Technical Design Document (TDD)

**Settlers**

**of**

**JCCC**

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Executive Summary

**Project**

Settlers of JCCC is a shell project of Settlers of Catan. This game is an RTS-style board game that uses heavy randomization to create a unique gameplay experience with each session. For this build, only six land and four resource types are available; one could call this the beginner’s step to learning Catan!

**Technical**

This game is being developed in Unity 5.1 for Windows platforms. With the primary graphical assets being packaged in already, no other programs outside of Unity and Visual Studio will be necessary for development. This game will be developed over a two-week period.

The following programs will be used for developing Settlers of JCCC:

|  |  |  |
| --- | --- | --- |
| **Program** | **Purpose** | **Cost** |
| Unity 3D | Game Development Environment | $1,500.00 \* 3 programmers = $4,500.00 |
| Microsoft Visual Studio | Debugging Environment | $299.00 \* 3 programmers = $897.00 |
| **Total Cost:** | | $5,397.00 |

The estimated cost for completion is:

Total software cost: $5,397.00

Developer salaries: $27.00/hr \* 80 hours \* 3 developers = $6,480.00

Total estimated cost is **$11,877.00**

Development Plan

**Milestones**

|  |  |
| --- | --- |
| Date | Milestone |
| 9/30/2015 | Preliminary TDD complete |
| 10/2/2015 | Final TDD complete |
| 10/5/2015 | 2 Test maps complete. Prototypes completed for tool creation and game play. |
| 10/7/2015 | Development work complete for tool creation and game play. Testing begins. |
| 10/9/2015 | Testing and development work complete. Work starts on extra credit (UGC). |
| 10/12/2015 | Completed project delivered |

**Labor Division**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Jake** | **Darrick** | **Craig** |
| 10/5/2015 | Completed die object; Game scene UI prototyped; Prototype for map tool developed – places connected hexes on map, number and resource functionality recommended | Startup scenes functioning  (Phase -1) | Game Board prototyped - hexes exist in scene, settlements and roads can be placed  (Phases 0,1,3) |
| 10/7/2015 | Game Scene UI functioning | Startup scenes read from file; fill new game and load game level lists |  |
| 10/9/2015 | Map tool functioning – places connected hexes in map with all numbers and resources. |  |  |

**Project Goals**

**Game Content Creation Goals**

* Main Menu scene with three buttons
* Create Game
* Load game
* Quit
* Create Game scene with maps listed for the user to select, and a back option
* Information scene which will gather player name and game name, record the information, and then allow the player to start the game; has back/cancel button
* Load Game Scene with game name(s) and player name(s) listed for the user to load; has back/cancel button
* Main Game Scene
* Map
* Settlement(s) and Road(s)
* Resources GUI
* Turn Navigation GUI
* Turn Phase GUI
* Save GUI
* Quit GUI
* Trading GUI (optional)
* Game Over GUI
* Data saving heuristic
* Phases (0-6; 2 optional)

**Tool Creation Goals**

* Create a new Map within Unity
* Map supports 4 resource types
* Resource has number between 1 and 6
* Resources must be connected
* Largest number discrepancy on map (number of resources) should be one
* Map has at least one of each resource
* Game Scene UI

**User-Generated Content (optional)**

* Heuristics for map data saving and loading
* Hex locations
* Hex numbers
* Hex types
  1. ONLY MAP DATA

File Formats

**2D**

|  |  |  |
| --- | --- | --- |
| Naming Convention | Description | Format |
| <ResourceType>Hex | 2D sprite for a Hex | .gif |
| <PlayerColor>Settlement | 2D sprite for a settlement | .png |
| <PlayerColor>Road | 2D sprite for a road | .png |

**3D (TBD)**

|  |  |  |
| --- | --- | --- |
| Naming Convention | Description | Format |
|  |  |  |

**Scripts**

|  |  |  |
| --- | --- | --- |
| Naming Convention | Description | Format |
| <Functionality>Script | A script for an object | .cs |
| <Functionality>Editor | Script for modifying the editor | .cs |
| <Functionality>PropertyDrawer | Used for scripts that modify the editor that need to utilize a custom property drawer | .cs |

**Scenes**

|  |  |  |
| --- | --- | --- |
| Naming Convention | Description | Format |
| Scene\_Startup | First scene loaded | .unity |
| Scene\_CreateGame | Scene loaded for new game | .unity |
| Scene\_Information | Scene for gathering game info; loaded after Scene\_CreateGame | .unity |
| Scene\_LoadGame | Scene loaded for load game | .unity |
| Scene\_MainGame | Main game scene | .unity |

**Other**

|  |  |  |
| --- | --- | --- |
| Naming Convention | Description | Format |
| TDD\_Project4 | The completed Technical Design Document | .pdf |

Level Layouts

This is where you will include graphics that show the layout of the levels. You can use paint, gimp, or graph paper to layout your levels. Make sure to include each level/world. Include how large the level/world is, and how long (estimated) it should take to go through the level/world for an average player.

Asset List

**Scene\_MainGame**

2D Art

* Hex Graphics
* Road Graphics
* Settlement Graphics

3D Art

* Hex Objects
* Settlement Objects
* Road Objects

**Map Creation Tool**

2D Art

* Hex Graphics