

## **CprE 491 WEEKLY REPORT 02**

**9/20 – 9/26**

**Group number: 8**

**Project title: Race of Doom**

**Client &/Advisor: Dr Bigelow**

**Team Members/Role: Alex Crandall, Wesley Jansen, Elizabeth Schmitt, Ben Towle, Lalitha Vattyam**

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- **Weekly Summary**

*This week our main objective was researching more about our product. In addition to filling out the product research assignment, we looked into the current products on our R.C car from the previous team's design. We analyzed and researched each individual component of the R.C car design and tried to understand how the components interact with one another. Some of the components we researched were the Arduino Uno processor, the servo motor, and the Electronic Speed Controller (ESC). In addition, we also met with Dr. Bigelow, our advisor and client to discuss the obstacles/objectives for the race. We came to a decision in which our race will be in a timed format in which each car runs on its own. Obstacles include color-coded tiles to which depending on the color, the car must avoid or hit those tiles.*

- **Past week accomplishments**

- Team Member 1: Alex Crandall: Worked on product research along with watching videos to gain a better understanding of the components we have been given and the connections of the RC cars.
- Team Member 2: Wesley Jansen : In communication with previous years group member to get code some last year. Talked with Dr. Bigelow about having a Mario Kart themed race and talked with him about what hardware we will need in order to do that.
- Team Member 3: Elizabeth Schmitt : Got a better understanding of the hardware by looking at it more. Drew the sketch with the hardware components on it and labelled. Talked to Dr Bigelow about having the car fully autonomous and solutions to getting the car to process colors.
- Team Member 4: Benjamin Towle : Looked over the Lidar SDK used by the group that designed the smaller car. Tried to gain a high-level understanding of how this

software was designed and implemented in relation to the hardware. Also looked into potential Bluetooth modules to allow wireless connection.

- Team Member 5: Lalith Vattiyam : Worked with the group to come to a consensus about the objectives of our project. Also assisted in organizing times for the group to meet.
- **Pending issues**  
We found the big car from last year and the little cars code. One big issue we are having is that the little car is missing. This is a big issue because the sensor that was used for it was expensive and good, we are a bit concerned about it being missing. ETG is not sure where it is. We are also missing the big cars coding from last year. We are currently talking to someone who was on the team last year about getting access to his terminal.
- **Individual contributions**

<b><u>NAME</u></b>	<b><u>Individual Contributions</u></b> <i>(Quick list of contributions. This should be short.)</i>	<b><u>Hours this week</u></b>	<b><u>HOURS cumulative</u></b>
Alex Crandall	Product research and analysis to gain a better understanding of the pre-existing RC car.	7	13
Wesley Jansen	Communicating with previous years group member. Talked with Dr Bigelow.	4	10
Elizabeth Schmitt	Storyboarded hardware for assignment. Talked with Dr Bigelow.	4	10
Ben Towle	Facilitated us getting access to previous teams' repositories. Brainstormed ideas for racecourse and race objectives	6	12
Lalitha Vattiyam	Organized meeting dates and times, and set goals for the group to stay on a collective task	3	9

**\*Starting cumulative hours count on weekly report #1**

- **Plans for the upcoming week**
  - Alex Crandall – Using product research to compare existing products to potential new ones in order to find components that fit our group's needs along with analyzing the car and the connections from the previous group.
  - Wesley – Work on an overall system design for our car. See what we want to use in common with the cars from last year.
  - Elizabeth – Come up with an overall system design for the car. Learning more how it now works and what we want to change about it.
  - Ben – Gain a better understanding of how the software for the big car connects with the hardware of the big car.
  - Lalith – Plan out meeting dates for the upcoming week along with creating a timeline of 2 week sprints to keep the group on task for the upcoming challenges in this semester.

- **Summary of weekly advisor meeting**

*During our second advisor meeting, we discussed possible ideas for obstacles that would relate to different colored tiles (Red, Yellow, and Green) on our track. Dr. Bigelow suggested using a camera sensor that picks up color and mapping it to a laptop for better processing speeds along with potentially filtering that color through image processing to pick up only Red, Yellow, and Green. We also discussed the cars being fully autonomous, instead of us controlling speed. This is because the obstacles may require it to stop on its own. Using this provided information along with new found research our group is starting to gather an understanding of the components that may benefit our project.*

### **Grading criteria**

Each weekly report is worth 10 points. Scores will be awarded as follows:

- **8 – 10:** Progress for your project seems to be suitable. Documentation and hours reported by team members are adequate.
- **6 – 8:** There is scope of improvement both in your report and your project progress. Can consult with instructor/TA after class for further inputs.
- **< 6:** Please talk to instructors/TA after class hours about any difficulties that you/your team is facing.

Each weekly report should be unique in that they have a unique set of supporting details for your contributions. So please do not just copy your reports from the previous week. In addition, please avoid any personal pronouns (he, she, I, you). Try to keep your reports as neat as possible.