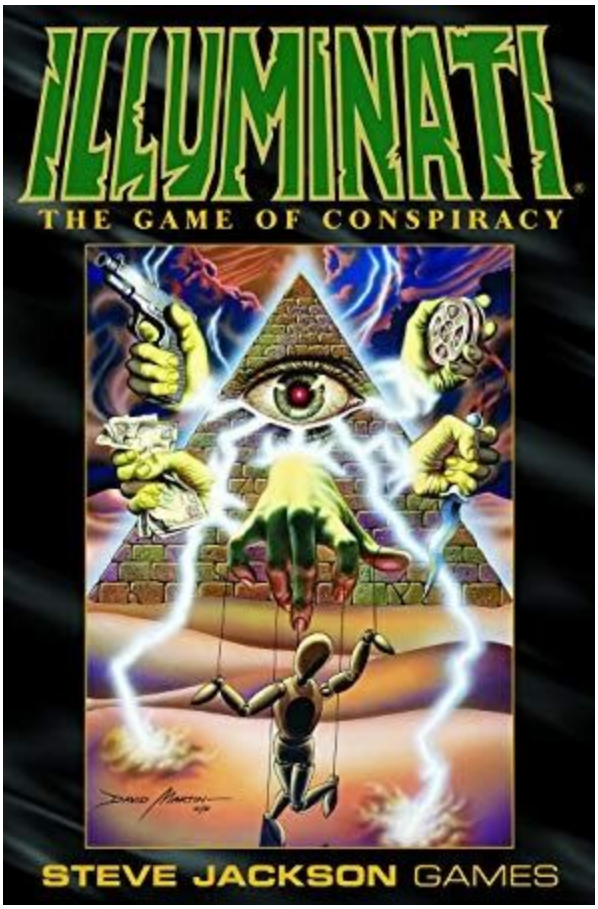
Project Plan for Illuminati



Project Development Team

Julien Delane
Edward Hsin
Matthew Buchholz

1 Overview

Illuminati is a digital form of an existing board game with the same name. The product is aimed towards people with a fondness of board games and/or digital games. This project will provide an alternative way to enjoy the board game without requiring the physical presence of other players. This project is low cost and will take 3 months to complete. The project is designed on behalf of the Computer Engineering and Computer Science Department of the California State University, Long Beach. The results of this project have no external dependencies.

2 Goals and Scope

2.1 Project Goals

Project Goal	Priority	Comment/Description/Reference
Functional Goals:		
Launcher	High	Enable installation and update downloads [1]
Authentication	High	Enable player's to create accounts [1]
API	High	Enable developers to easily implement features [1]
Friend List	Medium	Enable users save connections with other users [1]
Ranking System	Medium	Enable users to hold competitions [1]
Sound Design	Low	Enhance user experience [1]
Business Goals		
Time to market	High	This project is under significant time-constraints, given our grades depend on

		delivery of the end product
Cost	Low	This project is low cost; it is unlikely to go over cost
Technological Goals		
API	High	The API is the core of the implementation of the game network
Networking	Med	The networking capabilities enable the game to be truly multiplayer
2D gameplay	High	Enable users accurate board representation
Quality Goals		
Smooth gameplay	High	Game should not lag, or easily glitch
Constraints		
Unity as development tool	High	Using Unity as a game engine dictates the majority of implementation details (from choice of programming language to libraries used to networking implementation)

2.2 Project Scope

2.2.1 Included

The deliverables of this game will include a downloadable application that can run on Windows, Linux, or MacOS. With access to an internet connection, the user may create an online profile and connect with friends to play Illuminati.

2.2.2 Excluded

The game will not include any extraneous features including, but not limited to, 3D gameplay, text or video chat.

3 Organization

The Illuminati project is for academic purposes. It is an internal project for the CECS 343 course section 07-6030 at CSULB. The internal organization manager is Anthony Giaclone, the professor leading the course.

3.1 Organizational Boundaries and Interfaces

The implementation of this project is directly dependent on the stakeholders, including the Project manager, Anthony Giaclone, and the project team: Julien Delane, Edward Hsin, and Matthew Buchholz. The parent organization is CSULB, which does not have a direct role in the development or the end use of the product. The customer organization consists of both Anthony Giaclone and the rest of the CECS 343 class, who can have access to our implementation of the Illuminati game.

3.1.1 Resource Owners

The resource owners are Anthony Giaclone, Steve Jackson Games, Unity Technologies (Unity), Exit Games (Photon), and the project team.

3.1.2 Receivers

The receivers comprise the customer organization as defined in section 3.1. These are the end users of the product and the only organization receiving the product.

3.1.3 Sub-contractors

N/A

3.1.4 Suppliers

Company: contact	Deliverable	Comment
Unity Technologies	Unity Game Engine	Provides the unity development platform for the creation of the digital version of illuminati

Exit Games	Photon	Provides networking SDK for Unity

3.1.5 Cross Functions

Function	Dept. Contact	Responsibility/Comment
Product Mgmt	Anthony Giaclone	Gives feedback and steers the general direction/progress of the project
Project Team	Julien Delane Edward Hsin Matthew Buchholz	Development and completion of the project
Marketing	N/A	N/A
Sales	N/A	N/A
Service	Julien Delane Edward Hsin Matthew Buchholz	Help with support of the game once created (for class/teacher purposes)
Training	Anthony Giaclone	Guide developers in standard Software Engineering principles and practices
Manufactuaring	N/A	N/A
Quality	Julien Delane Edward Hsin Matthew Buchholz	Test and verify the quality of the software
Technology	Julien Delane Edward Hsin Matthew Buchholz	Create and implement the software
Supply Mgmt	N/A	N/A

3.1.6 Other Projects

N/A

3.2 Project Organization

3.2.1 Project Manager

Role	Firstname Lastname
Project Manager	Anthony Giaclone
Technical Project Mgrs	Julien Delane
	Edward Hsin
	Matthew Buchholz

3.2.2 Project-internal Functions

Function	Firstname Lastname	Comment
System test lead	Julien Delane Edward Hsin Matthew Buchholz	Responsible for unit tests, e2e tests, etc.
Quality assurance	Julien Delane Edward Hsin Matthew Buchholz	Responsible for QA testing
Validation Lead	Julien Delane Edward Hsin Matthew Buchholz	Assess whether end product meets business requirements of the client
Configuration Mgmt	Julien Delane Edward Hsin Matthew Buchholz	Verify consistency in the end product's functional requirements and features
Change Mgmt	Julien Delane Edward Hsin Matthew Buchholz	Prepare the team for any major changes during development

3.2.3 Project Team

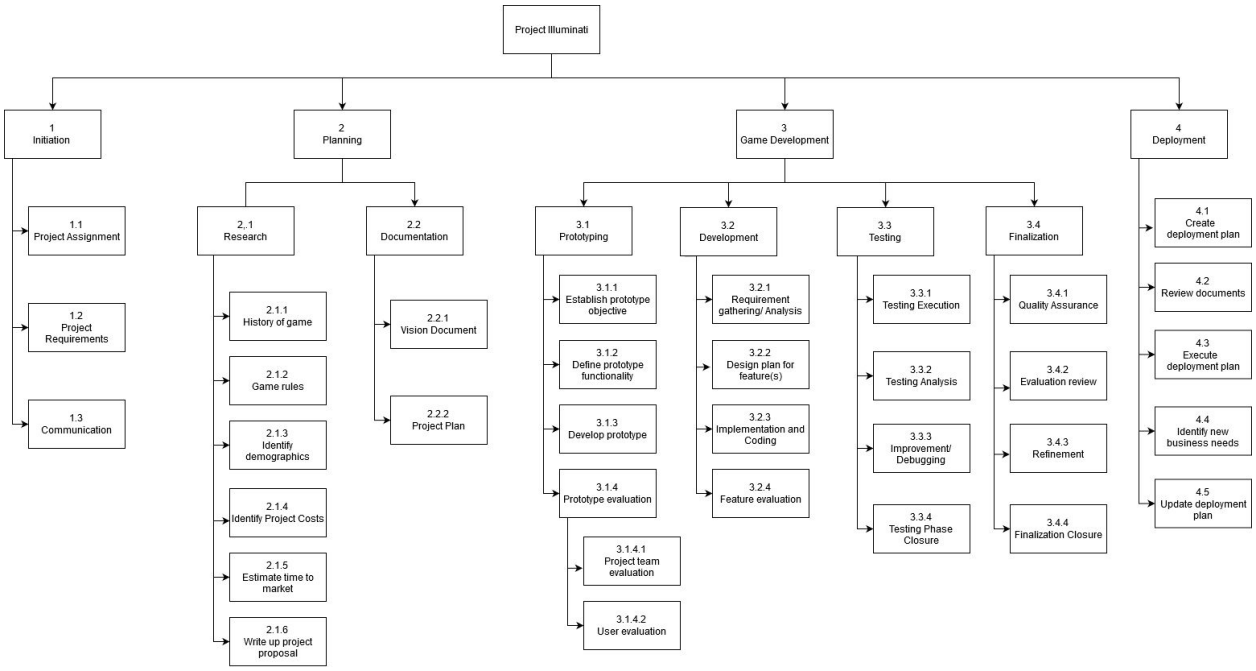
Project Team	Availability	Comment
Julien	M-Th 10:00-5:00pm Fri 2:00-5:00pm SatSun open	Strengths: API & unity development
Matt	MW 12:00-1:00pm TTh 4:00-5:00pm Fri-Sun open	Strengths: OOP & game design
Edward	MW 2:00 - 5:00pm TThu 4:00 - 5:00pm	Strength: OOP & QA

3.2.4 Steering Committee

Steering Company	Availability	Comment
Anthony Giaclone	TuTh 10:00am-11:00am, 4:00pm-5:00pm	Office hours

4 Schedule and Budget

4.1 Work Breakdown Structure



4.2 Schedule and Milestones

Milestones	Description	Milestone Criteria	Planned Date
M0	Start Project	Project Plan, Vision Document	2020-02-24
M1	API		2020-03-02
	Creation API and create class to link it with unity client	Unit tested API with documentation	
M2	Design/UX	Design/UX	2020-03-16
	Design of different part of the game	Prototype game board, Login, Logout menu	

M3	Launcher		2020-03-30
	Creation of the launcher	The launcher update and download the game, display the patchnotes historic	
M4	Networking		2020-04-08
	Setup of the networking	Creation of the room, define player number	
M5	Game		2020-04-08
	Basic game features	Possibility to play with basic features of the game	
M6	Delivery		2020-05-04
	Delivery of the project	Correction of bugs, add more specific and advanced features (like specific cards)	

4.3 Budget

Category	M0-M1	M1-M2	M1-M2	M3-M4	M4-M5	M5-M6
Human Resources (internal)	6000	6000	6000	6000	6000	6000
Human Resources (external)	N/A	6000	N/A	N/A	N/A	N/A
Purchase(COTS)	500	N/A	N/A	N/A	N/A	N/A
Equipment	10000	1000	1000	1000	1000	1000
Premises	N/A	N/A	N/A	N/A	N/A	N/A
Tools	N/A	N/A	N/A	N/A	N/A	N/A
Travel Costs	N/A	N/A	N/A	N/A	N/A	N/A
Training	N/A	N/A	N/A	N/A	N/A	N/A
Review activities	N/A	N/A	N/A	N/A	N/A	N/A

Other	N/A	N/A	N/A	N/A	N/A	N/A
Total	16500	13000	7000	7000	7000	7000
Total accumulated	16500	29500	36500	43500	50500	57500

4.4 Development Process

Our process model for this project will be an Agile Process with Scrum since this is most likely what we will see in industry. We will partition the project into code generation tasks for each member, with each member unit testing any code they check in. We will have weekly sprints to check in each member's current progress, issues, and needs. Our "demos" will be hosted amongst ourselves and occasionally with the project manager in order to get incremental feedback.

4.5 Development Environment

Item	Applied for	Availability to
Methods		
Scrum	The whole project	M2
Tools		
Unity	Client	M0
Raspberry pi	API	M2
Git	Project	M0
Languages		
Java	Launcher	M3
Go	API	M1
C# (Unity)	Client	M1
YAML (Swagger)	Documentation (Swagger)	M2
HTML	Webpage (patch note, Wiki, confirmation mail)	M2

4.6 Measurements Program

The measurements used to evaluate the project will include the verification by all members of the team and the project manager. These evaluations will occur regularly to ensure that genuine progress is being made. The final evaluation will consist of the final project grade and the evaluation of the project by other teams in class.

5 Risk Management

All identified risks are documented and assessed by the project team. The project team will consult the Project Manager about the risks and develop a plan to eliminate/ mitigate the risks. The plan will also determine who is responsible for dealing with each risk and is based on both the type of risk and a team member's knowledge/skill on the area of risk. The risk status is updated and reported monthly.

Some major risks determined were:
- Difficulty hosting server
- Late delivery of game
- Bugs

As risks become more apparent, we will divide up particular code generation and design tasks in order to manage said risks. Updates to this documentation are required as risks present themselves.

6 Sub-contract Management

Company	Contact	Subcontracted Work	Ref to sub-contract
N/A	N/A	N/A	N/A

7 Communication

Type of communication	Method/tool	Frequency/ Schedule	Information	Participants/ Responsibilities

Internal comm.				
Project Meetings	Physical meeting	Bi-weekly	Project status, problems, risks, requirement changes	Project team
Sharing Project Data	Github	When available	Updating repo with individual work	Project team
Task manager	Trello or similar application	Everytime a task progress status change	Track each task and its progress	Project team
Milestone meetings	Physical/virtual meetings (Discord)	Monthly	Assess how well the team is on the same page re:due dates, current status of project, and changes in project plan	Project team
External comm.				
Project Reports	Feedback from Project Manager	Bi-weekly	Primary/final measure of evaluation of the project	Project team

8 Delivery Plan

8.1 Deliverables and Receivers

Ident.	Deliverable	Planned Date	Receiver
D1	Documentation	May 4th 2020	Anthony Giaclone
D2	Game	May 4th 2020	Anthony Giaclone
D3	Launcher	May 4th 2020	Anthony Giaclone

9 Quality Assurance

The Project team will be responsible for the quality assurance of the project.
The API will be unit tested to ensure its quality of this one and that every route works and returns the right information or does the things they are designed for.
Every feature will be beta tested by the Project team or a limited amount of beta tester users.

10 Configuration and Change Management

N/A

11 Security Aspects

Since the project will have multiplayer and an API, some security measures will be taken.
The client will encrypt the password before sending it to the API while registering and logging in. The API will also encrypt the password again before storing it in the database.
To access the API the client will use a token this token will be constant and used for the authentication after being authenticated the client will receive a JWT token specific to this user and with a date of expiration a refresh token will also be generated so the client can get a new access token when it expires. This will make sure that the data of users are protected.
For the registration all temporary email will be prohibited and can't be used to create an account and this to ensure security.
All the requests that will be performed on the API will be logged so we can report security incidents and know what happened and what data has been get or altered.

12 Abbreviations and Definitions

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

13 References

[1] Vision Document — Project Proposal for Illuminati

[2] Work Breakdown Structure — Work Breakdown Structure for Illuminati

14 Revision

Rev. ind.	Page (P) Chap. (C)	Description	Date Dept./Init.
1.0	--	Original version	28-02-28