CSCI 3308-200: Software Dev Methods and Tools
Project Milestone 5
11/13/2020

Team Number: 205-2
Team Name: Phat Data Squad
Team Members: Aidan Aarts, Alexandra Charland, Connor Duff, Jess Hamlin, Ryan William Coe
Project Title: The Game Pod

Features to be tested:

- Games
- Website
- Database

Games

We will conduct unit tests of our games as they are being developed. The content of these unit tests will depend on each individual game's requirements. As an example using the helicopter game, a unit that must function correctly is the helicopter avatar moving up and down within the game area in response to the user pressing down the shift key. The unit tests for the games will have finished when the games are fully operable according to their minimum requirements highlighted in previous milestones.

Integration testing for each individual game will involve the ability of each game to output a score and/or save state to the website that can be stored in the database. Each game must be connected to the website in some way, such as through embedding or through directly coding the game into the html page.

User acceptance testing for each game will follow these criteria:

- Expectations:
    - Games should be easy to begin
    - Some type of score or game data should be tracked
    - The average user should be able to reach a score of {game specific attainable score}
    - There should be an end win or lose condition to stop the game
- Acceptance Criteria:
    - User can start and play game without assistance
    - Most users reach target score
    - No crashes or bugs during gameplay
    - User is required to have fun :)

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Website

Integration testing for the website involves having all the pages working and accessible through consistent linking between every page. For example, the navigation bar must be displayed on all the pages with working links. The website should also present a way for the user to access their saved scores/game states from the database, which will involve linking a user account as a unique key to the user's data in the database. For example, this can be done by making sure that the user is able to see their high score after logging in to the website.

User acceptance testing will follow these criteria:

- Expectations:
    - The links to the different website pages are descriptive of their page destinations
    - User account allows for data flow between the website and the database
    - The website's and game's designs are pleasing to the user's eyes, as the user may spend an extended period of time staring at the screen
- Acceptance Criteria:
    - User can navigate the website without getting lost or stuck on a page
    - User can login without errors
    - The game scores/states are saved in a database according to a user's account key
    - The user can view their high score for a particular game when logged in
    - The website's design and game aesthetics are easy on the user's eyes.

Database

Integration testing of the database involves successfully retrieving and saving data from the website. The database must be able to hold different types of data depending on what is required from each individual game, and queries must be written to save this data given a condition. For example, if a game keeps track of high scores, a user's score should only be saved to the database if it is higher than the score already saved in the database.

User acceptance testing will follow these criteria:

- Expectations:
    - Database saves game data according to the required conditions.
    - The database regularly updates data when a condition is met.
    - Data is only saved when the user is logged in.
- Acceptance Criteria:
    - The user's most recent high score is displayed (if applicable)
    - Users are able to log in to the application and view their game statistics and saves repeatedly and reliably without their data being lost.
    - Users never have problems with other users being able to alter their data through things like two users having the same login credentials or incorrect database usage by the server.

- The database does not have any user issues that stem from problems with ACID compliance, such as one user's queries affecting another user, inconsistent information being returned from the database, and so on.

Individual Contributions

- Aidan Aarts: Finished blackjack game.
- Alexandra Charland: Finished helicopter game. Latest commit
- Connor Duff: Continuing to work on the snake game.Latest commit
- Jess Hamlin: Altered much of the website to use EJS and implemented NodeJS. Once this was done I created a MySQL database and a few new login pages for the website so it now has a working account system.
- Ryan Coe: Continued to work on adding games to the website, as well as wrote the game UAT.

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