Smart Trash Bin Using Arduino Controller

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Abstract:

The rapid urbanization has raised the demand for more waste. This project aims at reducing this waste through the use of a smart bin. A sensor mounted on the top of the bin will determine the height of the object it's measuring. The device will also notify the user when it senses nearby objects. These smart bins will be used to manage waste effectively. The presence of foul smell from these wastes may lead to long term problems. It can also cause breeding of insects and diseases.

Objectives:

The goal of this project is to develop a prototype for an automatic open dustbin that automatically opens when someone wants to throw out their trash and show you the if the trash is full or empty, and send message if the trash is full.
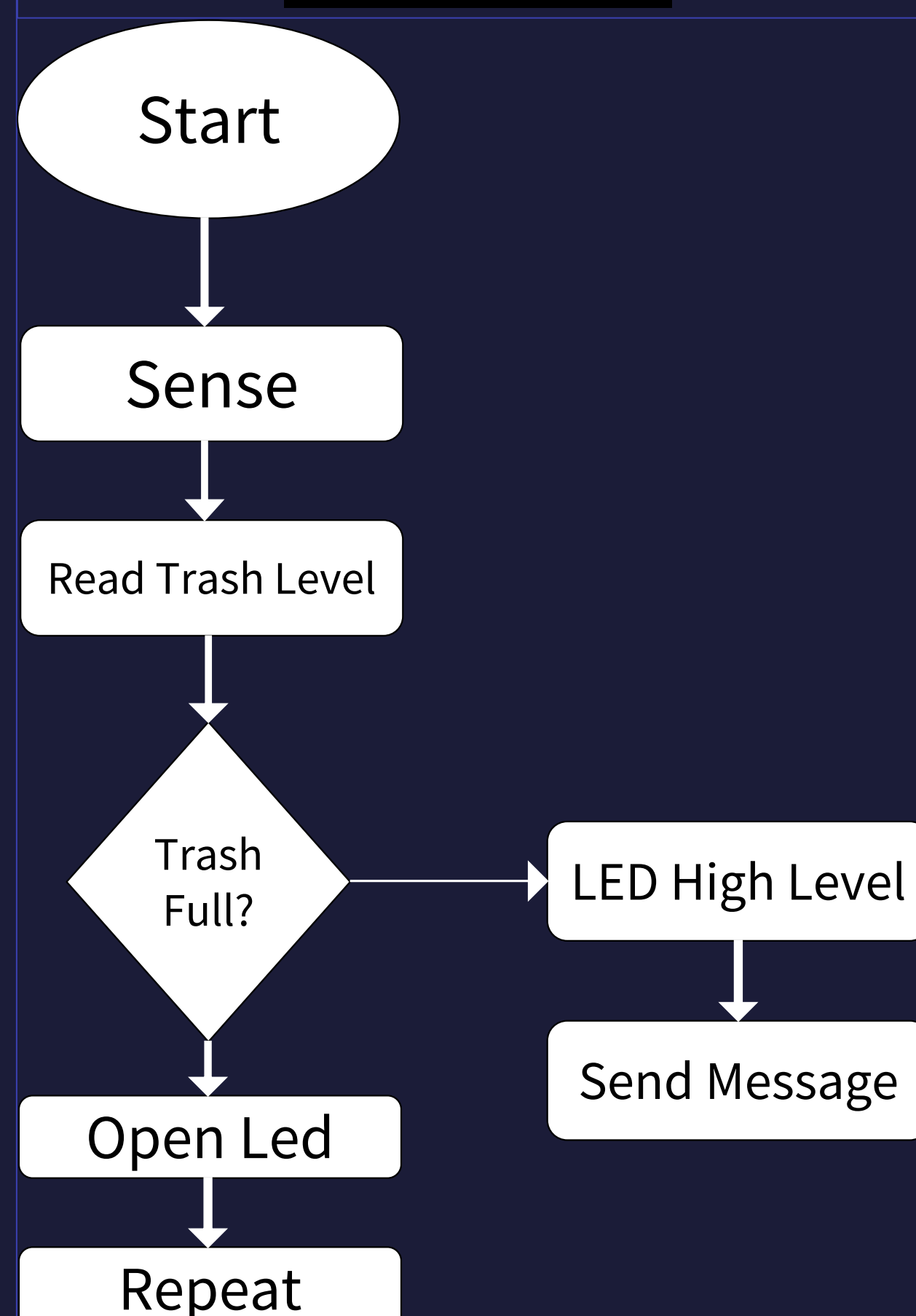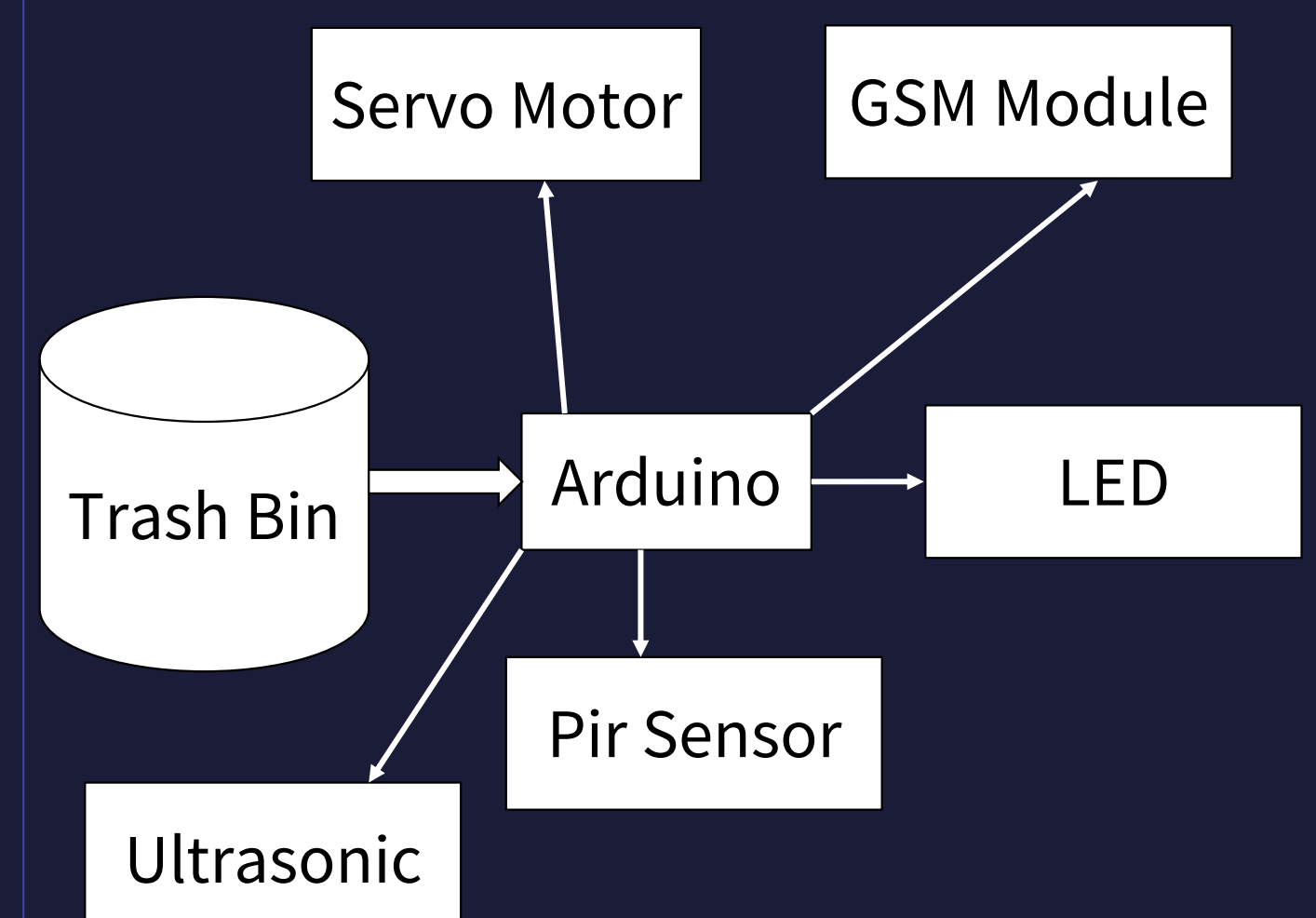
Prototype:

Methodology:

implementation process using Arduino IDE tool and aurdino UNO with C++ language for developing the modules in windows platform. In the smart dustbin hardware contains Aurdino UNO, Ultrasonic Sensor, Bread Board, ,Servo Motor ,Power Supply Connection Cables. In the smart dustbin Ultrasonic sensors will continuously monitor the status of the bin. This sensor will help to automatically sense nearby users and open the bin for them

Flow Chart:

Start → Sense → Read Trash Level → Trash Full? → LED High Level → Send Message

Trash Full? → Open Led → Repeat

Block Diagram:

Servo Motor

GSM Module

Trash Bin → Arduino → LED

Arduino → Pir Sensor

Ultrasonic

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