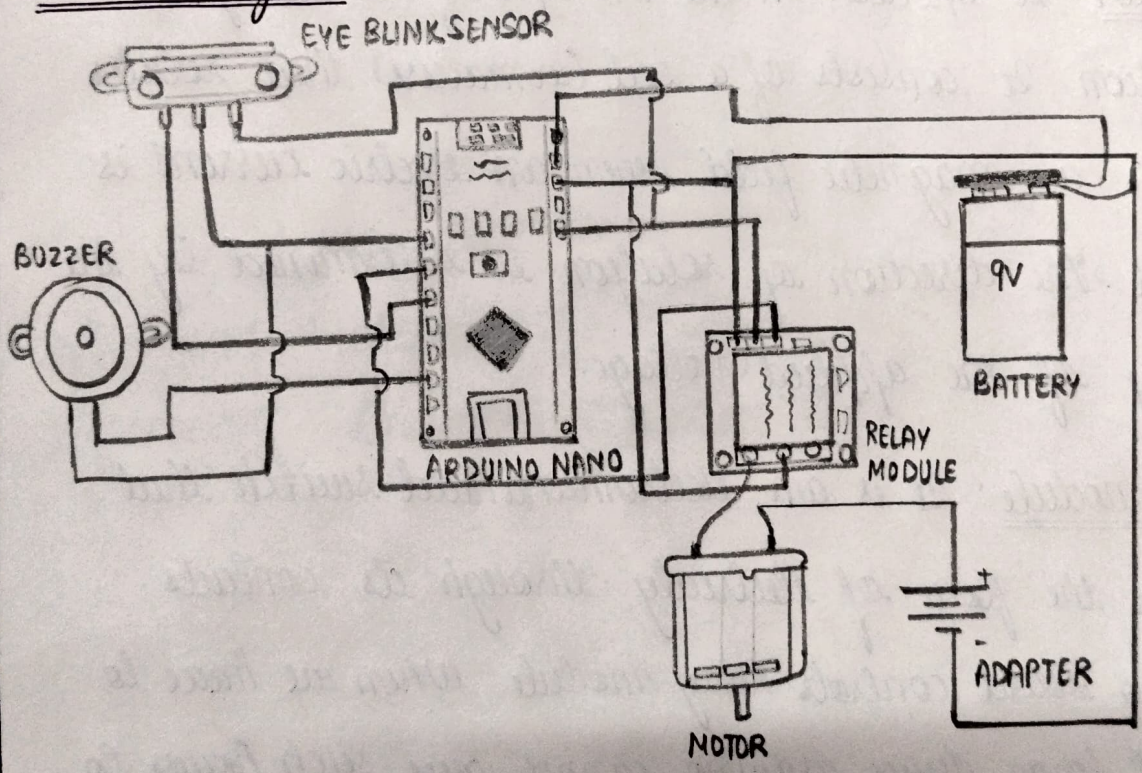
ARDUINO BASED ACCIDENT PREVENTION SYSTEM USING EYE BLINK SENSOR...

Aim: The aim of this project is to design and implement an accident prevention system using an eye blink sensor. The system will monitor the driver's eye blinks to detect signs of drowsiness or distraction and provide timely warnings to prevent potential accidents.

Circuit diagram:



Methodology:

Components required:

- Eye blink sensor
- Buzzer

- Arduino nano board
- Battery, adapter
- Connecting wires
- Single channel Relay module
- Transparent Glass
- Wheel
- BO motor
- Breadboard

◉ About components:

◉ BO motor: It operates on the Principle of electromagnetic induction. It consists of a coil (armature) that rotates within a magnetic field when an electric current is applied. The direction of rotation is determined by the polarity of the applied voltage.

◉ Relay module: It is an electromechanical switch that controls the flow of electricity through its contacts. Arduino board controls Relay module. When we have to connect large device arduino can't give such power to large devices, so we use Relay module.

◉ Eye blink Sensor: The eye blink sensor constantly sends infrared waves which are reflected and detected by the receiver. As soon as the eye blinks the output of the

sensor goes high. This output is sent to the buzzer to make the noise. It continuously monitors the driver's eye movements. The sensor sends signals to the microcontroller based on the timing of eye blinks.

Conclusion : The Accident Prevention System using Eye Blink sensor has significant potential for real-world application in enhancing road safety and preventing accidents. Further refinement and optimization can be explored for improved accuracy and adaptability to different driving conditions.

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