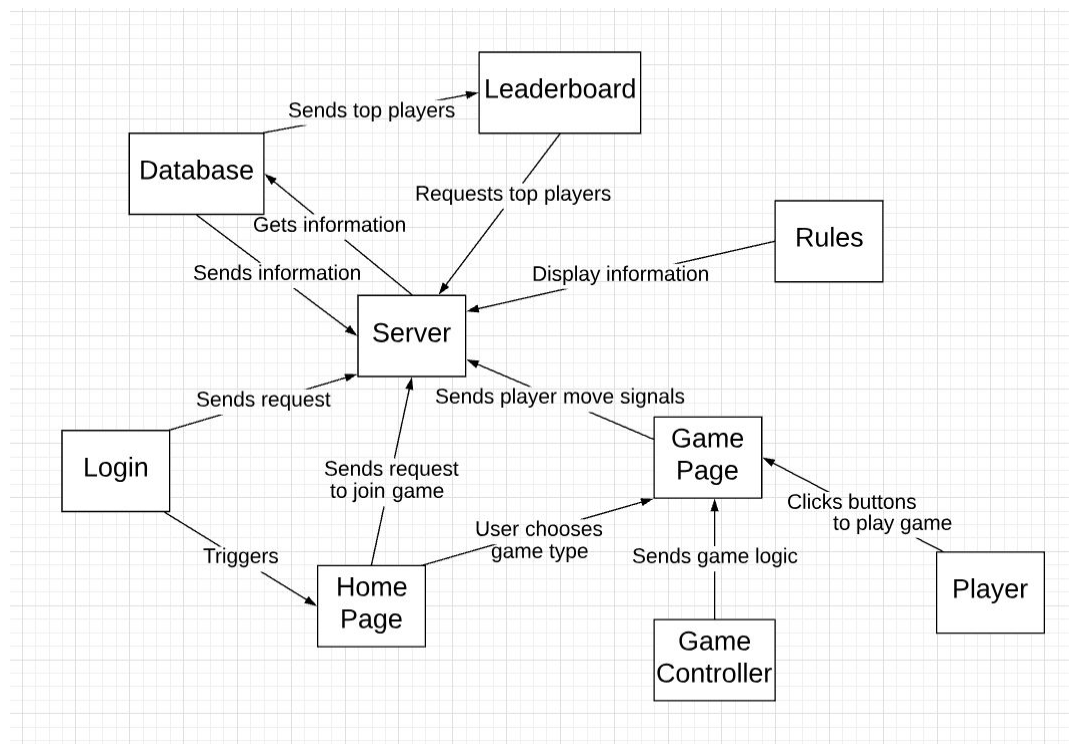




Sprint 2 Incremental and Regression Testing - Team 5

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Classification of Components



Server

Input - any sort of request

Output - instructions based on request

Dependent components - database is dependent on server; login, home page, game page, rules and leaderboard are all dependent on server

Database

Input - request for information

Output - information based on request

Dependent components - server and leaderboard are dependent on it

Login

Input - user's login information is authenticated by Google and then their profile information is sent to our server

Output - access or denial to the game; if access, page is updated to show that user is logged in

Dependent components - dependent on server

Home Page

Input - a screen showing the user several options

Output - a signal to the server directing the user to the desired location depending on button clicked

Dependent components - dependent on server, game depends on home screen

Game Page

Input - a multiplayer/single game, in either easy/hard mode

Output - game interactions and signals to the server depending on user's moves in the game

Dependent components - dependent on server, database, homescreen

Leaderboard

Input - requests top 100 players

Output - displays top 100 players to the user

Dependent components - dependent on server and database

Rules

Input - requests information to be displayed

Output - displays rules to the user

Dependent components - dependent on server and database

Game Controller

Input - Signals for moves in the game

Output - Sends game logic to game

Dependent components - Dependent on game

Player

Input - Buttons are clicked by the user and sends signals

Output - Gameboard UI is updated

Dependent components - Dependent on game

We will be using bottom up incremental testing because it makes more sense to test each small individual unit before testing the system as a whole. This is especially important when testing the individual components of the game module. If one of the one of the game submodules isn't working, the entire game module will not work properly.

Incremental Testing

Defect #	Description	Severity	How Corrected
1	Attempting to add sockets via sending them from the server to the front end allowed the signals to be passed, but caused errors in the front end on loading.	1	Began generating sockets in the client instead of the server, allowing the sockets to be used in the front-end without errors.
2	Delete Player button that anyone can use to delete their account only removed the data from the database, not the cookie. If the same player went to the homepage, it still showed the player logged in and they could attempt to start a game. However this crashes the server when the server tries to access the data.	1	Forced the Delete Player button to clear out the cookie of the player's information as well as the database.
3	Adding sockets to link up multiple users, instead of a user and an AI, caused the place and attack button to crash the front end, but not the server.	1	Disabled the old functions that the buttons used to send signals and made one that functions using sockets.
4	Iterating through a player and enemy array containing where ships were and what ships were hit was not updating dynamically with the server after moves	1	Started using sockets to send a single signal to the front end after each move was taken
5	Reloading, backing out, or closing the tab does not give a warning to the user if they attempt these things before the page is finished loading.	3	Created the listener for the onbeforeunload early in the page so it loaded faster than the user could click anything.

Regression Testing

Defect #	Description	Severity	How Corrected
1	Changing the database structure resulted in the previously working registration function for new users to fail due to having an incorrect number of fields in the query for new database structure	2	Changed the function to reflect the new database structure
2	Change to the GameController object constructor resulted in an error when constructing the object in Server and trying to access fields of that object which was improperly constructed	2	Removed unnecessary parameters from the constructor definition
3	Adding a pop up modal for player statistics created a bug where the stats would show up when redirecting to another page in a white screen for a second and then would resume to the normal page	3	Removed a division in the html code that was causing that stats to show up when they should not have been
4	An update to socket the server side socket implementation led to a previously defined variable never being assigned. This caused an error because later parts of the program were dependent on that variable	2	Reintroduced the code that assigned that variable that was removed during the reimplementation
5	New socket implementation led to the inability of the front end to send different identifier values for the two three-length ships. This made it so that the backend was not able to place the 3 length ships onto the map	3	Changed the ship placement function to check if the map already has a three-length ship and change the identifier accordingly

Update Product Backlog

Backlog ID	Functional Requirement	Hours	Status
1.	As a user, I would like to sign up for an account	4	Completed in Sprint 1
2.	As a user, I would like to sign out of my account	4	Completed in Sprint 1
3.	As a user, I would like to sign in to my account	3	Completed in Sprint 1
4.	As an administrator, I would like to have the ability to view, delete, and create users in the backend.	4	Completed in Sprint 1
5.	As a user, I would like to have the ability to change my password.	3	Completed in Sprint 2
6.	As a user, I would like to have the ability to terminate my account.	3	Completed in Sprint 2
7.	As a user, I would like to be greeted with the option to select single player or multiplayer on the homepage.	5	Completed in Sprint 1
8.	As a user, I would like to have two modes of single player where I can play the computer on 'Easy' or 'Hard'.	8	Completed in Sprint 1
9.	As a user, if I decide to leave my game I will be warned with a popup if I would like to leave.	3	Completed in Sprint 2
10.	As a user, if I leave my game I would like my departure to be counted as a forfeit.	3	Completed in Sprint 2
11.	As a user, if I select single player, I would like to be able to see a game board that includes a hit	10	Completed in Sprint 2

	screen, game board, and ships.		
12.	As a user, if I start a game, I would like to be able to select a ship and place it on the game board.	4	Completed in Sprint 1
13.	As a user, if I click on a ship, I would like to be able to place it on the game board	4	Completed in Sprint 1
14.	As a user, if I click on a placed ship, I would like to be able to change the orientation of a ship.	3	Completed in Sprint 1
15.	As a user, if I have finished placing a ship, I would like to be able to press a confirm button to keep in in place while I move on to place another ship..	2	Completed in Sprint 2
16.	As a user, if I have not confirmed a ship's position, I would like to not remove the preview's position by clicking on another ship	2	Incomplete
17.	As a user, if I have finished locking my ships, I would like to be able to press a button to start the game.	2	Completed in Sprint 1
18.	As a user, if I click on the opponent's game board, I would like to be able to see if my attack hit or miss the opponent's ships.	3	Completed in Sprint 2
19.	As a user, if my opponent has attacked, I would like to see on my game board where they attacked and if they hit my ship.	3	Completed in Sprint 2
20.	As a user, if I destroy all of my opponent's ships, I would like for my victory to be declared.	2	Completed in Sprint 1
21.	As a user, if I complete a game, I would like to be directed back to	2	Completed in Sprint 1

	the home screen.		
22.	As a user, if I don't know the rules, I would like to be able to read them from the site.	3	Completed in Sprint 2
23.	As a user, If I want to play with another person, I would like to be able to select multiplayer from the homepage.	3	Completed in Sprint 2
24.	As a user, after I have clicked multiplayer on the homepage, I would like to be able to choose to host a private game.	5	Completed in Sprint 2
25.	As a user, after I have clicked multiplayer on the homepage, I would like to be able to choose to host a public game.	5	Completed in Sprint 2
26.	As a user, if I want to play a private game, I would like to be able to play a game against the computer.	2	Completed in Sprint 2
27.	As a user, if I want to host a private multiplayer game, I would like to be provided with a game key that I could give to someone else.	3	Completed in Sprint 2
28.	As a user, if I want to join a private multiplayer game, I would like to be able to put in a provided game key to join another person's game and play against them.	5	Completed in Sprint 2
29.	As a user, if I don't care who I play with, I would like to be able to join a public lobby.	5	Completed in Sprint 2
30.	As a user, if I win or lose a game against another person, I would like it to be recorded in my profile.	2	Completed in Sprint 2

31.	As a user, if I feel like I played well in a game, I would like to see the statistic of my previous games in my profile.	5	Completed in Sprint 2
32.	As a user, if I want to know where I rank in a list of all players who have played on the site, I would like see a leaderboard containing all players.	6	Completed in Sprint 2