

Tower Crush

Game-Project

Giorgos Vasilakis, AM: 03111061

Giannis Androulidakis, AM: 03111030

Giorgos Rafail Theodorakis, AM:03111071

NTUA-ECE

GDD Template Written by: Benjamin “HeadClot” Stanley

Special thanks to Alec Markarian

Overview

Theme / Setting / Genre

Core Gameplay Mechanics Brief

Targeted platforms

Monetization model (Brief/Document)

Project Scope

Influences (Brief)

- <Influence #1>

- <Influence #2>

- <Influence #3>

- <Influence #4>

The elevator Pitch

Project Description (Brief):

Project Description (Detailed)

What sets this project apart?

Core Gameplay Mechanics (Detailed)

- <Core Gameplay Mechanic #1>

- <Core Gameplay Mechanic #2>

- <Core Gameplay Mechanic #3>

- <Core Gameplay Mechanic #4>

Story and Gameplay

Story (Brief)

Story (Detailed)

Gameplay (Brief)

Gameplay (Detailed)

Assets Needed

- 2D

- 3D

- Sound

- Code

- Animation

Schedule

- <Object #1>

- <Object #2>

- <Object #3>

- <Object #4>

Overview

Theme / Setting / Genre

- <There are four Towers on a Plane - two Red and two Green - ready for destruction with the use of two player mods of different colors (red and green) >

Core Gameplay Mechanics Brief

- <A* algorithm was chosen for finding the closest path to our target and avoiding the Cylinder obstacle in the center of the Plain>

- <Destruction of the spheres and the Towers on collision>

- <The spheres are created only in even coordinates (x,y) of the Plain >

- <The player can choose the color of the spheres - red or green>

- <The player can create three different types of spheres. Each sphere has its own behavior : the reds go to the closest Red Tower and the greens go to the closest green Tower(with the right mouse button) and when you hit the left mouse button the sphere of your chosen color goes to the nearest Tower(independently of the color) >

- <Each Tower is destroyed when 10 spheres hit it.>

- <The player can create only 40 spheres of each color with the right click. >

- <The player can create only 20 spheres of each color with the left click. >

- <The game ends with the destruction of all four Towers.>

Targeted platforms

- <PC>

- <Smartphones>

Monetization model (Brief/Document)

- <Monetization Type> (Premium, Paid Alpha/Beta/Final, Ad Driven, Micro-transactions, Subscription, etc.)

Project Scope

- <Game Time Scale>
 - The game is free for distribution.
 - The game was made within a week.
- <Team Size>
 - <Core Team>
 - Giwrgos Vasilakis
 - Helped with the coding and the appearance-graphics of the game
 - Giannis Androulidakis
 - Helped with coding and the appearance of the game.
 - Giwrgos Rafail Theodwrakis
 - Helped with the coding and the documentation of the project.
 - <Marketing Team>
- <Licenses / Hardware / Other Costs>
- <Total Costs with breakdown>

Influences (Brief)

- <Influence #1>
 - Unity Roll-a-Ball tutorial
 - It helped us to start using Unity and get to know better simple things about physics and movement of the objects.

- **<Influence #2>**

- A project about the creation of a game in University
- Much of the code used in the project was already given to us by a course. The only thing we had to do was to change it in some parts and write our own to achieve our final result

- **<Influence #3>**

- The team of the project is formed from “gamers”...
- We were already used to the idea of pathfinding from various games we’ve played, where there is an NPC which follows your character (etc.).

The elevator Pitch

<You’ve never seen a combination of simple spheres and cubes making such an entertaining result!!!>

Project Description (Brief):

The game is very simple: CRUSH THE TOWERS! You have to destroy all four towers in order to win. Your task is trivial, you only have to choose between two different colors of spheres and two modes (left and right click) and finally the location from where the balls start. The balls choose their own path to the closest Tower they have to destroy. So click, sit back and enjoy...

Project Description (Detailed)

Your task is to destroy the towers with own order. It doesn’t matter which one you choose first, but only their destruction. Choose one of the given colors – red or green- from the gui buttons. Then choose to hit right mouse button if you want to hit the closest Tower of your chosen color or hit left mouse button in order to hit the nearest Tower. Each Tower is destroyed with 10 spheres. The player can create 20 spheres of the same color with left click and 40 with right click. When

you click on a location of the Plain you create your sphere which chooses the closest target. If you click outside the Plain, nothing happens.

What sets this project apart?

- <Simplicity>
- <Entertainment>
- <Fast Rounds>

Core Gameplay Mechanics (Detailed)

- **<Core Gameplay Mechanic #1>**
 - Choose the color of your hero-sphere
 - You choose red or green from gui buttons on the screen.
- **<Core Gameplay Mechanic #2>**
 - Even Coordinates (x,y)
 - Wherever you click, your ball will be created only in the closest even coordinates
- **<Core Gameplay Mechanic #3>**
 - A* algorithm
 - The spheres choose the “best” path avoiding obstacles in order to reach their target.
- **<Core Gameplay Mechanic #4>**
 - Destruction of spheres and Towers
 - Spheres and towers are destroyed after their collisions.
- **<Core Gameplay Mechanic #5>**
 - Different modes with right and left click
 - Spheres choose another target depending the mouse button you choose.

Story and Gameplay

Story (Brief)

The player's goal is to destroy the towers in order to take what is stored inside them and distribute it to the people who are in need.

Story (Detailed)

Our story is set in medieval time, when the ruthless landlords of a country have stolen food, clothes and other items (such as tools for rural activities etc.) and stored them in their big Green and Red Towers in the town square of the capital city.

We have to break the towers in order to retrieve people's goods and give them back to their owners in order to restore justice. The only problem is that there is a fountain-Obstacle between us and the towers. We have to hit the Towers hard with our spheres in order to destroy them avoiding the obstacle in the center of the town square. It's our duty to help the people in need...

Gameplay (Brief)

The player creates spheres of his/her choice in order to destroy the four Towers.

Gameplay (Detailed)

Create red and green spheres which hit the nearest Tower of the same color with right click or the nearest Tower of any color with left click. You can only create them within the Plain.

Assets Needed

- 3D

- Characters List
 - Sphere-Hero
 - Red Cube 1
 - Red Cube 2
 - Green Cube 1
 - Green Cube 2
 - Cylinder-Obstacle
- Environmental Art Lists
 - Green Material for Towers and spheres
 - Red Material for Towers and spheres
 - Black Material for Obstacle

- Sound

- Sound List (Ambient)
 - Outside
 - Funny Bone - Banjamataz
- Sound List (Player)
 - Character Hit / Collision Sound list
 - expSound

- Code

- Character Scripts (Player Controller)
 - Destroy.js for the destruction of Towers and spheres and the game score
 - Seeker.cs for the A* algorithm

-AstarAI.cs for the movement of the spheres using the A* algorithm

- Ambient Scripts (Runs in the background)
 - Moving.cs for the creation of the spheres on the Plain
 - AstarPath for the scanning of the Plain and finding the closest path to the target.

- **Animation**

- Environment Animations
 - Green Material for Towers
 - Red Material for Towers
 - Black Material for Obstacle
- Character Animations
 - Player
 - Green Material for spheres
 - Red Material for spheres

Schedule

- **<Plain>**
- **<Cubes>**
- **<Sphere_hero>**
- **<Cylinder>**