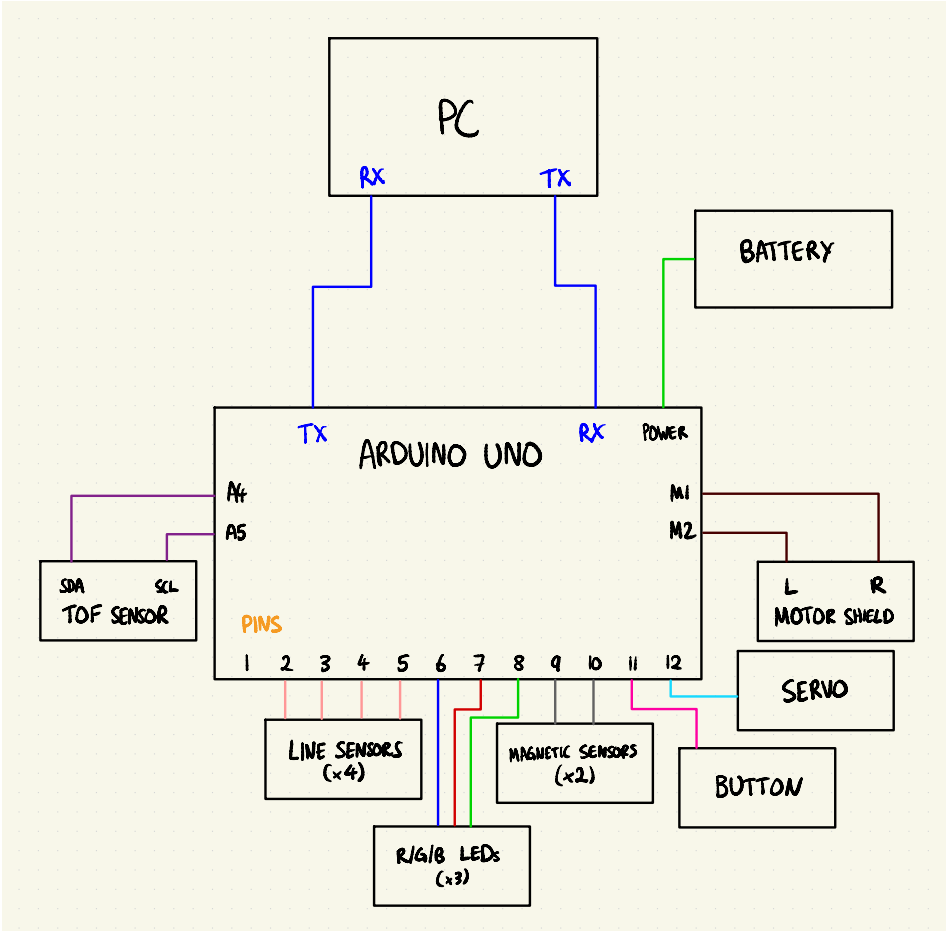
IDP: System Diagram

GitHub Repo: https://github.com/arnav5011/IDP_M1

This system diagram illustrates the physical connections between the Arduino Uno and the components used in the AGV. It includes sensors, LEDs, motors, servo motor, and communication with a PC. Note – only pins that were utilised in the final design are included.



Key Functionalities

- Object detection is achieved using a time-of-flight sensor to measure distance and magnetic sensors to classify objects.
- LEDs indicate the type of object detected:
  - Blue LED flashes during motion.
  - Red LED lights up for magnetic objects.
  - Green LED lights up for non-magnetic objects.
- Navigation is based on line sensors and junction counts, with pre-defined paths guiding the AGV to collection and delivery points.
- The servo motor ensures objects are picked up and deposited accurately.