EHB 432E Microprocessor System Design Project, 2017

Motion Detection System

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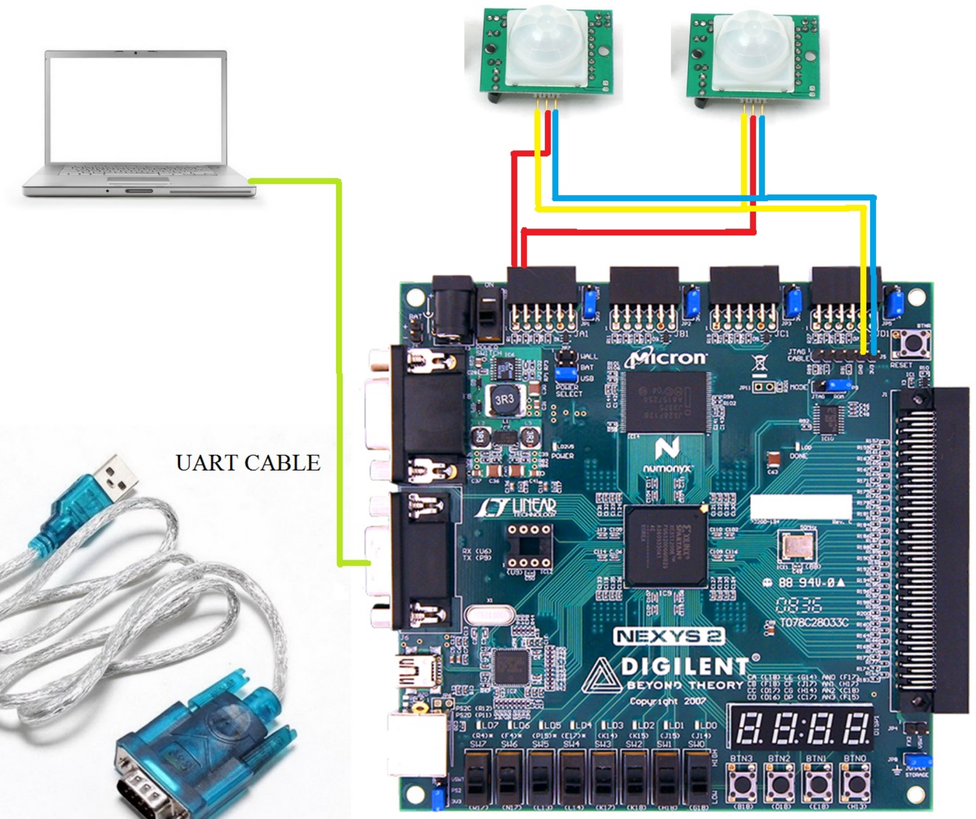
Introduction

- Our project utilizes FPGA, 2 PIR movement sensors, 7-segment display and monitor in order to build a count feedback system.
- 7-segment displays and monitor show the total number of objects in the room. Communication between the FPGA and monitor is done by UART cable.

System Overview



Challenges

- Low quality PIR motion detector sensor effects counting operation adversely.

Methodology

- PIR sensors detect movement.
- The time difference between the sensor implies us the direction of the movement.
- Coming movements cause the count to increase and vise versa.
- Total count is displayed both 7-segment and monitor by using UART module.

Future Work

- Project can be improved by using an ID card system which ensures that only desired movements are included. This project can be used various places such as classes and barns.