Line Following Car

Belal.Hamed Hamza.saleh Hasan.sultan
Supervisor: Dr. Belal Sababha
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King Abdullah II School of Engineering
Princess Sumaya University for Technology

Design

Circuit for our Flash light detector that contains all sensors and actuators.

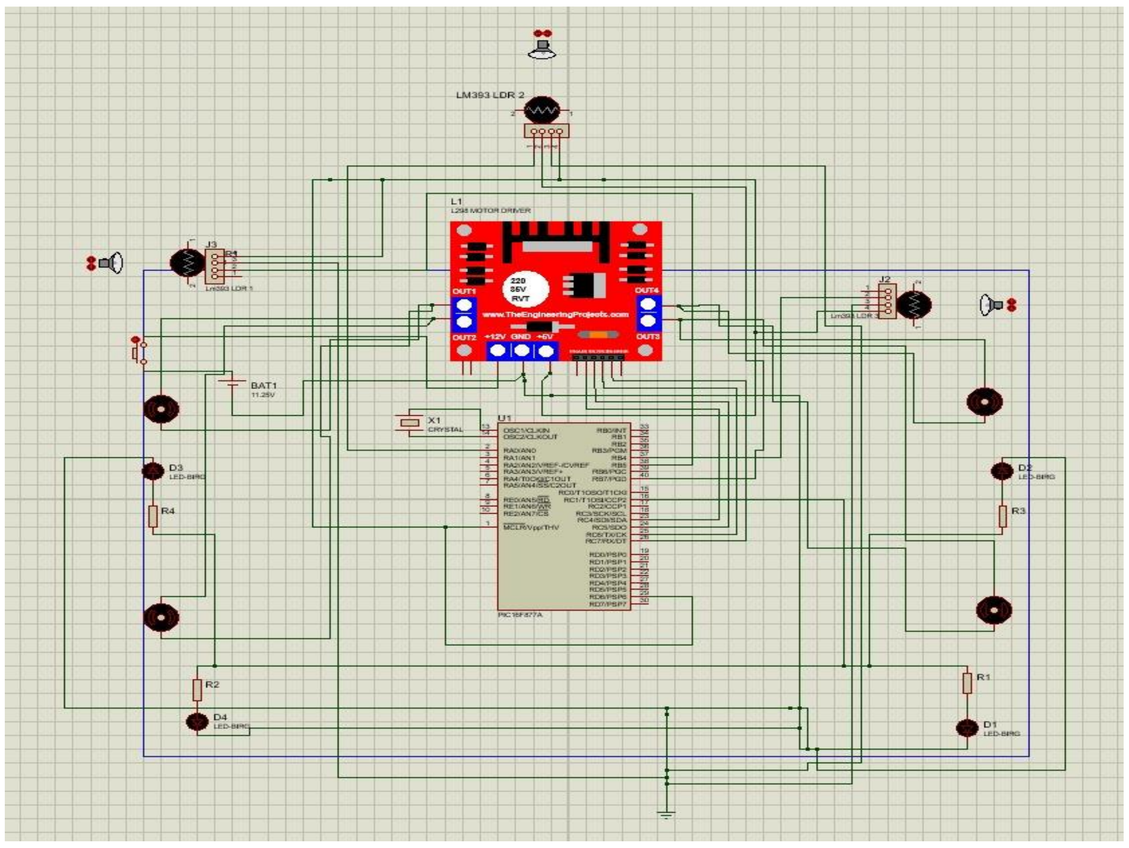

Figure 1: Electrical design

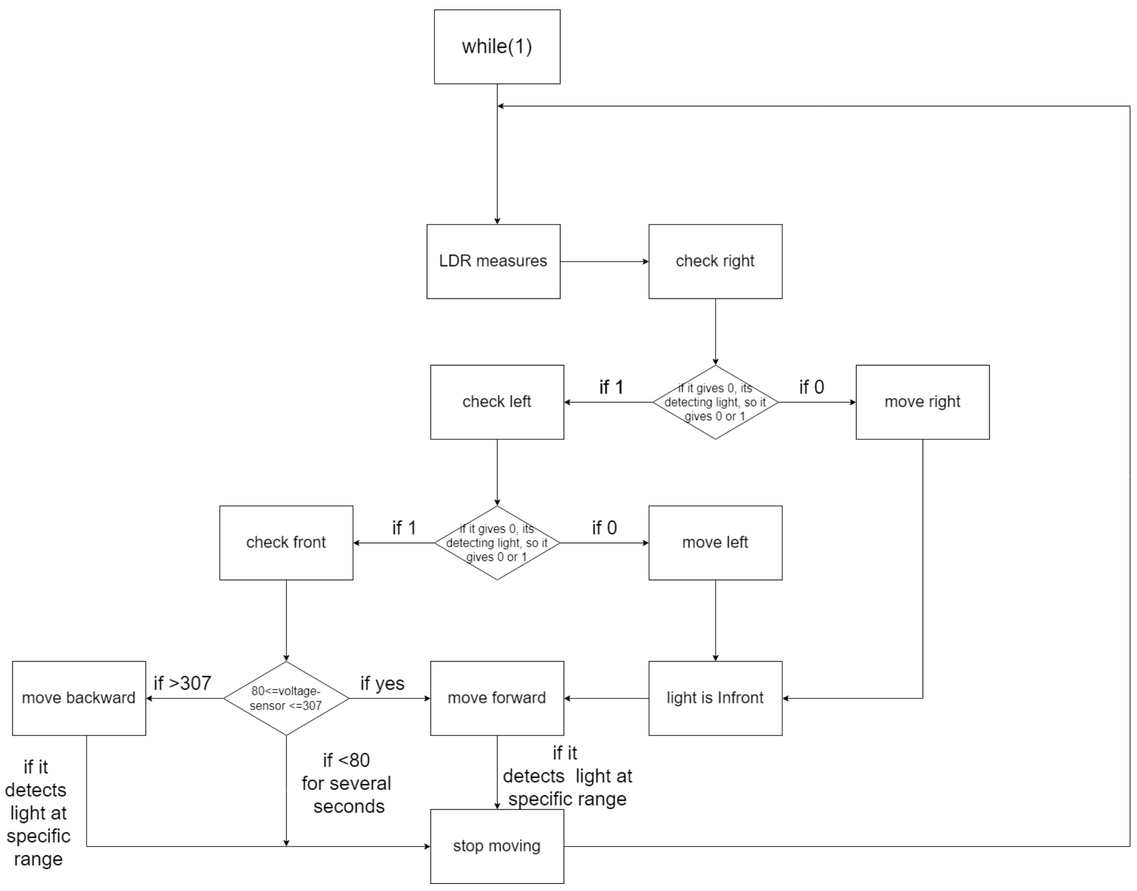

Figure 2: Software Design

Introduction

In the field of embedded systems, light detection and responsive motion control are fundamental functionalities with diverse applications, ranging from robotics to security systems. This project explores the development of a flash light detector vehicle that navigates towards a light source and adjusts its behavior based on light intensity. The primary objective is to create an efficient and responsive system that can accurately detect light direction and modulate movement and LED brightness accordingly.

Results

The project aimed to design and implement a Home Security system using a PIC16F877A microcontroller. The design contained perimeter sensors(ldr's), microphone sensor, keypad, and LCD that provided a secure home with all the necessary precautions.

Figure 3. The house from outside

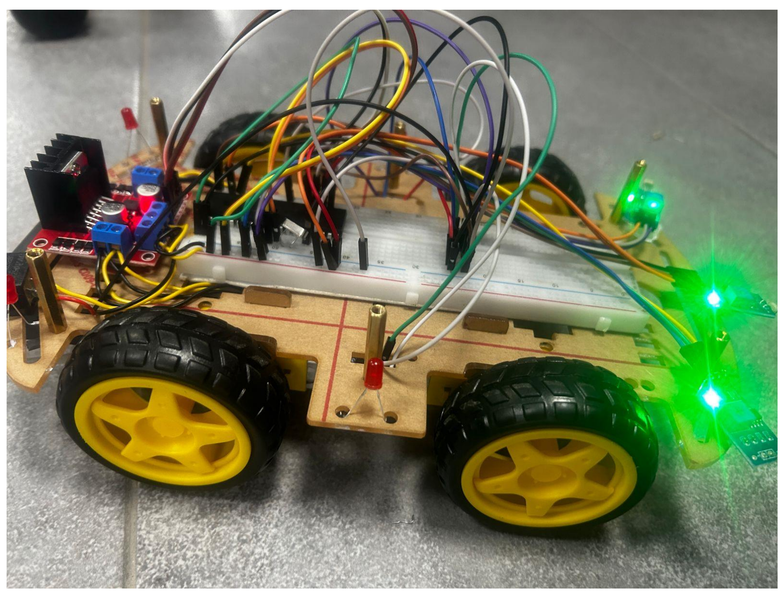

Figure 4. From inside

Conclusion

The flash light detector project successfully demonstrates the integration of various electronic components to achieve responsive motion control based on light detection. The system effectively navigates towards light sources and provides visual feedback through LEDs, showcasing the potential applications of such a system in robotics and automated systems.