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LIFE SAVING AFTER ACCIDENT

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ABSTRACT

This project focuses mainly on road accidents that takes place our day to day life.When accident take place we can observe that driver get trapped between seat and steering this project is so developed that helps the driver to escape easily and which saves the life.This project includes power supply,FPGA board,Pressure Sensor,Motor that moves in xy direction.When car is hit by another car the pressure sensor detects the pressure which is converted into voltage which is applied to the FPGA board which in turns runs the motor and motor will roll the seat backward and driver can be prevented from measure injury.

KEYWORDS-FPGA,PressureSensor,Motor.

INTRODUCTION

In our day to day life accident can take place anywhere anytime.The aim is to prevent the person from measure injury.Pressure sensor is used to detect the pressure and convert it intothe voltage which is applied to the FPGA(Field Programmable Gate Array) board which is used for interfacing between the Pressure sensor and the motor.The pressure sensor is a device which converts the pressure into the voltage which is logic'1'or logic'0'which is applied to the FPGA board. Power supply is used to supply power to the FPGA board the motor is connected at the output which is used to rotate the seat backward.

MATERIALS

Power Supply-Power supply to provide power to FPGA board
FPGA board-It is Field Programable Gate Array
Pressure Sensor-It is sensing element
Motor-It is used to rotate seat.

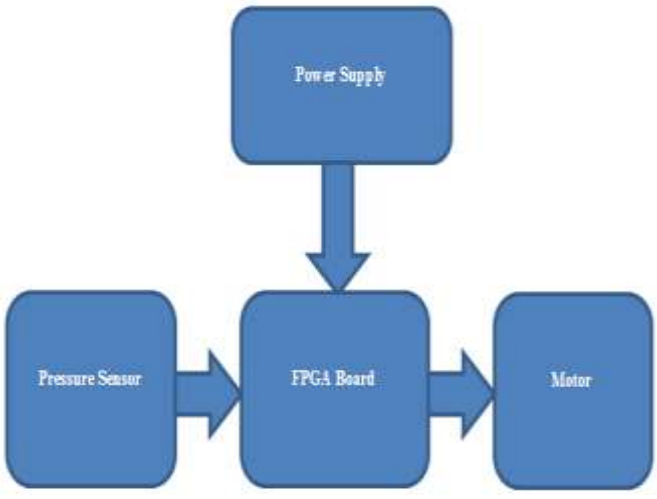

Fig1. Block diagram

Discription:

This project includes Power supply, FPGA board, Pressure sensor, Motor.

- Power supply:- power supply is used to provide supply to the FPGA board.
- Pressure Sensor:-When pressure is applied to the pressure sensor it converts it into the voltage levels if input is applied output of the pressure sensor can be logic'1'and logic'0'.when there is any input output of the pressure sensor is logic'1'and when there is no input output is logic'0'.this output is applied to the FPGA board.
- FPGA Board:-It is digital logic chip that can be reconfigured so that they perform a logic function which is programmed with HDL languages e.g VHDL or Verilog.The output of this board is given to the motor.
- Motor:-The motor is connected to the output of the FPGA board which is used to rotate the seat.

VHDL Program for FPGA:-

```
----------------------------------------------------------------------------
library IEEE;
use IEEE.STD_LOGIC_1164.ALL;
use IEEE.STD_LOGIC_ARITH.ALL;
use IEEE.STD_LOGIC_UNSIGNED.ALL;

---- Uncomment the following library declaration if instantiating
---- any Xilinx primitives in this code.
--library UNISIM;
--use UNISIM.VComponents.all;

entity rotate_motor is
    Port ( X : in  STD_LOGIC;
           Y : out  STD_LOGIC_vector(7 downto 0));
end rotate_motor;

architecture Behavioral of rotate_motor is

begin
 process(X)
  begin
   if(X='0')then
   Y<="00000000";
   else
   Y<="11111111";
   end if;
 end process;
end Behavioral;
----------------------------------------------------------------------------
```

CONCLUSION

In daily newspaper we read lot of accident news which happened due to several reasons like drunken state,over speeding,etc so life saving becomes important.This device is design to save life of a person after accident.This project is gift for society to save life in this crowded area.We hope so this project is of no doubt to save precious life.

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