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| Project Design Document | |  | | --- | | *12/29/2023*  Edward Nickless | |

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| Project Concept | | | |
| 1 **Player Control** |  | You control a   |  | | --- | | *Car* | | in this   |  |  | | --- | --- | | *Side view*  *(Maybe change it to a 3D space with turning later)* | game | |
|  | where   |  | | --- | | *W/A/S/D OR Arrow keys* | | makes the player   |  | | --- | | *Acceleration/Braking/Gear Changing?* | |

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| 2 **Basic**  **Gameplay** |  | During the game,   |  |  | | --- | --- | | *A timer* | Increases | | from   |  | | --- | | *N/A* | |
|  | and the goal of the game is to   |  | | --- | | *Reach the finish line in the fastest possible time* | | |

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| 3 **Sound**  **& Effects** |  | There will be sound effects   |  | | --- | | *Possible engine sound* | | and particle effects   |  | | --- | | *possible smoke from the exhaust* | |
|  | [*optional*] There will also be   |  | | --- | | *A celebration effect when you finish/beat your fastest time* | | |

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| 4 **Gameplay**  **Mechanics** |  | As the game progresses,   |  | | --- | | *The player must change gears* | | making it   |  | | --- | | *Feel real as you accelerate/decelerate* | |
|  | [*optional*] There will also be   |  | | --- | | *Another car that tries to beat you to the finish line* | | |

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| 5 **User**  **Interface** |  | The   |  | | --- | | *Timer* | | will   |  | | --- | | *increase* | | whenever   |  | | --- | | *One hundredth of a second has elapsed* | |
|  | At the start of the game, the title   |  |  | | --- | --- | | *Car Sim* | will appear | | | and the game will end when   |  | | --- | | *The user reaches the finish line* | |

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| 6 **Other Features** |  | |  | | --- | | *- RPM meter and speedometer shown in the UI*  *- Ability to choose different cars that have different parameters*  *- Difficulty setting that affects NPC 'motivation to win'* | |

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# Project Timeline

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| --- | --- | --- |
| Milestone | Description | Due |
| **#1** | |  | | --- | | * *Car accelerates semi-realistically without gears* | | |  | | --- | | *08/20* | |
| **#2** | |  | | --- | | * *Timer increases accurately* | | |  | | --- | | *08/21* | |
| **#3** | |  | | --- | | * *RPM and Speedometer display correctly in UI* | | |  | | --- | | *mm/dd* | |
| **#4** | |  | | --- | | * *Working gears* | | |  | | --- | | *mm/dd* | |
| **#5** | |  | | --- | | * *Difficulty setting correctly implemented* | | |  | | --- | | *mm/dd* | |
| **Backlog** | |  | | --- | | * *Different car selection* | | |  | | --- | | *mm/dd* | |

# Project Sketch