

Anti Theft E-Commerce Delivery Vehicle



TEAM MEMBERS



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PROBLEM STATEMENT

This is the generation of robotics and automation, moreover COVID pandemic has increased the need of touch free interactions. So to boost ecommerce and food deliveries without the spread of infections due to human contact we here propose an autonomous delivery robot system.



Description

The robot is designed with integration of *Arduino UNO and Arduino Mega* board to ensure the complete robot working. The robot is controlled by a 4 wheel drive and remotely controlled via a RF remote. Also the bot has an upper section to carry packages on it that can be opened only by intended recipients. This anti theft mechanism eliminates the risk of any robot thefts and ensure human like delivery. Also the robot is equipped with a ultrasonic sensor to avoid dashing into people or objects.

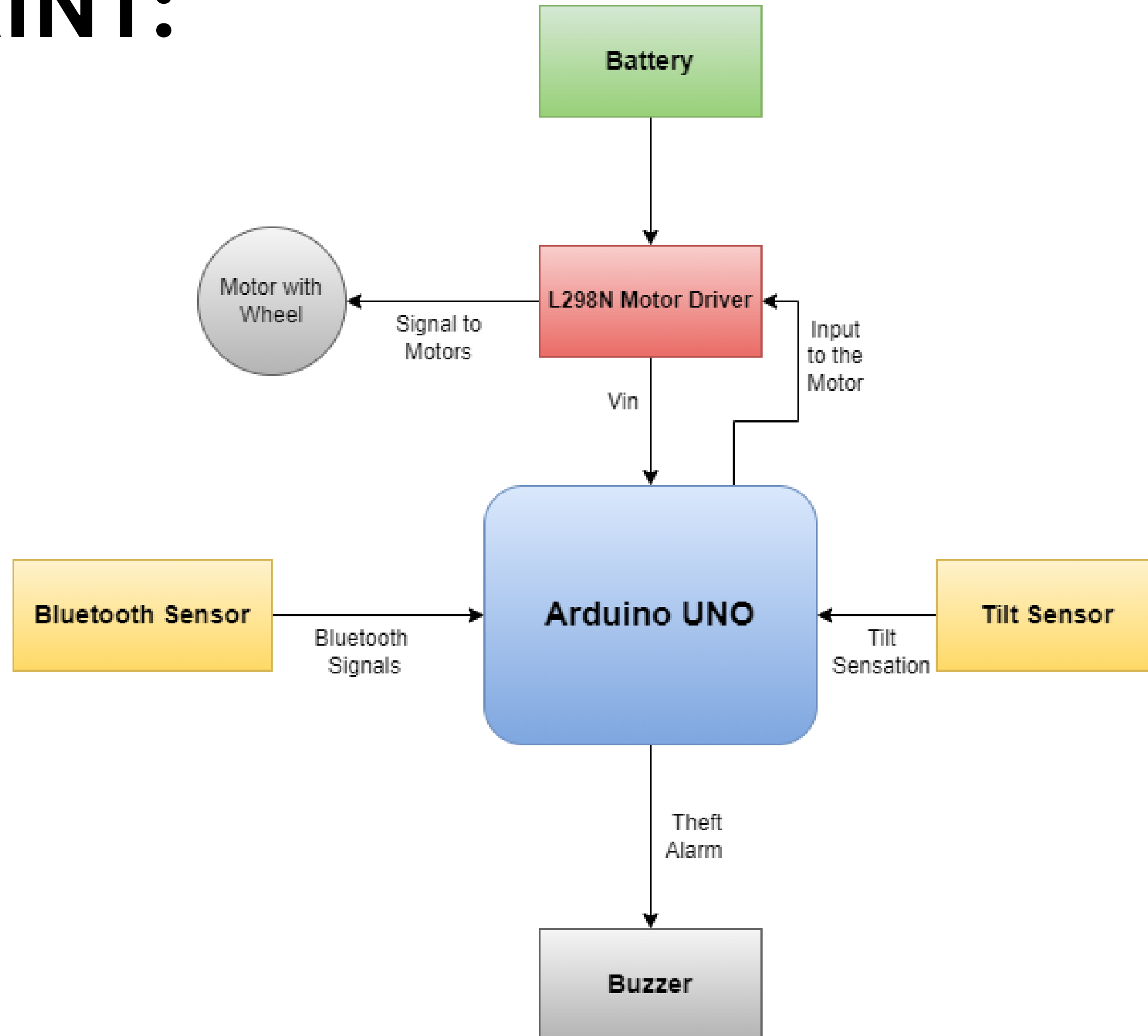
The buzzer is used to make noise if a theft attempt is made along with a siren system. The bot is able to deliver food and packages upto 10 kg using its powerful 4 wheel DC motor drive system. The rf control will allow it to deliver as well as thwart any theft attempts using the on board siren system.

Components

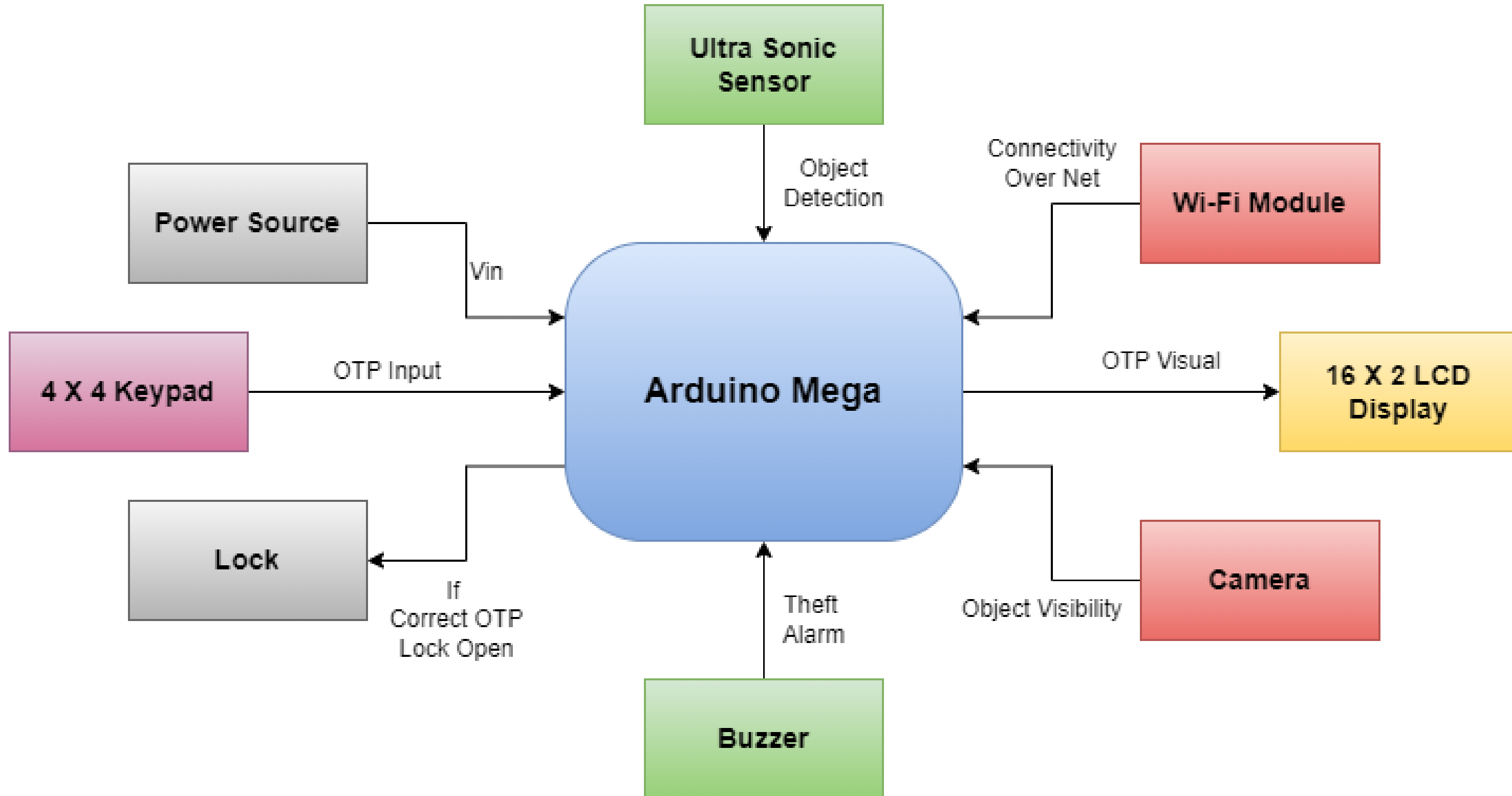
- Arduino MEGA
- Arduino UNO
- DC motors
- Long Range Remote Controller
- RF Receiver
- Transmitter Receiver Antenna
- Siren
- Screws and Nuts

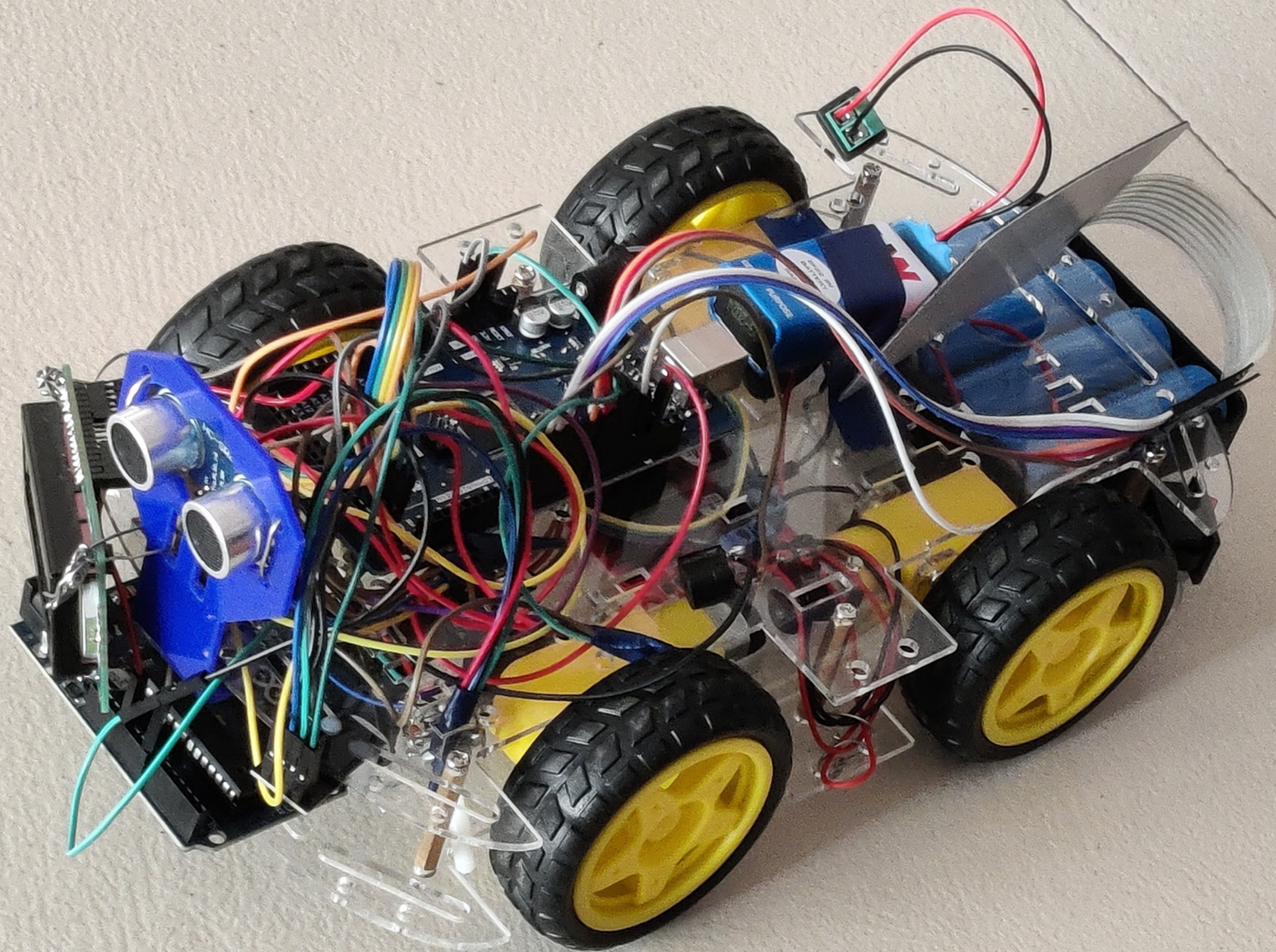
- Li Battery
- Wheels
- Robot Body
- Resistors
- Capacitors
- Diodes
- Transistors
- Supporting Joints & Hinges

BLUEPRINT:



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OTP generation Mechanism:

To send an OTP to mail id based lock system without using GSM on Arduino MEGA & Arduino UNO , we used ESP8266 Wifi Module to generate and send OTP to the registered mail id.

The system generates an OTP randomly and sends it to the registered mail id using Thingsspeak. The user is prompted to enter the OTP received on their mail id to unlock the lock. If the entered OTP is correct, the lock is unlocked for 1 minute and then locked again. If the entered OTP is incorrect, the user is prompted to try again.

Thank You