# Race of Doom

Team 8

Wesley Jansen, Elizabeth Schmitt, Alex Crandall, Lalith Vattyam, Ben Towle

# Project Overview

- *Creating an autonomous vehicle that can receive data from each group to allow for a "race"*

- *Get through different, real-world obstacles successfully*

- Obstacles include
  - People crossing the street
  - Stop signs
  - Bad guys popping up that need to be shot
  - Construction
  - Walls

# Project Management Style

Gathering components and using previous examples to begin making a prototype

→ Implementing Hardware via Breadboard and Microcontrollers to create a programmable base model

→ Implementing code functionality to allow for obstacle detection and movement of the vehicle

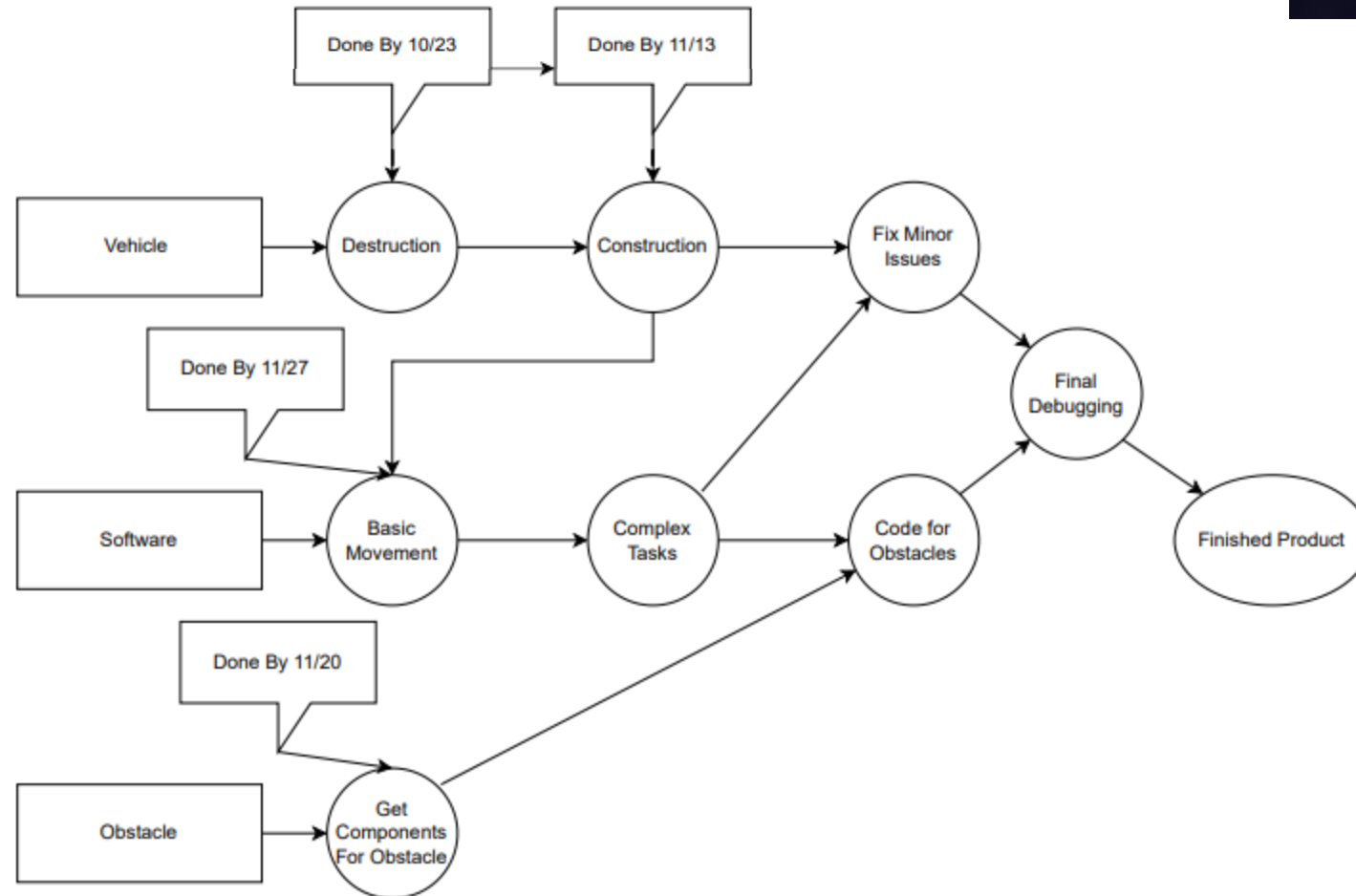→ Assembling obstacles and a course to run trials. These will test for accuracy of detection and maneuverability

→ From Trial observation specific tweaks can be made to the software and hardware

# Task Decomposition

# Measurables

# Key Milestones

Milestone 1:

    -Gather components and Implement our hardware onto the car we have been provided

Milestone 2:

    - Work on establishing basic movement for the vehicle

Milestone 3:

    - Test the connectivity of the sensors and observe feedback from them to prepare for obstacle detection

Milestone 4:

    - Developing a course to perform "Test Runs" which will allow us to tweak and redesign our model

# Key Risks and how to avoid them

- Since our vehicle is a small scale model of a real world autonomous vehicle, obstacles are a risk, failed maneuverability can lead to user concern

- Risk realization is high since we are using several sensor types to detect and prevent collisions

- Some consequences of collisions would be failing the large scale scope of the project which is user safety

- Using different sensors as mentioned and performing trials can mitigate these concerns

# *Conclusions*

- *A prototype is to be assembled first through hardware and then through software implementation*

- *Obstacles will be developed along with a track to test our vehicles detection and maneuverability*

- *Trial and error through test runs will be our primary source of data gathering and allow us to adapt our vehicle for more positive results*

*Thank You!*