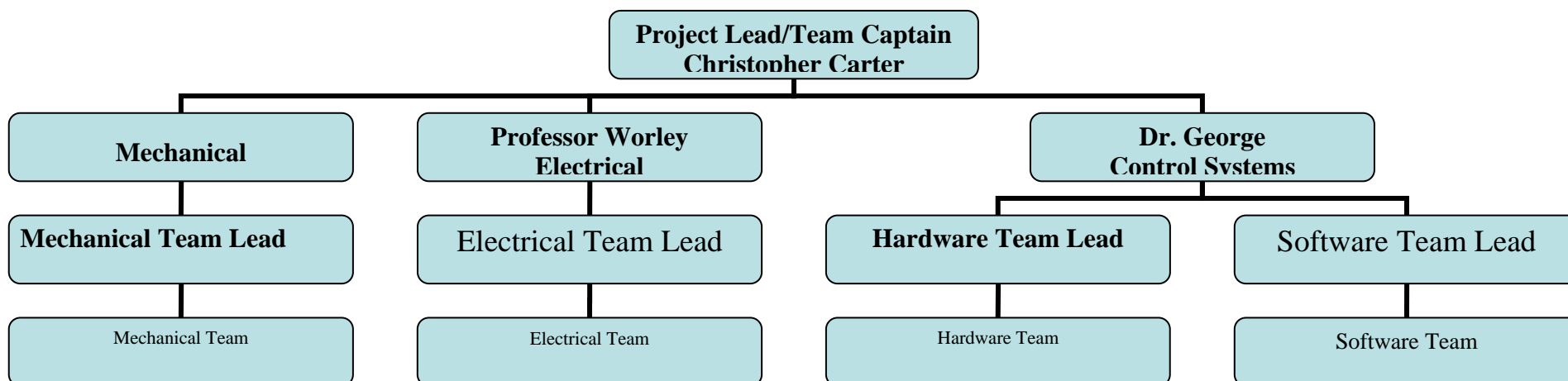


Organizational Chart

Intelligent Ground Vehicle Competition 2009

NASA Challenge



Design Components

Body
Sensor Mounting
Safety

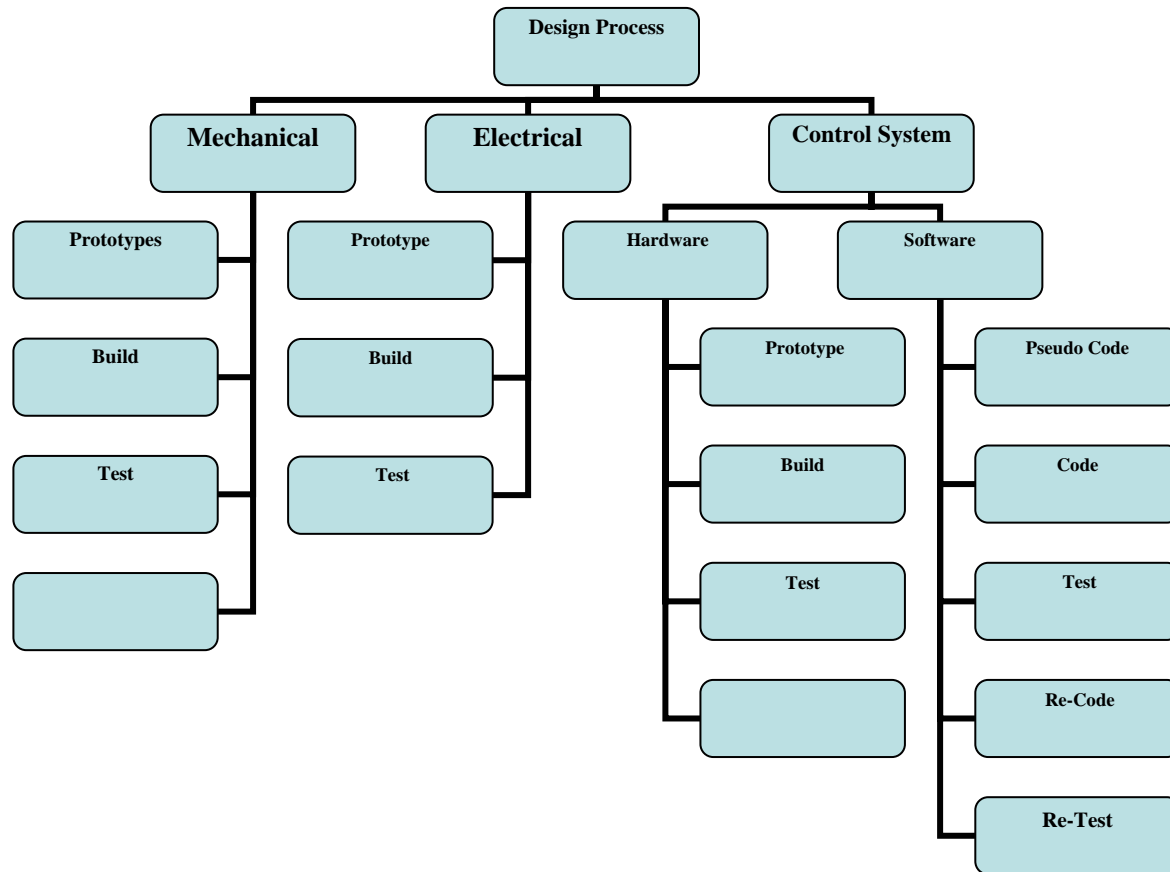
Electronics Layout
Power System
Safety

OS System Platform
Sensor Input
Safety

Control Software
Sensor Analysis
Safety



Design Process for Autonomous Ground and NASA Challenge Vehicles 2009





Award Categories

Qualification

Design

Contest

Three Challenges

- 1.) Pass the Money Barrel
- 2.) Compete 7 way points
- 3.) JAUS Challenge

Qualifications

<ol style="list-style-type: none"> 1.) Ground Vehicle 2.) Length limits 3 – 7 feet 3.) Width Limits 2 -5 feet 4.) Propulsion <ol style="list-style-type: none"> a. No fuel storage b. No internal combustion engines c. No fuel cells (This includes the team maintenance areas) 	<ol style="list-style-type: none"> 5.) Speed less than 5 mph 6.) Mechanical stop 7.) Wireless stop 8.) 20lbs payload
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2008 Qualifications standards completed
Begin work on LIDAR and Vision System

2009 Prior to competition

- **Commercial general liability insurance one million dollars**

Competition for 2009

- 1.) Money Barrel challenge
 - Obstacle recognition
 - Various colors
 - Possible natural obstacles
 - Randomized location
 - Avoid pot holes (simulated by white circles)
 - Complex barrel arrangements (may include switch backs)
 - Direction for obstacle course can change between heats
 - Visual Recognition Software
 - LIDAR
 - Sonar
- 2.) Complete the 7 waypoints challenge
- 3.) JAUS Challenge Optional