1. **Introduction Information**

Team Speed Racer is out to build a racing game with its main appeal being easy to play in order to have a huge player base. While it is in its infancy there are many factors to consider and much to see standing on the shoulders of giants when looking at other racing titles.

After conducting some preliminary research and data collection the overall design is fairly straightforward and similar to what was started in the beginning. A lot of the data was verification for what was going to be built.

The information needed to help build this is really all user experience. The following topics will be outlining our requirements for the game on the user side.

What the user wants in a game that can play over and over for fun. To appeal to a larger audience the game and its functions are being designed for the casual experience. We need the game to launch on a large Operating System for customers to have access to playing it. We need the user to install it to get started. No Network access means everything is local host machine related. Users will need to become familiar with keyboard controls because we do not require a separate control and have not built the game to accept outside controls. They will need to be able to read English and select via our menu to get to the parts of the game they want to access ( time trial driving, car customizing, settings.. etc). Everything else is straightforward as far as information goes, If the user can navigate (easily) through the menus they will be able to take full advantage of playing our game.

1. Launching as a desktop application
2. Log in screen with user profiles
3. Menus and user selection / input
4. Graphic settings
5. Racing gameplay
6. Customizable options
7. Saving records and time trials from gameplay

**2. Executive Summary**

The experience of speed racer is to be completely straight forward regardless of how familiar the user my be with our game. Being as simple yet intuitive as possible, we believe that we can build a game that is easy enough to get into that it will help gather and maintain a fan population with our title.

Ease of use features implementing:

* Simple to use login features - Any user can effectively log in with ease and/or create a use profile promptly after starting the game
* Main menu with minimal options - having an main menu that gets to the point of gameplay without confusing or requiring a high learning curve to navigate.
* Setting options - provide some options for users to control with ease. These will be basic interactive things, easily to understand and set up
* Gameplay - intuitive yet simple gameplay mechanics for users to get started playing as quickly as possible.

The main risk Speed Racer can encounter is the ease of use for the game

* Low learning curve - Must be easy to navigate and hop right into playing.

**3. Application Context**

Speed Racer is a game that will allow any user to create an account and play the game while keeping track of their past statistics.

**4. Functional Requirements**

**User Login**

4.1.1 All users will have to pass through the login screen, subsequently creating an account to be able to pass on to the main menu. These accounts will be local to the machine in which the game is installed.

**Map selection**

4.1.2 Users will be able to select between a variety of maps in which to race on. Each map will have the best times that the previous users have achieved, visualization and a description associated with it for the user to see.

**Car Selection**

4.1.3 Car selection will have the users select a color

4.1.4 Car selection will also have tires as a selection that will adjust driving experience

4.1.5 Each option being selected will have a description about it with either its stats or abilities

4.1.6 Visual representation will be provided as well

**Settings**

4.1.7 Setting menu will have only basic options for the user to adjust.

4.1.8 Volume adjustment is set for implementation

4.1.9 Resolution is set for implementation

4.1.10 Fullscreen will be featured

**Gameplay**

4.1.11 Gameplay experience will in third person. This will be the only available option for now.

4.1.12 Controls will be sync with keyboard only.

4.1.13 Time and lap will be displayed at the top right of the screen

4.1.14 Camera angle will always be behind vehicle

4.1.15 After race is over a menu with multiple outlets will be present to allow the user to choose which point in the build process the user would like to go back to before racing again.

4.1.16 Benchmark timings will be displayed for the user while racing

**5. Other Requirements**

Being a solo title and game, the functionality of the program is not dependant on any other software or programs. Just the WinOS in which is runs on.

With that being said hardware capabilities are essential for uses to not run into launching issues

* Hardware needed will be a computer desktop/laptop (ONLY)
* Microsoft OS(Windows Vista, 7, or 10).
* Minimal CPU processing power (industry standard)
* Minimal GPU processing power (industry standard)
* Storage space (for game installation and user records)
* Any Keyboard, built in or external
* Speakers of choice for audible sound effects.

**6. Software Qualities**

* User-friendliness - The goal of the game is to be easy to handle. Simple fun. This will produce our user base so highly important.
* Ease of use - We also want the learning curve of the overall game to be low so that simplicity carries over into all aspects of the game.
* Fun - Need to make the game enjoyable, incorporating the best aspects of racing games in a small package
* Performance - Must run and perform well on all machines that meet the require specs. Gameplay is vital to experience
* Replayable - Make the game replayable. Time and time again, the user should want to keep going.
* Intuitive - The set up and controls should be intuitive to what race games are. But selection menus and gameplay.

**7. Time Schedule**

Prototype of game must be playable by July 27th, 2018 at 6:00pm.

Final Game and related materials must be completed by August 14th, 2018.

**8. Potential Risks**

* Windows based only - Could cause less interest for those who do not have access to WinOS
* Performance restrictions - CPU, Ram and GPU requirements will be displayed for users but will only cost a minimal system requirement. Can be a constraint for users with not so good Computers.
* Keyboard controls - Currently this will be keyboard based. No other forms of control input will be implemented as of this stage. This is a constraint because of the limitability it will make the game playable to everyone.
* Non mobile - Constraints would be this is a user based system. Not mobile and desktop only. Therefore it was have user profiles. You have to log in with your to get access to your files and records. It will not be network related at all so you will only be able to do this on the system the game is installed and the one in which you play.

**10. Future Changes**

* Multiplayer - Eventually Speed Racer will have a multiplayer function to allow more than 1 user to interact with another in the same game mode.
* Network access - Set up a server for records and racing to be connect throughout a network. Allow users to interact with all others throughout the world.

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