EHB 432E Microprocessor System Design Project, 2017

Parking Sensor

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INTRODUCTION

- Today role of electronics in automotive industry is increasing rapidly. In this project we aimed to implement a parking sensor using ultrasonic proximity sensor.
- LCD displays the distance measurement takenfrom the proximity sensor while the servo motor scans the area

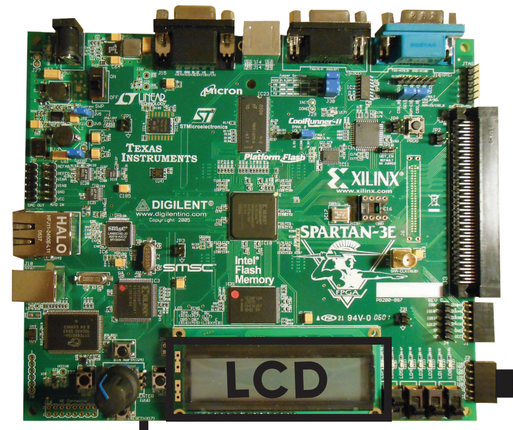
METHODOLOGY

- Proximity sensor detects objects up to 6 meters.
- A digital filter is added to the output of the proximity sensor to reduce the noise.
- Servo motor scans the area up to 90 degrees.
- Proximity sensors (LV - MaxSonar-EZ1) resolution is 2,5 cm.
- PWM technique is utilized in both prximity sensor and servo motor.
- Binary data is converted to decimal data in order to be displayed at the lcd.

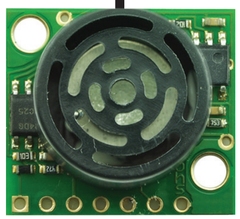
FUTURE WORK

- Park sensor project can be improved by adding a buzzer to alert the user.
- A more sensitive proximity sensor can be used.
- Furthermore a camera can be added for visual assistance.

System Overview



Servo Motor



Proximity Sensor
(LV - MaxSonar - EZ1)

REFERENCES

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- https://abc-rc.pl/templates/images/files/995/1428085018-sg-90-tower.pdf
- www.xilinx.com/support/documentation/boards_and_kits/ug230.pdf