**Game Design Document**

**Project Title:** Car Rush  
**Date:** 11/30/2024

**1. Project Concept**

**Game Genre:** Racing  
**Game Perspective:** Top-down / Side View / Front View  
**Platform:** PC (Keyboard or Game Controller Support)

**Concept Overview:**  
The player controls a racing car in a dynamic, multi-perspective racing game. The objective is to race through tracks, collecting coins and boosters while avoiding AI cars and obstacles, aiming to finish first.

**2. Player Control**

* The player controls a car using:
  + Keyboard inputs
  + Game controller inputs (for PC)
* Basic actions include:
  + Acceleration
  + Braking
  + Steering (Directional control)

**3. Basic Gameplay**

* Game includes:
  + Coins
  + Boosters
  + Player’s Car
  + AI Cars
  + Environmental elements like Scenery, Lakes
* Objective:
  + Complete laps or reach the finish line
  + Collect coins
  + Avoid obstacles and AI cars
  + Use boosters for speed advantages

**4. Sound and Effects**

**Sound Effects Include:**

* Engine sounds
* Collisions
* Booster activation
* Coin collection

**Visual/Particle Effects Include:**

* Exhaust flames during speed boosts
* Collision effects

*Optional:* Currently no background music or additional sound layers are specified.

**5. Gameplay Mechanics**

* **Boosters:**
  + Placed along tracks
  + Temporarily increase car speed
* **AI Cars:**
  + Become progressively faster and more aggressive over time
* **Minimap:**
  + Helps with navigation and player location tracking
* **Garage System:**
  + Unlock/select cars using collected coins
  + Different cars may have different stats

**6. User Interface (UI)**

* **HUD Includes:**
  + Speed indicator
  + Lives/health indicator
  + Timer
  + Booster status
  + Coin counter
  + Minimap

**In-Game Events:**

* Game ends when:
  + Timer runs out
  + Player crashes
  + Player wins or loses a race
* Leaderboard is shown at the end

**Startup UI:**

* Title Screen: "CAR RUSH"
* Loading screen appears at the beginning

**7. Other Features**

* **Garage System:**  
  Coins collected in races can be used to unlock new cars.
* **Level Selection Scene:**  
  After selecting a car, the player chooses a level from a top-down view of all available tracks.
* **Race Start Sequence:**
  + Countdown (1, 2, 3… GO!)