Development Project

Supplementary documentation

for

M.A. Thesis Submission titled:

Monetising Video Game Mods

The perspectives of the modding communities

Joshua Ryan Astbury

11136632

j.astbury@ymail.com

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Contents

1. Introduction

This document is to supplement the development project for the M.A. Digital Games thesis in providing additional insight and information.

* 1. Development Project Concept

The concept of this project was to provide in-game mod tools to the player allowing them to edit usually hidden game variables and modify the next playthrough experience. What has been made accessible through in-game mod tools can be viewed in greater detail in section 3.

It is important to note that the project itself has had no balancing to the predefined values whatsoever. When playing, please do not feel like this is the intended experience as game balance was not seen as a necessity to highlight the mod-ability of this project.

Should the player ever get stuck during a run through, pressing the key: XX will open the mod menu prior to the end of the level.

* 1. Playthrough Loop

The intended playthrough loop for this project was:

1. Player begins a new game,
2. Explores Tutorial Safe Area, leaves when ready
3. Navigates through Battle Area
4. Battle area completed
5. Mod tools become available, Player mods game values for next player
6. Saves values and playthrough ends.

Figure 1 displays a visual representation of this loop.

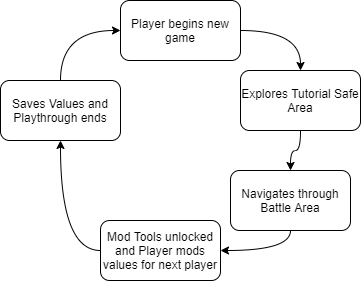


Figure . Concept Playthrough Loop

1.X Project Accessible links

An executable for the project is available here: ##GoogledriveZiplink and as part of the git repository linked below.

The Git repository is available here: <https://github.com/Youg3/MA-DG_DevProject_JRAstbury>

Finally, a YouTube playthrough video is uploaded here: <https://youtu.be/qxko4ctrAVw> along with one from within the Unity Engine: <https://youtu.be/AMKQtZmjgVc>

2. Tools Utilised

Being a solo development project, prior tool familiarity to enable a quicker development time was highly regarded. In this section the tools implemented and used for the development project are detailed.

2.1 Unity Game Engine

The Unity game engine was chosen for the simple reason of prior familiarity.

2.2 Udemy course by James Doyle

To necessitate a more feature complete development project, an Udemy course was used (link below). The course provided by James Doyle provided a nice guide to help implement many features he saw as relevant for a 2D RPG styled video game. Not all were relevant for this development project but provided good practice and additional programming learnings despite lacking some much-needed code optimisations (detailed later).

The vast majority of content, detailed in section ##, was provided through the course.

Udemy Course Link: <https://www.udemy.com/course/unity2drpg/>

2.3 Github & the Fork client

A git repository hosted by Github was used as a version-control system which proved incredibly useful throughout the development cycle as errors and coding breaks cropped up.

The 3rd party client called Fork was used to help manage the repository due to familiarity with the tool.

2.4 Issues and Fixes

This subsection will explain, as best as possible, the issues encountered along with the fixes implemented during development.

2.4.1 Item pickup & Quest system bugs

Locking and unlocking unique items and quests never completely worked correctly with the Udemy tutorial code resetting with each change of scene and making items reappear and be collectable multiple of times.

Although the quest system was not used in the final concept, the unique items are in part, and fixing this bug allowed greater insight into enabling and disabling the mod tools for: player characters, enemy bosses, and battle zones.

2.4.2 Combat bugs

A particularly interesting error arose with the combat damage calculation causing an unlimited amount of damage to be caused by the player characters. This was discovered as being a mathematical error with the tutorial code and so fixed through endlessly debugging.

2.4.X Code Refactors

One of the major topics not covered by the tutorial was refactoring code into a more reusable state through the use of inheritance. An example of this was as the mod tools themselves began to form, a character class from which all characters would inherit was seen as a far better approach and thus so, implemented, causing refactors across the enemy and player character classes created from the tutorial.

Code refactors could’ve have continued though was deemed unnecessary for this project due to time constraints and thesis weighting.

3. Mod Tools

This section details the mod tools implemented in this development project.

Upon reaching the battle area end trigger, the Mod Panel will activate and inform the player that they have completed their playthrough and can now mod the game values.

SCREENSHOT of Mod Panel Intro

3.1 World Panel

3.2 Player Character Panel

3.3 Bosses Panel

3.4 Enemies Panel

3.5 Another panel?

#. Additional Reference Materials (Credits)

These materials are also detailed directly from the Credit panel within the development project.

|  |  |
| --- | --- |
| Material | Reference |
| Art/Battle Bosses | Stephen 'Redshrike' Challener, MrBeast, Surt, Blarumyrran, Sharm, Zabin |
| Art/Battle Enemies | Stephen 'Redshrike' Challener, hosted by OpenGameArt.org |