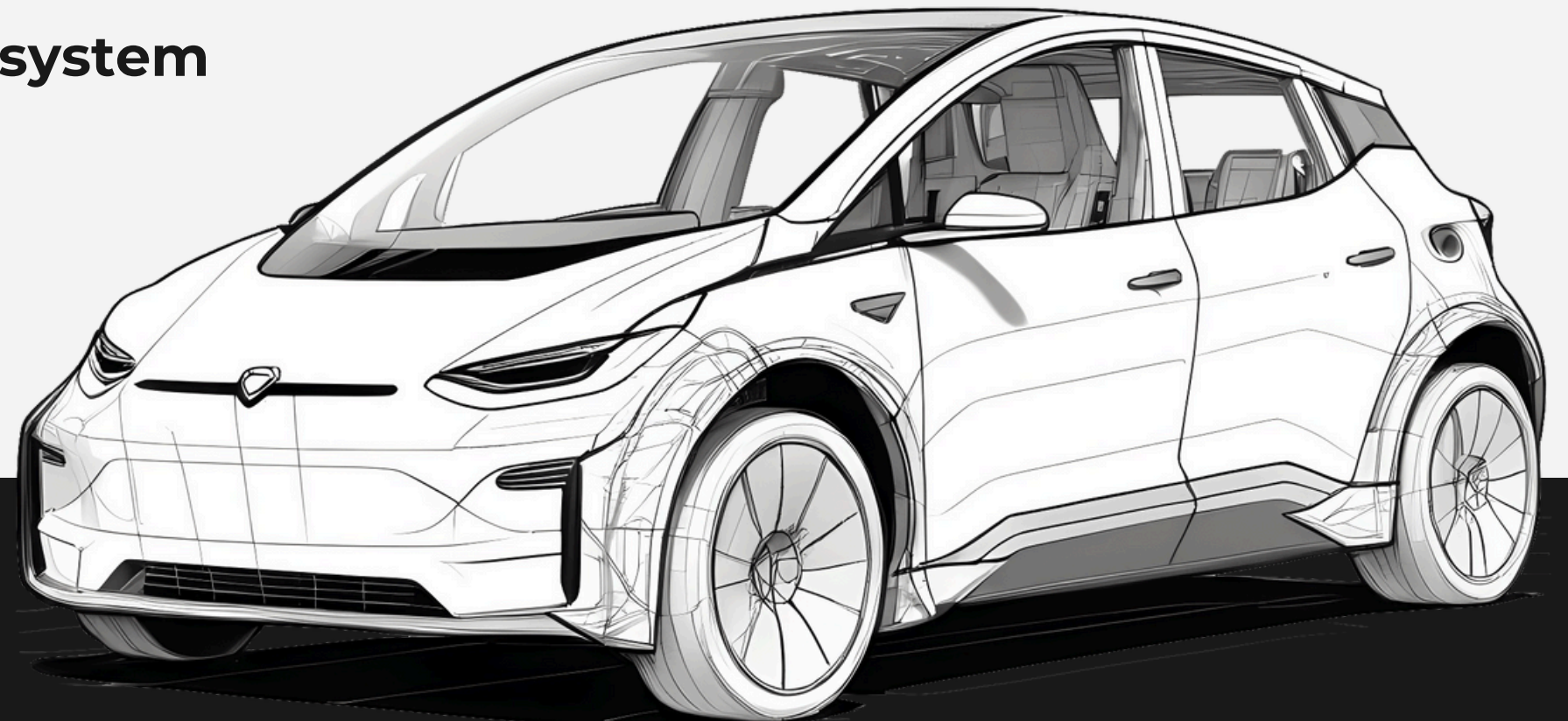# FATIQUE PREVENTION SYSTEM

A Solution to drowsy driving system

ABSTRACT

Problem Statement :

Fatigue is a leading cause of reduced performance,cognitive decline,and accidents in numerous industries,including transportation,healthcare,manufacturing,and others where long working hours and repetitive tasks are common.The proposed fatigue prevention system represents a significant advancement in occupational health and safety,providing a proactive,real-time solution to one of the most prevalent and dangerous workplace hazards.
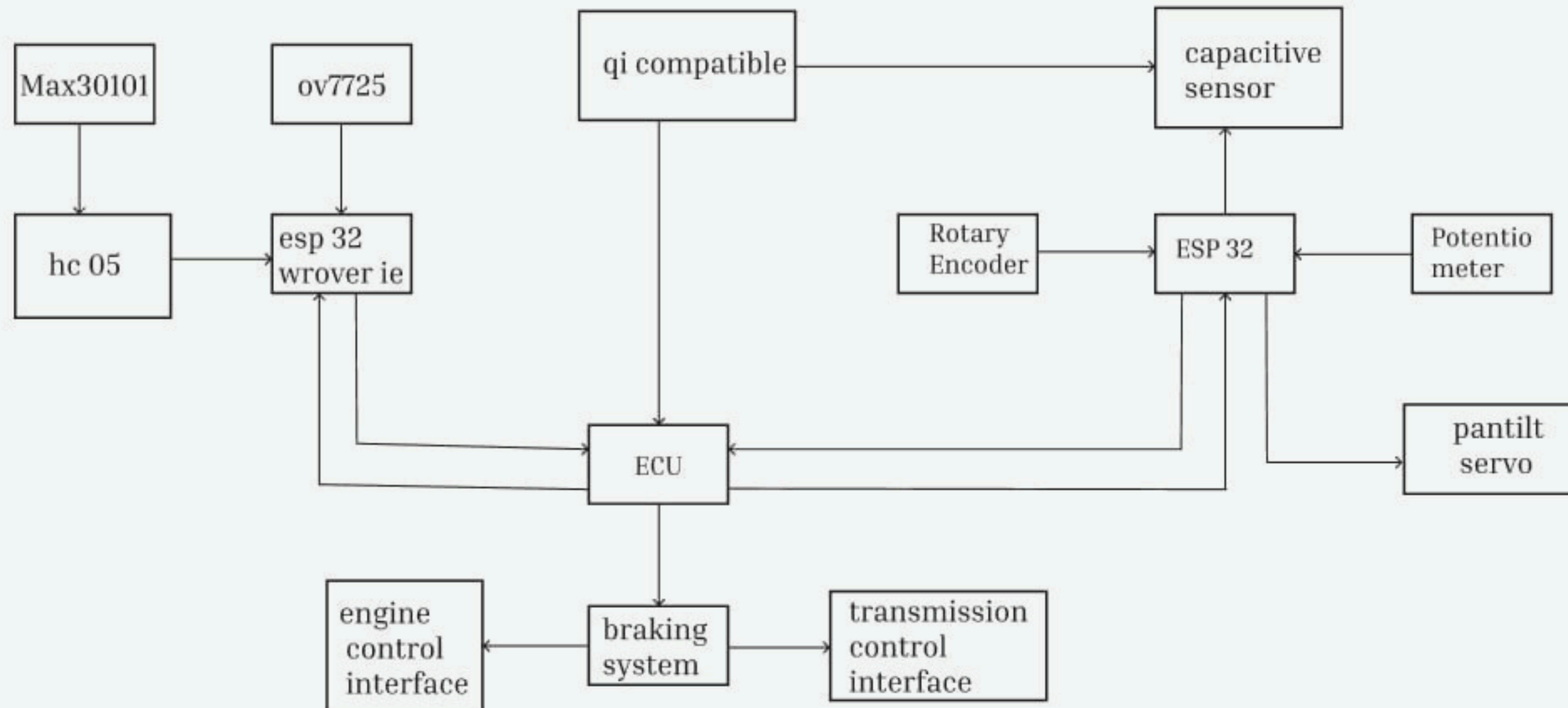
Solution:

In response to the Indian government's ban on autonomous vehicles, this project addresses the critical issue of driver drowsiness during long drives.Drowsiness appears in situations of stress and fatigue unexpectedly and inconveniently. The results in terms of damage, injury,and death can be only as permanent. This study intends to develop a system that will help drivers in minimizing road accidents. The review uses the concept of the human computer interaction and usability test as it follows the maximization of the ease, efficiency, and safety of the product and also to have well- designed software.We have developed a innovative system where we are using PULSEMETER to detect the pulse and CAMERA to detect the eye movement. If the range of PULSEMETER and CAMERA matches it passes information to ECU and gives the warning on the display as well as it gives sound alarm and turns on the parking lights. If the person is going to neglect the warning then the car is going to slowdown automatically at the speed of 5km/sec. By this system we can reduce most of the accidents.

COMPONENTS LIST

- ESP 32
- ESP32 Wrover ie
- Ov7725
- Bread board
- hc 05
- Max30101
- Capacitive sensor
- Rotary encoder
- Potentiometer
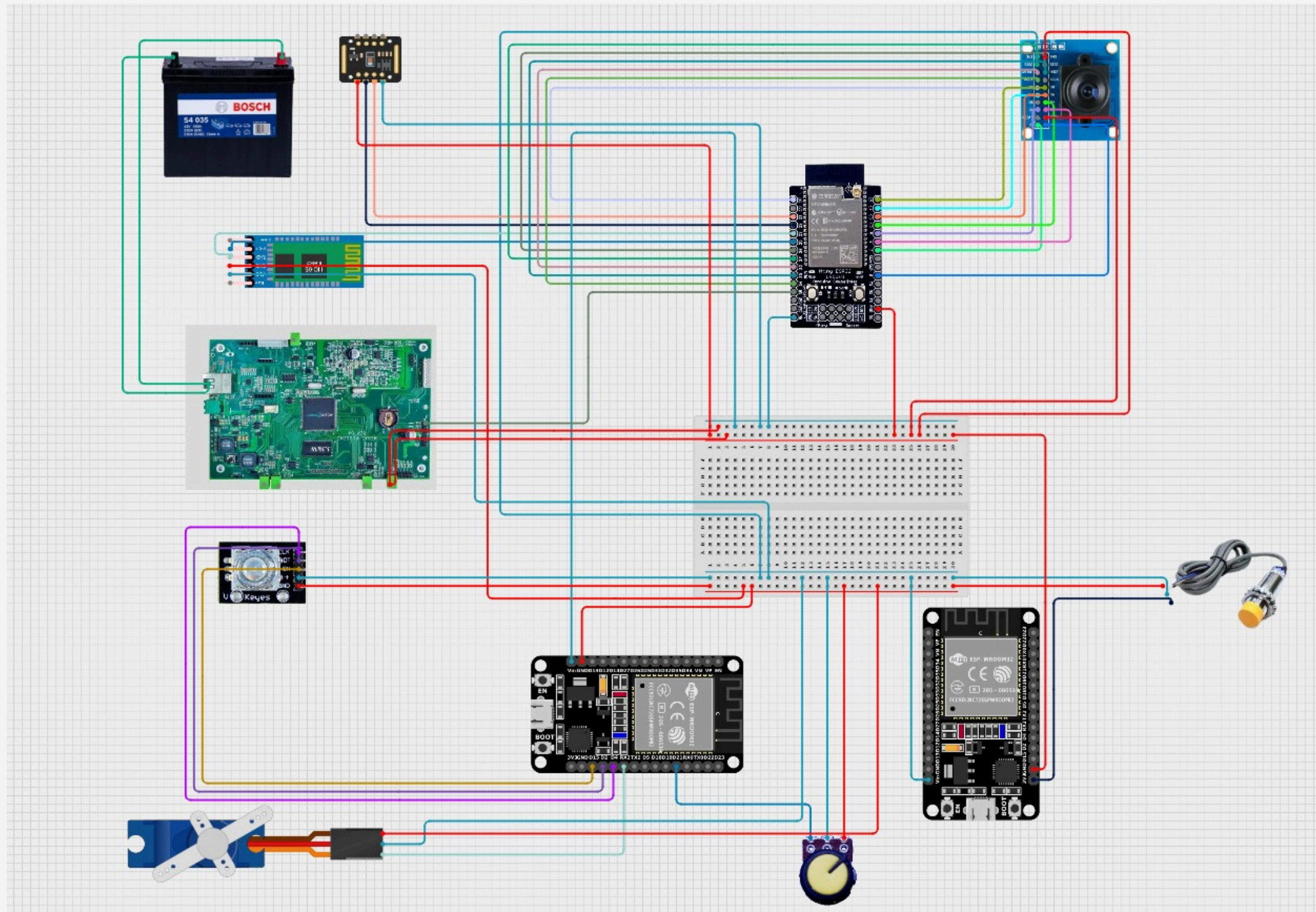- Pantilt servo
- Qi compatible
- ECU

BLOCK DIAGRAM

3D MODEL(CAD)

CIRCUIT DIAGRAM

THANK YOU