ISCG6420: Internet and Website Development

Assessment #2 | Semester 1, 2024

Part 2: Wireframe – Interactive Video Game

SafeSwimmer – Parakai Springs

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Website Layout Overview

The game website has four main sections:

- Game Canvas – Occupies the centre as the primary interactive area
- Game Setup Controls – Displayed on the left side of the canvas
- Game Info Display – Displays score and timer
- Game Over/Instructions Overlay – Displayed conditionally

Figure 1: Website Layout

Wireframe Breakdown

Header Section

- Contains:
    - Game Title: “SafeSwimmer Game | Parakai Springs”

Game Setup Controls

- Position: Left side of the game area canvas
- Content:
    - Game Duration selector (1 or 2 minutes)
    - Volume slider (0 to 100%)
    - Difficulty selector (Easy, Normal, Hard)
    - Start button (Enabled when assets are loaded)
    - Restart (Initially disabled)

Game Info Display

- Position: Left side of the game area canvas
- Content:
    - Score Counter: Displays the player’s live score
        - (E.g., “Score: 10”)
    - Timer Display: Countdown timer
        - (E.g., “Time Left: 01:23”)

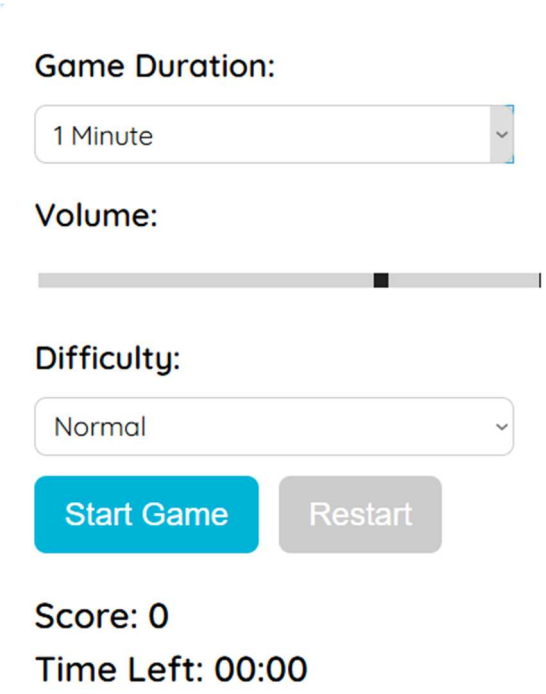

Figure 2: Game Setup Controls & Info Display

Game Canvas Area

- Position: Centred on the page
- Size: 800x600 px <canvas> element
- Content:
    - Background image (`water.jpg`)
    - Sprite-based animated swimmer character
    - Dynamic toy circles (radial gradients with animation stages)

Figure 3: Game Canvas Area

In-Game Instructions Overlay

- Position: Right side of the game area canvas
- Content:
    - Movement instructions (WASD/arrow keys)
    - Spacebar action: Collect the toy
    - Objective summary (collect as many toys as possible before they sink)

Figure 4: In-Game Instructions

Game Over Screen

- Position: Centre overlay (shown on timeout)
- Content:
    - "Game Over!" title
    - Final score summary
    - "Play Again" button (restarts the game and resets all the states)

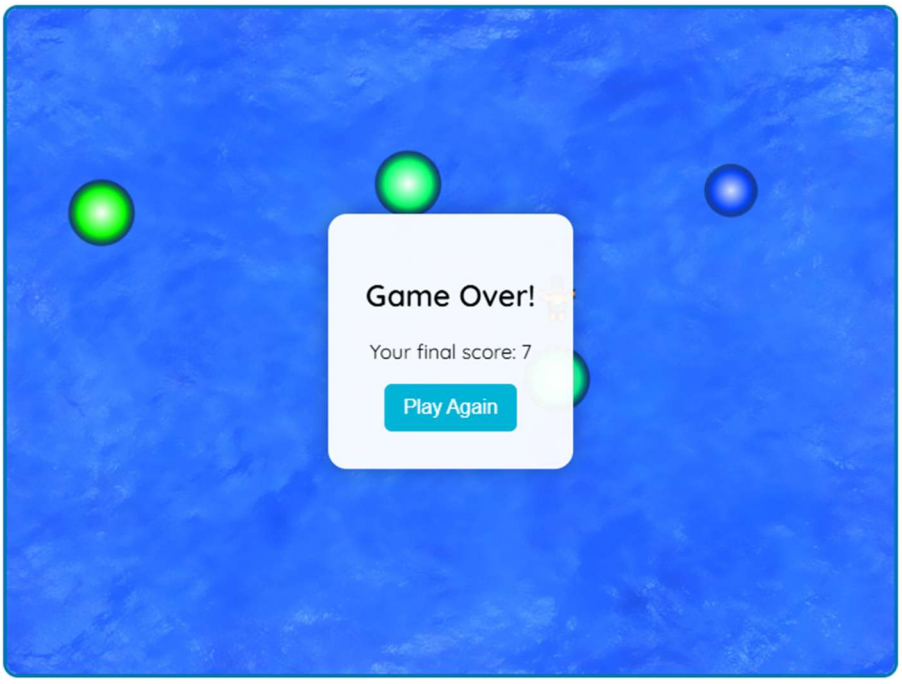

Figure 5: Game Over Screen

Final Frame & Links:

- Replay Function: Via “Restart” or “Play Again” buttons
- All game content: Runs through `index.html` and `script.js`
- Game state logic and DOM updates: Controlled using event listeners in JavaScript
- Game Assets: Stored in `/assets/images` and `assets/sounds`
    - `assets/images`: (Got it from an open-based source: https://opengameart.org)
        - `swimmer.png`:
            - Sprite sheet containing animated swimmer frames. Used for directional character movement and swimming animation.
        - `water.jpg`:
            - Background image of a calm water surface. Provides visual context and aesthetic appeal to the swimming environment.
    - `assets/sounds`: (Got it from an open-based source: https://freesound.org)
        - `countdown.wav`:
            - Played at the beginning of the game to indicate the start countdown.
        - `point.wav`:
            - Played when a toy is successfully collected. Provides positive audio feedback.
        - `lose.flac`:
            - Played when the player attempts to collect a toy unsuccessfully.
        - `gameover.wav`:
            - Played when the game ends due to the timer running out.