UNIVERSITY OF CALGARY
FACULTY OF SCIENCE
DEPARTMENT OF COMPUTER SCIENCE

Wall Socket Studios presents

eRacerX ™

README

April 26, 2010

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1   Introduction

This document is meant to provide some information related to the release of the space racing simulation *eRacerX* by *Wallsocket Studios*. The background story can be found in Section 2. Section 3 explains some game concepts that are unique to *eRacerX*. Section 4 discusses a selection of new features in the release version. General information such as the controls (Section A), building from source and running the game (Section B) can be found in the appendix at the end of the document.

2   Story

It is year 3728 and the galaxy has been swept up in racing fever! Recently the finest and the fastest racers have set up the *League of Extraordinary Racers* to see who truly is the best racer in the galaxy. There can be only one! You have been training your entire life for the opportunity to join the league. Due to an "unfortunate" accident the league has many free spots for up and coming racers such as yourself. You travel to the *Xyzliat System* where the league has set up the ultimate race. Big money and big prizes are up for stake, as well as a spot in the league. Your destiny awaits!

3   Game concepts

eRacerX is a racing game set in space. The player can compete against other human or ai racers on one of multiple tracks.

3.1   Boost

Each car has a boost ability that dramatically increases its acceleration, however, the boost fuel is limited, so that it can be engaged only for short amounts of time.

There are two ways to recharge boost fuel:

1. Boost fuel slowly recharges over time

2. Boost fuel is also stolen automatically from other racers directly in front. This method is much faster. If a car steals from another, this can be seen by the energy beams streaming from the victim to the stealer.

3.2 Warping

All cars include a warping capability that allows them to reset to the track whenever the float off into space. This can be either done manually or happens automatically if the car registeres that it lost traction to the track.

4 New features

Here is a list of features added since the last Milestone that in our opinion deserve explicit mentioning.

4.1 Transparent track

The track is now made of a new transparent material that allows you to see through and enjoy the nebula scenery.

4.2 Psychedelic rainbow rings

Rings around the track, pulsating in the colors of the rainbow make the game more colorful and provide additional sense of speed by moving towards you.

4.3 Gameplay tweaks

Additional traction while boosting makes it easier to stay on the track at high speeds and allows you to ram non boosting opponents.

Boost can now be stolen over a larger distance.

4.4 AI tweaks

AIs now have a rubber banding behavior that lets them slow down as they are pulling too far ahead of human players.

The AI dodging mechanism has been revised using a randomized algorithm to reduce the likeliness that they get stuck. It also makes sure that AIs act diverse in situations where many cars drive close together.

4.5 Highscores

The game now keeps record of all finished races and displays local high scores in the main menu. One can look at the high scores for each track and number of laps, as well as the top lap time per track.

4.6 More music

We now have three different songs for different tracks. Also, the pause menu has its own, calming music.

4.7 Improved front end

The game uses now a brushed metal front end for most menus as well as preview images of the tracks. It also supports greyed out options and memorizes options between multiple runs.

4.8 More tracks

eRacerX now features a variety of tracks, some of which are mostly straight and allow for top speeds, whereas others with numerous tight curves put a higher demand on the players skill.

A Controls

In this section we list the controls for our game. There are different controls depending on whether you are in the actual game or in a menu.

A.1 In-game controls

Table 1: In-game controls

Command	Keyboard1	Keyboard2	Gamepad
Accelerate	W	Up	Right Trigger
Reverse	S	Down	Left Trigger
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Table 1 – Continued

Command	Keyboard1	Keyboard2	Gamepad
Break	Left Shift	Right Control	B
Steer left	A	Left	Left Analog Stick
Steer right	D	Right	
Boost	Space	Numpad 0	A
Reset	T	Right Shift	X
Cycle cameras	C	Numpad Decimal	Y
Pause menu	Esc	Pause key	Start

A.2   Menu controls

Table 2: Menu controls

Command	Keyboard	Gamepad
Menu up	Up	Left Analog Stick
Menu down	Down	
Select menu item	Enter	A
Exit	Esc	B

B   Building from source

B.1   Prerequisites

The following must be installed:

- Microsoft Visual Studio 2008

- Microsoft DirectX SDK (August 2009)

- NVIDIA PhysX SDK v2.8.1

- Python 2.6

- SWIG-1.3.40

B.2 Environment variables

The following environment variables must be set (your paths may vary):

- DXSDK_DIR = F:\Program Files (x86)\Microsoft DirectX SDK (August 2009)

- PHYSX_DIR = F:\Program Files (x86)\NVIDIA Corporation\NVIDIA PhysX SDK\v2.8.1

- PYTHON_DIR= F:\Python26\

- SWIG_DIR = P:\swigwin

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B.3 Building

Build the project eRacer/eRacer.sln.

B.4 Running

To run the program, run `eRacer/run.py` with python. One can specify the flags –release, –debug, –profile.