Salvage Mobile Game

Software Project Management Plan

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Prepared by:
Ryan HAGLUND (Assistant Manager)
Gerardo PARKER (Project Manager)

Advisor:
Dr. Arturo I CONCEPCION

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1.1 Project Summary

1.1.1 Purpose

This Software Project Management Plan outlines the management of the Salvage mobile game through its first iteration of the project. It contains requirements, development cycle plans, a Gantt chart of projected progress, testing protocols, and maintenance details for the application. The intended audience is Dr. Concepcion.

1.1.2 Scope of the Project

The scope of this plan encompasses the first iteration of the Salvage mobile game application. It outlines the initial plans that will be implemented in the application. Anything not directly related to application development as specified in the SRS or Game Design Document is to be considered outside the scope of the project.

These include:

- Application development
- Quality Assurance
- Documentation

1.1.3 Assumptions and Constraints

The following are assumptions:

- An IPA and APK will be provided to the QA team for review on
- A demonstration of the project will be made on
- Team members will attend the demonstration.
- Team members will attend lab meetings
- Team members will ensure that they are on task
- Team members will work outside of classes in order to finish the project
- After class is over development will be taken over by Project Manager
- The client will be an involved in the design process
- We will be using GitHub as our primary repository

The following are constraints:

- The application must be downloadable over 4G phone connections meaning that it must be maintained under 100 MB
- Must work on latest mobile devices, and tested on older mobile devices to test for compatibility

1.1.4 Project Deliverables

For this iteration we will be setting up the basics of the game

- Player saving and loading
- World Construction
- Enemy base AI
- Some Music
- Visual art
- Player movement
- Graphical User Interface

1.1.5 Schedule and Budget Summary

First prototype will be given on the 7th week and the second prototype will be given on the finals day.

This project was not given a budget, and will be using mostly free material. Although the school can provide:

Computers for development

1.2 Evolution of the Plan

This first iteration is the base the implementation of the game. The second iteration is just going back and optimizing all scripts to filter out unnecessary code. Gerardo Parker will revise it after the class is over.

The preliminary SPMP will be submitted to Dr. Arturo Concepcion for approval and will be improved or revised upon further progress of the development.

2 References

Software Project Management Plan IEEE 1058-1998
CSUSB Student Advising Mobile Application CSE 455 Rev. 2.0

3 Definitions, Acronyms, and Abbreviations

Android

A mobile phone operating system developed by Google and several other partners.

Apple devices

Devices distributed by Apple Inc., which are the iPhone, iPod, and IPad.

C#

The programming language the video game will be using.

Draw Calls

The amount of materials being drawn to the screen, materials can be batched, or rather displaced multiple times, to reduce the number of draw calls while still looking the same.

IOS

A mobile phone operating system, which is distributed by Apple Inc. solely for Apple mobile devices.

MB Megabyte

A unit of computer memory typically rounded to be equivalent to 1000 bytes.

Mobile Device

A device used by the consumer that does not require the consumer to be plugged into a power supply, and can move from location to location while the device is still on, such as a phone.

MOGA Controller

A third party video game controller, used as an interface to add functionality to the button-less iPhone and Android devices.

MonoDevelop

The development environment used to write and edit code for the game.

Procedural Generation

The process of generating an image, or environment through a series of algorithms that allow for minimal level design and can be formulated to be a random generation each time.

RAM Random Access Memory

A type of computer storage that is typically used for faster access, it is also "volatile" memory, meaning that anything stored in RAM will be lost when the application closes, or the device turns off.

Unity3D

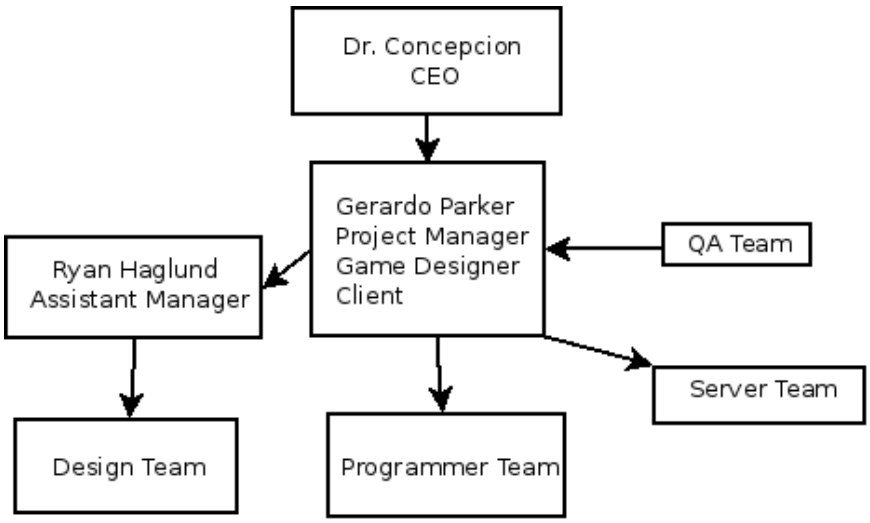
3-Dimensional game engine used for developing video games. Has the advantage of being one of the most multiplatform engines allowing for development across multiple platforms with the utmost ease.

XML

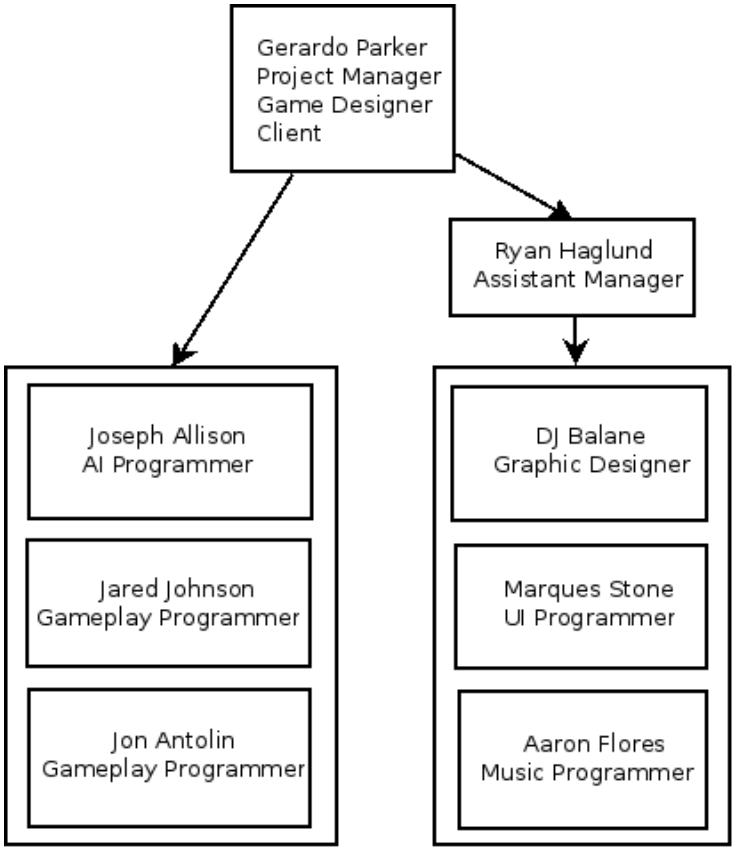
A file format that is typically used for saving information to memory, and can be modified to have any type of structure, otherwise known as a schema.

4 Project Organization

4.1 External Interfaces



4.2 Internal Interfaces



4.3 Roles and Responsibilities

Name	Role	Responsibility
Gerardo Parker	Project Manager /Designer	Leading Project manager, as well as designer, and game programmer
Ryan Haglund	Assistant Manager	Will assist in programming, and delegating any issues

		within the team.
DJ Balane	Art Designer	Makes the Art for the game ranging from UI items to space ships.
Joseph Allison	Game Programmer (AI)	Will implement artificial intelligence for enemies.
Jared John	Game Programmer (logic)	Implementing systems and functions needed for the player to interact with virtual world
Jon Antolin	Game Programmer (logic)	Implementing systems and functions needed for the player to interact with virtual world
Marques Stone	Game Programmer (UI)	Will be implementing the user interface for the player to interact with.
Aaron Flores	Musician	Will acquire/make music that will fit the theme of the game and UI, as well as add it in game so that it immerses the player.

5 Managerial Process Plans

5.1 Start-up Plan

We will begin by making:
Storing Player information
Research into Unity
Acquisition of Music
Design of the Game

5.1.1 Staffing Plan

See Roles and Responsibilities section 4.3.

5.1.2 Resource Acquisition Plan

Resources will be acquired from Open Source websites, as well as the art designer, or pre-built Unity assets.

We will Request from the school:
- Gitorious (as per request of Dr. Concepcion)
- An Apple IPad running IOS 7.0

5.1.3 Project Staff Training Plan

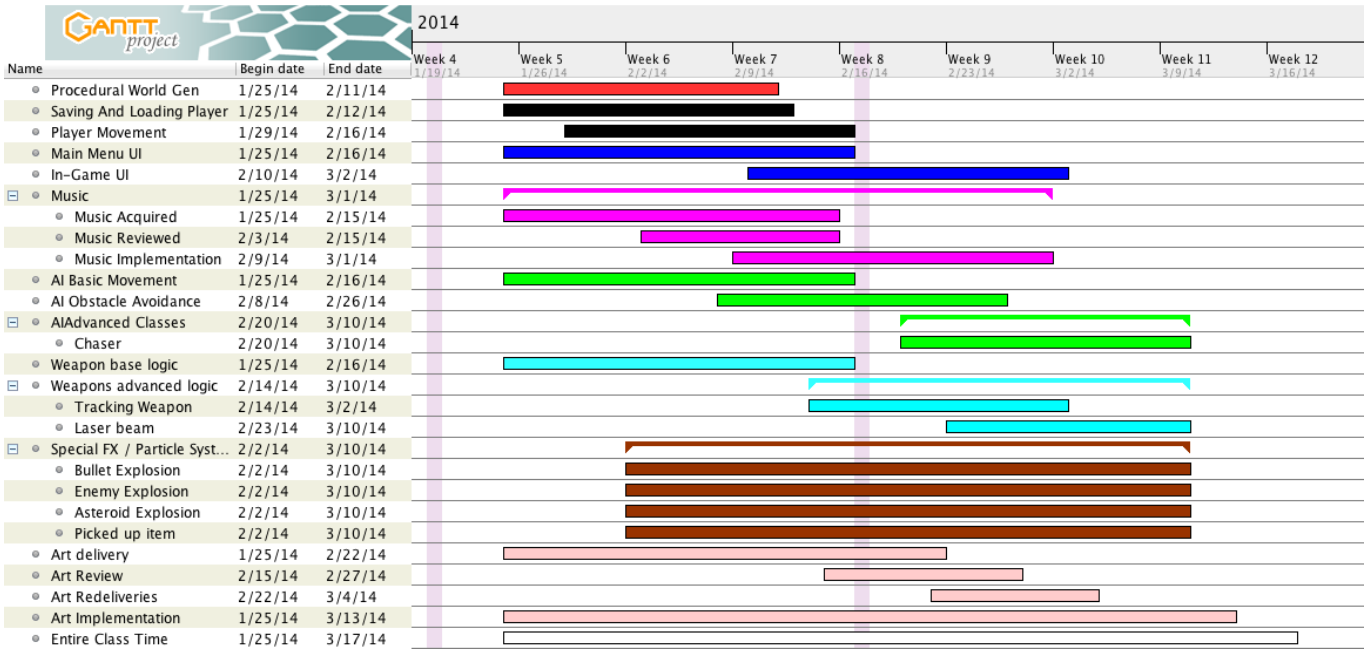
The team members will be assigned several tutorials in order to familiarize themselves with the Unity editor and the C# programming language.

5.2 Work Plan

5.2.1 Work Activities

Prototype – Early working build
Graphic Design – Ships, Icons, labels, buttons
Programming – Source code development
Testing – Verify application reliability
Documentation – Keep application maintainable

5.2.2 Schedule Allocation



Name	Begin date	End date
Procedural World Gen	1/25/14	2/11/14
Saving And Loading Player	1/25/14	2/12/14
Player Movement	1/29/14	2/16/14
Main Menu UI	1/25/14	2/16/14
In-Game UI	2/10/14	3/2/14
Music	1/25/14	3/1/14
Music Acquired	1/25/14	2/15/14
Music Reviewed	2/3/14	2/15/14
Music Implementation	2/9/14	3/1/14
AI Basic Movement	1/25/14	2/16/14
AI Obstacle Avoidance	2/8/14	2/26/14
AIAdvanced Classes	2/20/14	3/10/14
Chaser	2/20/14	3/10/14
Weapon base logic	1/25/14	2/16/14
Weapons advanced logic	2/14/14	3/10/14
Tracking Weapon	2/14/14	3/2/14
Laser beam	2/23/14	3/10/14
Special FX / Particle Syst...	2/2/14	3/10/14
Bullet Explosion	2/2/14	3/10/14
Enemy Explosion	2/2/14	3/10/14
Asteroid Explosion	2/2/14	3/10/14
Picked up item	2/2/14	3/10/14
Art delivery	1/25/14	2/22/14
Art Review	2/15/14	2/27/14
Art Redeliveries	2/22/14	3/4/14
Art Implementation	1/25/14	3/13/14
Entire Class Time	1/25/14	3/17/14

5.3 Control Plan

5.3.1 Requirements

Weekly meeting will be conducted with the team. The client will be updated on the progress of the prototype.

5.3.2 Schedule

Dr. Concepcion will conduct a weekly meeting with Gerardo Parker and Ryan Haglund in order to be updated on the progress of the progress.

5.3.3 Quality

Gerardo Parker will be reviewing the submitted code optimizing any over expensive code. Ryan Haglund and DJ Balane will be reviewing the art direction and the implementation of the UI.

5.3.4 Reporting

Dr. Concepcion will hold weekly meetings where the projects status is currently at.

5.3.5 Metrics Collection

Metrics collected will be number of errors per lines of code.
Currently at the time of this writing we currently have ~720 lines of code and 0 errors that do not allow compilations. The errors will not include minor errors such as coding standard errors but rather errors that prevent the program from running.

L.O.C.: ~720
Errors : 0
Hours : 30 hrs.

5.4 Risk Management Plan

In the event that the project falls behind or issues arise:

Project management will review code and implement missing functions

Equipment Loss:

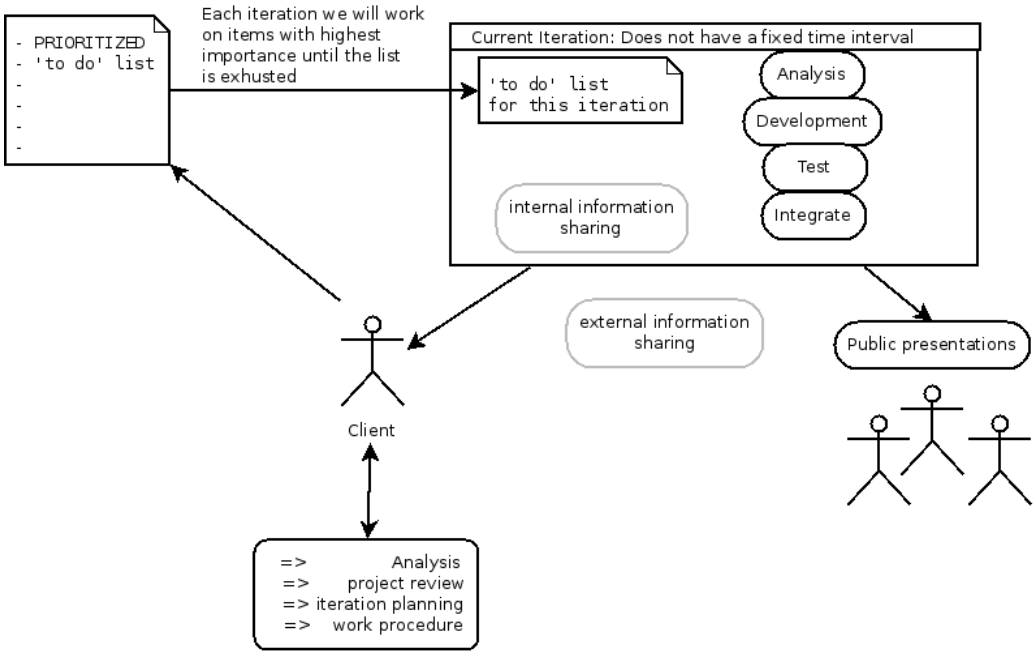
Students are held individually liable for lost/damaged equipment, as designated by the CSUSB policy.

5.5 Closeout Plan

Presentation of deliverables to Dr. Concepcion
Presentation of deliverables to Client
Review of Documentation
Audit of equipment
Transfer of all assets and intellectual property rights to Client.

6 Technical Process Plans

6.1 Process Model



This current iteration will be using the above process model as its primary form of coding, but in the case that a programmer deems certain tasks impossible to complete, the management will be tasked with doing extreme programming in order to add the necessary features for a first and second iteration.

6.2 Methods, Tools, and Techniques

Methods:

Agile Programming

Tools:

Unity3D
MonoDevelop
Android SDK
GitHub
Gitorious
Xcode 5

Techniques:

.NET-compliant code standard for C#

6.3 Infrastructure Plan

We will be using GitHub as our primary repository, and all source code will be maintained on there. Gitorious will only be used as a formality for the school and will only hold our most recent working code, it will not contain any incomplete code or

revisions. Continued development of the product post Winter 2014 will be continued by Gerardo Parker. The development time needed to finish the project will be projected to be within 1 month after the Winter 2014 quarter.

6.4 Product Acceptance Plan

Dr. Concepcion and the Client will test the final product for acceptance. The following will be guaranteed in the final product:

Procedurally Generated Environment
A working GUI
Player Movement
Ability to shoot weaponry
Randomly spawning enemies
Music and Art implementation

7 Supporting Process Plans

7.1 Configuration Managements

All items will be submitted with their respective names of the document (SRS, SPMP, SQAP) followed by date of delivery. In terms of configuration of GitHub, it allows us to make multiple "branches" in other words multiple copies of our unified code and allows us to simultaneously work on the project with utter most ease due to the integration of a graphical user interface, that way the artists or musicians do not need to worry about command line issues.

7.2 Documentation

All documentation will be in code and maintained by Gerardo Parker

7.3 Quality Assurance

The quality assurance team will test the application and return a bug report upon review. The main development team will be doing unit testing and the QA team will be doing the alpha testing from the Gitorious branch

7.4 Reviews and Audits

Gerardo Parker will review and audit all code submitted to the repository prior to publishing phase.

7.5 Problem Resolution

Problems will be resolved between the development team. Any issues that are unresolved internally, an outside impartial delegate will be used.

7.6 Process Improvement

This is the very first iteration of the Salvage game, so the process itself will involve Agile development.