King of Tokyo Project Plan

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1.0 Overview

King of Tokyo is a fun, entertaining, family board game. The game itself is tangible and only needs a table to set the game on top of. This game can be played with anyone you'd like, as long as there are between 2-6 players. The game itself is probability based, meaning, your chances of winning is based off throwing dice and getting the best numbers and symbols. Although this is the case, the game would also require the player to have some sort of strategy in order to be successful in winning. This strategy can be determined on what is best for the player in a certain situation. These situations depend on many factors and these factors may include leaving Tokyo or purchasing power cards that have many rules and benefits that may be confusing to understand.

This is where the motivation for this project initially instantiated from. We want to create a virtual version of the game that will encompass these monsters, dice, and rules to make it easy to understand, help you build your strategy, and have a nice, fun, and easy experience with the game!

The creation of this game will be tailored to anyone who enjoys playing board games -- especially those who do not want to hassle with reading a long rule book.

This virtual version of the game will not extend the original physical board game with new rules, dice, or anything else. The game will be set as if you were physically playing the game in front of you.

The cost of making this game will not cost any money. The developers will provide all work of the game for free. The game will be hosted on no-cost host services, and all licenses used will be free to use.

The estimated time to complete this project will take approximately 3 months with continuous workmanship.

This project will not depend on other organizations or other projects. This project can be contributed to in order to add new features, but is not recommended to create additional rules that invalidate the original King of Tokyo board game.

2.0 Goals and Scope

2.1 Project Goal

The goal of this project is to provide all users with a clean user interface, a fun virtual experience, and follow all the rules of the board game, King of Tokyo.

Functional Goals	Description	Priority
Game rules	Following rules of the game correctly.	high
Error handling	Prevents players from breaking the rules.	high
User interface	Provide a clean user interface that is not confusing to follow.	high
How many players	Ask how many players will be playing. Minimum is 2 players and maximum is 6 players per game	high

Player names	Be able to add player names to game.	high
Player monster	Assign the players a monster.	high
Show powercard	Shows the powercard description and an effect.	high
Show victory points	Shows the number of victory points the player has.	high
Show life points	Shows the number of life points the player has.	high
Show monster	Displays the monster	high
Show dice	Displays the black and green dice figures.	high
Show energy	Shows the amount of energy.	high
Tokens	Gets the number of token types.	high
Show background	Displays the game's background.	high
Show rules	Displays main rules of the game to quickly get started.	high
Gameplay	Interactive gameplay.	high
Win and loss history	Show player win and loss history.	medium
Username	The ability to create a username to determine a players win and loss history.	medium
Username password	The ability to create a password to go with the username so no other user can play in their name.	medium
Open rule book in PDF	Opens the rule book in PDF format.	low
Open quickstart guide in PDF	Opens the quickstart in PDF format.	low

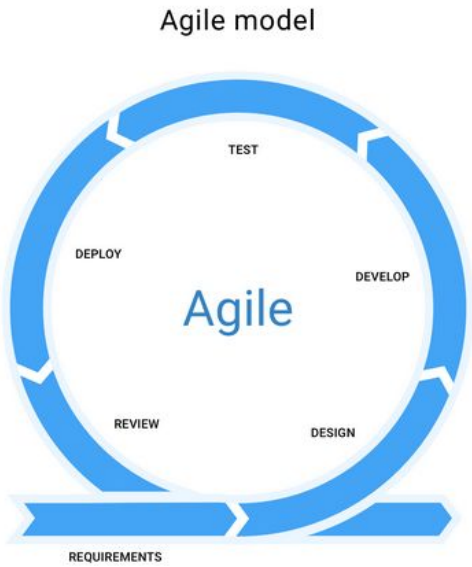
Business Goals	**Description**
Free to play	Make the game free to play and download for all users
Time	Have the game available to play within the due date.
Availability	Available to download the game from host service anytime (if host service isn't down).

Quality Goals	Description
Free of bugs	Have the game free of all bugs accounted for maximum efficiency.
No lags or freezes	Prevent the game from lagging or freezing.
Organized	The user interface will be clean, non-redundant, and easy to follow.

Constraints	Description
Application	Available for only desktop platforms.
Operating System	Available to play on Windows, Mac, and Linux operating systems.

2.2 Project Scope

As stated above, this project has many goals that deal with the functionality of the game, with business, and quality. But as all software is developed, there are constraints that are dependent towards a target audience. The development of this game will include and exclude certain features. These can be found down below. This game will be developed using a wide range of external libraries that are free to use. This project's decisions on software can be found in section 4.5 Development Environment below. Our team will be implementing the Agile model throughout the SDLC for the game King of Tokyo. King of Tokyo will be delivered to the Project Manager on 12/12/2019



2.2.1 Included

This game will contain many different features in the environment of the game, King of Tokyo. It will follow all the rules, and provide correct effects of power cards, health generated, points gained or lost, and so on. The game will also contain animations and physics for the gameplay such as rolling the dice. Also, the game will be delivered as a portable application downloadable on all major platforms such as Windows, Mac, and Linux -- there is no need to install into the operating system.

2.2.2 Excluded

This game will be limited to desktops only. No mobile application will be available to download. Sound effects and music will be excluded from the virtual game. A chat or text box will not be available to communicate with other players. Lastly, this game will not be available to play online against other players.

3.0 Organization

3.1 Organizational Boundaries and Interfaces

This project will be solely independent and original development. No outside organization will take part in any development.

3.1.1 Resource Owners

Resources for developing this game will have the use of external libraries. No other organization will be part of the development.

3.1.2 Receivers

All people following the environmental requirements will be able to obtain a copy of the software.

3.1.3 Sub-contractors

There will be no sub-contractors for this project. This project will be self contained independently and requires no external organization.

3.1.4 Suppliers

No suppliers will be required for this project.

3.2 Project Organization

The project organization will be organized using a Gantt Chart. The Gantt Chart will help the team understand which role they will be playing in the development of this game. The chart will describe the phases we will partake in.

3.2.1 Project Manager

Role	Name	Comment
Project Manager	Anthony Giacalone	Will ensure the project goes according to plan, and oversee the entire project.

3.2.2 Project-internal Functions

Function	Name	Comment
System Test Lead	Jesse Guardado	Functionalities of the system will be tested throughout the Software Life Cycle(SLC)
Quality Assurance	Omar Perez	Focus on process and procedures throughout the software test life-cycle (STLC).
Unit Testing	Chris Perez	Make sure functions, methods, loops, and statements are working properly.
Acceptance Testing	Omar Perez	System will be tested for acceptability through Black Box Testing (BBT) to ensure it meets business requirements.
Validation Lead	Omar Perez	Ensure project meets client needs.
Integration Tester	Jesse Guardado, Chris Perez	Perform test to expose defects in the interfaces and in the interactions between component and system integration.
Risk Manager	Chris Perez	Will account for future possible risks associated with the development of the game.
Game development implementation	Omar Perez, Chris Perez, Jesse Guardado,	Development of the board game.
User interface design	Omar Perez	Design of the user interface home screen and game screen.
User interface implementation	Jesse Guadado, Chris Perez	Implementation of the design of the user interface
Packaging	Omar Perez	Package the application to run on the operating system.

3.2.3 Project Team

Name	Availability	Comment
Anthony Giacalone	Tues/Thurs 2-4:15pm and office hours.	Availability arrangements may be made by appointment.
Omar Perez	Everyday	N/A
Chris Perez	Everyday	N/A
Jesse Guardado	Everyday	N/A

4.0 Schedule and Budget

4.1 Work Breakdown Structure

For a visual representation of the project breakdown, it can be viewed in the Gantt chart images below. Alternatively, the Gantt Chart can be viewed as a whole in the projects subfolder > Documents > Gantt Chart.pdf. The project will undergo development in three phases. Each phase consists of a different objective. Phase 1 will consist of the project outlook and requirements. This will follow with the design and implementation of the user interface. Phase 2 will consist of the development of King of Tokyo using the game engine, development of a help section, and the development of the application. Finally, phase 3 will consist with final testing of the application. Throughout the development process, all phases will include documentation, risk management, and thorough testing.

4.1.1 Phase One

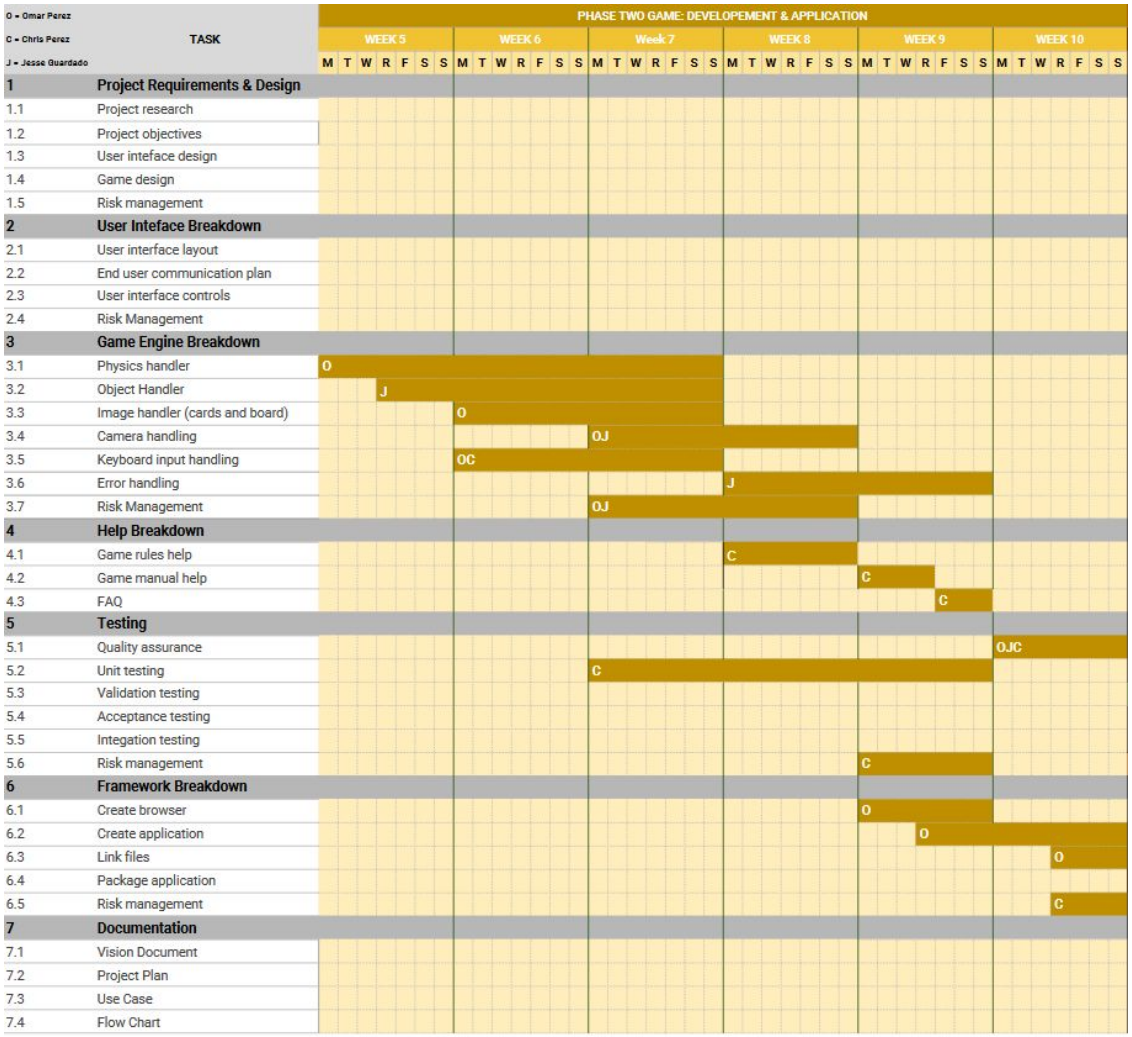
GANTT CHART

PROJECT	King of Tokyo	COMPANY NAME	CECS 343
PROJECT MANAGER	Anthony Giacalone	DATE	25 Septemeber 2019

O = Omar Perez
C = Chris Perez
J = Jesse Guardado

	TASK	PHASE ONE: DESIGNING																								
		WEEK 1							WEEK 2							WEEK 3							WEEK 4						
		M	T	W	R	F	S	S	M	T	W	R	F	S	S	M	T	W	R	F	S	S	M	T	W	R	F	S	S
1	**Project Requirements & Design**																												
1.1	Project research	OCJ																											
1.2	Project objectives			OCJ																									
1.3	User inteface design															O													
1.4	Game design															OCJ													
1.5	Risk management																				C								
2	**User Inteface Breakdown**																												
2.1	User interface layout																						J						
2.2	End user communication plan																							OCJ					
2.3	User interface controls																						O						
2.4	Risk Management																						C						
3	**Game Engine Breakdown**																												
3.1	Physics handler																												
3.2	Object Handler																												
3.3	Image handler (cards and board)																												
3.4	Camera handling																												
3.5	Keyboard input handling																												
3.6	Error handling																												
3.7	Risk Management																												
4	**Help Breakdown**																												
4.1	Game rules help																												
4.2	Game manual help																												
4.3	FAQ																												
5	**Testing**																												
5.1	Quality assurance																												
5.2	Unit testing																								C				
5.3	Validation testing																												
5.4	Acceptance testing																												
5.5	Integation testing																												
5.6	Risk management																												
6	**Framework Breakdown**																												
6.1	Create browser																												
6.2	Create application																												
6.3	Link files																												
6.4	Package application																												
6.5	Risk management																												
7	**Documentation**																												
7.1	Vision Document	OCJ																											
7.2	Project Plan								OCJ																				
7.3	Use Case																												
7.4	Flow Chart																												

4.1.2 Phase Two



4.1.3 Phase Three

O = Omar Perez
C = Chris Perez
J = Jesse Guardado

	TASK	PHASE THREE TESTING												
		WEEK 11							WEEK 12					
		M	T	W	R	F	S	S	M	T	W	R	F	S	S
1	**Project Requirements & Design**													
1.1	Project research													
1.2	Project objectives													
1.3	User inteface design													
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5.5	Integation testing				OJC									
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6.4	Package application	OJ												
6.5	Risk management													
7	**Documentation**													
7.1	Vision Document													
7.2	Project Plan													
7.3	Use Case													
7.4	Flow Chart													

4.2 Schedule and Milestones

The schedule of our project is depicted in the Gantt Chart above. These milestones below are tentative and can change as the development process continues. We see these milestones as accomplishments that lead to a new goal.

Milestones	Description	Planned Date
Beginning	Project start	09-16-2019
Vision	Begin vision of the project.	09-17-2019
Start planning	Begin project planning	09-24-2019
Project Design	Project Design has been completed	09-30-2019
UI Design	User interface has been completed.	10-06-2019
Game Design	Game design has been completed	10-13-2019
Game Completion	Game development has been completed.	11-17-2019
Application Completion	Application has been completed.	11-24-2019
Approved Testing	Project has been approved for release.	12-01-2019
Release	Release project.	12-08-2019
Close	Close project, completed.	12-12-2019

4.3 Budget

The cost of this project will not endure any financial needs. This project is completely free.

4.4 Development Process

We chose to use a Gantt chart because it allows for simple planning of our project. It allowed for organization and also a clean and concise visual to better assist our team in meeting strict deadlines and team members jobs.

4.5 Development Environment

The environment, languages, and tools listed below will be employed in the design and implementation

Environment / Language / Tools	Applied for
VSCode text editor	Design and development
Javascript	Game implementation and other
Babylon.js	Game engine
Firefox	Preview game
HTML & CSS	Mark up
DrawIO	UML model design

5.0 Risk Management

Many procedures and meetings will be implemented to prevent and limit risks throughout this project. Meetings will occur every Tuesday and Thursday and our main form of communication will be through Discord. Our Risk Manager, Chris Perez will organize meetings and overlook the testing process while also providing guidance throughout the project. Team members will report any problems or issues to the Risk Manager. If such problems or risks arise, they will be well-documented and be prioritized and handled by the Risk Manager. To keep track of these documents, a Risk Management Plan folder will be on hand available through Google Docs and will be updated weekly.

6.0 Sub-contract Management

The sub-contractor's agreement will be unavailable for this project as there will be none working on this project.

7.0 Communication and Reporting

Type of Communication	Method/Tool	Frequency/ Schedule	Information	Participants/ Responsibles
Internal Communication:				
Project Meetings	Discord	Weekdays and weekends(when available)	Status on project, problems, risk	Project Mgr
Sharing of project data	Github	When edits have been made to project	Project documentation and reports	Project Mgr Project Team Members
Milestone Meetings	Discord	Before milestones	Status and Progress of project	Project Mgr
Final Project meeting	In person on campus	M4	Wrap/Deploy Project	Project Mgr Project Team

Type of Communication	**Method/Tool**	**Frequency/ Schedule**	**Information**	**Participants/ Responsibles**
External Communication and Reporting:				
Project Reports	Google Docs	Weekly	Project status - progress -forecast -risks	Project Manager

8.0 Delivery Plan

8.1 Deliverables and Receivers

Ident	Deliverable	Planned Date	Receiver
D1	Finished Project	12/12/19	Project Manager

9.0 Quality Assurance

Our team will follow a strict Gantt chart to ensure that the customers requirements are met on time. The Gantt chart will allow our team to be agile every step of the way and will allow us to break down big tasks that are needed for completion. We also give ourselves at least one weeks worth of leeway, in case something goes wrong within our Software Development Process. And throughout the SDLC we will communicate/coordinate with the customer on a weekly basis. This will allow the customer to collaborate with the team if any changes or updates need to be made to the project. However, by following the Gantt chart our team will meet all the customers requirements on time.

10.0 Configuration and Change Management

11.0 Security Aspects

Our team is well aware of some potential security issues that may occur during the software development process. The game will not be available through online play which will limit security issues and problems. In order to ensure that there will be no security threats during the SLC, the team will work diligently to provide a quality product with little to no maintenance

12.0 Abbreviations and Definitions

STLC	Software Test Life Cycle
BBT	Black Box Testing
CI	Component Integration
SI	System Integration
SLC	Software Life Cycle
PM	Project Manager
SDLC	Software Development Life Cycle

13.0 References

13.1 Game Description

King of Tokyo description.

13.2 How to Play

King of Tokyo gameplay.

13.3 Gameplay Rules

King of Tokyo specifics.

14.0 Revision

Rev. ind.	Page	Description	Data Dept./Init.
		original version	9/27/19