# Sprint Breakdown (4 Weeks)

## Sprint 1: Planning & Research (Pre-Development)

- **Technology & Setup**
  - Ensure the game frame works properly in a web environment.
  - Ensure proper setup with Source control
- **Game Architecture & Design**
  - Create a game flow diagram showing screen transitions and game states.
  - Design a basic layout for UI elements.
- **Obstacle & Car Research**
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  - Gather reference images for obstacles and cars.
  - Decide on different obstacle types and possible difficulties.

**Goal**: Basic Webpage with a Frame with other setup activities and research for later assets.

## Sprint 2: Basic Gameplay Implementation

- **Player Movement Refinement**
  - Smooth lane switching
  - Handle edge cases (e.g., can't move off-screen)
- **Fix Collision Response**
  - Prevent game from stopping on collision
  - Proper Collision Detection
- **Game Loop & Timer**
  - Add real-time countdown timer
  - Implement pause/resume functionality
- **Obstacle System**
  - Obstacle spawning logic refinement (ensure fair/randomized spawning, spacing, etc.)
- **UI Foundation**
  - Create a basic menu (Start, End, Pause)
  - Display timer
- **Nic Finishes the Game**
  - The game is done

**Goal: A playable prototype where the player can interact with basic UI elements.**

## Sprint 3: Interaction & Visuals

- **Last Sprint**
  - Put Logo into Placeholder
  - Configure Settings to have predetermined Values.
- **Finish line**
  - Game has a finish line
  - Stops Game
- **Basic Animations**
  - Add animations for game start (e.g., countdown, fade-in).
  - Add visual feedback for collisions (e.g., flashing, shaking).
- **Timer and Score System**
  - Grass Lanes double timer countdown
  - Timer pauses on Game pause
  - Calculate score based on time remaining.
  - Display current score during gameplay?
  - Store and display Top 5 player scores using local storage or similar. (Database?)
- **UI Feedback Improvements**
  - Add basic button interactions (hover/click effects)
  - Put Buttons // Integrate swiping for controls on mobile

**Goal:** Gameplay has animations, scoring, proper phone controls and interactive feedback.

## Sprint 4: Polish & Optional Features

- **Code Review**
  - Review all code and make sure it is compliant with coding standards
- **Settings Button**
  - Button in game to open settings
- **More Visual Improvements**
  - Add different obstacle/car designs.
  - Add background elements or parallax scrolling.
  - Improve screen transitions between game states (menu, play, end).
- **Bug Fixing & Testing**
  - Perform internal playtesting to find and fix bugs or glitches.
  - Test UI responsiveness and element behavior.
  - Tune performance to prevent frame drops or lag.
- **Optional Features**
  - Create a tutorial screen or popup explaining basic controls.
  - Allow selection of different car styles before game start.
- **Game Polish Checklist**

- All visuals and animations are smooth and intentional.
- No placeholder art remains.
- All menus function correctly.
- Game ends cleanly with clear win/loss state.

**Goal**: A fully playable, visually polished version of the game with additional quality-of-life features.