

WARGAME PROGRESS REPORT

Week 8: April 3rd - April 9th

Reid Coates | Client Coordination and Backend Development Lead

Jack Kelley | Organization Lead and Frontend Development

Alexander Hassan | Testing Lead and Frontend Development

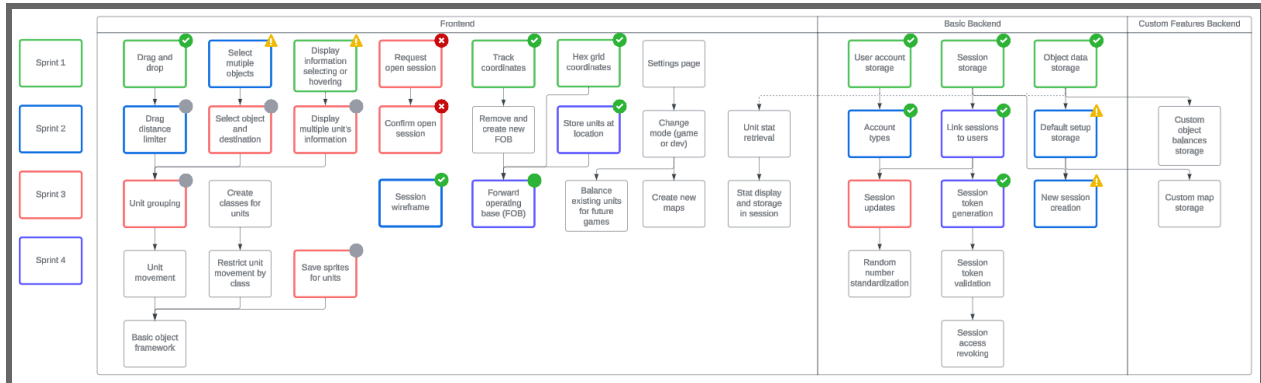
Luke Muilenburg | Frontend Development Lead

Group 23 | sddec24-23 | EE/CPRE/SE 491

Client: Reid Coates (AFROTC and Major Stephanie Jones)

Advisor: Ahmed Shakil

WEEKLY PROGRESSION



Grid Logic Updates - Jack Kelley

- Updated the frontend to store and use coordinate pairs instead of pixel values for grid logic. Created functions for converting pixel locations to hexagonal grid coordinates (for converting mouse location to grid coordinates) and for converting grid coordinates to pixel locations (for creating assets and drawing sprites).

Developed User Create-Account Menu- Alex Hassan

- Implemented a menu on the frontend for the user to be able to create an account and send typed-in information to the backend system to be stored in an accounts table in the database. This menu does a variety of basic error checking to make sure the user confirms their password and has typed in something for their username and password fields before sending a POST request. Also, changed our login request to a GET request as per our own HTTP design standard.

Completed Struct for Equipment Manager- Luke Muilenburg

- I made a common inheritance structure of all equipment items. I am sure changes will need to be made as development continues, but it allows me to store and retrieve data in a common way for all equipment. Next I will make a

graphic list for REDFOR and BLUFOR players to access their available equipment.

Incorporated SHA256 Hashing algorithm for password Hashing- **Alex Hassan**

- Copied and accredited scripts from another GitHub Developer that implements fully functional SHA256 hashing algorithms. See here for details:

<https://github.com/JujuAdams/SHA-and-HMAC/tree/main>

This source code is free to use, distribute, or otherwise sell but requires a copyright notice, which is placed in our Gitlab's source code where the SHA256 functions are defined.

Added Login and Create Account - **Reid Coates**

- You can now request to login and create an account and have it save the database. You are also restricted in your ability to create accounts with the same username multiple times. With this, users now have games tied to their actual account and the front end receives a list of them when logging into an account so they can display the active games. Will need to expand on this and show which country the user is playing in each game and who the game is against when logging in for better visibility on the users side.

PENDING ISSUES

Gameboard Scaling

- Our original intent was to provide the ability to scale the size of the game board grid to better fit whatever map the user may choose to upload, but the capabilities of GameMaker Studio have made developing a hexagonal grid more complicated than we originally thought. We need to decide how we want to go about implementing the scaling or if we want to scrap the idea altogether.
- Note: This has been here for multiple weeks at this point because it is an important design choice that needs to be made eventually, but isn't an issue that we can confidently resolve at this time.

Should we implement sending HTTPS requests as opposed to HTTP requests?

- In the final product delivery, it may become necessary to encrypt all network communications with HTTPS requests. However, this may require significant rework and may not entirely be possible with Game Maker.

INDIVIDUAL CONTRIBUTIONS

Team Member	Contribution	Weekly Hours	Total Hours
Alexander Hassan	Developed User Create-Account Menu and created logic to send a POST request to our backend server. Updated login HTTP request. Incorporated SHA256 Hashing algorithm for password Hashing	8	50
Jack Kelley	Updated grid logic: created functions for converting hex coordinates to pixel locations and vice versa.	5	51
Reid Coates	Added create account and create game for account while saving all items to database and disallowing multiple same usernames.	5	66
Luke Muilenburg	Made struct for asset equipment. Started to research how to set up our project website.	6	40

NEXT WEEK

Task	Members	Completion Date
Finish Implementing the user's ability to select multiple assets, highlight updates, and drag distance-limiting for the user, according to the rulebook.	Alex	4/16
Bug fix asynchronous web traffic proof of concept.	Reid	4/16
Create game logic and coordinate math framework	Reid	4/16
Return standard board state when new game request is made		
Take existing equipment structure and apply it to a GUI menu.	Luke	4/16
Use HTTP requests to get sprite coordinates and update game screen	Jack	4/16
Begin implementing game-turn logic for frontend	Jack	4/16