CSCI 3308 - Lab 105 Team 2 Due: 2/10/20
Project Milestone 1

Team Name: CU Dream Team

Team Members:
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Application Name:
Warcrimes.io

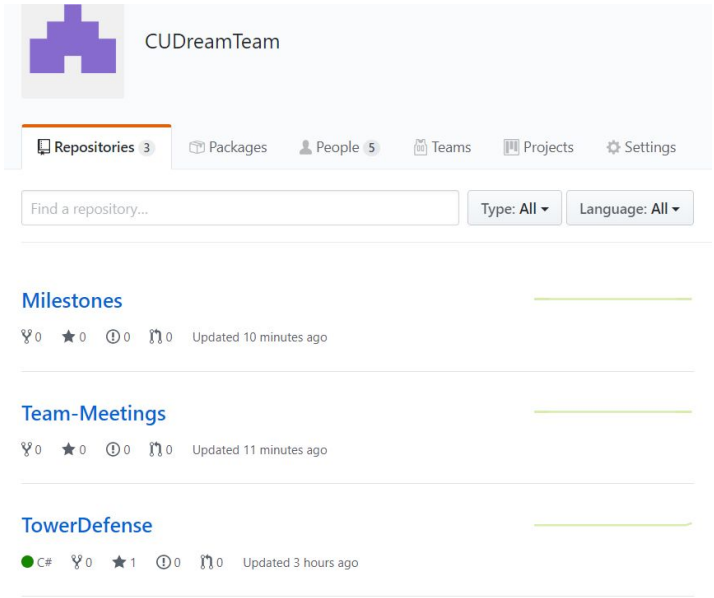
Application Description:

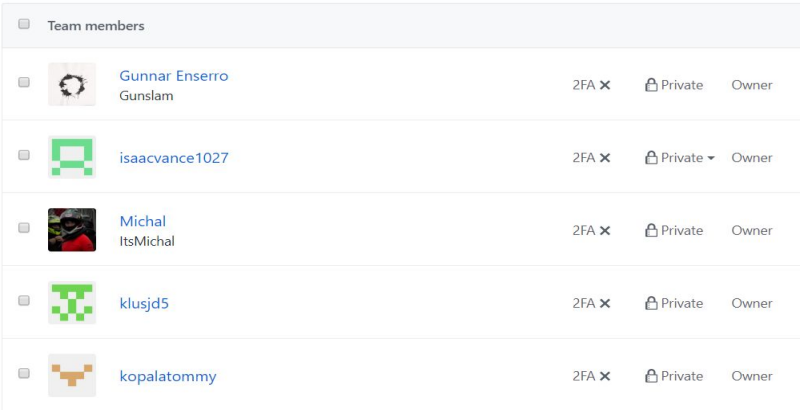
Warcrimes.io is an online web browser RTS game that is a 4x model of Expand, Explore Exploit, and Exterminate. The game will have many players all of which whose goals are to conquer the map. The speed of the game is intended to be like another web game called 'Agar.io'. Which entire game play starts off with you as a cell(a colorful squishy circle that eats) quickly gathering resources and attacking other cells to become the biggest cell.

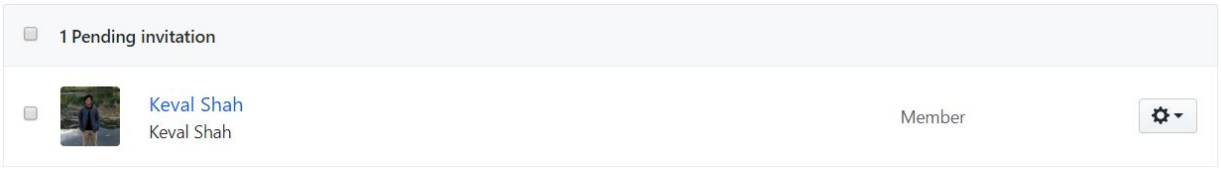
The game will include units and structures. Each unit will have a health bar which slowly goes down and will kill the unit unless they consume food to replenish their health. The unit can carry items and take them all around the map. Each unit also has the ability to fight with others' bases to rob their material. The structures of the game will have different functions. For example, each base must have a headquarters. The headquarters are where the bases resources are managed and all the other structures of the base must be built within a certain distance of the headquarters. Other structures would include cannons to protect the base and walls to keep others out.

Vision Statement:
For Gamers
Who like free RTS
The warcrimes.io is agame
that it's free and in the browser.
Unlike you have to download and pay for,
our product is fast paced, easy to play games that everyone (we hope) will enjoy!

Version Control:







Development Method:

Our development method is based on the agile methodology. Our plan is to first create a minimum viable product that consists of basic combat and multiplayer features. Once these are in place we will work on expanding different features over multiple quick versions.

Communication Plan:

We have a group Discord server on which we have organized our announcements, shared links, meeting reminders, and general discussions that we all have been regularly participating in. We have stored our other contact information on a channel within this discord in case a situation arises in which we urgently need to reach someone, or we need other methods of sharing information or project related materials. We also regularly see each other in the weekly lab meetings for the course, and run into each other at various times and places on campus.

Proposed Architecture Plan:

The architecture of this game will be based around industry cloud architecture. The app will be served out to users through a content delivery network where then they will connect back to a proxy that will associate the session with a game server managing the game. The hope is to build this application on docker. Docker is good for horizontal scaling. The software chunks will be packaged down into containers where they will be run in a cluster on a single cloud hosted machine. The containers that will exist are a proxy, web server, gamer server, and in cluster database.

The database of idealship is Redis and Mongodb. Redis will store game states incase game server crashes. Mongodb will store a game scoreboard that will post players and their highest scores.

Proxy:

- Manages session to servers and traffic in the cluster.
- Might run in C# optimal idea is rust

Web Server:

- Host scoreboard and status about player with authentication.

Game server:

- Manages users game play and actions in the game while talking to a web server to update scores of users.

Meeting Plan:

We plan on meeting on Tuesdays and Thursdays, at 5 P.M. These meetings will either be in the engineering center or online through a discord server.