**Software Requirement Specification**

*for*

ProjectName : “Drive Car - Console Application”

*created from:*

*With members :*

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3. **Introduction**
   1. ***Purpose***

The main purpose of this document is to describe in details what is the exact functionality, how the system will work properly, what needs to be done for improving the system. This document is prepared to help developers and stakeholders to understand in depth the project.

* 1. ***Scope of Project***

Team “Antibaar” will develop and present a game named “Drive Car - Console Application”. It is created especially for children over 3 years old with the main reasons to develop their reflexes and observation.

The game is created quite simple with immediate start process and very clear overview. The player has to move the purple car to left or right direction using the keyboard arrows of the computer, in order not to be hit by the other cars.  
  
***1.3*** ***Constrains***

* The project must be started only on Windows OS, newer than Windows XP.
* To start the game it is required to have at least 500MB RAM on your laptop or PC.

1. **Overall Description**
   1. ***Vocabulary***
      1. **Road Field** – A Road Field is the place from the screen in which player`s car is allowed to move. It consists of three lanes, a purple car (player`s car),a red car and a yellow token.
      2. **Point Field** – A Points Field is situated on the right of the screen and shows the activity of the game. This activity includes life points, score point and level points.
   2. ***Game View and Description***

In the center of the screen you have a road and three cars on it. Your car is always the purple one. In the beginning it’s located on the bottom left corner on the screen. Always you have two other cars, which you must escape from. There is also a yellow coin, which brings you an additional live bonus. On the right you have three boxes. The first one is score (in format score{score}). Every time you pass one car you score increase. The second box is lives (in format lives{LIVES}). Every time you are hit by other cars your lives decrease by one. And every time you collect coin your lives will increase by one. The third box is level (in format level {LEVEL}). On every fifty score you make your level up.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | ***Road Field*** |  |  | {SCORE}  {LIVES}  {LEVEL}  ***Points Field*** |

* 1. ***“How it Works” Block Scheme***

Press space button to start

**START the Game**

Move the car to the right direction

Hit another car

Take Coin

**IF**

Lives = 0

Lives ≠ 0

Pass between or aside two other cars

Continue moving

**GAME OVER**

Score = Score + 10

When the score = 50, then level= level +1

* 1. ***Non - functional Requirements***

*Start* *the game*

1. The game must start in 3 sec. after started.
2. After clicking movement button the car must move in 1 sec.
3. When the game is started ONLY one player starts with the purple car.
4. On the beginning the car is situated on the left down corner of the road
5. The game includes 3 road lane.

*Elements check*

1. The incoming cars, they should be one red and one right.
2. The coin icon it should be exactly one yellow (check the Game View).
3. The frame size of the form (it should be specified by game designer).

*Check the display of the elements in the Game form.*

1. When the game is started the moving elements are visible in the right form in all the time,

cars, coin, the player car.

*Check Point Field*

1. Check the start values to be as shown below:

* Score = 0
* Lives = 3
* Level = 1

* 1. **Functional Requirements**

1. *Use Case – Start the Game*

The game is accessed through “DiveCarApplication.exe” file. When you double click on that file, or when you press enter when the mouse in situated above, the game will start on your pc or laptop.

1. *Use Case – Player Movement*

In order to move the car the player must press ONLY left and right keyboard arrows.

When the car is on the very left side of the road it can ONLY moves one or two times to the right.

When the car is on the very right side of the road it can ONLY moves one or two times to the left.

When the car is on the middle of the road it can ONLY moves one time to the right or to the right.

1. *Use Case – Score Counter*

When the player passed between two cars or aside the score counter increase with 10 points.

1. *Use Case – Level Counter*

The level counter increase its value when the player makes 50 score points.

1. *Use Case – Maximum Level Value*

The level counter increase its value until it gets level = 20

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1. *Use Case – Game Speed*

The player starts always with the same default speed. When he increases the level with one point, the speed increase its value also.

1. *Use Case - Lives Counter*

When the coin appears the player should take it and he wins one more live.

If the player is hit by other car he loses one live point and a message “Press space to continue” show up.

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1. *Use Case – Show Message “Press Space to Continue”*

When this message appear on the screen the player must hit “space” keyboard button and the game continues.

1. *Use Case – Game Over*

When the player has only one live left and hit another car a message “Game Over” appear and he cannot plays any more.

1. *Use case – Exit the game*

When the player press “Escape” keyboard button, or “Close” button on the Game Form (upper right corner) the game terminates.

1. *Use case – Pause the game*

When the player send the game to the taskbar with a form button, the game paused, and when you open it again please check Use Case 7

1. *Use case – Move the Form*

When the player select with the mouse cursor top of the form and move it the form moves the in all 2D directions.