THE PIXEL WIZARD

Test Plan

Abstract

This document outlines the testing plan that will be used to test the game the pixel wizard

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Introduction

This document contains the testing strategy that will be preformed to test the game **the pixel wizard.** The document is being written in conjunction as part of the overall testing strategy for the company <u>game development international</u>.

About

The game in question is a 2d platformer in which the player takes on the role of a wizard navigating through a pixelated 2d world. The overall objective is to overcome enemies and bosses in each level to beat the game. Each level will have an increasing level of difficulty thus creating a greater challenge with each level passed and giving them a sense of achievement for the player when they reach the end or winning conditions.

The game is built around being user friendly which enables the user to get started quickly and figure out how to play the game easily.

To progress in this game the player can shoot projectiles in the form of fire balls from his staff killing the enemies that confront him on his path. If a fire ball (projectile) encounters an enemy, it will either kill them or take a percentage of health from their lifeforce. This depends on the enemies starting health and the degree of damage that a projectile deal upon hitting a foe.

There are three levels which need to be completed. If the player gets passed all three of these levels by overcoming the obstacles faced, they will have beaten the game in which case they will be presented with a screen informing them they have completed the game.

Enemies can also shoot projectiles at the player. This creates a greater level of difficulty for the player as they must evade oncoming projectiles, using the various controls outlined in the design documents control mechanisms. The **controls** of the game are as follows:

Action	PC	Mobile
Move Forward	Right arrow key/D	Arrow on screen
Move Backwards	Left arrow key/A	Arrow on screen
Jump	Up arrow key/W	Arrow on screen
Crouch	C	Arrow on screen (hold)
Attack	Left mouse click/R	Dedicated button
Pause/Resume	Spacebar	Button in top right of screen

Health

If the player is dealt damage from an enemy attack, they can replenish their health by collecting health pickups. These pickups will replenish some lost health to the players health. The player then has a greater chance of surviving longer in the game. When the player walks into or collects the health it will then be added to their health UI. The health UI is displayed on the top left-hand side of the screen.

Each time the player has been hit by an enemy projectile their health will decrease by one, each time they collect a health pickup their health will increase by one. The player will be able keep playing the game if they have health. If the players health has decreased completely, they will die and must start the game again.

Enemy Health

The same method is applied for the enemy health. Generic enemies do not have a health bar displayed on the screen as it is likely that after being hit by one or two projectiles from the player they will die. The bosses on the other hand have their health displayed on the screen. This is a useful tool for the player as they know how many more times the boss must be hit by a projectile before that boss is dead and they can advance in the game.

Pause game

While in the main game the player can pause the game, which stops the game play. Which can be achieved by pressing the space bar. Upon pausing the game, the player is faced with various options that they can select these are outlined below.

Save game

If the player chooses to save the game, this will save their progress in the game. This progress can then be loaded from the main menu. This will allow the player to start from the point at which they saved the game.

Settings

If the player chooses the settings option, they can adjust or change the sounds and music in the game.

Restart

If this option is chosen the player will restart the current level they are in, all progress will be lost, and the player starts again

Exit game

If the exit game is chosen, the game will quit, and the player will leave the game.

Continue

Like any pause setting the game can be un-paused and the player will continue from the point and time at which they paused the game. This can be achieved by pressing the space bar again.

Main menu

When the game is first loaded the player is presented with a main menu that has three options. These options are listed below:

Play/load/save/delete game

If this button is selected it will bring the player into the game. What it loads exactly will depend on if the player has saved the game or not. If the player has no saved game data, it will bring the player to the first level will be loaded. A display will also appear outlining to the player the controls used to play the game. Once the player is happy with the controls they can continue and start playing the game.

If the player has saved game data and chooses the load button, the saved data will be loaded, and they will be taken to the point at which they saved the game.

If the delete save game button is chosen it will delete the players saved game data and they will have to start the game again.

Settings

If the settings button is chosen, the player will be taken to a menu where they can adjust or turn off the sound settings for the game.

Exit game

If this option is chosen, the application will quit.

Assets

The assets used in this game refer to how the game looks, what artwork it has. This ranges from the player character, the enemies, the projectiles, the scene itself. The assets used are listed below these have been taken from the design document.

Asset Name	Asset
Background	
Player Character	
Enemy Character	
Player/Enemy Projectile	
Ground Asset	

Platform One Asset	
Platform Two Asset	
Health Pickup	
Rock Asset	
Menu Logo	

Objectives and Tasks

Objectives

The objective of this test plan is to test the features of this game as stated in the design document and ensure they (the features) do what the game states before the release of the game for commercial use.

I have been tasked with testing this game as part of a white box testing effort. I will be testing this with full knowledge of the internals of the game as part of a service level agreement by game development international.

I the tester will be responsible for testing every aspect of the game from the features of the main menu to the actual game and game play itself.

Some examples of this are as follows:

- I will test the assets to see if they fit in with the game and make sure they are responsive.
- I will be testing to see if the game play is smooth and without glitches to bring a positive experience to the user. Ex the background transitions smoothly and the end of each cycle.
- Test the save/load and delete game data features.
- Test the volume and setting controls to ensure they do the specific task.
- Thoroughly testing the code under the hood to make sure that it is without errors and functions properly.
- Test the user interface from a customer's point of view to ensure that it is easy to use and is understandable.
- Test the various controls to make sure they do they specified task. Ex the directional controllers bring the player character in the intended direction.
- Test the enemy AI to ensure they behave within the constraints of the game.
- Test the canvas and box colliders to ensure the player cannot fall off the screen to run off the edge.

Tasks

Testing

The testing process will be made up of several activities.

Unit testing

This testing strategy will test the coding features of this project to ensure that all the code does the required functions properly. The unit testing will be done with a testing suite that is relevant to the language the code is written in. From there I will write tests based on various functions and classes and ensure that they pass these tests. I will keep record of my completed tests in a test case document to make note of any tests that pass, as well as any tests that do not pass.

Game play testing

This series of tests will test how well the game plays. Ensuring that gameplay is a positive, smooth, and responsive experience for the user. This is a follow up test to the unit testing and ensures that everything functions properly on the front end of the application. These tests will include testing the menus, in game play, pause menu, enemies AI, winning conditions, loosing conditions. Ensuring that each button and mouse movements do the correct task.

User Experience testing

This will be a follow up to the previous two tests. This will test the users experience when playing the game to ensure that they feel like the game is user friendly and all features are well laid out, well documented and easy to comprehend. User stories will provide feedback on how they feel the game is and perhaps what they think is missing.

Problem reporting

Any problems with the application will be documented in the test case document. At the end of each day game development international will be informed of my findings and errors (if any) on each topic covered for their own records so, they can act accordingly about how to fix these errors or make a note of passing tests.

Post testing

I have also been tasked with post testing the application as well.

After the game has been released, I will continue testing it, reading any possible bugs reported by players and testing to see if those bugs reported are accurate. I will then report any findings to game development international. Where they can take the steps to develop new patches or updates to fix these reported bugs.