

Race of Doom - Cyber Security

DESIGN DOCUMENT

Team 43

Client: Timothy Bigelow

Advisor: Timothy Bigelow

Team Members/Roles

Andrew Kraft -

Jack Doe - Project Manager

Gavin Petrak - Team Organization

Jacob Nedder - Testing, Team Coordination

Peter Wissman - Client Interaction

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Executive Summary

Development Standards & Practices Used

At this time, the standards for circuits, hardware, software, and so on are not yet set out and will be determined between the various teams in the Race of Doom. When they are, this document will be properly updated to reflect these standards.

Summary of Requirements

List all requirements as bullet points in brief.

- Develop an RC vehicle capable of autonomous steering to navigate a hostile environment at speed.
- Coordinate with the other Race of Doom teams to develop Terms of Engagement for vehicle and track design.
 - This document will develop to reflect the proper requirements once they have been set out.
- Provide weekly reports on the progress of our design to the client.

Applicable Courses from Iowa State University Curriculum

Cpr E 288

EE 230

Com S 227/228

New Skills/Knowledge acquired that was not taught in courses

- Remote control of a vehicle.
- Autonomous Steering algorithms.
- Design techniques to develop an all-terrain vehicle.
- Shielded transmission to prevent remote car hijacking.
- Ergonomic controller design.
- Energy-efficient electronic vehicle wiring.

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List of figures/tables/symbols/definitions (This should be the similar to the project plan)

At this time, we have no figures, tables, symbols, or definitions. This section will be updated as such items are produced.

1 Team

1.1 TEAM MEMBERS

ANDREW KRAFT, JACK DOE, GAVIN PETRAK, JACOB NEDDER, AND PETER WISSMAN

1.2 REQUIRED SKILL SETS FOR YOUR PROJECT

- REMOTE CONTROL OF A VEHICLE.
- AUTONOMOUS STEERING ALGORITHMS.
- DESIGN TECHNIQUES TO DEVELOP AN ALL-TERRAIN VEHICLE.
- SHIELDED TRANSMISSION TO PREVENT REMOTE CAR HIJACKING.
- ERGONOMIC CONTROLLER DESIGN.
- ENERGY-EFFICIENT ELECTRONIC VEHICLE WIRING.
- PROPER DOCUMENTATION AND COMMUNICATION WITH CLIENT.
- ABILITY TO COMMUNICATE WITH OTHER TEAMS TO DEVELOP AND RUN A RACE.

1.3 SKILL SETS COVERED BY THE TEAM

- ABILITY TO COMMUNICATE WITH OTHER TEAMS TO DEVELOP AND RUN A RACE. - JACOB NEDDER, PETER W
- SHIELDED TRANSMISSION TO PREVENT REMOTE CAR HIJACKING. - JACOB NEDDER
- EXPERIENCED IN MUTIPLE CODING LANGUAGES - PETER W

1.4 PROJECT MANAGEMENT STYLE ADOPTED BY THE TEAM

SCRUM OR AGILE ARE 2 POSSIBLE MANAGEMENT STYLES WE COULD USE. THE TEAM IS STILL DECIDING ON THE FINAL OPTION

1.5 INITIAL PROJECT MANAGEMENT ROLES

Andrew Kraft - Testing, Circuit Design

Jack Doe - Project Manager

Gavin Petrak - Team Organization

Jacob Nedder - Testing, Team Coordination

Peter Wissman - Client Interaction