CMSC 5233

Mobile Application Development

Game Project Proposal

Spring 2019

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**Objective**

To create an app that will allow a user to play three separate games. The app will act like an interface to access the games and manage settings. Each game will have a leaderboard that is appropriate to the style of game being played. Project must utilize NativeScript and will be available as open source software on a public GitHub repository.

**Assumptions**

1. Project will create a web API that will become available at <https://game-collection-leaderboard.glitch.me> for storing and retrieving leaderboard data.
2. The games are designed for a single player
3. Persistent progress or unlockable content will be stored locally in the application’s cache

**Goals**

1. Utilize Angular
2. Support multiple device form factors
3. Standardize user interface design
4. Implement a back-end that is modular and extensible
5. Provide basic functionality as soon as possible and expand working features through project development

**Games**

1. Gladiator Combat
   * Player will attempt to survive in an arena battle vs. a variety of opponents
   * Game will implement text-based battle mechanics up front, may expand to basic graphics given time
   * Arena will contain some traps and terrain types that affect player abilities
   * An arena store will provide equipment for victory tokens if the player is successful in battle
2. Sudoku
3. Angry Cats

* Player will send cats flying at enemies with the goal of hitting enemies and their structures that are scattered around the field.
* Game with unlock new difficulties and types of cats as the player progresses through the game.
* Game will have a scoring and leaderboard system.
* Game will have a hidden level once certain criteria are met.

**Work Breakdown Structure**

1. Game Project
   1. Week 1
      1. Document game rules Lee Shuman
      2. Document game rules Paul Christy
      3. Document game rules Diane Truong
   2. Week 2
      1. Leaderboard Web API module Lee Shuman
      2. Design app navigation Paul Christy
      3. Create app images Diane Truong
   3. Week 3
      1. Gladiator Combat – Design basic character stats Lee Shuman
      2. Sudoku Paul Christy
      3. Angry Cats – Create base game Diane Truong
   4. Week 4
      1. Gladiator Combat – Design player actions Lee Shuman
      2. Sudoku Paul Christy
      3. Angry Cats – Design game graphics Diane Truong
   5. Week 5
      1. Gladiator Combat – Design arena behaviors Lee Shuman
      2. Sudoku Paul Christy
      3. Angry Cats – Design a scoring system Diane Truong
   6. Week 6
      1. Gladiator Combat – Design basic enemy behavior Lee Shuman
      2. Sudoku Paul Christy
      3. Angry Cats – Design additional game elements Diane Truong
   7. Week 7
      1. Gladiator Combat – Design game rewards Lee Shuman
      2. Sudoku Paul Christy
      3. Angry Cats – Design additional game elements Diane Truong
   8. Week 8
      1. Create Slides for Gladiator game/Leaderboard API Lee Shuman
      2. Create Slides for Pac-Man/Navigation Design Paul Christy
      3. Create Slides for Angry Cats/Graphic Design Diane Truong
   9. Week 9
      1. Code/Slide Review Lee Shuman
      2. Code/Slide Review Paul Christy
      3. Code/Slide Review Diane Truong
   10. Week 10
       1. Run through presentation/Cleanup Lee Shuman
       2. Run through presentation/Cleanup Paul Christy
       3. Run through presentation/Cleanup Diane Truong