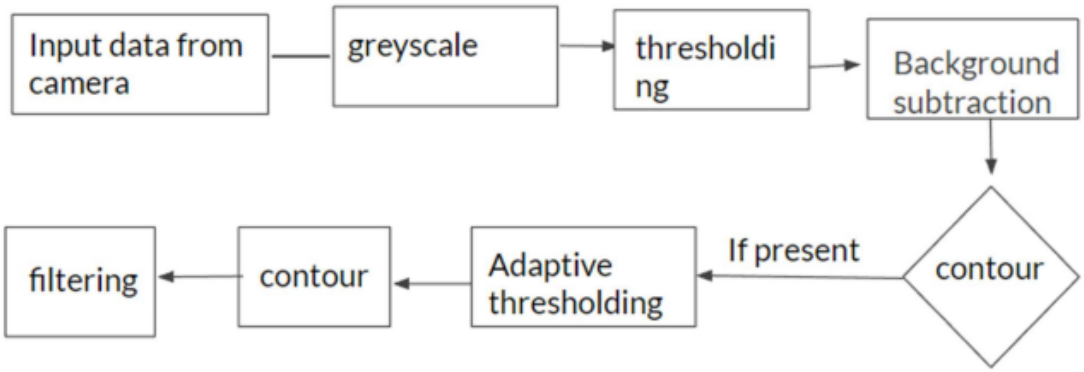
PET ROBOT

Wet floor detection is an important aspect in facility management,particularly in public places where safety is a major concern.The traditional methods of wet floor detection rely on manual inspection,which can be time consuming and inefficient.However,advances in computer vision technology have made it possible to automate the process of wet floor detection using cameras and image processing algorithms.As we all know dementia,parkinsons disease which are very commonly for elderly urinary inconsistency is very common symptom among them.So constant care has to be provided.Which has to very time consuming .Presence of liquid on floor makes it slippery and causes the patient to fall,which causes injury.This can be avoided with the use of pet robot.There for this project trying to integrate wet floor detection to afloor cleaner thereby provide a greate help to the caretakers. Wet floor detection using computer vision and it is integrated into the floor clraning robot thereby enhancing efficient cleaning.Wet floor detection using computer vision an algorithm is designed in opencv to process real time videos and to detect the presence of water on floor .Upon detection,a message is sent to the telegram bot and an image of the wet floor is also sent as a proof when asked through the telegram bot.A floor cleaner is built using esp8266 to initiate cleaning when a start message is sent through the telegram bot.We haven't done much in raspberry pi all we did was running our program in it,but we could do much more with it.Detection and cleaning both can be done with raspberry pi itself.

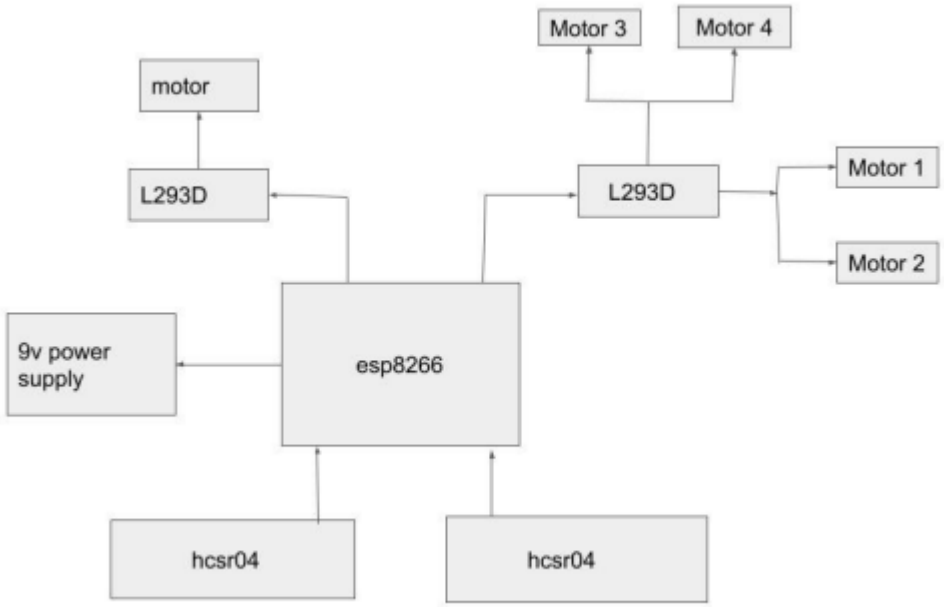
Software Block diagram



- Camera is embedded on the ceiling or wall
- Real time videos are provided as an input
- Converted into grey scale

- Applied background substraction
- Thresholding for better result
- Checking the presence of anomalies
- If present,adaptive threshold is detected
- Contouring
- Detecting shape of objects
- Further filtering is done to dedue the presence of water

Hardware Block diagram

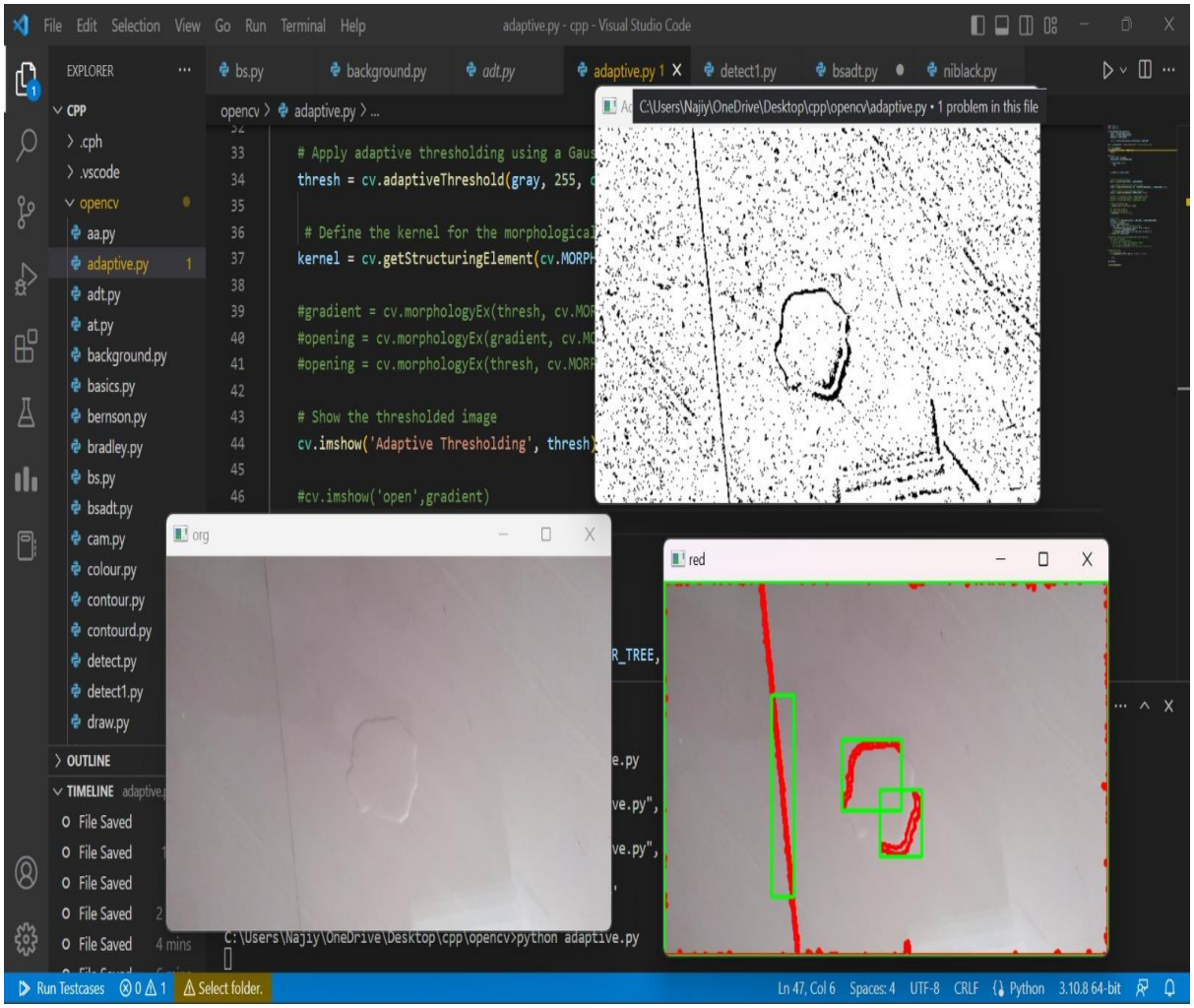


ESP8266 (GPIO)	L293D
D0	IN1
D2	IN2
D5	IN3
D4	IN4
D1	IN1
D3	IN2

The general purpose i/o pin D0,D2,D5,D4 of the esp8266 is connected to the IN1,IN2,IN3 and IN4 pins of the L293d motor driver for movement of bot.

And D1,D3 connected to IN1&IN2 for mop movement.

Software Output



Hard Ware Output