# Game Design Document

## Title Page

Race Against Time

Designed by Raymond Tamse Jr

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For Windows

**Ages**: 8 – Up

**Ship Date:** TBD

## Game Outline

**Game Story Summary:** A delinquent street racer has challenged themselves to a **Race Against Time**, to show everyone that they are the best when it comes to being fast and on time. Only this time, the race happens to be on a highway, where the racer must dodge vehicles of varying sizes, from minivans to trucks! Will the racer be able to reach their goal in time? Or will they succumb to a terrible fate by getting into a car accident?

**Game Flow Outline:** **Race Against Time** is a 2D side-scrolling driving video game, where a street racer drives a fast car on a highway filled with random cars. The racer starts in the middle of the highway. Using the arrow keys on a keyboard, the racer can switch between multiple lanes to avoid traffic, or to pick up ‘effects’, which are laid out randomly on the highway. For the street racer to **win**, they must reach the finish line before the timer runs out for **every** level, otherwise they will **lose**. Be careful however, as the racer can get into a car crash if they happen to touch a different vehicle! The racer will have to try again in the hopes that they can succeed in the next run.

There are three effects that the racer can receive: an extra Boost effect, a slow down effect, and an extra time effect. The extra Boost effect fills up their Boost bar, which then can be used by the player to speed up. Speeding up slowly empties the Boost bar. The slow down effect slows the vehicle down for **5** seconds. Boosting with this effect will make the player go as fast as they normally would. The extra time effect pauses the timer for **5** seconds, increasing the racer’s chances of victory. However, there is a risk that comes with picking up an effect, as the effect may be right next to a different car or trapped by several vehicles.

## Character Description

**Street racer:** The player will act as the driver of the car, but no avatar will be provided for the driver – at best it will be a silhouette of a man inside the car. The car itself will be a sprite of a sports car, and there will be no customization options provided. The player’s character and appearance will stay the same forever. There will also be no backstory provided – this game is meant to be simple, focusing on just the action.

**Keyboard controls:** **Race Against Time** uses the following keyboard controls to play:

* The street racer’s car drives **constantly** from left to right, but they will slow down if a slow down effect is picked up, end the game if they crash against another vehicle, or end the game by not reaching the finish line in time.
* To move up or down, **press** the **Up arrow key** or the **Down arrow key**. The car will move up or down a lane at a certain speed. **Pressing** the keys **W** and **S** can also act as a substitute to the respective controls.
* To move left or right, **press** the **Left arrow key** or the **Right arrow key**. This can be interpreted as the car slowing down or speeding up, which is useful for picking up effects or avoiding a car crash. **Pressing** the keys **A** and **D** can also act as a substitute to the respective controls.
* To boost, press the **Space** key. The player must have enough power in their **Boost** meter for this to work.
* The racer can also pickup three effects, which are mysteriously and randomly found on the highway. These effects have been explained in the **Game Flow Outline**.

## Gameplay

Since the gameplay has already been described in the **Game Flow Outline**, the gameplay will be summarized in this section in bullet-points:

* This is a **side-scrolling** **racing** game with a **timer** feature.
* The player controls a fast car that is racing through a busy highway.
* The player must use **arrow keys** or **WASD** keys to move between different lanes.
* The player can boost by pressing the **Space** key.
* Vehicles on the road act as **obstacles** and can vary in size.
* Vehicles will be driving from left to right, but at a slower pace than the player’s car.
* **Effects** can be picked up to the player’s (dis)advantage: extra Boost, slow down, or extra time.
* The player must reach a **finish line** before the timer runs out.
* This is a simple **race against time** game – no customization or upgrades planned for implementation.

## Game World Description

As explained in the previous section, the game takes place in a highway. This highway is unnamed and is in an unnamed city – the cityscape on the horizon is displayed on top of the screen, while the highway takes a good chunk of the screen at the bottom. Several types of vehicles can be found driving in this highway. The highway drives from left to right and has **5** lanes.

The highway also has several effects that can help or harm the player’s performance. The reason why these effects are present is unexplained.

## Game Experience

When opening the game, the player is shown the main menu screen, along with the logo of the game’s title. There are two options: **Play**, and **Exit**.

When the player picks Play, the scene then changes to the game environment. A countdown from 3 to 1 is shown on screen, and then the player’s car appears from the left, beginning the gameplay. The player can now control the car, and the scene changes from stationary to moving from right to left. If the player reaches the goal on time, they are then taken to the next level. Only this time, the **timer** is shorter. This entire process repeats until the player finishes the last level.

When the player reaches **Game Over** after finishing the last level, the player is then taken to the Game Over screen, where a message is displayed depending on the player’s performance, and the player is given two options: **Replay** and **Back to Main Menu**. Pressing Replay takes them back to the first level.

As mentioned before, there is no story, which means no cutscenes, movies, etc. As for events however, vehicles and effects will also randomly start appearing on the highway during gameplay. If an effect is picked up, if the car crashes, or if the player fails to reach the goal in time, an appropriate sound effect is played, and an appropriate message pops up on screen.

A single music track will play for the entirety that the game is open. Sound effects will be implemented in events described above.

## Gameplay Mechanics

**Hazards:** Vehicles of varying sizes on the highway that can get the player in a car crash, and the slow down effect that increases the chance of the player being too late to reach the finish line.

**Effects:** The extra Boost effect which refills the Boost bar by **25%**, the slow down effect which slows the player’s speed down by **50%** for **5** seconds, and the extra time effect which pauses the timer by **5** seconds. These are explained further under the **Game Flow Outline**.

# References

2D Car Sprites – Player and NPCs (Chasersgaming): <https://opengameart.org/users/chasersgaming>

Hourglass icon (lupo): <https://opengameart.org/content/hourglass-icon>

Open Sans PX Font (Codewitch Game Dev): <http://codewitchgamedev.blogspot.com/p/open-pixel-font-project.html>

Skyline Background (FabinhoSC): <https://opengameart.org/content/skyline-background>