

INTELLIGENT EMBEDDED CONTROL WARNING SYSTEM FOR CAR REVERSING

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ABSTRACT

In today's fast world, while driving car some time we may need to reverse the car or while parking we usually need to reverse car but as we can't see the object at backside it might happen that back of car get stuck on the object causing minor or major accident which affect physically as well as economically. To such situation some developments have been done in car design.

Most of the car drivers used the reverse radar or a reverse camera to detect the road situation behind the vehicle when it is engaged in reverse gear. As a matter of fact, the pedestrians can virtually know if the vehicle is backing up or not only by seeing the permanent bright reverse lamps. And as there is not much change with the reverse lamp to be seen, therefore their warning function for pedestrians seems to be still insufficient eventually.

Therefore, this research tries to design a set of embedded intelligent car backup warning system so as to promote the safety of the walkers or the other drivers on the road. This embedded system uses android operating system with android and matches with the ARM developing board for developing the intelligent touch panel operating mode.

The UART interface on the ARM developing board controls the frequency converter, RC server and LED by using PIC16F877 to transform the signal of the sensors. ultrasonic sensors are used for distance calculation and camera and LCD touch screen is used have view of object behind the car. Apparently, from the test results, it has been proven that this system can reach the goal of automatically controlled car back-up warning function truly.

KEYWORDS: APR Sensors, ARM Board, Camera, LCD Screen, PIC16F877A, Ultrasonic Sensors