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
    - 1.1. Week 1
        - 1.1.1. Document game rules — Lee Shuman
        - 1.1.2. Document game rules — Paul Christy
        - 1.1.3. Document game rules — Diane Truong
    - 1.2. Week 2
        - 1.2.1. Leaderboard Web API module — Lee Shuman
        - 1.2.2. Design app navigation — Paul Christy
        - 1.2.3. Create app images — Diane Truong
    - 1.3. Week 3
        - 1.3.1. Gladiator Combat – Design basic character stats — Lee Shuman
        - 1.3.2. Sudoku — Paul Christy
        - 1.3.3. Angry Cats – Create base game — Diane Truong
    - 1.4. Week 4
        - 1.4.1. Gladiator Combat – Design player actions — Lee Shuman
        - 1.4.2. Sudoku — Paul Christy
        - 1.4.3. Angry Cats – Design game graphics — Diane Truong
    - 1.5. Week 5
        - 1.5.1. Gladiator Combat – Design arena behaviors — Lee Shuman
        - 1.5.2. Sudoku — Paul Christy
        - 1.5.3. Angry Cats – Design a scoring system — Diane Truong
    - 1.6. Week 6
        - 1.6.1. Gladiator Combat – Design basic enemy behavior — Lee Shuman
        - 1.6.2. Sudoku — Paul Christy
        - 1.6.3. Angry Cats – Design additional game elements — Diane Truong
    - 1.7. Week 7
        - 1.7.1. Gladiator Combat – Design game rewards — Lee Shuman
        - 1.7.2. Sudoku — Paul Christy
        - 1.7.3. Angry Cats – Design additional game elements — Diane Truong
    - 1.8. Week 8
        - 1.8.1. Create Slides for Gladiator game/Leaderboard API — Lee Shuman
        - 1.8.2. Create Slides for Pac-Man/Navigation Design — Paul Christy
        - 1.8.3. Create Slides for Angry Cats/Graphic Design — Diane Truong
    - 1.9. Week 9
        - 1.9.1. Code/Slide Review — Lee Shuman
        - 1.9.2. Code/Slide Review — Paul Christy
        - 1.9.3. Code/Slide Review — Diane Truong
    - 1.10. Week 10
        - 1.10.1. Run through presentation/Cleanup — Lee Shuman
        - 1.10.2. Run through presentation/Cleanup — Paul Christy
        - 1.10.3. Run through presentation/Cleanup — Diane Truong