Test Plan for Defenders of the forest

Introduction

The purpose of this test plan document is to outline the testing approach for the Defenders of the forest application.

> Test can be performed on major browsers like Chrome and Edge.

Test Scenarios

Home Page

Test Item	Description	Result
Home Page	Verify that the home screen displays options to start the game.	Successful
User Manual	Verify that the user manual is loading properly with descriptions on defenders and attackers.	Successful
Level Selection	Verify that the level selection screen is displayed with options to choose levels.	Successful

Game Play

Test Item	Description	Input	Expected Output	Result
Start Game	Verify that the game starts when the player clicks on the level selection button.	Click on level-1 or level-2 button	Game starts	Successful
Start Wave	Verify that the wave starts when the player clicks on the start wave button.	Click on start wave button	Wave starts	Successful
Defender Selection	Verify that the player can select defenders from the available options.	Click on defender icon	Defender is selected	Successful
Defender Selection	Verify that the player can see that the defender is selected.	Click on defender icon	Defender icon is shown with a border	Successful
Defender Selection	Verify that the player can only select defenders when balance is available.	Click on selected defender icon	Defender is not selected	Successful
Defender Placement	Verify that the player can place defenders on the map.	Click on empty spot on the map	Defender is placed	Successful

Test Item	Description	Input	Expected Output	Result
Defender Placement	Verify that the player cannot place defenders on top of each other, on the path of the enemies, rocks, or on the trees.	Click on invalid spot	Defender is not placed	Successful
Defender Placement	Verify that the player can see the range of the defender when placing it on the map.	Click on defender icon and then move the mouse on the map	Range is displayed	Successful
Enemy Movement	Verify that the enemies move along the path towards the player's base.	Start the game	Enemies move along the path	Successful
Enemy Defeat	Verify that the player earns coins by defeating enemies.	Defeat an enemy	Coin counter increases	Successful
Pause Game	Verify that the player can pause the game at any time.	Click on pause button	Game is paused	Successful
Resume Game	Verify that the player can resume the game after pausing.	Click on resume button	Game resumes	Successful
Defender Upgrade	Verify that the player can upgrade defenders by spending coins.	Click on upgrade button and then click on defender	Defender is upgraded	Successful
Defender Upgrade	Verify that the player cannot upgrade defenders when the balance is insufficient.	Click on upgrade button and then click on defender	Defender is not upgraded	Successful
Defender Upgrade	Verify that the player can upgrade defenders multiple times.	Click on upgrade button and then click on defender twice	Defender is upgraded to max	Successful
Defender Removal	Verify that the player can remove defenders from the map.	Click on remove button and then click on defender	Defender is removed	Successful
Defender Removal	Verify that the player cannot remove defenders when there are no defenders on the map.	Click on remove button	Defender is not removed	Successful
Defender Removal	Verify that the player can remove defenders multiple times.	Click on remove button and then click on different defenders	Defenders are removed	Successful

Test Item	Description	Input	Expected Output	Result
Defender Removal	Verify that the player can remove defenders and gain back coins.	Click on remove button and then click on defender	Coins are added back to the balance	Successful

Progression System

Test Item	Description	Input	Expected Output	Result
Level 1	Progression through level 1 and confirm the player can move to the next level.	Defeat all enemies in level 1	Move to level 2	Successful
Level 2	Progression through level 2 and confirm the player can move to the next level.	Defeat all enemies in level 2	Move to level3	Successful
Level 3	Progression through level 3 and confirm the player can move to the next level.	Defeat all enemies in level 3	Move to level 4	Successful
Level 4	Progression through level 4 and confirm the player sees the game completion popup.	Defeat all enemies in level 4	Game completion popup is displayed	Successful
Level Completion PopUp	Verify that the player gets the popup to move to the next level after successfully defending against all waves of enemies.	Defeat all enemies in the current level	Player sees the popUp	Successful
Wave Counter	Verify that the wave counter displays the current wave number.	Defeat an enemy	Wave counter increases	Successful
Coin Counter	Verify that the coin counter displays the player's current coin balance.	Defeat an enemy	Coin counter increases	Successful
Health Counter	Verify that the player's health decreases when enemies reach the end of the path.	Enemy reaches the end of the path	Player's health decreases	Successful

Game Over

Test Item	Description	Input	Expected Output	Result
Game Over	Verify that the game ends when the player's health reaches 0.	Player's health reaches 0	Game Over screen PopUp is displayed	Successful
Game Over PopUP	Verify that the player sees the game over popup when the game ends.	Player's health reaches 0	Game Over screen PopUp is displayed	Successful
Replay	Verify that the player can replay the game after the game ends.	Click on replay button	Game starts again	Successful
Home Page	Verify that the player can go back to the home page after the game ends.	Click on home button	Home page is displayed	Successful