Testing documentation

1. Introduction

This document outlines the testing strategies, test cases, results, and critical evaluation performed during the development of the game. The testing ensures that all MUST, SHOULD, and selected COULD requirements function as intended, aligning with the original requirements analysis.

Testing was carried out through:

Functional Testing

Non-Functional Testing

Playtesting

Debug Logging

Scenario Testing (waves, enemies, crops, player actions)

2. Testing Approach

2.1 Functional Testing

Focused on confirming that core gameplay mechanics behave correctly:

Player movement & shooting

Enemy spawning & pathfinding

Crop destruction

Wave progression

Game Over & Victory transitions

Trigger zones and collisions

2.2 Non-Functional Testing

Measured performance, responsiveness, readability, and overall user experience:

Frame rate stability

UI visibility

Audio responsiveness

Scene transition speed

2.3 Automated / Debug Testing

Use of:

Debug.Log outputs

Enemy count checks

CropManager state tracking

2.4 User Playtesting

Informal testing conducted with classmates or peers to validate:

Controls feel intuitive

Tutorial flyover clarity

Enemy difficulty balance

Visibility of UI elements