

Members:

Name	Primary Role	Secondary Role(s)
Dr. Diane Rover	Advisor	Client
Jazzlyn Jacobus	Project Lead	Embedded System Lead
Benito Moeckly	Machine Learning Lead	Cybersecurity Team
Caleb DeBoef	Electrical Systems Lead	Embedded Systems Team
Jose Garcia	Cybersecurity Lead	Machine Learning Team

Week 6-7 Updates:

- Design Review:
 - Looked into other platforms and discussed the pros and cons
 - Decided to go forward with DeepRacer platform, however we will look into DonkeyCar for future implementations
- Design Document Changes:
 - Updating the design document to better match the current goals of our project
 - Update/create diagrams
 - New diagram comparing deepracer to Roomba and/or other similar bots
 - Make current diagrams more concise and check spelling
 - In-depth breakdown of DeepRacer hardware
- Objectives and Requirements:
 - Create GUI to allow for better ease of use without overwhelming students
 - Follow sprint format closer with more filled out backlog
 - More Clearly Define End-of-Semester Products
 - Intro Lab
 - Project similar to Mars Rover CprE 288 Lab
 - incorporating machine learning and embedded programming
 - GUI for students to use to easily upload reward programs and test their designs
 - Possibly create DeepRacer Club
 - Define qualitative way to define model quality
 - Primary quality defined by total reward points
 - Defines training quality
 - Secondary quality defined by time to complete lap
 - Quality model not dependent on time as time is dependent on quality of reward function, not training

- General Accomplishments
 - Locally trained model successfully
 - Ran locally trained model in virtual race
 - Beat comparably-trained AWS model

Individual Contributions:

Name	Contribution	Weekly Hours	Total Hours
Jose Carlos Garcia	Created Local Training Platform, prepared VM with the software package, drafted system diagrams with the software packages	~10	60
Jazz Jacobus	Researched DeepRacer Alternatives, Updating Design Documents to fit new project direction, creating new diagrams	~7	43
Caleb DeBoef	Researched DeepRacer Alternatives, Created diagram highlighting differences and benefits of both platforms, Looked into more track configurations	7	49
Benito Moeckly	Helped create agenda, Started on DeepRacer GUI	~8	43

Open Issues:

Issue	Status	Assigned To	Notes
Construction of Physical Track	Awaiting	Caleb Deboef	We're awaiting materials to be delivered to ETG
Create Diagram to Compare DeepRacer to DonkeyCar	In progress	Caleb DeBoef	We will use this document to highlight the different capabilities of each platform and express when each would be better for different scenarios
Launch VM containing Software Package	Done	Jose Carlos Garcia	To centralize access, we're launching a VP with the help of ETG in order to allow everyone in the group access to our software package everywhere We were able to train a model on our VM
Updating of Design Documents	Planning	Jazzlyn Jacobus, Jose Carlos Garcia	We're updating Design Documents to match our open sourced mission and various packages of software Made a software diagram of the various packages of software
Lab 01 Document	On Hold	Benito Moeckly	Create an example lab for students to serve as introductory
Create Pre-Labs focusing on teaching students about the platform	In Progress	Jose Carlos Garcia	Pre-Labs are meant to teach students about the DeepRacer, the Local Training Platform, and serve as introduction to the topics discussed in the lab
Training GUI	In Progress	Benito Moeckly	creating a gui in py for picking, uploading reward functions, training models, and uploading models to deepracer

Upcoming Plans

- Successfully run a physical model on built track
- Machine Learning team will focus primarily on developing a GUI for ease of access
- Finish updating design documentation