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**Executive Summary:**

Our goal is to provide an enjoyable game for 2-4 players where each gets a sense of responsibility in maintaining their resources to be able to efficiently build, and gather points to win. Each player will take turns doing one of two actions: Gathering resources or building structures. These structures are worth a certain number of points which are stored with them that at the end of the game are tallied to see who the winner is. Throughout the game a player may take certain actions that may either help themselves get points or to prevent an opponent from gaining points. The game reaches the end when any player has built their fifth structure. After all players have had the same amount of turns as this ending player, all scores are checked and a winner is determined.

To bring about this goal we will be designing a system using C++. The different players will be instances of a single player class object, while the resources and structures will be two different classes. The players will be able to check information at different times through the command line to see their progress in the game. All data stored in the system will be available to be seen by the administrator, who can help solve player disputes if necessary. Games are not saved between uses, so they must be finished within one session.

Positioning:

The player begins a game in the area of which the game takes place on a board.

Positioning:**\***REVISED\*

Business Opportunity:

There are many existing games that are part role playing, and part resource management, with some elements of open world sandbox. However, many of these games do not take advantage of real world situations, and space limitation that would occur in the real world when it comes to managing resources. There is a lack of planning, and scheduling around the way you gather materials, and adjusting for points whenever you build something. There isn’t an access to applications online that teach you how to play as you play, while having opponents try to get to the dominant positioning first. This product asks you to make tough choices between gaining points, or gathering more resources to out maneuver your opponent.

Problem Statement:

Many applications of managing resources are short sighted when it comes to the object of the game. Many issues arise from a plain, linear point of view, and a lack of obstacles. This affects the longevity and shelf life of a product. We want to build this app so that one could always experience different situations that can affect their cost to win, and face different oppositions that would make difficult to make choices within the game.

Product Position Statement:

This game is rated E for everyone. What makes this unique of an app is the immersion of the user, and the player as you create a unique ID to play within the game. The system keeps track of the the resources you have gathered, follows along the plans you decide, and awards you whenever you use up materials to build a building. Most other applications with similar backgrounds use the building mechanism as a step to a bigger goal, or just to explore your imagination. In real life there are no unlimited resources you can get with a press of a button, this game wants to teach about being careful, and planning wisely.

Alternatives and Competition:

Some alternatives could implement the mechanism to gather resources. We have it so that it is once per turn as an action. When you build something we have it so that you are awarded with ingame points to help you win, otherwise most applications have it used as tool for imagination.

**Stakeholder Descriptions**: **\***REVISED\*

The chief stakeholder is the professor, Mr. Bettens. He will be the final say on all aspects of the project on whether or not they meet the requirements. He will point to us in the direction of which the game makes sense in the development process.

The lesser stakeholders are each of us in the project team. We are stakeholders because like in the real world one would make money off the product they produce, we will get a grade based off of what we have done on the project.

The Player user is a person trying to interact with the system to play our game. They take actions to play and have the goal of winning the game.

The System administrator is a person maintaining our game and the running program. They attempt to keep all players at a level playing field, make sure users are authenticated, keep the system up, and conclude the game when players are done.

High Level Goals: Priority: High

Quick, easy to learn,

Integrated resource

Managning.

Problems and Concerns:

Slow users that may not grasp concept quick, or may have trouble understanding object of game without a manual. Inability to customize structures built, or manipulate amount of resources used, or spent.

Current Solutions:

Current applications for resource management, and building have simple walkthrough, and basic tips, but do not present visual representation to these solutions.

**Product Overview:**

Our product is a C++ project built in Visual Studio that will allow the users to be city builders and resource gatherers. They gather appropriate resources that will be useful to them in building structures which score points. The player with the most points at the end of the game is the winner.

**Summary Of Benefit:**

n/a

**Summary of System Features:**

* New Player capture
* User ID authentication
* System Administration for users, engine, and code.

**Cost, Pricing, Schedule: \*REVISED\***

The product must be through its first iteration by November fifth and through its second iteration by December fifth.

The cost of this product is completely free, except out time which will be spent making this.

The pricing of this is a great product is a passing grade.

**Assumptions and Dependencies:**

* The user of software has access to internet, and electronic device such as a phone, tablet, laptop, or personal computer.

**Iteration Plan:**

* There will be Three iterations, one Inception phase followed by two Elaboration phases. These iterations will follow the outline given in the course Syllabus. Roughly: Three weeks for the Inception, five weeks for the first Elaborations, and four weeks for the last elaboration.

**Project Management:**

* Project Work will be divided evenly amongst the three team members for the duration of the project.

**Business Rules:**

* Operating System
  + Must Be able to be run in both windows and Linux
* Time
  + Must be completed by the end of the course (12/5)
  + Specific iterations must be done at certain times (10/1, 11/5)
* Language
  + Must be built in C++
* Authentication
  + Has to have user Authentication
  + User must be 18 to consent, or get permission from someone 18 or older in order to play.
* External
  + Must be able to interface with an external system
* Different Users
  + Must have at least 2 distinct users in the system

**Go/No Go:**

The team has decided that this project is a go! We will continue with development for the duration of the class.

|  |  |  |
| --- | --- | --- |
| Date | Phase | Info |
| 10/01/18 | Inception | Added Vision Document |
| 10/29/18 | Elaboration 1 | Updated vision statement to be more profound to our business rules. Updated Stakeholders description. |
| 12/08/18 | Elaboration 2 | Updated cost,price, schedule, and added high level goals |