

# WARGAME PROGRESS REPORT

Week 4: February 21st - February 27th

*Reid Coates* | Client Coordination and Backend Development Lead

*Jack Kelley* | Organization Lead and Frontend Development

*Alexander Hassan* | Testing Lead and Frontend Development

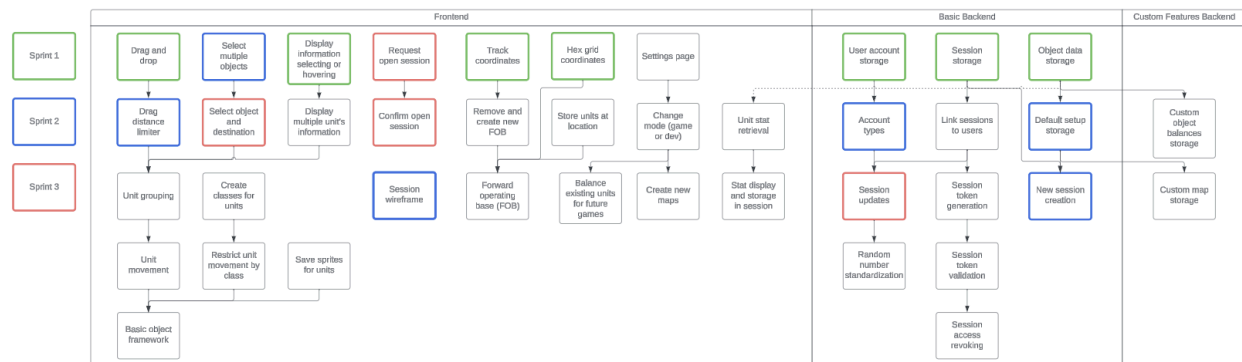
*Luke Muilenburg* | Frontend Development Lead

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

Client: Reid Coates (AFROTC and Major Stephanie Jones)

Advisor: Ahmed Shakil

# WEEKLY PROGRESSION



## Game Screen Border - **Jack Kelley**

- Added a border to the game screen to display relevant game information for the players. Resized the game board to fit within the new layout, and allocated space to begin working on implementing a scrollable list of game asset cards to show users their resources for next week.

## Frontend Data Structure Improvements - **Jack Kelley**

- Added structures to the frontend to more effectively store data objects for the game (namely game board tiles at the moment). Learned how to properly implement constructors for said structures to produce cleaner frontend code moving forward. Cleaned up variables and added comments to current frontend logic.

## Additional Pop- Up window functionality & Camera Control - **Luke Muilenburg**

- I did some research on how to enable a zoom in/out function to view our game board. I will be working on this over the coming week.

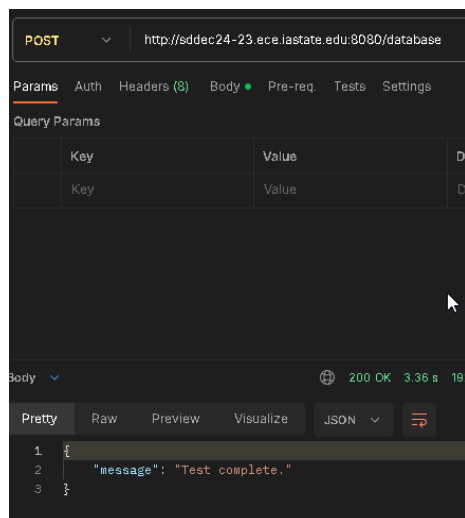
- I worked on additional functionality for pop ups so that I can send and receive data to them. This is still not fully functional, so I will continue to develop my proof of concept for this. My goal is to have it ready for next week.

### Frontend Data Structure development and scalability improvements - **Alex Hassan**

- Developed Structs and Constructor functions for frontend sprites, including hexes, for the hex-map game board, and friendly sprite assets on the screen. With these data structures in place, the user is able to control a near-infinite number of friendly assets and move each sprite individually, in addition to being able to see each sprite's move range as an overlay.

### CI/CD Pipeline Completed - **Reid Coates**

- Extended the CI/CD pipeline to deploy the backend springboot application and package/deploy the app on every push. Configured YAML file to tail the program as it begins and give debugging indicators. Wrote the web service file to deploy and replace the current Java artifact which the server uses as its core. Tested the application with a post request (first image) and the server returned the properly formatted json data. The second image is proof of the build (which wouldn't allow the first image if it weren't working).



```
POST http://sddec24-23.ece.iastate.edu:8080/database
Params Auth Headers (8) Body Pre-req. Tests Settings
Query Params
Key Value
Key Value
Body
200 OK 3.36 s 192
Pretty Raw Preview Visualize JSON
1 {
2   "message": "Test complete."
3 }
```



```
49 [INFO]
50 [INFO] --- maven-jar-plugin:3.2.0:jar (default-jar) @ Wargame2030Database ---
51 [INFO] Building jar: /home/r/coates/builds/zz2zhT/mc/0/sd/sddec24-23/target/Wargame2030Database-0.0.1-SNAPSHOT.jar
52 [INFO]
53 [INFO] --- spring-boot-maven-plugin:2.6.0:repackage (repackage) @ Wargame2030Database ---
54 [INFO] Replacing main artifact with repackaged archive
55 [INFO] -----
56 [INFO] BUILD SUCCESS
57 [INFO] -----
58 [INFO] Total time: 3.559 s
59 [INFO] Finished at: 2024-02-28T03:10:37Z
60 [INFO] -----
```

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## Gradle to Maven Transition - **Reid Coates**

- In order to complete the CI/CD pipeline, the entire backend was transferred from a Gradle setup to Maven. This required building new config files, testing deployment, and switching versions of springboot. The structure of the backend has been completely redone and refactored. The new structure uses Model, View, Controller where the frontend is the View and backend handles Model and Controller. All code is pushed to Gitlab and deployed on VM.

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# PENDING ISSUES

## Game board 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.

# INDIVIDUAL CONTRIBUTIONS

Team Member	Contribution	Weekly Hours	Total Hours
Alexander Hassan	Developed Structs and Constructor functions for frontend sprites, including hexes for the hex-map game board, and friendly sprite assets on the screen, all committed to a proof of concept branch on GitLab.	6	24
Jack Kelley	Added border to the game screen, resized playable board accordingly, started planning for adding asset card displays, and researched structure constructors and other data structures for GameMaker.	6	26
Reid Coates	Finished CI/CD pipeline, changed from Gradle to Maven, and created gameplan for updating proof of concepts to new framework.	6	25
Luke Muilenburg	Researched how to control the camera in Game Maker. Continued to work on functionality of pop ups in Game	4	19



	Maker.		
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# NEXT WEEK

Task	Members	Completion Date
Add a scrollable list of asset cards on the right side of the game screen	Jack	3/5
Limit the distance the user can drag according to a given asset's specifications and Implement the user's ability to select multiple assets.	Alex	3/5
Commit a common baseline of source code to be merged into the main branch. Note: any member listed can perform this task.	Alex Jack Luke	3/5
Update proof of concepts to new Backend framework.	Reid	3/5
Create proof of concept for multiple delayed http requests with asynchronous and varied return times to prove correct handling of multiple users.	Reid	3/5
Write database code for simple CSV file storage that works with write privileges on VM.	Reid	3/5
Increase functionality of pop ups by making sure that variables can be edited in them and then communicated and saved. I need to continue to work on this as it is still not functional to a satisfactory degree.	Luke	3/5
Zoom In/Out camera functionality in Game Maker.	Luke	3/5