



# INTELLIGENT GROUND VEHICLE

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## BACKGROUND

The Intelligent Ground Vehicle is an automated vehicle that is capable of going through a obstacle course utilizing obstacle avoidance sensors, algorithms, and mechanical assembly.

## GOALS

Design an autonomous ground vehicle that can:

- Obstacle avoidance via ultrasonic sensors and cameras or line tracking.
- Capable of carrying a 20 lb payload
- Compete in the Auto-Nav challenge of the IGV competition

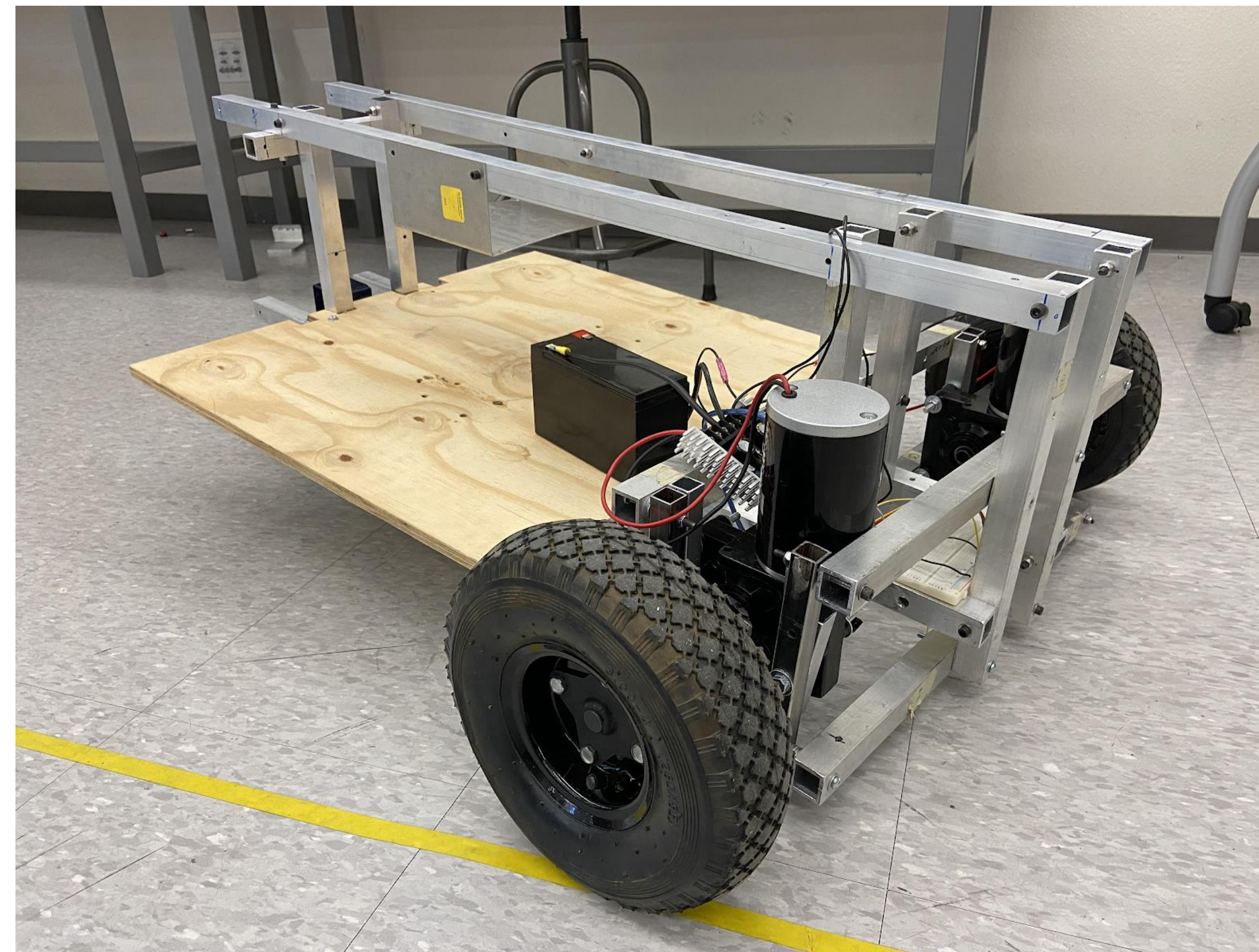
## REQUIREMENTS

- Ground vehicle built within the specified limit:
  - 3-7 ft long
  - 2-4 ft wide
  - < 6 ft tall
- Must be hardware governed to have a max speed of 5 mph
- Can be stopped via hardware and software means.
- Must complete an obstacle course without user interference
- Under \$1000 budget

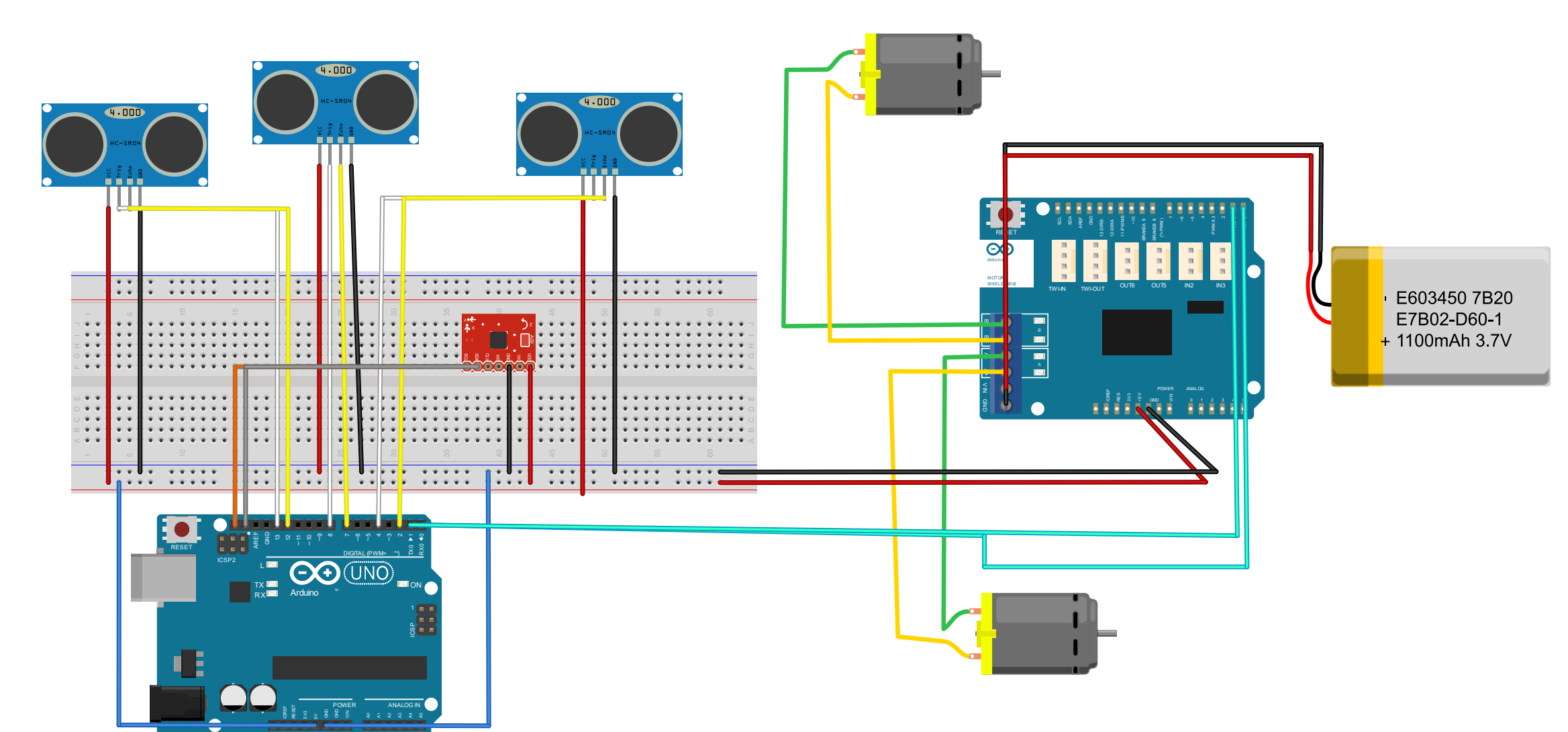
## BIGGER PICTURE

The technologies involved in making this project can be used in safety and can help reduce costs for transportation businesses, since the vehicle is automated it will reduce the likelihood of human error.

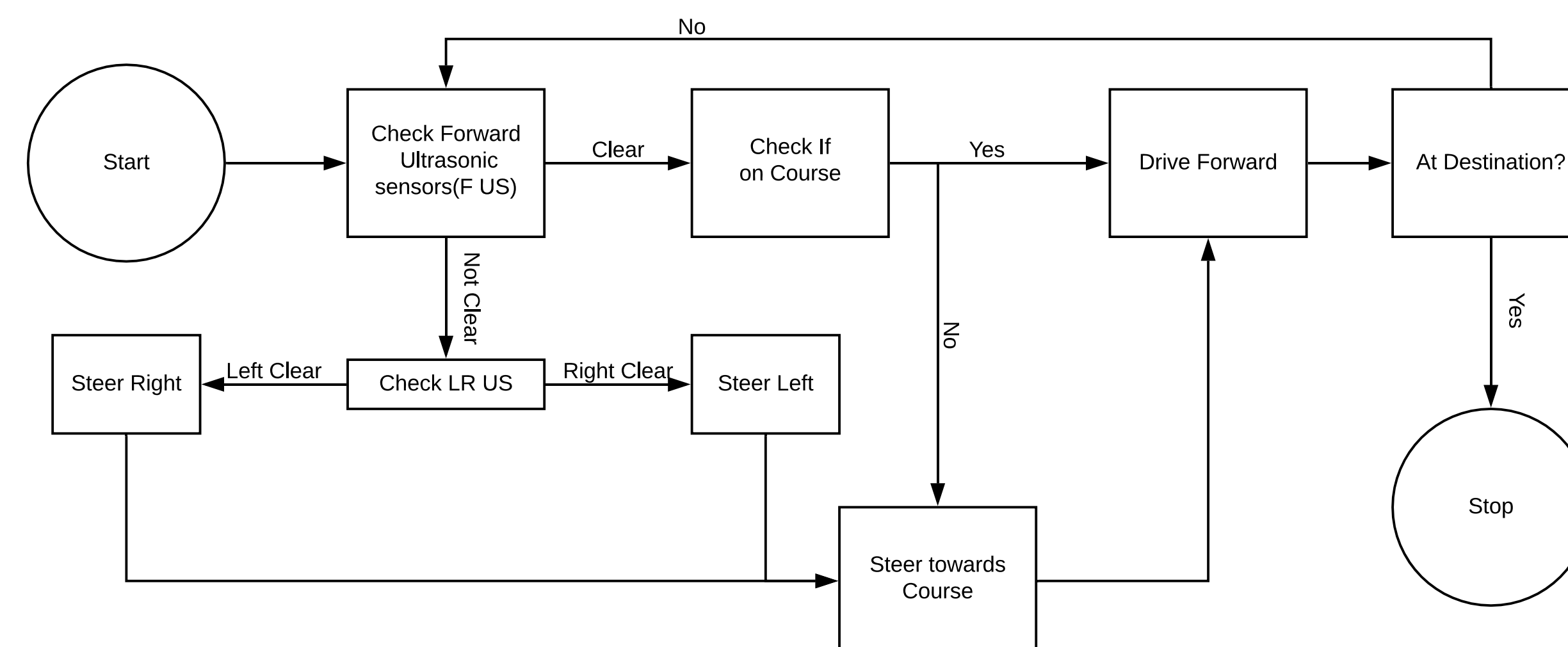
## CURRENT DESIGN



## WIRING DIAGRAM



## PSEUDO CODE



## CURRENT PROGRESS

Vehicle is currently capable of going around any given corner/obstacle completely using magnetometer and ultrasonic sensor readings. It will also stop when something gets very close to it.

## FUTURE PROGRESS

Integrating camera tracking into the vehicle. Register for competition with all the required reports and components on the ground vehicle. Implement all design changes and manufacture, and finish testing.



SCAN ME