CprE 492 Status Report 1

End of 491 – 01/30/2025

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, we regrouped as a team to discuss further implementation of the RC car and how we plan on accomplishing our tasks in the given deadline. We have decided that we will be working as two groups for the software implementation and if one group is way behind or both groups are struggling by mid to late February, we will then rejoin as one large group to complete the project. We are also looking at completing a fabricated PI hat in order to charge our raspberry Pi from our RC car.

- **Past Break accomplishments**
    - Team Member 1: Alex Crandall: Worked on researching the hat component for the Raspberry Pi to allow our software teams to begin implementing code in the near future
    - Team Member 2: Wesley Jansen : I researched what our next steps and shared my insight based off the research. I found a youtube video that relates heavily with our project and also looked at Stanford's autonomous vehicle project which has given us a more clear vision for this semester. We need a raspberry pi hat to make the power wireless and communicate fully with all components.
    - Team Member 3: Elizabeth Schmitt : Over break I researched implementing movement using the individual sensors that we have. I had to look into coding using the data given to us from the sensor in the Python language.
    - Team Member 4: Benjamin Towle : Brainstormed potential software architectures for our RC car application. Specifically, I researched the tradeoffs between using a behavioral tree vs state machine for the robotics design.
    - Team Member 5: Lalith Vattyam: Researched PI hat and python implementation for software development

- **Pending issues**

  Currently we are looking to complete a PI hat by the end of next week and have it fabricated with our RC car. Once we get that done, we will be able to power the car directly from the battery instead of carrying around a large charging cable.

- **Individual contributions**

NAME	**Individual Contributions** *(Quick list of contributions. This should be short.)*	**Hours this week**	**HOURS cumulative**
Alex Crandall	Began research on the Raspberry Pi hat	6	66
Wesley Jansen	Researched similar projects	6	68
Elizabeth Schmitt	Researched how to code using the sensors we have.	6	67
Ben Towle	Completed the installation of the raspberry pi 5 module	6	68
Lalitha Vattyam	Worked on bash commands for proper system updates and integration	6	67

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

- **Plans for the upcoming week**
  - Alex Crandall – I plan to gather a summary of my research and make a meeting with Matt from ETG in order to get a better understanding from an outside source
  - Wesley – I am going to see what kinds of hats are available or possibly order one online if we do not have what we need in ETG. I will also fix the issue with whatever happened at the demo.
  - Elizabeth – Work with the sensors on the hardware and see what the data they produce really looks like.
  - Ben – Get an idea of where we left off from last semester. (i.e. get the car's prototype running again) And come up with a software design to implement on the R.C car (come up with set ideas for the tech stack, and dataflow.
  - Lalith – Make initial blueprint design for python software implementation on the RC car.

- **Summary of weekly advisor meeting**

  We had a meeting with Dr. Bigelow before break, and we have scheduled a new meeting time frame which works for all of us which will begin next week.