Team 6: Formal game proposal
Game Programming Lab '11

FINYT - Finyt Is Not Yet a working Title :-)

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1 Game description
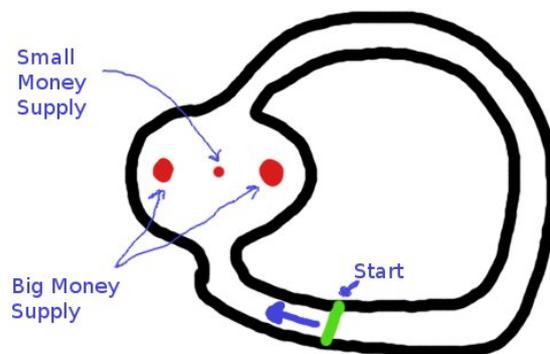
This game is a strategic race game, wich is made up of two main elements: collecting and spending money while driving.

1.1 Story

1.2 Money

Each player starts with a certain amount of money and for each completed lap, the player earns money.

1.3 Money Supply

At some specific places, the players can collect money while driving. The amount of money at a supply raises steadily. If a player drives over the supply, he gets the money and the supply is empty and so starts raising money from zero again.

As you can see in the picture, there are small and big money supplys. The further away from the straightest driving route a supply is, the faster it raises money and the more money may be collected there.

It is a strategic choice to drive the longer way to get more money. If for example 3 players drive the longer way, of course only the first one reaching the supply will earn money and the others drove the long way for nothing.

It may also be a strategic choice to even NOT drive the laps at all. If all the other players bravely drive their laps, why not just staying at the money supplys to collect all the money?

1.4 Money expense

1.4.1 Bigger and faster car

The player can spend money to get a bigger and faster car. While holding a certain button on the gamepad, his car gets bigger and bigger as long as he

holds the button and has enough money to afford it. But what does it mean to have a bigger and faster car? Let's ask Newton:

$$v = a * t = \frac{F}{m} * t \tag{1}$$

Having a bigger car means having a higher force and a higher mass. The force of course raises more than the mass by the size of the car, wich results in higher velocity. But having a bigger car is not just an advantage. Because we have a higher mass, the car is more difficult to steer from a physically based perspective. It is more lazy, has a longer braking distance and gets more damage when it collides.

1.4.2 Repair or out of track

Money can be spent to repair the car. This is important, because a damaged car may be slower or doesen't steer straight on anymore.

If a car stuck somewhere or accidently left the track, money can be spent to get him back on the track.

1.4.3 Turbo boost

While holding a certain button, money can be spent to get an additional acceleration of the car. This way, even a small car can be faster than a big car wich does not turbo boosting.

1.4.4 Rockets

Rockets are a very important part of the game. A player can spend money to shoot a rocket on a opponent in front of him. When the rocket hits the opponent, his car shrinks, gets damaged and he looses the control over his car for a short time.

1.4.5 Other elements

At this stage of development some other ways to spend money are unclear if they will be implemented, because they may destroy the natural flow of the game. In discussion are: a protection shield against rockets, being able to jump, etc.

1.5 Goal

We still have to decide about when the race is over and who exactly the winner is. The game may be over after a certain amount of passed time or when the first player completed for example 5 laps. The winner will then be either the one who finished the laps as first or the one who has the most money left.

2 Technical Issues

To get a natural feeling of the big vs small cars, the physics are an important part of the game. So alot of effort will go into implementing realistic physics. Second, the graphics are also very important to have a deep and attracting

atmosphere. We do this by implementing good looking shaders and particle effects.

3 "Big Idea" - Bullseye

Strategic Race Game

Spend Money to win

4 Backgrounds

Marco Jenny
Semester: 2nd Master
Courses taken: Computer Graphics, Physically Based Simulation, Computer Vision
Other experiences: Music Composing, AI

Rahul Mukhi
Semester: X
Courses taken:
Other experiences:

Boris Dalstein
Semester: X
Courses taken:
Other experiences:

5 Who does what

Marco: sound effects, game engine implementation, AI programming, shaders
Rahul: sound effects, game engine implementation, shaders, modeling
Boris: modeling, GUI implementation

6 Assessment

The main strength of the game is a new experience in multiplayer race games, because it has strategic elements in it. While racing, the players always have to think about a trade off between spending/earning money and fast driving. This will make the game extremly fun and no race will be the same, because the players always have to change their strategy accordingly to the strategys of the opponents. Not the fastest player will win as in traditional racing games, but the one that adapts his strategy the best. The main idea of the game is simply great, but the elements (amount of money, costs, level size, etc.) need to be balanced precisely to have a great game experience. If we succed in good balancing the elements, the game will be a success.