Presented to: Dr. Maher Mansour

Subject name: Computer Interface

Project title: Garage System

Team ID: 3D (C4)

Team Members:

- Waleed Ebrahim
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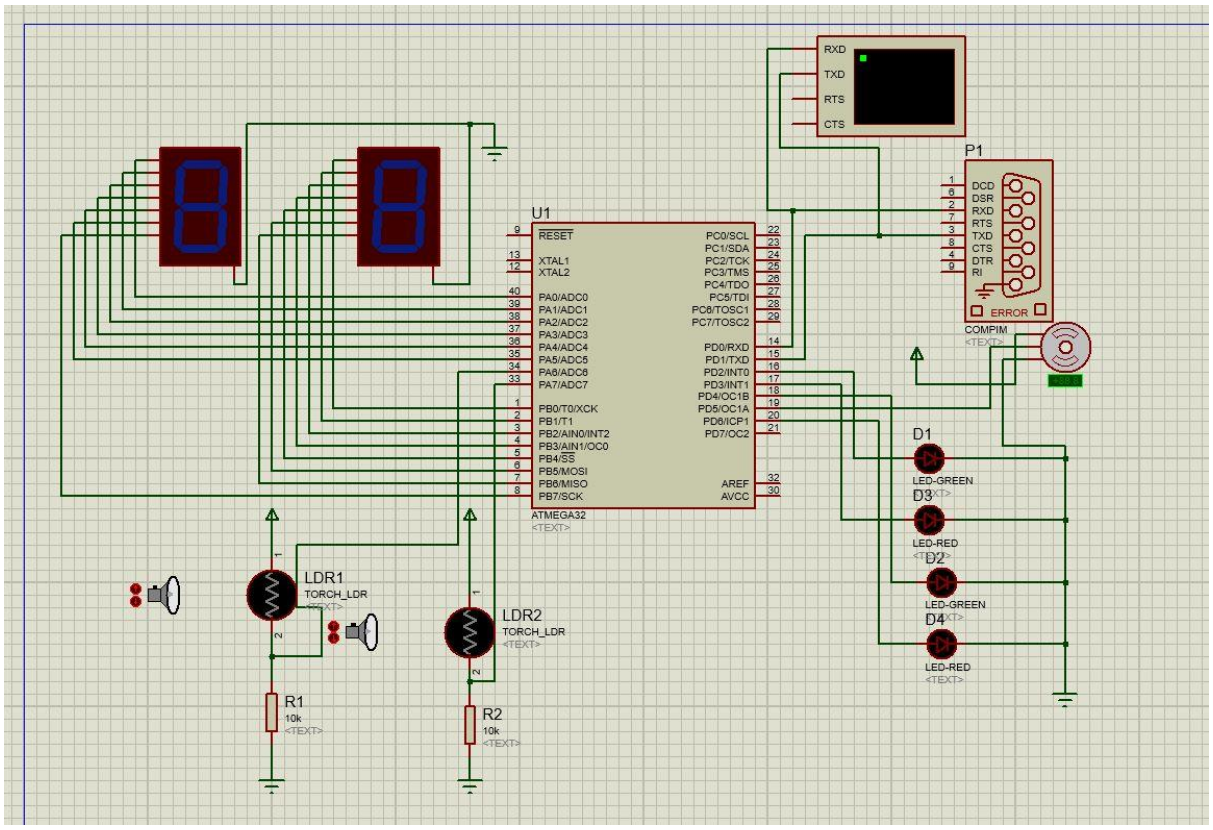
Components:

- 1x Atmega32
- 2x Seven-Segment Display
- 2x LDR
- 2x Laser Module
- 4x LEDs
- 2x 10kΩ resistors
- 1x Servo Motor
- 2x Breadboards to implement the circuit on
- 1x USB to TTL converter

Circuit on proteus:



Role of operation:

Garage System prototype with two gates

- The **2 LDRs & Laser Modules** detect that a car has passed as when the car passes between both the LDR & Laser; it prevents the LDR from detecting the Laser light.
  - If the car prevents the outer LDR from detecting the laser's light; *Car is entering the garage*
  - If the car prevents the inner LDR from detecting the laser's light; *Car is exiting the garage*

- The **2 Seven-Segments** used to present the number of cars in the garage

- The **4 LEDs** are used to present which direction is used now;
  - the green LED in entrance or exit path indicates that *a car is entering or exiting respectively*
  - the red LED in entrance or exit path indicates that a *it's not allowed to enter or exit respectively*

- The **Servo Motor** control the 2 gates which's controlled from the GUI

- The **GUI** is the Servo Motor controller & displays the number of free & busy places

- The 2 **Breadboards** is used to implement the circuit on

Hardware circuit image: