

ZHAW ZURICH UNIVERSITY OF APPLIED SCIENCES, IT18TA_WIN GROUP 05



INSTRUCTION MANUAL

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INTRODUCTION

The underlying idea of RaceTrack is a round-based racing game where players have to strategically choose their next move out of multiple reachable positions. These positions are calculated based on their previous turns and the position of other players. As the game calculates the selectable moves for each player¹ based on their previous choices, the game gets more interesting and challenging with each passing turn. The players will be needed to demonstrate all their strategical and thoughtful decision-making skills to be able to beat their opponents. As the game is based on the original pencil and paper game *Vector Race* (also known as 'Racetrack' or 'PolyRace'), the game can also help to improve the foresight thinking and basic understanding of vector mathematics of each player.

¹ Female and male players are addressed in this whole document

GAME RULES

GOAL

Beat your opponents by completing the track and reach the finish line first.

ENVIRONMENT

The game board is a checkered piece of paper with a track, starting and finish line. All the grid points on the map are accessible to the players.

COURSE OF THE GAME

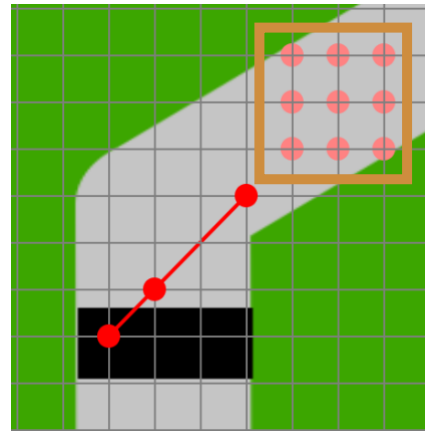
All players start from the starting line. The first player is determined randomly. After each player's move, the next competitor takes his turn until all players reach the finish line.

MOVING AROUND

Each player's first move must lead to one of the eight neighbours of their starting position.

On each turn after that, the player can choose to move the same number of squares in the same direction as on the previous turn. The grid point reached by this move is called the base point for this turn. However, the player also has the choice of any of the eight neighbours of this base point.

The figure in the top right shows an example. If the player last moved two boxes to the right and four boxes up, the main point is now two boxes to the right and four above the current starting point. The player now can move directly to the main point or one of his eight neighbours.



CONDITIONS

- The cars must stay within the track.
- Moving to a point that is occupied by others lead to a crash.
- Leaving the road will also cause a crash. Depending on the selected game mode, different events will be applied.

GAME MODES AND CRASH HANDLING

There are currently three fun game modes available. Determine what should happen, when a collision happens.

Bobby Car:



- The player's velocity resets.
- The player does not accelerate until the track is reached again.

Formula One:



- When a player crashes, he will be retired from the game.

Go Kart:



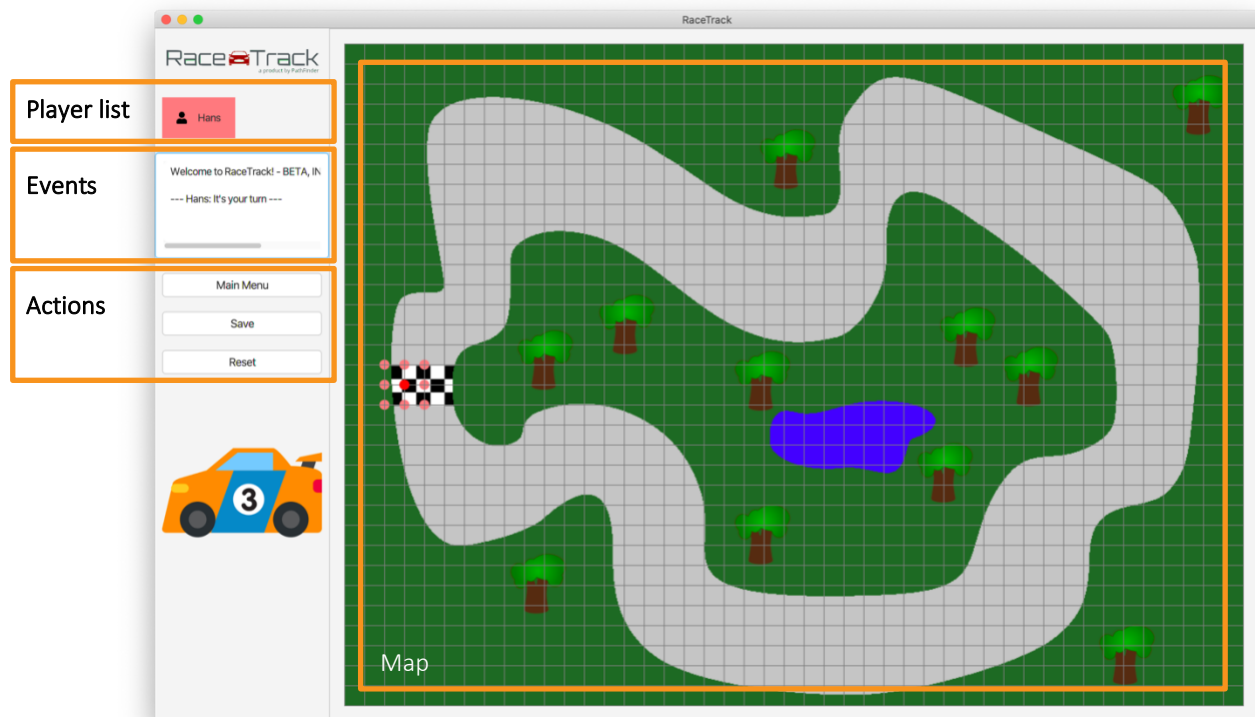
- The player's velocity resets.
- The player's car gets placed on his last valid one on the track.

PLAY RACETRACK

Once you have entered all participants names and chosen a game mode, you can start playing RaceTrack.

OVERVIEW

- **Player list:** On the left side of the window you can see the names of the players. The player in turn will see his name highlighted.
- **Events:** All events are printed in the text box.
- **Actions:** Go back to the Main Menu, save the current game session or reset it via the corresponding buttons.
- **Map:** The game takes place on the right-hand side.

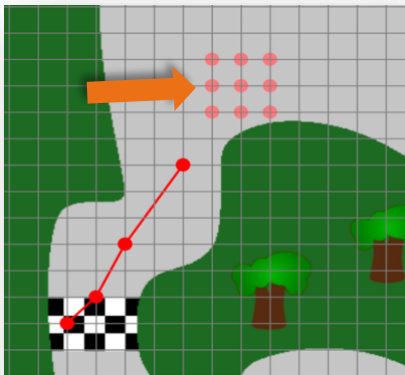
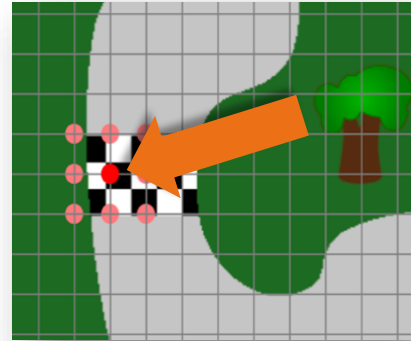


MOVE THE CAR

Drive your car and try to beat your competitors by crossing the finish line first. But be careful not to cause a collision or leave the track. Here's how to move your car.

WHERE DO I START?

Your **car** is represented as **a dot** in your chosen color and starts at the start respectively finish line.

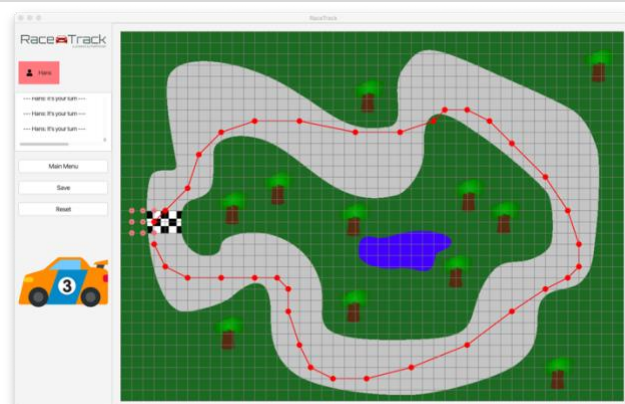


HOW DO I MOVE?

Nine bright dots show you which moves you can make. **Click on** such a **dot** and your car will move there.

WHERE DO I GO?

Decide **together or yourself** in which **direction** you want to circle the track.



LOAD TRACK

RaceTrack offers the feature to play on your own tracks by loading an image of your track. However, this requires some skills in programs like Adobe Photoshop or GIMP. Don't worry, if you lack the knowledge, you can play on our fun predesigned tracks. If you do know graphics design, continue reading this chapter to learn what the requirements are and how to import your own tracks.

REQUIREMENTS

There are several requirements you must have in order to load a self-made track into the game. Below you will find the requirements that a track image has to have:

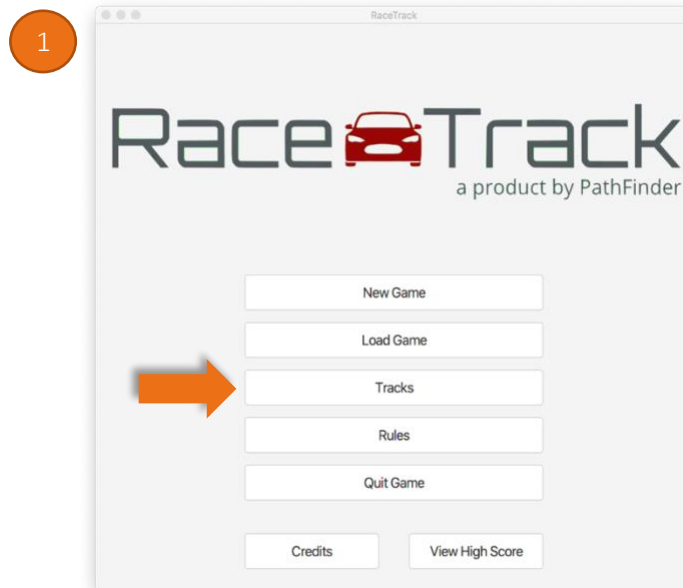
- .png Type of file
- Uncompressed (recommended)
- A start / finish line that is black and white checkered
- Track colour with colour code “#C5C5C5”



On the right you can see how your track could look like.

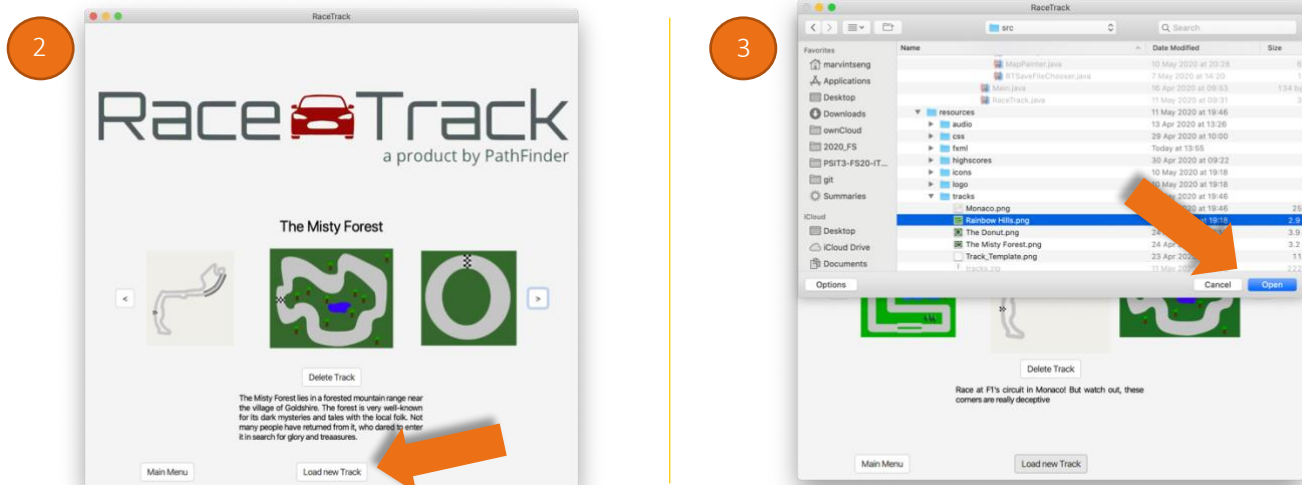
TRACKS MENU

1. As soon as you have your track ready, you can start RaceTrack. In the screenshot below you see the start menu. The menu entry “Tracks” will get you to the track window where you can load your tracks.



LOAD A SELF-CREATED TRACK

- To load a track designed by you, **click the load track button** in order to open the file explorer.
- Locate your image** file and **click open**. The screenshot number three may differ depending on your Operating System. In this example it shows the MacOS Finder.



If your image does not match the requirements, the game will notify you with an error message.

BROWSE YOUR TRACKS

With the left and right arrow buttons your able to click through the loaded tracks. Below the currently selected track, you will find a delete track button. This button only works on tracks that are loaded by you, given tracks cannot be deleted.

