TEAM

Cooler

~~Cool~~math® Games

PRESENTS

DANK TANKS ©

What is Dank Tanks©?

Dank Tanks is the ambitious evolution of the classic cannon-style tank game, where two tanks face each other and take turns firing projectiles at certain angles and velocities. Battles are set on randomly generated terrain, which is traversable and destructible. The first tank to destroy the opposing tank will be crowned the winner.

Components

FRONT END (BOOTSTRAP)

- Stylesheet.css
  - Custom css file for our website
- index.html
  - Starting page for the website, before users
  - Will include description of game, rules, and controls
  - Routes players to login page

- login.html

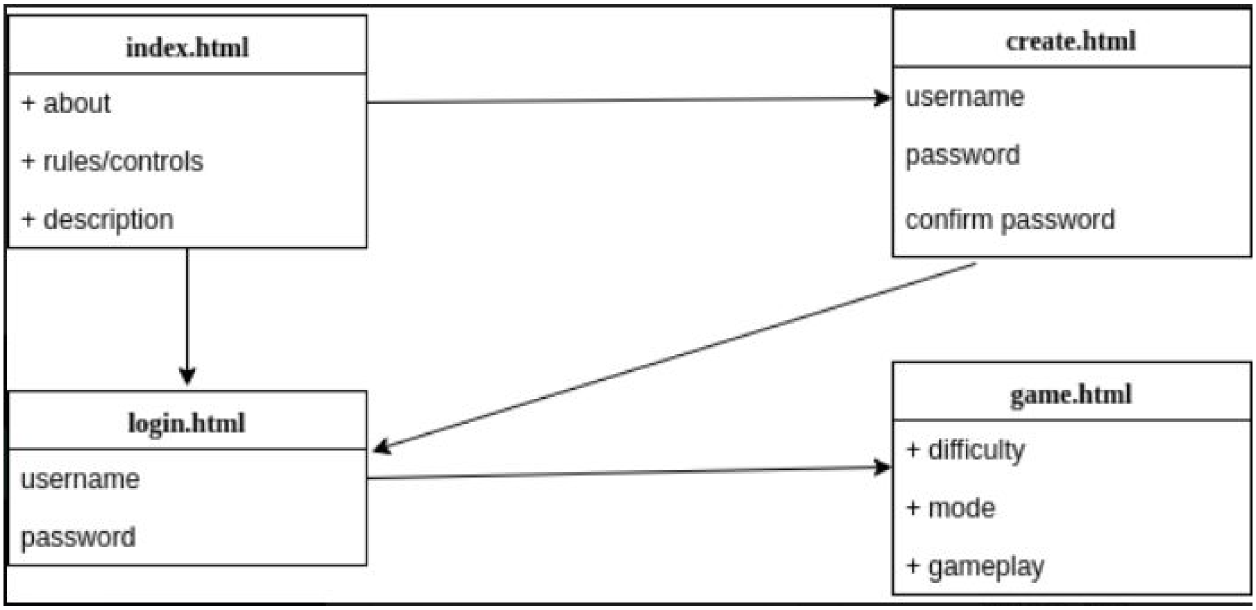
    - Page where users login
- create.html
    - Page where users can sign up with an account
- game.html
    - Page that houses the actual game
    - Will have an SVG element that encompasses the entire page
    - Game will solely be run using this page and AJAX calls
        - Lobby page where player can choose game mode/difficulty or see profile
        - Profile will display the lifetime stats of an account
        - Can choose between 2 modes:
            - Single-player against the computer
            - Local Co-Op mode

BACK END (JS, PYTHON, SQLITE)

- Danktanks.py
    - Houses the flask app, creates all the routes described in *Site Routes*
    - ***authenticate(user, pw):*** checks if a user has an account and has input the right password
    - ***createAcc(user, pw, conf_pw):*** creates a user account if the username is not taken, if the password matches conf_pw, and the password meets certain strength guidelines
    - ***addSession(user):*** creates a session for a user if authentication has passed
- users.py
    - Python file that controls sqlite3 database functions for the users table
    - ***addUser(user, pw):*** adds a user that has created an account into the users database
    - ***userExists(user):*** If true, returns password of *user*. If false, return “void”

    - **get_user_stats(username)**: returns a dictionary filled with info about user (TBD)
- Game.js
    - Javascript file that controls the game mechanics such as tank movement, level creation, physics for projectiles, and animations
    - **flat_world():** creates a map that is a horizontal line
    - **random_world():** creates a uneven terrain using random height values that increment and decrement with a set value (ex. Height btwn two x-values can only differ by 3)
    - **draw_tank(id, x, y, orientation):** draws a tank in a location and assigns it an id number (for multiplayer)
    - **move_tank(direction):** moves a tank in a specified direction based on key pressed. Everytime event is triggered, move_tank will decrease a move counter by 1, limiting movement
    - **fire(weapon_type, location, direction, angle, power):** starts a projectile at a specified location (in front of a tank's cannon) and causes it to travel in an arc based on direction, angle, and power used. Weapon_type denotes what kind of projectile was fired.
    - Possible projectile ideas:
        - Regular bullet that travels parabolically
        - Laser beam that travels in a straight line
        - A triple shot that sends out three regular bullets in a row
        - A tri-shot that splays out 3 regular bullets
        - A bullet that travels in a 90 degree angle after being triggered
        - A bullet that explodes on contact
    - Different weapon types are unlocked by progressing through single-player play

Site Pages



Database Schema

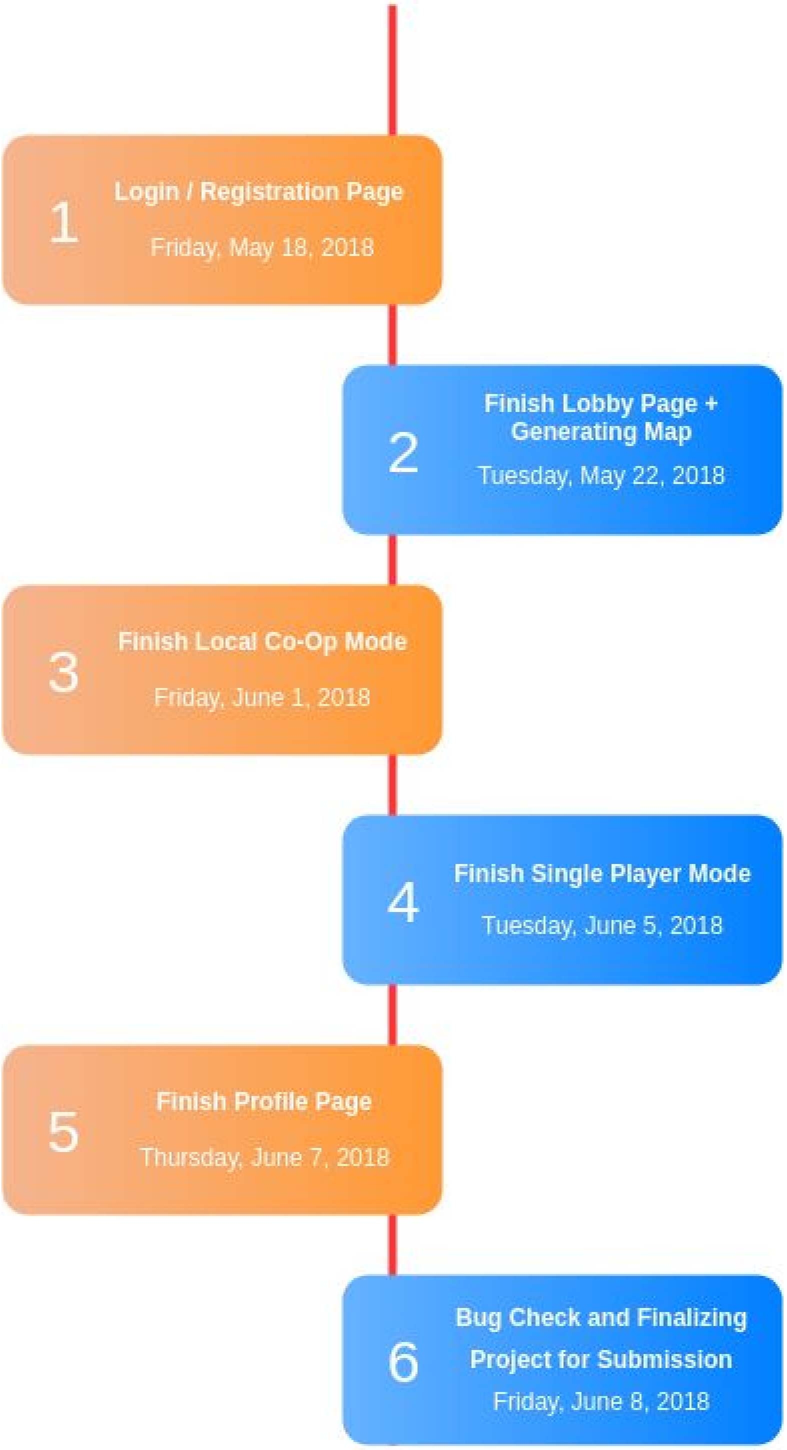
TABLE: Users

Column Name	**Data Type**	**Example**
username	STRING PRIMARY KEY	dwiscool145
password	STRING	~csisalsocool71

TABLE: UserProfile

username	STRING PRIMARY KEY	dwiscool145
number_weapons_ Unlocked	INTEGER	4
shots_fired	INTEGER	9001
shots_hit	INTEGER	1
hit_ratio	DECIMAL(5,4)	0.0001
total_wins	INTEGER	0
projectile_use(one row for every projectile)	INTEGER	379

Timeline of Dank Tanks



1 **Login / Registration Page**

Friday, May 18, 2018

2 **Finish Lobby Page + Generating Map**

Tuesday, May 22, 2018

3 **Finish Local Co-Op Mode**

Friday, June 1, 2018

4 **Finish Single Player Mode**

Tuesday, June 5, 2018

5 **Finish Profile Page**

Thursday, June 7, 2018

6 **Bug Check and Finalizing Project for Submission**

Friday, June 8, 2018

Project Roles

- Front End Design - Xavier Chen
- Javascript / Python - Edward Luo , William Soe
- Database - Alex Taradachuk
- Help wherevers needed - Alex Taradachuk