



# Titan Quest

By Cody Ferguson. Sept. 15, 2013 – Report #3

This document is a report, used to convey a proposal for the CSC 493: Senior Projects class. Inside information is provided to give purpose as well as described the fundamental thought process behind the project as well as the process of developing the actual deliverable.

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## Purpose #modified 9/8/13

The software to be written is a top-down, adventure role-playing game that will allow for multiple players to play together over a local area network connection. In context, what project Titan Quest aims to do is connect people through the familiar interface of gaming and place them into an environment that allows for the growth of their individual avatars in the game space and their real life friendships.

The primary goals of this project include the following: establishing a gauntlet-type game world that will require the cooperation of players to complete tasks, developing a method by which players are connected and share the same game space, that is to say allowing for players to be connected to the same “server”, and generating enough playable content and rewards that there is a drive for the players to commit to playing with their friends to achieve goals. The audience of this project can be narrowed down for small groups of friends that enjoy playing any kind of games together. In essence, the project is about developing friendships through goal driven gameplay and rewards for teamwork.

## Functionality

Titan Quest is to be written as a top-down, adventure role-playing game. Therefore, this project will have the expected functionality of allowing the user to create an avatar to exist in the game space and then allowing for this avatar to be further customized through an in-game advancement system and reward system. The game is to also be multiplayer, as such a method for connecting and sharing the game space will have to be implemented.

## Milieu

This particular section is under ongoing research, however a well-known example of a similar product would be The Legend of Zelda: Four Swords, which is a video game for the Nintendo GameCube and the handheld device Gameboy Advance. In the game, there were four main characters whose goal was to stop a great evil through teamwork. This is very similar because in Titan Quest, the players will have to utilize their ability to work together to advance further and further into the game.

## Novelty

This idea is unfortunately not new in the sense of actual gameplay or functionality. However, Titan Quest is original in that the whole game is played in instances or dungeons, as opposed to an open game world where players roam and then find dungeons, form groups and then attempt to conquer them. Therefore, this solution is to simply design the whole game as a series of dungeons or instances for the players to conquer.

## Resources

As of right now, this particular list is limited to the language in which the game will be written. The goal is to program the game in C++, while searching for a possible game engine to develop the game on. At the moment, Unity3D is the only game engine that I have investigated to any extent, this game has a high probability of being to be two-dimensional however, and therefore this may have to change.

## Challenges #modified 9/8/13

Challenges that can be foreseen are handling the scope of this project. From past experience in the game engines course at Berea College, deciding where to go with a project like a game and where not to go is a determining factor for the success of a project. In addition to the time constraints, difficulty learning a C++ UDP networking library implementation and utilizing its features will be challenging. As well, expanding and implementing game systems that are both rewarding and intricate will be challenging and time consuming.

## Measures

The measure of success for this project is three pronged, if players can connect together in the game world, have the ability to play through, without game related errors, a **single** gauntlet or dungeon, and enjoy the experience then this project has succeed.

Additional dungeons or other features are improvements that can be made after the basic game play and mechanics are fully tested and working.

## Future Extensions

Possible extensions include additional dungeons, improvements on the avatar's customization, and more rewards such as achievements for timely completion of objectives. Beyond those minor improvements, dungeons or instances that players have already completed can be made available in a more difficult form, allowing for more of a challenge as well as improved rewards for customization.

## Inspiration

### Motivation

My personal motivation for this project is my love of gaming. I have played video games for a long time and contribute my making it through high school to the playing of video games. Otherwise, I chose to make this project a game because, if there is one thing that I have learned about the gaming development industry is that if you have made a game and it works, then you are already ahead.

## Profession

Project Titan Quest is going to help my professional growth because I have aspirations of being a game designer in the future. One of the main factors that a possible employer looks for in someone that is applying for a game design job is that they have the ability to create something. Therefore, creating a game world that is actually functional is my over-arching goal throughout this semester.

## Vision and Scope

Titan Quest, when finished will present to the world an interesting take on teamwork in video games. By requiring that the players work together to progress in an almost unique way, the game will foster a community that will evolve as players complete more and more dungeons. Over the course of this semester, the game will be built from the ground up and potentially have five levels of play, all with unique puzzles, monsters, and a storyline for the players to write.

The scope of this project is large, but not unmanageable. To define the scope, the following are the major features that are to be implemented. The game will include, a combat system, unique puzzles that limit progress until completed, a chat system for communication between the players, the ability to connect four players to a single hosted server, and avatar customization in terms of skills and attributes. Functionality that is considered out of scope is custom-made art assets, more than five levels or dungeons for the players to explore, and extensive customization systems for the player avatars.

## Software Requirements Specifications #modified 9/15/13

Below are the requirements for the software to be designed and implemented, Titan Quest.

### Scenes

Number: **1.**

Statement: The Unity3D engine uses scenes to establish different levels or sections of the game. This step will design each scene, before filling each with content.

Evaluation Method: Scenes make logical sense in terms of flow, as well as being able to traverse from one scene to the next scene in that sequence.

Dependency: None. This is the first step.

Priority: **High.**

Requirement Revision History: **None.**

### Puzzles

Number: **2.**

Statement: Puzzle design is an important part of this game, as the goal of each scene or level is to complete the puzzle to progress, therefore the game cannot be successful without properly designed puzzles for the players to solve.

Evaluation Method: Puzzles meet several criteria: Is the puzzle beatable? Does the puzzle require team work? Is the goal straightforward, but the solution creative?

Dependency: Scenes, as these puzzles will connect the scenes.

Priority: **High.**

Requirement Revision History: **None.**

### Terrain

Number: **3.**

Statement: The underlying textures of each scene or level. This is paramount to setting the mood for the particular dungeon that the players are exploring.

Evaluation Method: Each scene has a distinct terrain, and the layout of these levels is appropriate, e.g. there is not lava tiles placed for the path the players must utilize.

Dependency: Puzzles. The terrain is largely based on what the puzzle of the level is, as the terrain must mold into and be logically aligned with the puzzle's goal.

Priority: **Moderate.**

Requirement Revision History: **None.**

## World

Number: **4.**

Statement: Previously mentioned puzzles and terrain, these are components of what is called the game world. The world however, is the look and feel of the game. How all of these are tied together to make an experience for the player.

Evaluation Method: The placement of trees and other environmental objects makes sense. This is to say, there is not a tree placed in lava. If the world does not seem illogical.

Dependency: Scenes, Puzzles and Terrain. This step is to combine all of these things and "breathe" life into a game world. Meaning that this will be the final aesthetic step.

Priority: **Moderate.**

Requirement Revision History: **None.**

## Monsters

Number: **5.**

Statement: The enemies of the player, each level will have pre-defined enemy spawning or creating locations therefore this step is to plan and place these locations.

Evaluation Method: Do the monsters spawn too often? Are there too few enemies so that the level is too easy to complete?

Dependency: World, and all of its dependencies. These spawning locations will only make sense if there is a world to place them.

Priority: **High.**

Requirement Revision History: **None.**



## Player Attributes

Number: **6.**

Statement: The health and power of the player, this will gauge how well the player can survive the difficulties and challenges inside of the game world.

Evaluation Method: Answering the question: Does the player have enough available resources to adequately experience and complete the level?

Dependency: World. The player must have a world to interact with, otherwise this would not make sense.

Priority: **High.**

Requirement Revision History: **None.**

## Monster Attributes

Number: **7.**

Statement: The health and power of the monsters. This is important because this will effect overall game difficulty, meaning that without a balance of how many of a type of enemy is spawned and how much damage or health the monster has the game will not be enjoyable.

Evaluation Method: Player versus monster balance, the game is designed to be played by four players simultaneously. Therefore, a single player should not defeat all of the monsters easily.

Dependency: Player and World requirements. The monsters must fit correctly in the world, and not completely overpower the players.

Priority: **Moderate.**

Requirement Revision History: **None.**

## Resources

Number: **8.**

Statement: These are the parameters that allow for the player to activate abilities, or to interact with the game world for solving puzzles.

Evaluation Method: Simple addition, does the player have enough health boosting resources to complete a level of moderate difficulty while defeating monsters along a fixed path? Does the amount of health add up to be more than the damage the monsters are capable of inflicting?

Dependency: World and Player attributes. The world must have obvious and hidden resources, some the player will have to “hunt” for, others freely given. The player parameters must be defined in order to boost them.

Priority: **Moderate.**

Requirement Revision History: **None.**

## Player Abilities

Number: **9.**

Statement: The players ability to use special moves, or attacks that assist in defeating monsters and solving puzzles, while utilizing a defined player resource to limit how much of these are able to be used at a single time.

Evaluation Method: Mathematical balance, does an ability provide too much assistance?

Dependency: Player attributes. Abilities will be modified by these values.

Priority: **Low.**

Requirement Revision History: **None.**

## Environmental Effects

Number: **10.**

Statement: Examples of this would be traps and dangerous terrain.

Evaluation Method: If there is a trap, it does damage to the person who has “stepped on” or “activated” it.

Dependency: World and Puzzles, these depend on a properly designed world, one that only effects the player when they go out of normal or expected boundaries.

Priority: **Low.**

Requirement Revision History: **None.**

## Player Character leveling

Number: **11.**

Statement: The player needs the ability to become stronger, this implementation will provide rewards for completely puzzles and defeating monsters. The reward being points to increase the effectiveness of abilities or increase basic attack damage or health, as well as the ability resource.

Evaluation Method: If the player can receive points and allocate them, this is complete.

Dependency: Player attributes, monster attributes, player abilities. These must be well defined to improve upon them.

Priority: **Low.**

Requirement Revision History: **None.**

## In-Game Chat System

Number: **12.**

Statement: This requirement is to enable the players to send messages from inside of the client, to communicate a strategy for solving the task that is being performed.

Evaluation Method: If messages can be sent and received within the game world, this requirement is fulfilled.

Dependency: There is no dependencies, this is a standalone system that can be either implemented or not.

Priority: **Moderate.**

Requirement Revision History: **None.**

## Client Hosting

Number: **13.**

Statement: The ability of the deliverable client to host a server, for players to connect to via IP address for local area network play.

Evaluation Method: If the client can host a server, this is fulfilled.

Dependency: None, this functionality starts the implementation of networking into the game.

Priority: **Low.**

Requirement Revision History: **None.**

## Client Joining

Number: **14.**

Statement: The ability of a player to connect via IP address to a hosted server.

Evaluation Method: If the player can connect to a server via IP address, and then proceed to play the game on that server, this requirement is fulfilled.

Dependency: Client hosting.

Priority: **Low.**

Requirement Revision History: **None.**

## Game Polish

Number: **15.**

Statement: This includes incorporating a storyline into the game, as well as achievements and rewards for obtaining them. Also, increased difficulty of dungeons.

Evaluation Method: Is the player exposed to a level's virtual history? Can the player obtain an achievement, e.g. kill twenty of a certain type of enemy? Is there additional difficulty added to a dungeon that requires a player to be more attentive?

Dependency: Completion of the game. This requirement will only be met if the previous 14 requirements are completed.

Priority: **Low.**

Requirement Revision History: **None.**



**To:** Mario Nakazawa, Project Director

**From:** Cody Ferguson

**Subject:** Titan Quest

**Date:** September 2, 2013

### Accomplishments

This reporting period, I have accomplished the formulation of a concept for a video game, Titan Quest, and the completion of this report concerning a more detailed explanation of the concept.

### Challenges

During the reporting period the major challenge was deciding on what the project was going to be, only recently had I come to a decision on the project's concept.

### Time Spent

Approximately four hours of work was put into the creation and submission of this report, but that was essentially all of the time spent during this reporting period.

### Goals

The goals for the following week are to close the researching period for finding a game engine to build the game from and finalize the decision for the language being used. Additionally, in terms of actual game design all maps, textures, and other assets will be either found or made and then compiled for future use to eliminate the possibility of being too art-centric. Finally, the code base will start being built and other planning documents will be stored there.



**To:** Mario Nakazawa, Project Director

**CC:** James Peruggia

**From:** Cody Ferguson

**Subject:** Titan Quest

**Date:** September 8, 2013

### Accomplishments

During this reporting period I have come to some conclusions on what software to use for the further development of this project. For instance, I will be using Unity3D, which has a great amount of resources for making 2D games in the 3D space which will also leverage my familiarity with the software. In addition, I have collected and investigated links to websites that provide open source sprites and sprite sheets. No actual code has been written yet, however the language has been decided: C# with Unity3D using either MonoDevelop or Visual Studio 2012 Express. As well I have made updates to the challenges section outlining what I now see as challenges as well as updating my purpose to reflect the proper connectivity to be expected for the game.

### Challenges

Challenges during this particular reporting period were finding and making decisions for the future of the project. In addition, I have researched further into networking and discovered that the libraries available for communication over a UDP network are going to be challenging to understand.

### Time Spent

Week #2 Hours: 4.5

Total Hours: 8.5

### Goals

My goals going into this next reporting period are to begin working on the overall design and implementation of the game world, resulting in five levels or dungeons completed and the addition of characters into the game world.



**To:** Mario Nakazawa, Project Director

**CC:** James Peruggia

**From:** Cody Ferguson

**Subject:** Titan Quest

**Date:** September 15, 2013

### Accomplishments

This reporting period, I have further specified what the game will be like in terms of requirements and have identified a more defined scope for the project. Outlined above, in the Software Requirement Specifications, is the majority of the project's work this period. Additionally, the title scene for the game has been designed and warrants a new title. The game has been modified from "Tiamat: The Quest" to "Titan Quest" for the sake of making a more catchy or sensible name for the game.

### Challenges

I did not meet my goals from the previous period, however, I have further ironed out how to complete those goals through adjusting the focus of the game. Now that I am better prepared, last week's goals are now much less difficult to complete.

### Time Spent

Week #3 Hours: 3

Total Hours: 11.5

### Goals

The goals from the previous week were incomplete, this means that they will be carried over. However, the step-wise design of the project has restructured what should be accomplished and when. Therefore the goals for this coming week are to complete the scene design, puzzle design and implement the terrain. Last week's goals were actually too large in scope.