Demo.io

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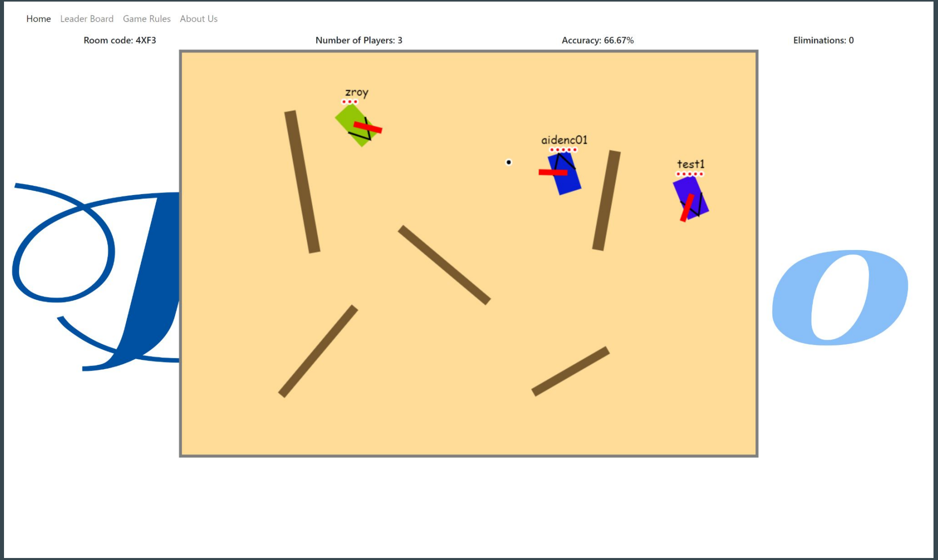
Summary

-Browser based IO game

-Join or create rooms to battle online with friends

-Move about the map with the controls and fire at your enemies

-Eliminate others to find your name on the leaderboard



Room code: 4XF3

Number of Players: 3

Accuracy: 66.67%

Eliminations: 0

Tools Used:

- Jira: 1.5
- Github: 4
- Heroku: 4
- PostgreSQL: 4
- Socket IO: 4.5
- Node.js: 4.5
- Javascript: 4
- HTML / CSS: 3

```
require File.expand_path('../../[illegible]
# Prevent database truncation [illegible]
abort("The Rails environment [illegible]
require 'spec_helper'
require 'rspec/rails'

require 'capybara/rspec'
require 'capybara/rails'

Capybara.javascript_driver = [illegible]
Category.delete_all; Category [illegible]
Shoulda::Matchers.configure do [illegible]
  config.integrate do |with|
    with.test_framework :rspec
    with.library :rails
  end
end

# Add additional requires below [illegible]

# Requires supporting ruby files [illegible]
# spec/support/ and its subdirectories. [illegible]
# run as spec files by default. [illegible]
# in _spec.rb will both be required [illegible]
# run twice. It is recommended [illegible]
# end with _spec.rb. You can [illegible]
```

Project Tracker and Repository Tools

Jira Board (1.5 / 5):

-enables software team to collaborate and manage complex projects

-unites team members

-not super helpful because we managed collaboration and team goals by having weekly meetings and groupme chats, so Jira is not used as often for our project

GitHub (4 / 5):

-provides internet hosting and version control for software development teams

-super helpful as it allows us to pull most updated version of our game and test the website on different team members' computers

-also allows us to manage merge requests, organize project files, and have continuous integration for our project

Framework

Node.js and Express.js (4.5/5): provides foundation for the back-end portion of our game that allows the use of Socket.IO library. Also important for implementing user authentication.

Socket.io (4.5/5) : real-time, bidirectional and event-based communication between players and server.

Javascript（4 / 5）, HTML and CSS（3 / 5）

-Backbone of our entire project

-All game mechanics were built from scratch using JS (and the canvas library)

-Web pages developed using HTML and CSS

- Database information (login data and player stats) implemented on the website

Database and Platform

PostgreSQL（4 / 5）:

-relational database management system

-stores user’s information and player’s game information

Heroku（4 / 5）:

-cloud platform

-allows our game to be fully online and accessible to everyone

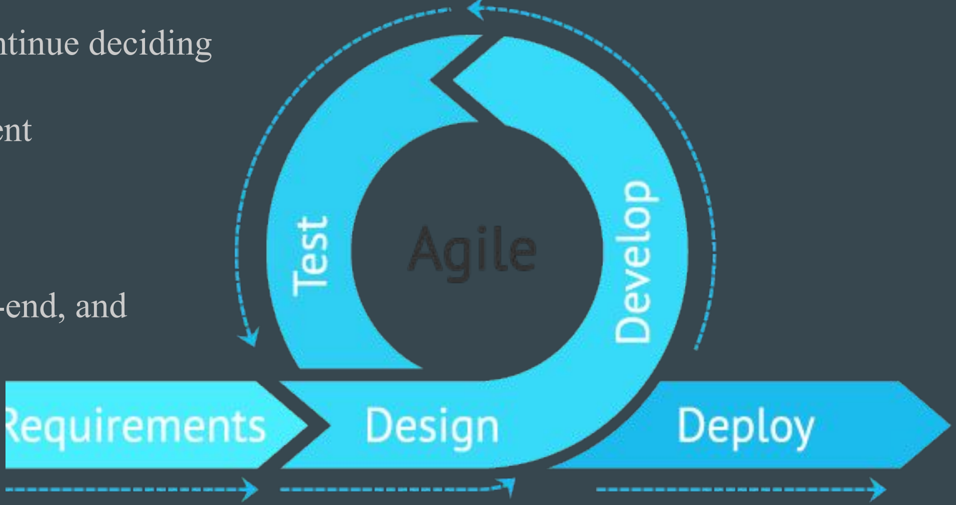
Methodologies

Agile:

-deciding requirements and developing solutions through the collaborative effort
-as we move forward during the semester, we adapte and continue deciding requirements for our game
-also we find solutions from collaboration and team agreement

Pair Programming:

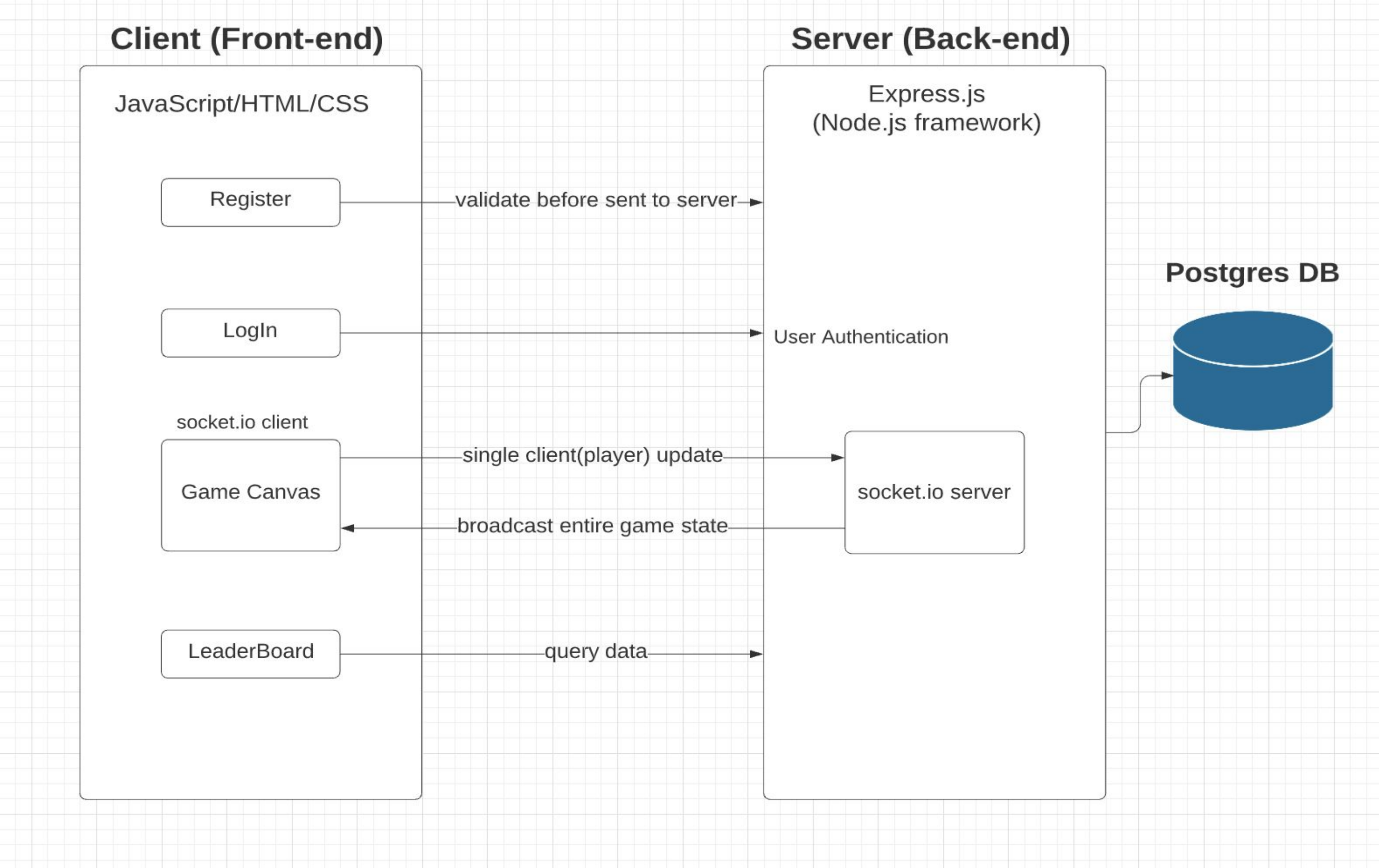
-divide 6 people into 2/2/2 to pair up coding front-end, back-end, and database



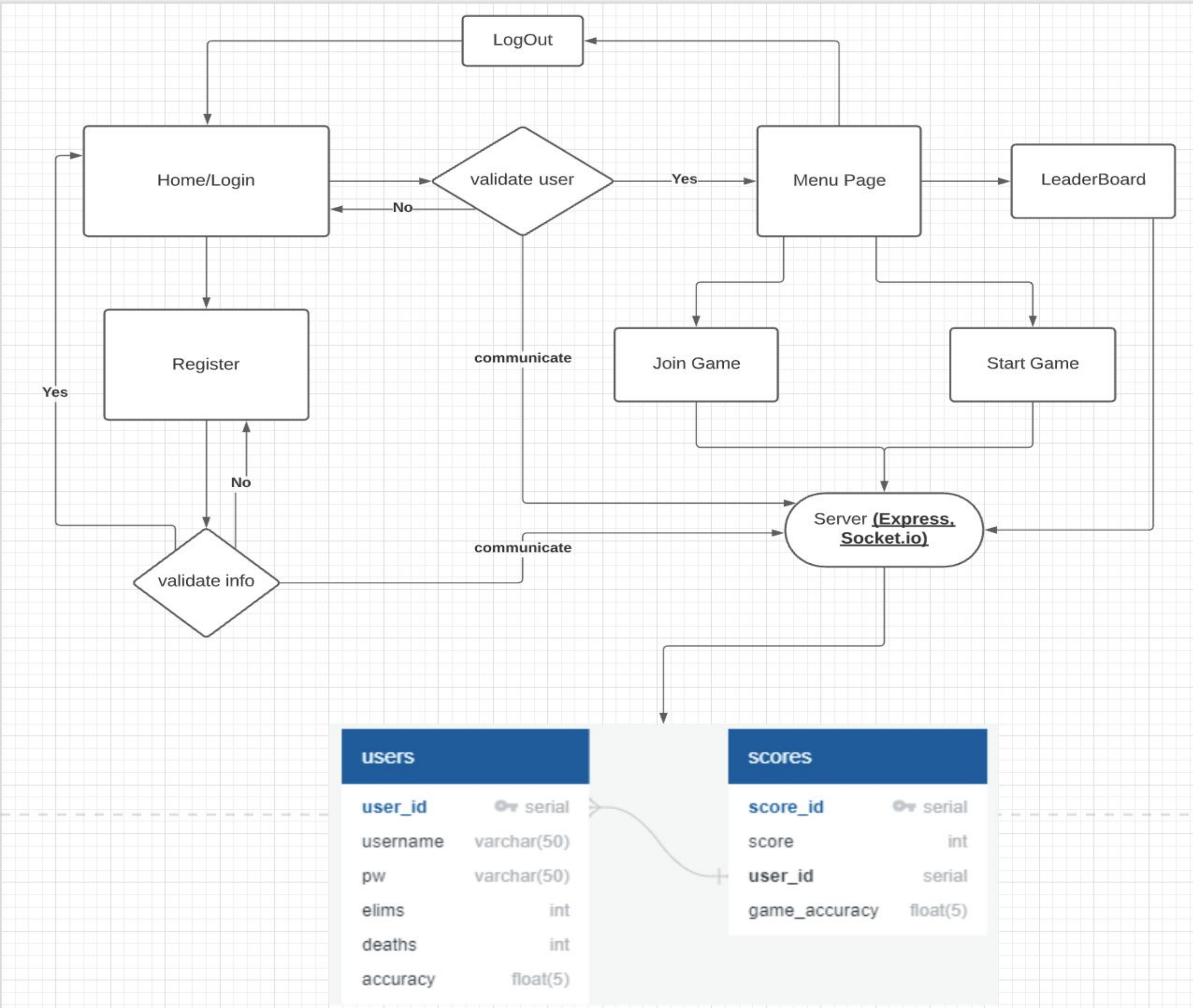
Peer Code Reviews:

-Check each other’s code for mistakes, and accelerate the process of game development

Architecture Diagram



Workflow Diagram



LogOut

Home/Login

validate user

Yes

No

Menu Page

LeaderBoard

Register

communicate

Join Game

Start Game

Yes

No

Server **(Express, Socket.io)**

validate info

communicate

users	
user_id	serial
username	varchar(50)
pw	varchar(50)
elims	int
deaths	int
accuracy	float(5)

scores	
score_id	serial
score	int
user_id	serial
game_accuracy	float(5)

Challenges

- Time
  - Lots of ideas, not enough time
  - Choosing what features to develop and what features to scrap
- Collision Detection System (CDS)
  - Due to a shortage in software available online, development was largely done by the team
    - CDS was designed and implemented from scratch
- Game Mechanics Development
  - So many possibilities in developing the mechanics of the game, very overwhelming at first
  - Took lots of research and hard decisions to create the game we have now
- Organization
  - Hard to get started
    - Needed to figure out the best way to direct our project

Live Demo

Questions?

Thank you for your time!