Technical Design Document (TDD)

**Game**

Team

Version: 1

Created: 10/28/2015

Last Updated: 10/28/2015

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Executive Summary

**Project**

Create a basic networked game with a randomly generating level.

**Technical**

Programs

The following programs will be required for the creation of Around the World:

|  |  |  |
| --- | --- | --- |
| Program | Purpose | Cost |
| Unity3d | Game Development Environment | $1500 |
| Audacity | Sound Creation | Free |
| Microsoft Visual Studio | Debugging Environment | Free |
| G.I.M.P | 2D Image Manipulation | Free |
| Blender | 3D Graphics and Animation | Free |

Time to Completion

The total estimated completion time for user rails is two weeks.  That includes time for coding and bug testing.

Estimated Cost of Completion

|  |  |
| --- | --- |
| Unity3d | $1500 x 3 |
| Maya LT | $750 |
|  |  |
| **Total** | **$5250.00** |

Hardware and Software

**Programming Software**

|  |  |  |
| --- | --- | --- |
| Software Name | Description | Cost |
| Microsoft Visual Studio | Used to debug and create code | Free |
| MonoDevelop | Used to create prototype code | Free with Unity3D |
| Unity3D | Development Environment. Used to release to multiple platforms. | $1500 |

Development Plan

**Milestones**

|  |  |
| --- | --- |
| Date | Milestone |
| 10/28/2015 | TDD Complete |
| 10/31/2015 | Level Scaling |
| 11/02/2015 | Level Random Generation Basic, Basic Client/Server Network, Level GUI Complete |
| 11/04/2015 | Client/Server network supports multiple Clients, Menu GUI complete |
| 11/06/2015 | Level RG Complete, Damage Implemented |
| 11/08/2015 | Shader Complete, Respawning Implemented  Game Created and 90%+ Bug Free  All Pull Requests in by 11:00PM |
| 11/09/2015 | Complete and Submitted to Professor Fisher |

**Project Goals**

Features

Simple Character Movement and Networking game

* Character Networking
  + Character controller that is networked. Character needs to
    - Move
    - Run
    - Jump
    - Fall
    - Exist in a 3D world
    - Have Health
  + Designers should be able to control as many aspects as possible
  + Game must be fully networked and have a respawn timer
* Shaders
  + Create a single shader that will be expanded upon. With two simple tasks
    - Display a flat color, for the object in the first pass.
    - In 2nd pass, add lambert lighting and another color blended on top of first color.
* Level Generator
  + Create a very basic level generator
    - Place objects (cubes) randomly around room
    - Min and max placeable distance for objects (assume from center)
    - Object number will be modified by host upon game creation
* GUI
  + Player asked to
    - Create game
      * Input min & max values for objects to spawn
    - Join Game
      * Show appropriate info and join the game
    - Quit Game
      * Exit game
  + Players need to see their own health.
  + Respawn Timer

File Formats

**Scripts**

|  |  |  |
| --- | --- | --- |
| Naming Convention | Description | Format |
| FilenameEditor | Editor script for an object script | .cs |
| Filename | A script for an object | .cs |

**Scenes**

|  |  |  |
| --- | --- | --- |
| Naming Convention | Description | Format |
| SceneName | A scene in Unity3D | .scene |

**Other**

|  |  |  |
| --- | --- | --- |
| Naming Convention | Description | Format |
| TDD\_Finished | The completed Technical Design Document | .pdf |

Asset List

|  |  |  |
| --- | --- | --- |
| Asset | Type | Format |
| Crate | Cover | .fbx |
| Container | Cover | .fbx |
| Barrel | Cover | .fbx |
| Flag Pole | Objective | .fbx |
| Ammo Box | Pick Up | .fbx |
| Base Type A | Base | .fbx |
| Base Type B | Base | .fbx |
| Map A Terrain | Terrain Map | .fbx |
| Map B Terrain | Terrain Map | .fbx |

Accountability

Matt

* Shaders
* Networking

Nathan

* Networking

Jake

* Level Creation
* Asset Creation
* Level Select
* TDD