

Development of flood detector system for vehicle using GSM

Abstract

In Malaysia, there are several areas that frequently occur flash flood and mostly it happens more than twice a year. Flash flood causes damage to the valuable properties including crops, livestock, and possession including vehicles. Some part of the engine vehicle is sensitive to water as it consists of few electrical and mechanical components inside it. Hence, a high cost is needed to repair the vehicles. The primary focus of this project is to develop a prototype of an early flood detector system specifically for the vehicle by utilizing a GSM to alert the owner when the flash flood starts to happen. This system has two input sources, namely an ultrasonic sensor and car supply 12 volts. As the primary goal of this project is to actualize the water sensor in a vehicle, therefore it must be associated with the supply of the vehicle which is the car battery. The sensor will work when the vehicle was parked and not working when the vehicle begins running. Relay has been utilized in order to make sure the supply work naturally. The ultrasonic sensor is working as a water sensor to detect the rising of water level. The input signal then will be sent to the PIC controller. All process was controlled by PIC 16F877A that acts as a brain for the system. When the water reaches the level that has been set in the programmed, the signal, then will be transmitted to the GSM module through RS 232 driver. The message then will be sent to the owner's mobile phone to give a warning about the flood as the water level increasing near their vehicle. The development of the prototype basically can be divided into two sections which are the simulation part by using Proteus Software and the coding has been implemented by using Kiel Software. Eagle Software has been used for PCB Design. In conclusion, the early flood detector system for a vehicle which can alert the vehicle owner was successfully developed. These could be one of an alternative method in helping the vehicle owner to avoid their vehicle from being drowned in the flash flood.

Keywords

Acoustic sensors, Batteries