SAFETY HELMET WITH BUILT-IN ALCOHOL DETECTION

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This project presents the development of a safety helmet with advanced features to enhance road safety for electric bike riders. The helmet incorporates an alcohol detection system using an MQ-3 sensor, an FSR sensor for helmet detection, and an EEG sensor to detect drowsiness. Real-time feedback is provided through visual indicators, auditory alarms, and haptic feedback, alerting the rider in case of alcohol presence or drowsiness. The helmet's integrated system communicates with the electric bike using Bluetooth technology. A relay controls the bike's ignition, ensuring it starts only when the rider wears the helmet and is sober and alert. The helmet's lithium-ion battery is conveniently charged directly from the electric bike, eliminating the need for external charging devices. This safety helmet with its innovative features aims to minimize accidents, promote responsible riding, and improve the overall riding experience. Further advancements in this area can contribute to the development of intelligent safety systems in transportation.

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