

Ignition Interlock Device for Motorcycles

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Abstract : Ignition Interlock Device or IID is a mechanism installed inside a vehicle which requires the driver to breathe into the device before starting the vehicle. If the IID detects that the alcohol level or blood alcohol content (BAC) is higher than the accepted value, the engine will not start. If the driver is not able to provide a clean breath sample, the IID will log the event, warn the driver, and then start up an alarm. The purpose of the IID is to prevent accidents due to driving under the influence (DUI). With the rise of the two-wheeled vehicle in the Philippines due to its mobility and purchasing power, IIDs are still mainly installed on four-wheeled vehicles. Even though riding the motorcycle when drunk is more dangerous, there are only a small number of installed devices on motorcycles and scooters. The general objective of this study was to develop a system with hardware and software components that would implement IID on motorcycles. The study employed a descriptive method of research. The study also concluded the following: the infrared must have a point-to-point communication, the breathalyzer on the helmet should react to ethanol, the microcontroller on the motorcycle should accept all IR signals from the helmet and interpret it and the GPS shield should have an unobstructed line-of-sight communication with the GPS satellites.

Keywords : blood alcohol content, breathalyser, driving under the influence, global positioning system, global system for mobile communication

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