

Ideation Phase

Title	Signs with smart connectivity for better road safety
Domain Name	Internet of Things(IOT)
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Abstract

The Internet of Things (IoT) is making human life easy in all aspects. The applications it offers are beyond comprehension. IoT is an abstract idea, a notion which interconnects all devices, tools, and gadgets over the Internet to enable these devices to communicate with one another. IoT finds application in various areas, such as intelligent cars and their safety, security, navigation, and efficient fuel consumption. This project puts forth a solution to achieve the desired outcome of saving precious human lives that are lost to road crashes. In this context, we propose to develop a system, we are designing and deploying a system that not only avoids accidents but also to take action accordingly. This research aims at dealing with the issues that cause fatal crashes and also integrates measures to ensure safety. Life without transportation is impossible to imagine; it makes far off places easy to reach and greatly reduces the travel time. But the problems which surface due to the ever-increasing number of vehicles on the road cannot be ignored. The project aims to eradicate a few of the major reasons of car crashes and also aims to integrate post-crash measures.

Literature Survey

The emphasis is on making a monocular vision, self-sufficient auto model utilizing Raspberry Pi as a handling chip. A high-definition camera alongside an ultrasonic sensor was utilized to give fundamental information from this present reality to the automobile. The automobile is fit for achieving the given goal securely and insight fully in this manner avoiding the danger of human mistakes. Numerous current calculations like path identification and impediment location are consolidated to give vital control to the auto. The paper undertakes the implementation of the system using Raspberry Pi, by the ethicalness of its processor. Kumar proposed the design and development of an accelerometer based system for driver safety. This framework is structured by using Raspberry Pi (ARM11) for quickly accessing the control

and accelerometer for event discovery. If any event occurs the message is sent to the authorized personnel so they can take quick and immediate response to save the lives and abate the harms. The system only incorporates one module ignoring the other fatal causes thus making the proposed model incompetent and incomplete. Sumit proposed a compelling strategy for the crash evasion arrangement of a vehicle to identify the hindrances present in the front and blind spot of the vehicle. The driver is alarmed with the help of a buzzer and an LED sign, as the distance between vehicle and obstacle reduces and is reflected on a display board. The ultrasonic sensor identifies the state of the object if it is moving or is stationary with respect to the vehicle. This system is valuable for discovering vehicles, bicycles, motorcycles, and pedestrians that cross by the lateral side of the automobile. The paper executes the proposed system using Raspberry Pi as the microcomputer but it limits out-of-the-box performance. Mohamad proposed a proficient vehicle collision aversion framework inserted with an alcohol detector. This system has the capability of making the driver alert regarding the amount of alcohol consumed and depicting the same on an LCD screen. In addition it generates a warning using a buzzer to make the driver mindful of his or her own particular situation and to fag others in the encompassing zone. The security segment proposed by this framework is the driver in an unusually abnormal state of tipsiness isn't allowed to drive an automobile as the start framework will be shut down. This method works in a way to intimidate the driver about his own condition, which is ironic because the person won't be mindful to take any action against it. The idea is novel but practically it is not workable. The current system showcases a mechanism for receiving the geographical coordinates of the automobile during a crash. This existent framework additionally provides a means of discovery of pre-crash with an object. But it does not target on the intensions that cause these fatal accidents. It does not focus on the crashes that are caused by drunk driving with the help of an alcohol/gas sensor and neither the negligence of use of seat belts. Also these framework don't guarantee if the driver is wide awake or feeling drowsy. There is no use of eye-blink sensor for the same reason. Additionally, the current framework requires manual involvement. However, the proposed framework works on the shortcomings of the current work and is completely mechanized.

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