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 13-14 Updates:

- Design Changes:
  - Added branding to front-end elements.
    - ☐ Streaming portal updates
    - ☐ Command GUI updates
    - ☐ Model analytics - WIP
  - Model and user authentication:
    - ☐ Added database design to host all DeepRacer models to allow students to compare and analyze their models with one another.
    - ☐ Need to finalize authentication method for students, this could be:
      - Asymmetrical keys
      - One common user (like library computers)
      - NetID implementation
  - Server-Side Updates:
    - ☐ Added garbage collecting service, REF (Running Equipment Finder) to cancel and close unnecessary services.
    - ☐ Added user database, to keep track of reward functions and trained models.

- Requirements Changes:
  - Front-end now requires netid in order to access and front-end services.
  - Front-end product must be on brand, with a cohesive color scheme
  - Analytics and training view should be accessible (or at least launchable) from the GUI.

- General Accomplishments
  - GUI Functionality
    - ☐ GUI now takes the user's ISU NetID as input in able to be able to access backend services.
    - ☐ This is because the server will need a way to differentiate reward functions and DeepLearner models.
    - ☐ Need to provide a compiled/encrypted version of the GUI in order to protect the server information (SSH Keys, Users/Passwords)
  - Initialization Package
    - ☐ Added functionality to hash container core files to see if there are any missing files, missing files will then be pulled from our repository.
  - Streaming Viewer
    - ☐ Integrated streaming viewer into front-end GUI, no need to go searching for the IP address of the machine.
  - Lab Documents
    - ☐ Updated prelab slightly to be more thorough in explanations
    - ☐ Updated lab document to include more in-depth explanations and expand more on the topics and goals discussed
    - ☐ Progressed the state of the follow the leader lab

Individual Contributions:

Name	Contribution	Weekly Hours	Total Hours
Jose Carlos Garcia	**Worked on end-user experience, added loads of checks and security authentication aspects.** **Deployed a user database onto Deep Learner server** **Deploying a garbage collection server app called REF "Running**	**30**	**130**

Name	Contribution	Weekly Hours	Total Hours
	Equipment Finder" to preserve resources		
Jazz Jacobus	**Creating new hardware diagram, Investigating source code of DeepRacer, working on "Follow the Leader" Lab**	**~8**	**89**
Caleb DeBoef	**Researched into applications and innerworkings of computer vision to prepare for future prelab information. Also edited and expanded on lab documents**	**~7**	**82**
Benito Moeckly	**GUI Features**	**~10**	**81**

Open Issues:

Issue	Status	Assigned To	Notes
Physical DeepRacer Test	**In progress**	**All**	With the physical track created, we are now planning to test the real-world functionality of the bot and compare to the simulation.
Initialization Package	**In Progress**	**Jose Carlos Garcia**	To ease the use of our platform we're implementing an initialization app to check files, start services, and update software if needed. Missing a front-end GUI, scripts are done.

Issue	Status	Assigned To	Notes
REF Server App	**In Progress**	**Jose Carlos Garcia**	Garbage collecting app, stops rogue training sessions and closes any remaining open SSH ports. Missing additional testing.
Follow the Leader Lab	**In Progress**	**Jazz Jacobus** **Caleb DeBoef**	Introducing students to how else the DeepRacer can be used besides just racing. The deepracer will be able to detect a person and follow them around.
User Database	**In Progress**	**Jose Carlos Garcia**	Deploying a user database to keep track of user's reward functions and trained models. Missing additional testing.
GUI Shows Analytics	**In Progress**	**Benito Moeckly**	GUI should be able to provide feedback on DeepRacer models on the server. Need to retrieve data from the server for display.

Upcoming Plans

- Successfully run a physical model on built track
- Finalize and start testing of lab documents
- Finish GUI implementations: Analytics, possible a built-in training viewer, more server options.
- Finish GUI Installer
- Complete model database
- Fix analytics from the server
- Need to update design documentation to reflect new security implementations, GUI, and initialization package.
- Finalize security experiments to determine best route for access.
- Finish Follow the Leader Lab
- Finish Final Presentation and Final report document, and Poster