

**C** **a** **r** **t** **o** **o** **n**  
**R** **a** **c** **e** **r**



# **Cartoon Racer**

## **Table of Contents**

<b>Why is it fun?.....</b>	<b>3</b>
<b>Game Overview.....</b>	<b>4</b>
<b>Storyline.....</b>	<b>4</b>
<b>Core Game Play.....</b>	<b>5-7</b>
<b>Advanced Game Play.....</b>	<b>8</b>
<b>Upgrades.....</b>	<b>9</b>
<b>Controls.....</b>	<b>10</b>
<b>Car &amp; Upgrade Matrix.....</b>	<b>10-11</b>
<b>Sample Screens.....</b>	<b>12-13</b>
<b>Track Concepts.....</b>	<b>14-17</b>
<b>Art Style.....</b>	<b>18</b>
<b>Multiplayer.....</b>	<b>19</b>
<b>Research.....</b>	<b>19</b>
<b>Target Audience.....</b>	<b>20</b>
<b>Technical Specifications.....</b>	<b>20</b>
<b>Credits.....</b>	<b>20</b>

# Cartoon Racer

## Why is it fun?

*It's fun to race silly cars through outrageous environments.*

This is a whimsical racing game, of cartoon cars, and ridiculous tracks. It is closer in style to the less serious racing games, such as Mario Kart, Crash Team Racing, and Hot wheels Stunt Racer. The focus of the game play is racing the other players, to earn money, to improve your car. The hook is that *all of the upgrades have a physical appearance on the model, and player will keep on playing trying to experiment with car design, both for play mechanics reasons, and for aesthetics.*

# Cartoon Racer

## Game Overview

Cartoon race is a fast paced third person racing game, designed for up to eight human players. The camera will follow a car slightly behind and above it. If time allows, programmers may be put to work making AI drivers for a single player to compete against.

Players take the role of drivers of tiny cartoon cars, that race through fantastical tracks. Players race around the track, scoring points for their placement in the race, and for hitting secondary goals during the race. Secondary goals are property damage, competing racers crashed, and stunts accomplished.

Some upgrades enhance basic characteristics of the vehicle, and others allow the player to interact with the environment in new ways. The players will be able, through their actions, of changing the environment during the race, by knocking objects over, opening up new paths, closing others, and sometimes just breaking things.

## Storyline

The storyline has a negligible impact on this game.

Players take the role of tiny cartoon characters, who are having a contest to determine who is the best driver. By their standards of cartoon characters, simply winning a race isn't sufficient. They also have to cause more damage, wreak more havoc, and generally make themselves the biggest nuisance they can to the other drivers.

# Cartoon Racer

## Core Game Play Concepts

All of the players start with a car that looks and functions identically, the only difference is the color. Each player also starts with a 500 Smackaroos (A smackaroo being the basic unit of currency in this game), which is used to purchase upgrades.

The characteristics of the cars are Top speed, handling, armor, and acceleration.

Each characteristic ranges from 1-10 (it's possible for number to temporarily leave this range, based on in game events)

The basic car starts with all attributes at 3. Attributes are further modified by upgrades that are purchased.

Armor is basically the weight of the car. A car with more armor will knock other object out of its way easier. The benefit is less chance of being wrecked due to other players or errant world objects. The downside is it decreases handling, and occupies upgrade slots that could be used for weapons, or

Top Speed is how fast a car can go.

A point of speed is roughly how many car lengths it can move in 1 second.

Acceleration is how long it takes to get speed.

A car with an acceleration of 1 will get to speed 10 in 10 seconds

Each point of acceleration will shave one second off that time.

So a care with an acceleration of 10 and a top speed of 4 would reach top speed in .5 seconds.

The basic Handling is determined by the armor (weight) of the car subtracted from 13.

The current speed of a car subtracts from handling further, on a 1 point of handling per 1 point of speed basis.

The faster you go, the less handling you have.

Braking is determined by using the HL2 physics. Tires will have a traction value or "stickiness". For basic game play all tires will have a traction of one.

Before every race the player has 20 seconds to purchase upgrades for their car.

Upgrades are mostly models that are attached to the players' car, and significantly change its appearance.

Upgrades are designed to fit onto specific parts of the car, and a player can only have one upgrade at each location.

# Cartoon Racer

During the race player earns money to purchase new upgrades by their placement in the race, and by achieving secondary objectives.

Secondary objectives are wrecks, property damage, and stunts

A car is wrecked when it has either left the track in a way it cannot come back, or winds up on it's roof or side. A wrecked car will respawn on the last spot they were on the track. If a car wrecks, the last vehicle that hit it will get the credit for causing the wreck.

Property damage is defined as breaking things with your car during the course of the race. There will be objects such as windows, or stacks of barrels, which can be plowed through. Possibly as a shortcut, possibly just for the joy of knocking things around in a car. Every time a player breaks something in such a way, they earn more money for upgrades.

Some areas of the game are stunt zones. A stunt zone will be a small invisible portal, located in an out of the way area. An example might be in a flaming hoop, that hangs in the air over a fish tank. When a car passes through the hoop, they will score a stunt bonus.

Some parts of the track have Speed Pads. Speed pads are colored arrows that add 5 to the speed of a car that passes over them.

All tracks have several branching paths. Some paths are shorter than others. Some have the potential to be shorter by good driving.

There are several loose objects throughout the level. These objects have weight, and their location can be affected by the players. Sometimes they will be stacked up neatly, and can be knocked over for property damage bonus. Sometimes they can be knocked onto the track to hinder other drivers.

Some objects around the track can be interacted with to significantly affect the track. Bridges may be lowered or raised to change the pathways, obstacles may be dropped onto the track, and traps may occasionally be triggered.

All levels also have world objects that are moving around on their own, and can interfere with, or help the racers depending on timing or skill, such as a train that will cross paths with the track on several places in the level.

Other kinds of obstructions are puddles (slow down cars that hit them)

Oil slicks reduce a cars handling by 5 for three seconds. A car with a handling of 1 or less is essentially frictionless

Water – not the same as a puddle, this is water deep enough to sink the car, and falling into a water hazard means the car has been wrecked.

At the beginning of the race, cars will be lined up in a four across by 2 deep pattern. Exact placement will be random.

# Cartoon Racer

## Wining

At the end of three races, the game adds the players scores from all the races, and whoever has the highest is the winner.

## Scoring

Every point scored during a race gives the player 100 Smackaroos to spend on upgrades before the next race. Smackaroos that are not spent will be saved until the next race. Points earned do not apply to the next race, but they will be saved until the end of the race.

Here is the breakdown of scoring

### Placement

1<sup>st</sup> - 10 points

2<sup>nd</sup> - 8 points

3<sup>rd</sup> - 6 points

4<sup>th</sup> - 4 points

5<sup>th</sup> - 3 points

6<sup>th</sup> - 2 points

7<sup>th</sup> - 1 point

8<sup>th</sup> - 0 points

Whoever crosses the finish line last will suffer a -1 point penalty

## Wrecks

1 point per wreck caused

2 points for causing the most wrecks

## Stunts

Potential number of points is entirely dependent on number of stunts placed in the level.

1 point per stunt

3 points for completing all of the stunts in the level

1 point for having completed the most stunts, in the even of a tie, whoever finished first gets this bonus

## Property Damage

1 point per damage event triggered

2 points for causing the most this level.

Top Driver is determined by whoever has the most points, by combining all categories.

The placement order will be used to break any ties.

Basic scoring screen shows placement and top scorer in each category.

Players can cycle through the other scoring categories if they choose, at the end of the race.

# Cartoon Racer

## Advanced Game play concepts

These are things that are not \*essential\* to this game concept, but would non-the-less make it better, and more appealing. All of these would make the game fun, but could easily be stripped away to keep the game simpler.

Multiple cars – instead of one basic car that is further modified, there will be three basic cars. Each car has one characteristic slightly better than the others. There can be one Top Speed car, one Acceleration car, and one Armor car. Each of these would have a different model, allowing for quick recognition of its basic abilities during play.

Stunt Snapshot – Have cameras positioned in the level. When a player successfully accomplishes a stunt, it takes a small screenshot of his car going through it. It then positions a small copy of this screenshot in the corner of everybody's screen to give him bragging rights.

Nitro – position throughout the game are “Nitro-boosters” these can be picked up by a car driving over them, and respawn a few seconds later. A player can only have one nitro-boost at a time, although it can be saved until the player really feels they need it. It can be used to add an extra 3 speed to the car, for three seconds. This could conceivable take the player faster than the max speed. It could also be combined with a speed pad, giving the player a tremendous boost and leaving a trail of flaming car tracks in his path, back to the future style.

More braking options – Different kinds of tires with different traction qualities, and some upgrades that enhance the player's ability to brake rapidly.

Pole position – It would be nice if the players position in the starting gate was determined by how well they had done in the race up to that point.

# Cartoon Racer

## Upgrades

This is the list intended for the first playable level.

Depending on how testing goes, this list will be expanded or altered as necessary.

These are all intended to be “first tier” upgrades...those that could conceivably be acquired in the beginning of the game. “Second tier” upgrades will possibly hinder certain attributes, to be determined through testing.

The text in red is the price of the upgrade, in Smackaroos.

A car can only have one upgrade from any category at a time. All of the upgrades should have a easy to identify physical appearance that shows up on the car.

### Hood

Blower – increase the acceleration by 1	<b>300 SR</b>
A armor- increase the armor by 1	<b>200 SR</b>
Big engine – increase top speed by 1	<b>400 SR</b>

### Front End

Cattle-catcher – wedge attached to the front of the car. Makes it easier to wreck other vehicles, and clear debris out of the way	<b>600 SR</b>
Rubber Bumper – Knocks things out of the way in a radial fashion, and adds 3 to the speed when it happens	<b>500 SR</b>
A armor – Armor increased by 1	<b>200 SR</b>

### Wheels

Sure grip wheel – add 1 to handling	<b>300 SR</b>
Wide tires – add 1 to acceleration	
Huge tires – makes the car higher off of the ground, easier to drive over debris and other vehicles	<b>500 SR</b>
Spiky wheels – cones attached to the wheels...allows side-swipes to get lift on an enemy car	
Armored Wheels – add 1 to armor	<b>200 SR</b>

### Rear

Spoiler – Increase handling by 1	<b>300 SR</b>
Huge exhaust pipes – Increase top speed by 1	
A armor – armor increased by 1	<b>200 SR</b>
After Burners – increase acceleration by 1	<b>400 SR</b>

### Sides

Flaming exhaust pipes – Increase acceleration by 1	<b>500 SR</b>
Twin Turbines – jet engines on the side, max speed increased by 1 and bonus speed from speed pads	<b>600 SR</b>
A armor – adds 1 to armor	<b>200 SR</b>
Saws- Send objects that hit the side flying back	<b>500 SR</b>

# Cartoon Racer

## Controls

Control will preferably be done through a console style game-pad. There will be a keyboard back-up because not every player will own one of these devices for their PC.

Left – Left on game pad, or A key

Right – Right on game pad, or D key

Accelerate – A button on game pad, or Up Arrow key

Brake – B button on game pad, or Down Arrow key

Nitro – C button on game pad, or space bar

## Car and Upgrade Matrix

Car	Acceleration	Armor	Top Speed	Base Handling	Special
Speed Car	2	3	4	10	
Armor Car	3	4	2	9	
Acceleration Car	4	2	3	11	
Stock Car	3	3	3	10	
<b>Hood</b>					
Blower	1				
Hood Armor		1			
Big Engine			1		
<b>Front End</b>					
Cow-Catcher					Special collision effect
Rubber-Bumper					Special collision effect
Front Armor		1			
<b>Wheels</b>					
Sure Grip Tires					
Wide Tires	1			1	
Huge Tires					Raises car Special collision effect
Spiky Wheels					
Armored Wheels		1			

# Cartoon Racer

## Rear

Spoiler  
Big Exhaust  
Rear Armor  
After Burner

1

1

1

1

## Sides

Flaming  
Pipes

1

Twin Turbines  
Saws

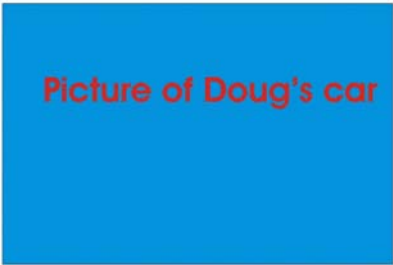
1

**Bonus speed from  
pads  
Special Collision**

# Cartoon Racer

**Scoring Screen**

<b>Top Driver</b> <b>This Race: Doug</b>	<b>Top Driver</b> <b>Whole Game: Bob</b>
<b>Place</b> <b>1st Doug</b> <b>2nd Carl</b> <b>3rd Bob</b> <b>4th Sam</b> <b>5th Karl</b> <b>6th Rob</b> <b>Last Don</b>	<b>Total Score</b> <b>Bob 23</b> <b>Karl 21</b> <b>Doug 20</b> <b>Carl 19</b> <b>Sam 16</b> <b>Rob 15</b> <b>Don 12</b>



Picture of Doug's car

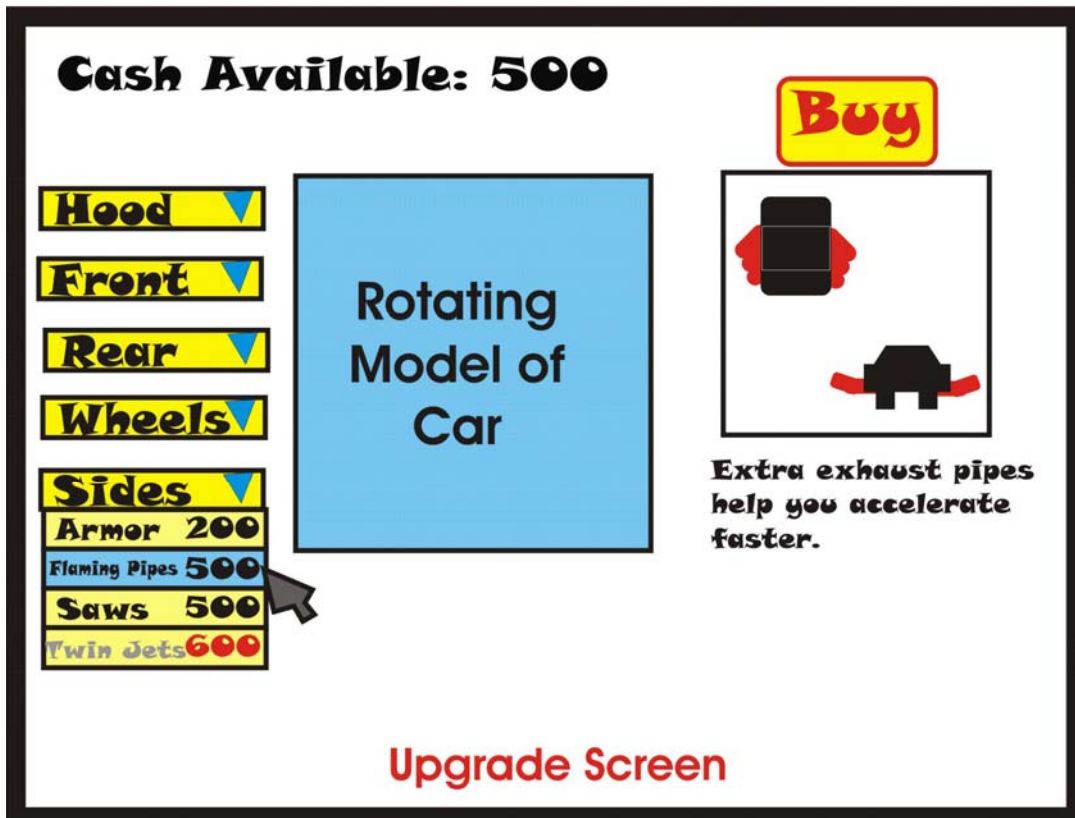
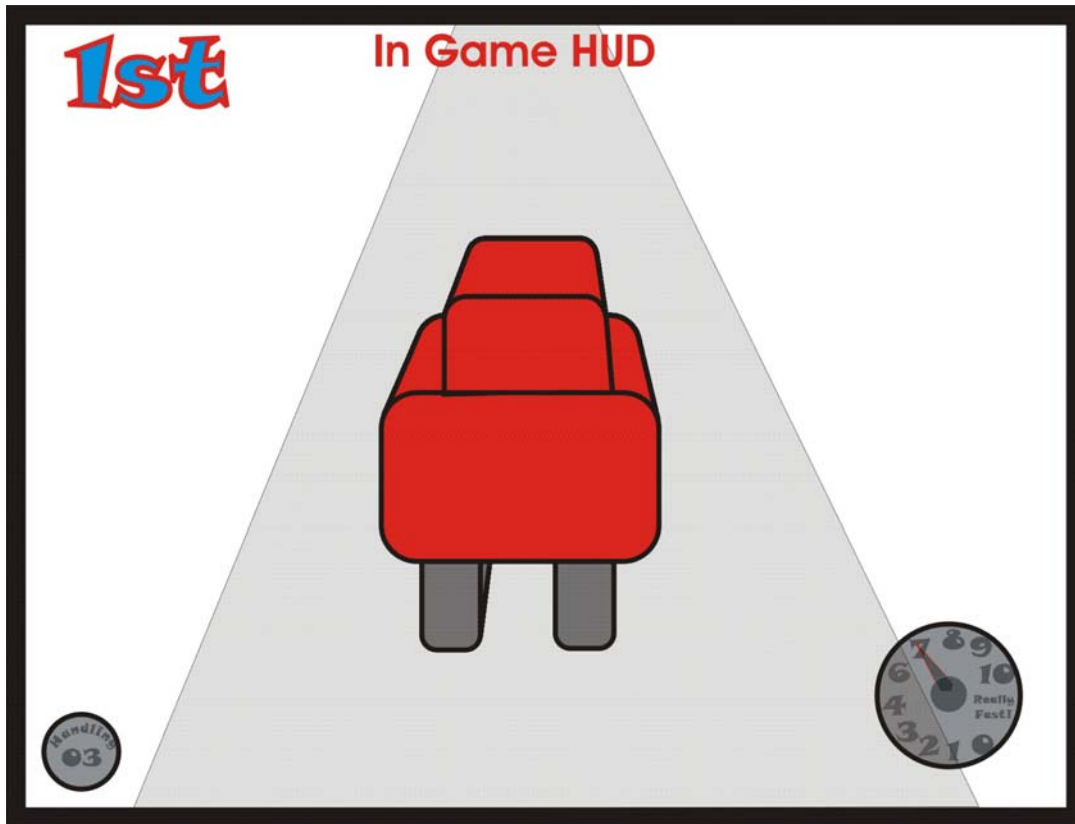
**Press Space to see more scoring info**

**Alternate Scoring Screen**

<b>Property Damage</b> <b>1st Doug - 5(+2)</b> <b>2nd Carl - 4</b> <b>3rd Bob - 3</b> <b>4th Sam - 3</b> <b>5th Karl - 2</b> <b>6th Rob - 1</b> <b>7th Don - 1</b>	<b>Stunts</b> <b>1st Doug - 5 (+4)</b> <b>2nd Carl - 5 (+3)</b> <b>3rd Bob - 4</b> <b>4th Sam - 3</b> <b>5th Karl - 3</b> <b>6th Rob - 2</b> <b>7th Don - 2</b>	<b>Wrecks</b> <b>1st Doug - 6</b> <b>2nd Carl - 6</b> <b>3rd Bob - 5</b> <b>4th Sam - 5</b> <b>5th Karl - 4</b> <b>6th Rob - 3</b> <b>Last Don - 1</b>
---	--	---

**Press Space to see more scoring info**

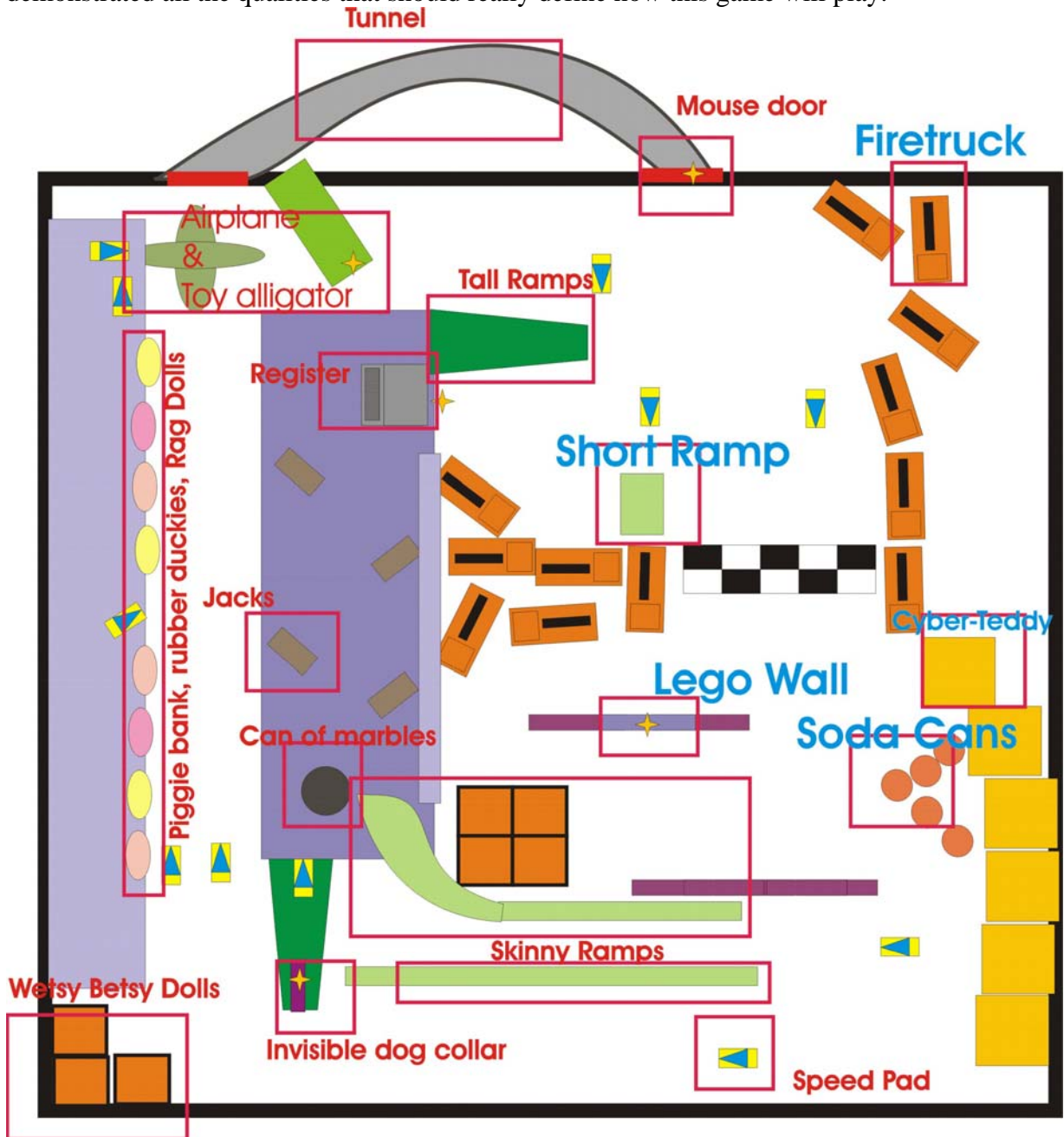
# Cartoon Racer



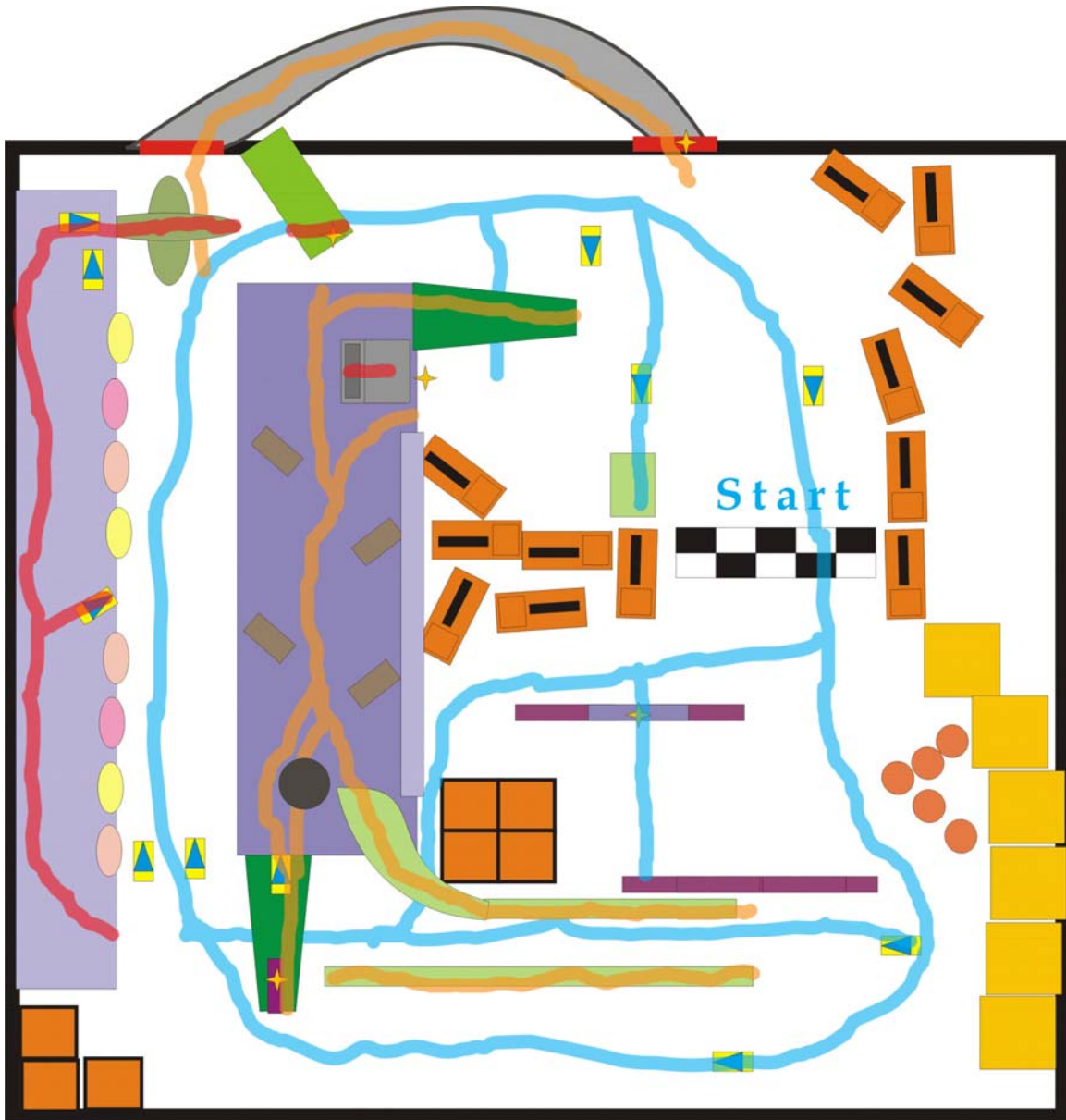
# Cartoon Racer

## Track Concepts

The final build will have three tracks. There is only track in this document, which is the first playable map. The other tracks will be determined by the design team, depending on how testing goes. The first track is “Toy Store Sprint” A race that takes place in a giant toy store. Players use toys as impromptu weapons, and use the furnishings as the track. This track was selected to be the first because it was the easiest way to really demonstrated all the qualities that should really define how this game will play.



# Cartoon Racer



These are the possible paths the players can take through “Toy Store Sprint”.

## Stunts for Toy Store Sprint

- 1 Leap through the invisible dog collar
- 2 Jump through the toy alligators mouth
- 3 Break through the target Lego wall
- 4 Break through the second mouse hole
- 5 Take the tunnel through the cash register

## World Objects

Fire truck – Immovable Blocking Object

## Cartoon Racer

Cyber-Teddy – Large box with a cyborg teddy bear inside. Immovable blocking object  
Soda Can – a large can full of soda...semi immovable blocking object. A car really fast with a very high armor could knock one over...a knock over soda can pushed around by a car.

Box of jacks – A flimsy cardboard box, with 10 jacks, and a rubber ball inside. A light hit will knock the box over. A medium hit or better will destroy the box, and send the ball and jacks scattering.

Rag dolls – Lining the high shelf, these can be knocked over, and will be an obstacle to drivers

Piggy banks – these can be knocked over by a medium impact. A heavy impact (or a long fall) will cause them to shatter, and send ceramic shard flying

Rubber ducky – When a car hits these it will bounce off at half speed, while the duck bounces in the direction the car was moving, at half the cars speed. Clever players can side swipe them to knock them into other players way

Can of marbles – Standing on four Lego pillions. If the pylons are destroyed, the can may tip, spilling marbles onto the track. Marbles can roll around and be pushed by cars  
The can will remain on the track after it tips over.

Model airplane – hanging from the ceiling at an angle, the player can use it as a ramp to jump

Toy alligator – a player who uses the airplane can jump through its mouth, which is a stunt

Legos (Name may be changed to avoid legal issues) – com in three varieties. Pylons, walls, and the target wall. Walls are made of six legos, and will shatter on a medium or higher impact. Low impacts will bounce a car off. Pylons have the same collision characteristics, but are narrow and tall, used to hold up other items. The target wall is part of a stunt.

Short ramp – a wedge at a 45 degree angle, used for jumps

Start/finish line –

Wetsy Betsy doll – It a box with a baby doll in it. Hitting the box causes a puddle to form around the bottom of it, which lasts for 30 seconds.

Tall ramps – used to reach the top of the counter. The ramp is a solid immovable piece, with a tunnel cut through it, so several cars could pass underneath it at once

## Cartoon Racer

Skinnny ramps – These are sectional, and should resemble the track section used by hot-wheels racing toys. There are two kinds, straight pieces and curved pieces. Curved pieces have guardrails on the outside. They are narrow enough that cars have to move single file up them. They are steep enough that a car that hasn't used a speed pad probably won't make it up to the top of it. Skinnny ramps are supported by Lego pylons. If enough pylons are knocked down, the ramp will fall

Invisible dog lease- hanging from the ceiling, passing through it accomplishes a stunt for the player.

Cash register – starts closed. Anytime a car hits it, even a glancing hit, it goes “KA-CHING!” and opens (or closes if it's already open). When open there is a tunnel through it, which can be reach via a speed pad on the high shelf. The back looks solid, but can be broken through, which is another stunt

Players that are in front of the cash register when the drawer is open may be knocked off the counter.

Mouse door – a tiny mouse hole shaped door, barely bigger than the car. If it's hit it will shatter, allowing the player to enter a tunnel, which curves around and rises. The is another mouse door on the wall, high in the air, passing through this second mouse door is a stunt, launching the player towards the finish line.

High Shelf – A shelf about 6 feet off of the ground

Counter - A counter about 4 feet off of the ground

# Cartoon Racer

## Art Style

### - Visual

Cartoony. The idea is to use the levels to convey that these are toy sized cars, racing through a real-world scaled environment. The cars scale is approximately five inches long, in real world terms. Colors should be bright, and textures simplistic. Bright and simple designs will help reinforce the “cartoon” feel that this game is going for. The upgrades that are stuck to the cars should look silly, and possibly oversized.

Another reason for a cartoon style is art load. Since we have a limited number of artists available, Level Designers have to be capable of shouldering some of the art load.

Simplistic shapes and textures, such as seen in cartoons, will allow them to keep up their end of the work, despite not having the technical skills as our talented, but frequently over-worked artists.

The cars are envisioned as Nascar style stock cars, with goofy upgrades added to them. In the beginning of the project the lead artist should create an “art-bible” with the game designer and team lead. This bible will determine the style for artwork that all artists and level designers should follow during production. Time and art assets allow, it would be nice to have different models for different kinds of car, but that work could conceivably be done with texturing.

### - Audio

Classical music, like in old cartoons. Events and collisions should have over the top sound effects attached to them. Since the sound is so important in conveying a cartoon feel, it should be worked on from the beginning, instead of at the last minute, as it happens in most guildhall projects

The art style can change dramatically and still be basically the same game. Even through this was envisioned with Stock Cars, it could easily become, hover bikes, fan-boats, or rocket propelled robots, depending on what the final art appearance for the final two chosen games is.

# Cartoon Racer

## Multiplay

Cartoon Racer will use the existing multiplayer format from HL2, so simplicity, and because people who will be able to use this game will already be familiar with it. This will make this game more accessible to people that are already using steam.

## Research

As soon as preproduction starts the lead programmer and level design lead need to start tests and create a prototyping schedule. Some of the things they need to test for, and determine is how fast the speeds detailed here come out to within HL2.

How far can a car conceivably jump using a speed boost, a nitro, or a combination of both?

How far can cars be sent flying by a collision, and how much control over those aspects of game physics can we have?

It also needs to be determined at the beginning if the planned number of stunts areas is feasible with the amount of time that each track is supposed to take.

Are the speed mechanics discussed in this book feasible, and will they work towards fun game play, or will the attributes need to be changed?

Is 20 second enough time to purchase upgrades between races?

Is AI complex enough to make an interesting racing opponent feasible?

Will it be better to remove or modify the attribute cap?

# Cartoon Racer

## Target Audience and Marketability

Cartoon Racer is an ages racing game. It will be interesting enough to be fun for adults, especially as a multi-player experience. Simple enough that children can play it.

Furthermore, at the previous show of games, most of us, at one point or another, had a parent with a small child in tow, ask us where the kid friendly games were. It would be nice to have some.

## Technical Specifications

<Look up technical specifics of HL2>

## Credits

This game was designed by Jonathan Schwarz, with help from the following individuals.

Jason Morales, Cohort 3  
Norman Hoot III, Cohort 3

Travis Haapala, Cohort 5  
Ryan Hanscom, Cohort 5

Janice Bellamy  
Jessica Haapala  
Jon Skinner