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CECS 343 - Section 03

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Vision Document

1: Introduction

1.1 Purpose

The purpose of this document is to define our goals and potential market opportunities for an implementation of the Illuminati game in a software environment. It will describe the capabilities required by users as well as stakeholders. How our implementation of Illuminati fulfills these needs will be detailed in the product overview section.

1.2 Scope

This document applies to our implementation of Illuminati, which will be developed in Python for the Windows OS. It will allow someone with a Windows PC to play Illuminati for fun.

1.3 Definitions, Acronyms, Abbreviations

Windows: The computer operating system developed by Microsoft

1.4 References

Free Legal Image Sources:

[Kenney.nl](http://kenney.nl/)

[OpenGameArt.org](http://opengameart.org/)

[HasGraphics.com](http://hasgraphics.com/)

Free Sound Sources :

[OpenGameArt.org](http://opengameart.org/)

[www.freesound.org](http://www.freesound.org/)

1.5 Overview

This vision document contains a description of our market positioning, descriptions of our stakeholders and users, and an overview of our product implementation and features.

2. Positioning

2.1 Business Opportunity

Most laptops sold do not have a discrete graphics processor, most of them only have access to the integrated graphics present on the CPU. This limits users to only playing relatively simple games, or playing more complex games with poor performance.

As gaming is a massive market, a way to position ourselves in this market would be offering a game that almost any hardware configuration could run with acceptable performance, while also being complex enough to facilitate multiple plays without the user becoming bored.

2.2 Problem Statement

The problem that this implementation solves is that most laptops cannot run complex games with acceptable performance. However, Illuminati is fairly complex in its gameplay, but simple enough in its graphics that most any modern hardware configuration could run it without issue. A successful implementation of Illuminati would enable users to play a fairly complex game with others around them to prevent them from becoming bored.

2.3 Product Position Statement

The product will take the position of a game with uniquely complex gameplay, but that it simple enough in its graphics that it can run on almost any hardware configuration. It will enable users to play with those around them to prevent them from becoming bored.

3. Stakeholder and User Descriptions

3.1 Market Demographics

The laptop market is the primary target demographic. Laptops with graphics processors tend to be quite expensive, and not all people can afford such an expense. A laptop with a graphics processor that would enable them to play more complex games often costs $700 or more, so the majority of laptops do not come equipped with them. Our product would target users with laptops below that price point, which would enable us access to the majority of users.

3.2 Stakeholder Summary

The stakeholders are Kyle Pamintuan, Pedro Lopez, and Keith Farwell, who will be designing and implementing this version of the Illuminati game.

3.3 User Summary

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Description | Responsibilities | Stakeholder |
| Laptop Users without a graphics processor | Primary End User of System | Uses application to play with others and alleviate boredom | Self |
| People who want to play Illuminati on the go | End User of System | Likes playing Illuminati, but can’t take the physical game everywhere | Self |

3.4 User Environment

This implementation of the Illuminati game would be used on a Windows OS without a graphics processor being necessary. It must be able run acceptably on integrated graphics.

3.5 Stakeholder Profiles

Stakeholder profiles are not exactly necessary, as the main stakeholders are the builders of this program.

3.6 User Profiles

Laptop Users without a graphics processor

|  |  |
| --- | --- |
| Description | A laptop user without a graphics processor that wants to play a game. |
| Type | This is a user that does not necessarily have a discrete graphics processor available on their machine. |
| Responsibilities | Uses the Illuminati implementation to pass time and possibly play a game with those around them. |
| Success Criteria | The user continues to use our game to satisfy their desire for diversion. |
| Involvement | They are the end users which will use our system |
| Deliverables | None |
| Comments/Issues | None |

People who want to play Illuminati on the go

|  |  |
| --- | --- |
| Description | Someone that likes the Illuminati game, but is unable to take the physical game around with them. |
| Type | This is a user that does not value the bulk of the physical game. |
| Responsibilities | Uses the Illuminati implementation to pass time and possibly play a game with those around them, whilst not needing the physical game. |
| Success Criteria | The user continues to use our game to satisfy their desire for diversion. |
| Involvement | They are the end users which will use our system |
| Deliverables | None |
| Comments/Issues | None |

3.7 Key Stakeholder or User Needs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Need | Priority | Concerns | Current Solution | Proposed Solutions |
| Runs on integrated graphics | High | Users must be able to run this without potentially expensive graphics hardware | See Proposed Solution | Make the graphics as simple as possible |

3.8 Alternatives and Competition

Other examples of card-based games that are simple to run include Blizzard’s Hearthstone and Cards Against Humanity clones.

4. Product Overview

4.1 Product Perspective

This product will be provided as a standalone package and will have no dependencies, aside from needing a laptop to run it.

4.2 Summary of Capabilities

This product will enable the user to play Illuminati to alleviate boredom by playing with those around them.

4.3 Assumptions and Dependencies

The potential user has a Windows laptop and could download our product if it was not already on their machine.

4.4 Cost and Pricing

The product will not have a cost associated with it, as its current foreseen implementations will be done by students, which may not be beneficial for the end user experience.

4.5 Licensing and Installation

Not applicable, as there will be no license associated with this product. No separate installation software will be necessary, either, as it will be a standalone executable.

**5: Product Features**

The game will feature local (single computer) multiplayer gameplay. Because each player may have special cards that can be kept hidden from other players, we will switch between different “screens” every time a player ends their turn.

**6: Constraints**

We are basing our development on Python and the Pygame library, therefore anyone that wants to play the game would need to have Python installed to run the game.

The game should be able to run on most systems since python is available on most OS’s, including Windows, Mac and several Linux Distributions. However we will not have a good estimate of how much memory the game will require until we we select image resolutions for all of the games assets (cards, backgrounds, background music, sound effects) and and we load them all up into the game.

**7: Quality Ranges**

We are aiming for a stable 60 frames per second, this should be reasonably easy to obtain because this is not a fast paced action game and we are not using ultra high resolution graphics.

**8: Precedence and Priority**

**Game Systems in order of priority**

1. Display Game Board and Card System
2. Display Menu and Input Systems
3. Game Mechanics
4. Music/Sound Systems

**9: Other Product Requirements**

At a high level, list applicable standards, hardware or platform requirements, performance requirements, and environmental requirements.

9.1 **Applicable Standards:**

The board game is recommended for ages 12 and up by the manufacturer. The ESRB (Entertainment Software Rating Board) might give our game a “Teen” or “Mature” rating, due to the “suggestive themes” and “crude humor” in the game. This would limit our users to 13+ or 17+ years of age.

9.2 **System Requirements:**

Windows 10 or Mac OSX Sierra with 4 Gigabytes of RAM

No Internet connection required for gameplay.

Inputs: Mouse and Keyboard.

Output: Computer Monitor with 1080p resolution

9.3 **Performance Requirements:** Detail performance requirements. Performance issues can include such items as user load factors, bandwidth or communication capacity, throughput, accuracy, reliability, or response times under various load conditions.

Load factor is fixed at 4 players and all game assets are loaded at the beginning of the game therefore we should see no performance drops as the game progresses, the game should be equally responsive at all times.

9.4 **Environmental Requirements:**

Personal Living Room

**10: Documentation Requirements**

This section describes the documentation that you must develop to support successful application deployment.

10.1 Release Notes, Readme file:

Read me files are included in all subfolders of the github project. New comments must be included with every new push and commit requests made in github.

10.2 **Online Help:** Many applications provide an online help system to assist the user. The nature of these systems is unique to application development as they combine aspects of programming (searchable information and weblike navigation) with aspects of technical writing (organization and presentation). Many teams find that developing an online help system is a project within a project that benefits from scope management and planning at the project outset.

The github page comes with a wiki page that will describe all of the game's elements and rules.

10.3 **Installation Guides:**

Download available at Github.com

10.4 **Labeling and Packaging:**

The program should display the Creative Commons License logo at startup and the message

“This a is a non-commercial education program”

Cc-by-nc_icon.svg.png

**11: Appendix 1 Feature attributes**

Give features attributes that can be used to evaluate, track, prioritize and manage the product items that are proposed for implementation. Outline all requirement types and attributes in a separate requirements management plan. However, you might want to list and briefly describe the attributes for features that have been chosen. The following subsections represent a set of suggested feature attributes.

11.1 Status: Teams set feature status after negotiation and review by the project management team. Status tracks progress throughout the life of the project. The following table provides an example of typical status attribute values.

11.2 **Benefit:** The marketing group, the product manager, or the business analyst sets the feature benefits. All requirements are not created equal. Ranking requirements by their relative benefit to the user opens a dialog with customers, analysts, and members of the development team. Use benefits in managing project scope and determining development priority. The following table provides an example of typical benefit or priority attribute values.

**Status**

Proposed - Describes features that are under discussion but have not been reviewed and accepted by the "official channel." The official channel might be a working group that consists of representatives from the project team, product management, and user or customer community.

1. Background Music
2. Sound Effects

Approved - Capabilities that are deemed useful and feasible and have been approved for implementation by the official channel.

1. Load up all game assets into game memory.
2. Initialize all game variables
3. Display a player's’ card group
4. Switch between players’ point of view
5. Display actions menu
   1. Show context sensitive menu
   2. Show sub menus
6. Attack the uncontrolled group.
7. Attack other players groups.
8. Defend against attacks
9. Activate cards special abilities.

Incorporated:

1. None yet.
2. None yet.

**Priority**

Critical - Essential features. Failure to implement a critical feature means that the system will not meet customer needs. All critical features must be implemented in the release or the schedule will slip.

1. Load up all game assets into game memory.
2. Initialize all game variables
3. Display a player's’ card group
4. Switch between players’ point of view
5. Display actions menu
   1. Show context sensitive menu
   2. Show sub menus
6. Attack the uncontrolled group.
7. Attack other players groups.

Important - Features important to the effectiveness and efficiency of the system for most applications. The functions cannot be easily provided in some other way. Omitting an important feature might affect customer or user satisfaction, or even revenue. However, the release will not be delayed because an important feature is not included.

1. Activate cards special abilities.

Useful - Features that are useful in less typical applications, are used less frequently, or that can be met with reasonably efficient workarounds. No significant revenue or customer satisfaction impact can be expected if such an item is not included in a release.

1. Background Music
2. Sound Effects

11.3 **Effort:** The development team estimates the effort that is required to implement features. Some features require more time and resources than others. Estimating the time, required code, or functions, helps gauge complexity and set expectations of what can be accomplished in a given time frame. Use the estimate in managing scope and determining development priority.

1. Display Game Board and Card System - Medium Effort
2. Display Menu and Input Systems - High Effort
3. Game Mechanics - High Effort
4. Music/Sound Systems - Medium Low Effort\

1. Load up all game assets into game memory - Low Effort
2. Scan All cards separately - Low Effort but Time Consuming
3. Initialize all game variables - Low Effort
4. Display a player's’ card group - High Effort
5. Switch between players’ point of view - Medium Effort
6. Display actions menu - High Effort
   1. Show context sensitive menu
   2. Show sub menus
7. Attack the uncontrolled group - Medium Effort
8. Attack other players groups - Low Effort once 7. Is completed
9. Defend against attacks - Medium Effort
10. Activate cards special abilities. - High Effort