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SoftDev
P02
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Description: Making a game akin to Hasbro's BATTLESHIP, a game that uses the classic rules for Battleship and adds some twists to the game, using differently shaped ships, maps and abilities.

Components and Purpose:
- Two game boards that switch after each turn (if local client), after each turn there should be a ready screen, so there isn't any tomfoolery going on
- Leaderboard
  - Ask both players for username at start of the game
  - leaderboard separated by game mode for wins
- In game currency in order to purchase different weapon type
- Possible features:
  - Multiple different maps for players to use
  - ~~Online gameplay~~
    - ~~Chat between players~~
- Flask
  - Display HTML Page
  - Data is pulled from the database in order to populate each webpage
- JavaScript:
  - Almost all the game functionality
  - Detect clicks & confirms move
  - Canvas to display board
  - Updating board
  - Animations (hit, explosions)
    - Add when other elements are finished
- SQL Database:
  - Keeps track of statistics of each player → Leaderboard
- Bootstrap:
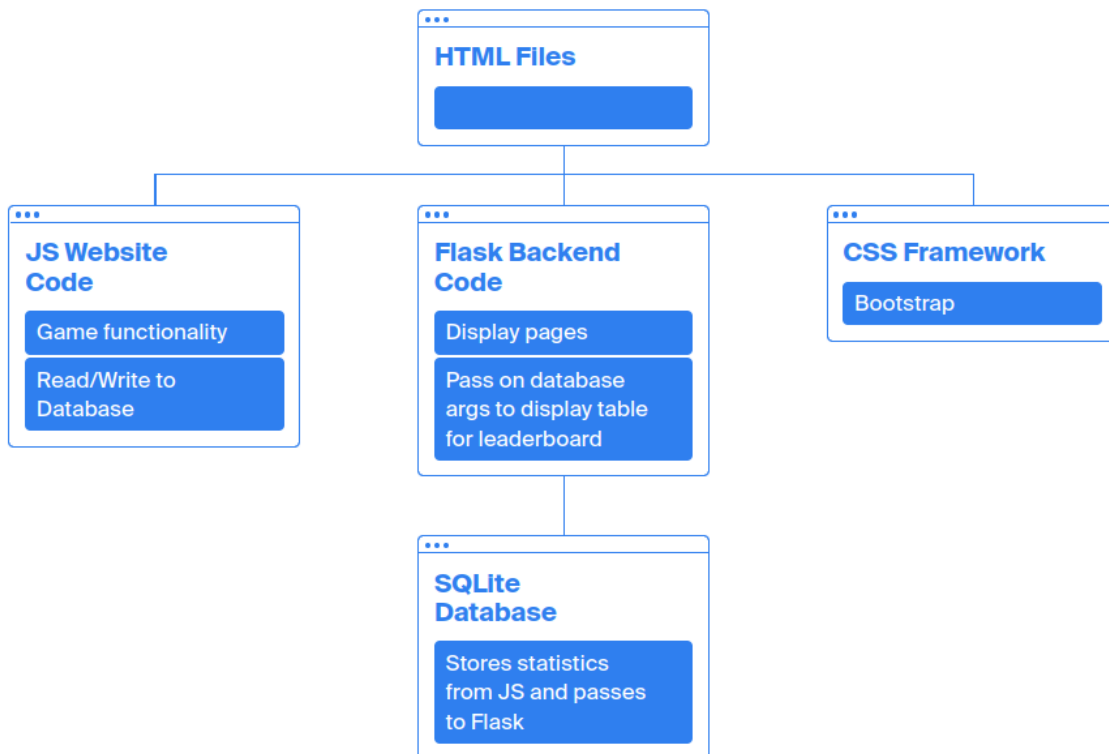 - Simple CSS elements to make website uniform

Database Organization:

Username	Win ratio	Hit ratio	Powers used	Games Played	Games Won

Site Map:

Main page

- Header
- Battleship Game
- Rules / Instructions
- Footer

Leaderboard / Statistics

- Table of all stats

Only two pages needed. Most of functionality in the battleship game on the main page. Simplicity is key.

Component map:

HTML Files

JS Website Code

- Game functionality
- Read/Write to Database

Flask Backend Code

- Display pages
- Pass on database args to display table for leaderboard

CSS Framework

- Bootstrap

SQLite Database

- Stores statistics from JS and passes to Flask

Division of Tasks:

Kevin: Project Manager & VM(Digital Ocean Droplet) & Frontend (registering clicks/UI)
Andy: Frontend (board management)/ digital ocean debugger
Austin: Backend (Leaderboard DB, connection between frontend and backend)
Shadman: Frontend (registering hits, changing maps, abilities)

Stages:

☐ Initial functioning Battleship game (10x10 board, 5 wide, 4 wide, two 3 wides, and a 2 wide)
☐ Leaderboard/statistics
☐ Different maps with tetromino shaped ships
☐ Abilities, separated into two different game modes

Guiding Questions/Ideas:

- 2 different modes (one w/ and one w/o abilities)
- How are we going to implement online play?
- Use canvas as Battleship board
- Abilities: radar (scans a certain chosen radius of the other player's board), bomb (hits a certain radius/area of the board), airstrike (hits x amount of random spaces on the board), mine
- Energy system for each player
  - Energy is gained by hitting ships and sinking them
  - Used for abilities
- Extra maps later on
  - Allows for replayability
  - Non-rectangular maps

Target Date: 03-28-22 (March 28th, 2022)