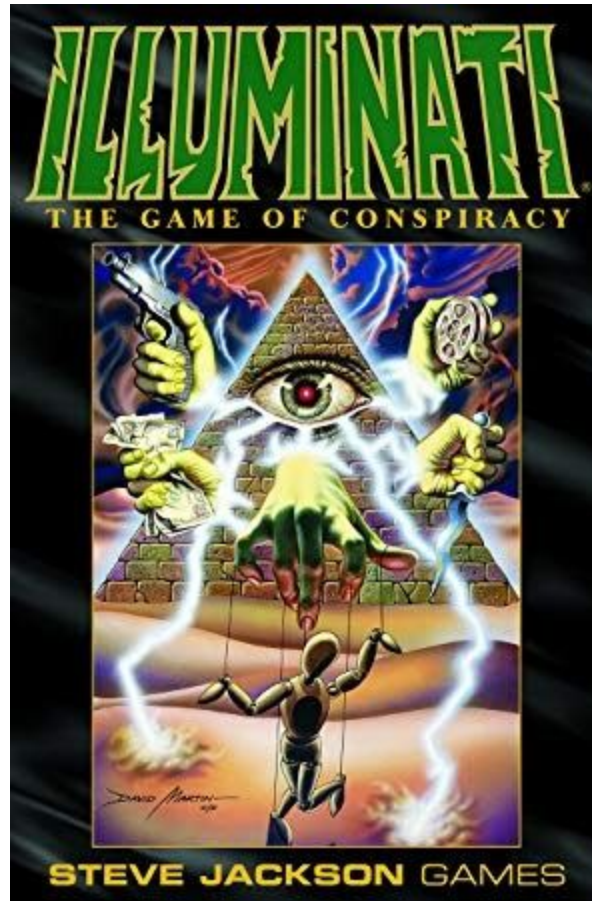


Vision Document



Project Development Team

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Revision History

Date	Version	Description	Author
02/06/2020	1.0	Initial document	Julien D. Matt B. Edward H.

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1 Introduction

1.1 Purpose

The purpose of this document is to outline the implementation of the game Illuminati from its physical form to a digital form. This document will also provide the necessary information that is pivotal to the implementation.

1.2 Scope

This document will outline the process of implementing the Illuminati game. The implementation will be in Unity with Photon for networking.

1.3 Definition, acronyms, and abbreviations

Acronym or Abbreviation	Definition
API	A set of functions and procedures allowing the creation of applications that access the features or data of an operating system, application, or other service.
Launcher	Software that causes applications to download, load and run.
Unity	Unity is a cross-platform game engine. The engine can be used to create three-dimensional, two-dimensional, virtual reality, and augmented reality games, as well as simulations and other experiences.
Photon	Photon is the networking library we will use to make our game playable on a multiplayer network.

1.4 References

- 1.4.1 Illuminati [Wikipedia](#)
- 1.4.2 Illuminati [game rules](#)
- 1.4.3 Illuminati [assets](#)

1.5 Overview

This document will describe the project which is a digital version of the board game Illuminati.

It will include the business plan, the target of the product, description of the product and the risks, requirements and features that will be included with the priorities of each feature. The support and documentation that will be provided for this project.

2 Positioning

2.1 Business Opportunity

A significant number of board games now have digital versions. However, many board games often need more than one person in order to be played. People may want to enjoy the game without requiring someone else to be present. The implementation of this game will remove the need to have multiple people in close proximity as well as the the cards and items to play the game.

2.2 Problem Statement

The problem of digitalisation affects the board game industry. The impact of the problem is that no one wants to play board games like Illuminati anymore because it requires everyone to be at the same place at the same time. A successful solution would include a digital version of Illuminati where you can play with your friends just by having access to a computer and a network connection, with a way to identify each other.

2.3 Product Position Statement

For the board gaming community, who have increased demand for remote gaming sessions. The Illuminati is a digital role-playing game that offers players a unique opportunity to play with multiple players remotely. Unlike basically all other games, our product is clearly superior.

3 Stakeholder and user descriptions

3.1 Market Demographic

Illuminati will be aimed towards all players that are age 12 or older with access with a computer and internet access. Due to the Children's Online Privacy Protection Act (COPPA), we require our users to be 18 years or older.

3.2 Stakeholder Summary

- 3.2.1 (Software Engineer) Julien Delane
- 3.2.2 (Software Engineer) Edward Hsin
- 3.2.3 (Software Engineer) Matthew Buchholz
- 3.2.4 (Manager) Professor Anthony Giacalone
- 3.2.5 (Users) Board game community

3.3 User Summary

3.3.1 Players - these are the primary users of the system under development.

3.4 User Environment

3.4.1 - Players - Illuminati can allow 2-8 players, but the number of players can decrease as the game goes on.

3.4.2 - The game has no age restrictions, but it is aimed towards players age 12 and older

3.4.3 - One game can last from 1 hour to 3 hours, perhaps even more.

3.4.4 - The player will have to agree to an end user licensing agreement.

3.4.5 - The main platform(s) for the game are Windows, OSX, and Linux.

3.5 Stakeholder profiles

	Description	Type	Responsibilities	Success criteria	Involvement	Deliverables	Comments/issues
Julien	Software Engineer	Technical Expert	Implement Illuminati game and server software	Successful implementation of modules	Engineer, primary creator, designer	Vision documents, code, all required documentation	Depth of technical knowledge ability to plan are essential
Edward	Software Engineer	Technical Expert	Implement Illuminati game and server software	Successful implementation of modules	Engineer, primary creator, designer	Vision documents, code, all required documentation	Depth of technical knowledge and ability to plan are essential
Matt	Software Engineer	Technical Expert	Implement Illuminati game and server software	Successful implementation of modules	Engineer, primary creator, designer	Vision documents, code, all required documentation	Depth of technical knowledge and ability to plan are essential
Anthony	Manager	Business & technical expert	Guide/mentor the engineers throughout the development process	Help the engineers with design foresight, correct technical details, and to provide end-feedback	Manager, oversees progress and group productivity	Feedback in the form of grades	Relies heavily on the product given to grade (if there are no materials from the team, he cannot do his job!)
Users	End user	Casual user	Provide feedback to the engineering team	Reward is getting a better platform upon providing feedback to the team	Final judge of success of the product	User feedback	The role of user in this section is to provide feedback to improve the platform

3.6 User profiles

	Description	Type	Responsibilities	Success criteria	Involvement	Deliverables	Comments/issues
Players	Gamers	Varies: novice-expert	Must download the game, create an account, and (optionally) create friend's list	Playing the game in any form is considered success	End user of the platform	User profile and user feedback(as described in stakeholder profile)	The role of player in this section is to use the platform in any way, shape, or form

3.7 Key stakeholder or user needs

Need	Priority	Concerns	Current solution	Proposed solution
Mobility of game	High	Users	Transport the physical game	Implement digital version
Ability to play with friends	Low	Users	Find friends IRL	Find friends URL

3.8 Alternatives and competition

3.8.1 Competing teams in class

3.8.2 Steve Jackson Games

4 Product Overview

4.1 Product Perspective

Illuminati is a game where each player represents a secret conspiracy group, the goal is to take control of the world by taking over groups that will increase your power, you win by controlling enough groups or by fulfilling the special goal of your own Illuminati conspiracy.

This game is playing from two to height players but works best for four to six players.

4.2 Summary of capabilities

4.2.1 The authentication system will be hosted on a server created by ourselves and the server that creates the game will be hosted by Photon.

4.2.2 The game has an automatic matchmaking based on the player's performance, that score can be viewed by the user in a ranking system.

4.3 Assumptions and dependencies

Feature	Assumption	Dependencies
Friend List	We have a server to host the user system	Raspberry Pi
Ranking System	We have a server to host the user system	Raspberry Pi, Internet Connection
Authentication	We have a server to host the user system	Raspberry Pi, Internet Connection
API	We have a server to host the user system	Raspberry Pi, Database
Sound Design	Have a library for playing music	Unity packages

4.4 Cost and pricing

- 4.4.1 Costs will be low since it will be a digital distribution the only cost will be the server that hosts the game.
- 4.4.2 The game will cost \$5 and all extensions will be free.

4.5 Licensing and installation

A launcher will be created for the game and it will automatically install everything the user needs to play the game then in the game he will be required to create an account to play.

5 Product Features

5.1 Ranking System

The game will incorporate a system of ranking which will evolve depending on the result of each of your game, the user will be able to consult the leaderboard. Also the matchmaking will be done in function of your rank to match you with players of the same rank.

5.2 Launcher

The game will be launched from a program (called launcher) that will download all files the game needs to be launched and seeking for updates and install them. It will also display information related to the game such as patch notes and an access to the gamerule.

5.3 API

An API will be provided and will allow the game and every other program used for the game to perform actions such as download files to update the game, create user, retrieve player's score etc.

5.4 Authentication

The game will require each user to create an account with a linked email, username and password so we can recognize the individual user account. The game will use raspberry pi Database to store user accounts.

5.5 Sound Design

The game will provide a background music loop with a set of music, also a bunch of sound that will be played during a noticeable event.

5.6 Friend List

To allow players to play with their friends, the game will include a friends list that you can manage and consult.

6 Constraints

- 6.1 We will have to use a RaspBerry Pi to host the API and database.
- 6.2 To develop our games, we will use Unity and it's latest version.
- 6.3 For the networking in Unity we will use Photon that will also host our game server, that will limit the number of players we can have on our game simultaneously and since our game server will be hosted by photon we will be dependent on them. If photon has an issue that could impact our game.
- 6.4 The game will require users to play with four to six people for the best experience.
- 6.5 The user will require internet connection to play with other people

7 Quality ranges

- 7.1 The game will have a very low resource cost and will be able to run on most computers that can run windows, mac OS or a recent version of Linux.
- 7.2 The server should be accessible at least 18 hours a day, our API will be hosted by ourselves but the game server will be hosted by Photon so we can't really predict the uptime of this one.

8 Precedence and Priority

8.1 We will focus our effort on the main features of the game that are required for the game to be fully functional. The first release should be fully working with basic features. In the next release we will add more and more features.

8.2

Priority	Features
High	API, Launcher, Authentication
Medium	Ranking system, Friends list
Low	Sound design

9 Other Product requirements

9.1 Applicable standards

9.1.1 ESRB rating

9.1.2 COPPA

9.2 System requirements

9.2.1 The user will require a permanent connection to the internet to connect and while playing.

9.2.2 It will require the user to possess a laptop or personal computer with access to the internet and a display monitor, also a keyboard and a mouse/touch interface will be required with Windows, Mac OS, or Linux.

9.2.3 CPU: Intel Core i3 3210 | AMD A8 7600 APU or equivalent.

9.2.4 HDD: 1 GM available space.

9.2.5 RAM: 4GB RAM.

9.2.6 GPU: Intel HD Graphics 4000 or AMD Radeon R5 series | NVIDIA GeForce 400 Series or AMD Radeon HD 7000 series.

9.3 Performance requirements

9.3.1 Performance could be impacted by the number of information that transit between the clients and the server.

9.3.2 A good internet connection for the multiplayer game to run smoothly

9.4 Environmental requirements

- 9.4.1 Since we will use a Raspberry Pi to host our server we need to make sure that it won't overheat and that he will handle the workload.

10 Documentation Requirements

10.1 Release notes, read me file

- 10.1.1 The readme file will contain the system requirements and credit of the game.
10.1.2 Release notes will be available via a web page.

10.2 Online help

A wiki will be provided online and will be accessible from the launcher.

10.3 Installation guides

Players will have to download the launcher, then launch the game and create an account.

10.4 Labeling and packaging

- 10.4.1 Welcome screen that leads to account creation page or login page
10.4.2 Redirection from the launcher to some help ressources

11 Appendix 1 - Feature attributes

11.1 Status

Feature	Status
Friend List	Proposed
Ranking System	Proposed
Authentication	Proposed
API	Proposed
Sound Design	Approved

11.2 Benefit

Feature	Benefit
Friend List	Important
Ranking System	Important
Authentication	Critical
API	Critical
Sound Design	Useful
Launcher	Critical

11.3 Effort

Feature	Estimated Time	Required Modules	Approx. Effort Level
Friend List	15 hours	User Class with Friend List field (data member)	Med
Ranking System	10 hours	User Class with User Score field (data member)	Med
Authentication	25-35 hours	Password files, scripts for encryption (hashing passwords)	Med
API	45-60 hours	Encryption, ORM modules	High
Sound Design	5 hours	Script to play sound clips/loops	Low
Launcher	10-15 hours	Scripts to download application and required packages	Med

11.4 Risk

Risk level	Event	Impact
Low	-Schedule delays/ Time management issues -Cost overrun	- Delays down the release of final project - Requires financial compensation from team
Medium	-Developer(s) quit	- Increases workload for other team members, will likely result in schedule delays
High	-Cancellation of project	- Results in failed grade

11.5 Stability

Feature	Stability
Friend List	High
Ranking System	High
Authentication	Med
API	Low
Sound Design	High
Launcher	Low

11.6 Target release

Feature	Milestone
Friend List	1.1
Ranking System	1.2
Authentication	1.0
API	1.0

Sound Design	1.3
Launcher	1.0

11.7 Assigned to

Feature	Assigned To
Friend List	Matthew Buchholz/Edward Hsin
Ranking System	Edward Hsin
Authentication	Julien Delane/Matthew Buchholz
API	Julien Delane
Sound Design	Matthew Buchholz
Launcher	Julien Delane

11.8 Reason

Feature	Reason
Friend List	Allow users to easily connect to games with their friends
Ranking System	Give users a competitive edge during gameplay
Authentication	Create and secure player's account
API	Enable developers to easily implement server, authentication, ranking, i.e. all features.
Sound Design	Give users an enjoyable gaming experience.
Launcher	Allow a smooth user experience for installing and updating the game.