

# EE/CprE/SE 4910 WEEKLY REPORT 5

*10/21/25 - 10/28/25*

**Group Number:** sdmay26-40

**Project Title:** True Force Technologies Arcade Rack

**Client:** True Force Technologies

**Advisor:** Matt Post

**Team Members/Role:**

Jacob Garcia - Frontend Development

Dylan Longlett - Frontend Development

Andy Drafahl - Team Manager, Frontend Development

Fadi Masannat - Frontend Development

Sofi Gutierrez - Backend Development

Parnika Dasgupta - Advisor/Client Liaison, Backend Development

Colin Yuska - Electronics

## Weekly Summary

This week, Group A completed Git tutorials, and Group B worked on the Git Standards document as planned. However, although Group C had originally intended to work on a template screen in the repo, Fadi made large-scale improvements (explained in the Pending Issues section) that require the rest of the team to wait for him to clarify certain details before they dive headfirst into development. Sofi was in Group C as well, so she redirected her attention to other work for the rest of the week.

## Past Week Accomplishments

### Jacob Garcia

- Worked on the Git Standards document. This document will serve as a tutorial for team members who are not too familiar with Git and typical Git practices.
- Set up the basics of the color picker in the customization form. This will allow the client to set their own custom colors to be used in the Customize Mode.

### Parnika Dasgupta

- Worked on understanding Git better by going through the Git tutorials
- Started exploring different online databases we could use (our best choice for now is MariaDB)

### Dylan Longlett

- I expanded my knowledge of Git concepts and workflows by going through detailed tutorials and experimenting with commands through VS Code.

### Fadi Masannat

- Researched real scalable production code of similar products and began implementing best practices and standards by starting the app refactor in my local repository
- Assisted in the Git repository issue by recovering most of the lost work and recoding and pushing all lost local changes (since my laptop was reformatted clean, approx 8 hours of work redone from memory and rework, this was a big bulk of the week)
- Drafted a template and a script for a virtual demo I will be setting up next week to onboard the team for the new App's architecture.
- Researched popular libraries for React Native and other dependencies needed, went ahead and installed and tested all of them on my local repo. I went with NativewindCss, built on top of TailwindCss.

### Sofi Gutierrez

- Explored several backend options to support the project's requirements. Potential technologies considered include:
  - MariaDB: Currently the leading choice due to its open-source nature, compatibility with MySQL, and strong support for relational data.
  - Firebase: Considered for its real-time database and ease of integration, but may not align with the client's preference for a more traditional SQL-based backend.

- Node.js with Express: Evaluated as a possible server-side framework to handle API requests and database interactions.
- RESTful API structure: Discussed as the likely architecture for communication between frontend and backend components.
- We are still waiting on clarification regarding:
  - The specific backend functionality they expect (e.g., authentication, data storage, analytics).
  - Any existing backend work or infrastructure they already have in place that we can build upon or integrate with.

### Colin Yuska

- Worked through React tutorials to better understand the necessary tools for the project.
- Worked through Git tutorials to better understand the necessary tools for the project.
- Set up the basics for the LED light strip setup, which will be an integral starting piece to the hardware additions for the TrueForce Arcade Rack.
- Continued research on hardware elements that the group intends to add, including power sources for hardware additions and several speaker options.

### Andy Drafahl

- Created all assignments for Groups A, B, and C for the week, complete with full descriptions of tasks and links to all relevant resources.
- Researched Git tutorials and supplemental materials for Group A to complete.
- Worked on a Git Standards document to help get the team on the same page about interacting with the repo.
- Researched standard Git flows to increase the accuracy of the Git Standards document.

## Pending Issues

Fadi spent a big chunk refactoring the App's codebase with a new reusable and scalable architecture, but his laptop unexpectedly got corrupted, and he had to go to a technical workshop. He also lost all of his local changes. It caused some unexpected downtime, but we kept ongoing communication and were able to recode most of the progress. Completely recovering the last parts of the code is pending, and onboarding the team with the architecture has also been pushed to next week. This has caused a slight bottleneck in the development process, but the team is adapting by focusing on visual design elements (see Plans for the Upcoming Week).

## Individual Contributions

Name	Individual Contributions	Hours This Week	Hours Cumulative
Jacob Garcia	Worked on team Git Standards document. Worked on adding the color picker for the Customize Mode.	5	27
Parnika Dasgupta	Worked on Git tutorials Started exploring different databases	5	18.5
Dylan Longlett	Worked on Git lab learning sprint	4	20
Sofi Gutierrez	Started exploring different databases	2.5	21
Colin Yuska	Worked on Git and React tutorials Started setting LED function for the hardware portion of the rack	5	20
Fadi Masannat	Learned NativewindCss Installed all new dependencies to repo Refactored old APp into new scalable architectural solution Created script for an upcoming virtual demo	9	27
Andy Drafahl	Created assignments for all groups, completed research on Git tutorials and supplemental materials, worked on Git Standards doc, and researched Git flows.	2.6	24.6

## Plans for the Upcoming Week

This week, because of a bottleneck in the development cycle (see Pending Issues), the team is reorienting its focus toward work that will help further down the line. This week, everyone on the team will be contributing visual assets to the arcade design of the app. These may include animation frames, character designs, background images, font choices, color palettes, etc. They will also catch up on work left over from last week.

### Jacob

- Finish the Git Standards document with Andy
- Fix issues with the Color Picker not working for Android
- Look into the Bluetooth functionality that the other team finished

### Andy

- Finish the Git Standards document with Jacob.
- Work on getting a rudimentary animation for the lifting character done with Sofi.

- If there's time, rig the animation frames in code so that they move with different data values.

## Sofi

- Work on getting a rudimentary animation for the lifting character done with Andy.
- Continue looking at different ways to set up the backend (although this is largely dependent on clarifying details we get from the client).
- Look into design software tools that will potentially be used for art in app/animation.

## Parnika

- Get the backend database set up (MariaDB) with Sofi (although this is largely dependent on clarifying details we get from the client)
- Finish up Git tutorials
- Contribute design elements to the arcade mode

## Dylan

- Contribute design elements to the arcade mode
- Finish up Git tutorials

## Fadi

- Push out the in-depth virtual demo to onboard the team
- Completing the remaining code that was corrupted and lost (around 10% left).
- Pushing changes to main

NOTE: Fadi did a large portion of work, refactoring, code pushing, and making other contributions last week (9 hours). He worked overtime so that this upcoming week he could work slightly fewer hours, since he is out of town the entire week for the AfroTech2025 conference. The team approved of this.

## Summary of Weekly Advisor Meeting

This week, our Faculty advisor was on vacation, so we just had a meeting with our client, Ben. We started updating our client about the issues we have been facing with the repository and how our teammate Fadi has been working towards understanding it and helping the rest of us understand the issues with it. We also got more clarification from our client about the medium of the database he has in mind. We were originally thinking about having a local database, but the client made sure to clarify that he was really inclined towards making it all online, cloud-based. He already has a cloud service with storage with the name Dream host (we think). He also gave us more clarification on how he wants companies (that buy the rack) to have an admin login that can create coaches who can create teams and players. Here is the Hierarchy he had in his mind:

True Force Admin => Company Admin => Coaches => Teams, Players

One more important clarification we needed was about how he wanted the results to get to the users. He wants the physical printout as it helps drive the \$5 usage fee, but he also wants the option of being able to send an email to the user.