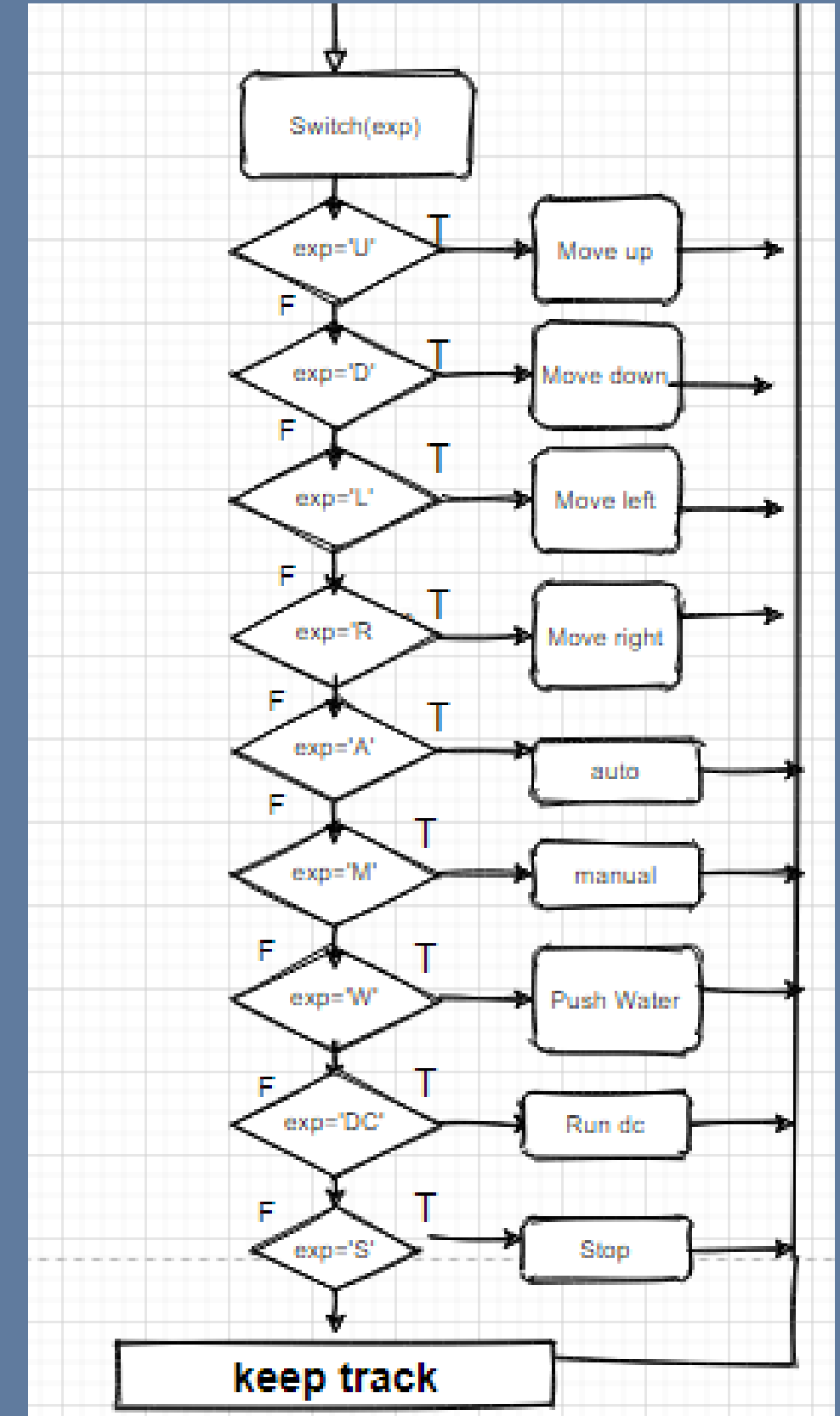
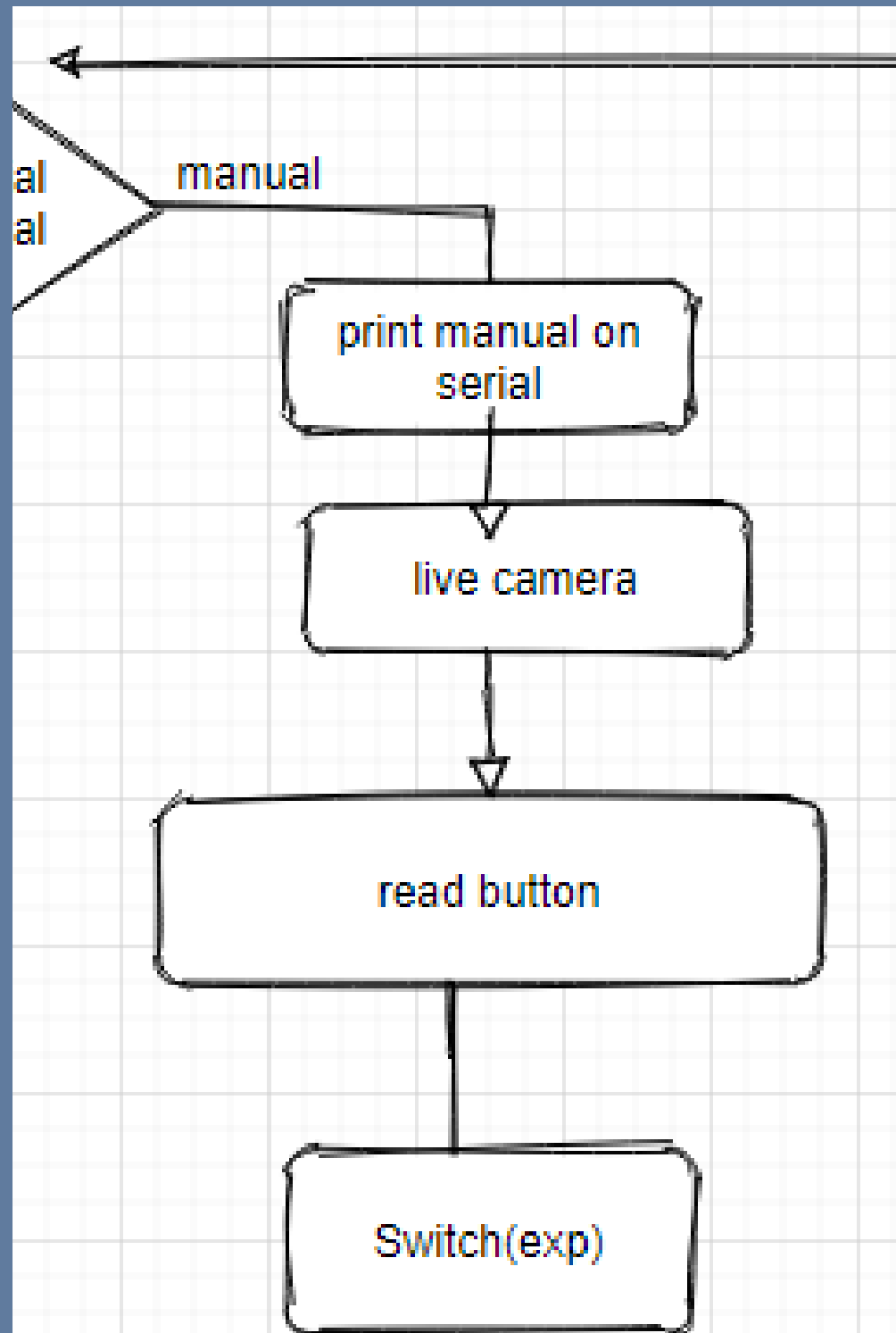


ESP32-CAM Robot



AA

192.168.4.1



Constraints

- Water challenge with electricity
- Brush balance
- splash of water
- Project structure



Future work

- Add a buzzer to make a sound
- Add notification to the website
- Add AI & image processing
- Add another rail to cover the Z-axis



Demo Time



Thank
you

