Fire ball  
Cross Platform Development

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# Change Log

Updates made to the document should be described below.

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Author | Date of change | Description |
| 0.0 | AIE | 31/08/2020 | Initial Template created |
| 0.1 | Mara Dusevic | 9/08/2020 | Added feedback and general game description |
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# Development Environment

## Game Engine

Unity 2019.3.6f1

## Source Control

<https://github.com/mdusevic/CPD_UnityExercises>

## Third-Party Libraries / assets

|  |  |  |
| --- | --- | --- |
| **Asset Name**  *License* | **URL** | **Reason for use** |
| **Stylized Lava Texture** *Free –Unity Extension Asset* | <https://assetstore.unity.com/packages/2d/textures-materials/nature/stylized-lava-texture-153161> | Used the texture for the lava at the bottom of each level. |
| **Stylized Rock Texture** *Free –Unity Extension Asset* | <https://assetstore.unity.com/packages/2d/textures-materials/floors/stylize-rock-texture-153452> | Used the texture for the rock wall background of each level. |

# Game Overview

The game called Fire Ball is a 3D platforming game in which the player, as a small ball, faces a variety of levels that contain challenging obstacles and hazards that they must overcome. Each level contains platforms of varying sizes and behaviours that the player must jump to and from to reach the finish line on the last platform.

## Genre

3D Platformer

## Camera Perspective and Movement

There is a fixed camera along the z-axis that will move left, right, up or down depending on the player’s movement.

## Platform

PC, Web, Android and iOS

## Technical Goals

* Smooth player movement
* Easy to use controls

## Game Objects and Logic

A list of logical elements in the game, i.e. door, button, pistol, ammo, light, bullet, wall, character etc. and description of their behavior and purpose

# Controls

State the proposed control scheme for each platform

## 3.1 Windows / Web

Describe

## 3.2 Console / Xbox

Describe

## 3.1 Android / Touch

Describe

# Mechanics

* **Jumping**

When the player uses the set button to jump, depending on which direction they are moving they will move up. This jump force remains consistent even with the length of time the jump button is pressed. Once the player is grounded to the platform they can jump again.

* **Moving platforms**The moving platforms are activated by the pressure plates located before the platforms. Once on they will move between two given points, switching directions on collision.
* **Pressure plate**When the player rolls on top of the pressure plate, it will indicate to the player it has been pushed by changing its colour from red to green before moving downwards. When activated it will turn on the moving platforms.
* **Falling platforms**When the player collides with the platform, it will indicate to the player it will fall by changing its colour from orange to red and after a certain amount of time has passed it will delete itself.

## Hazards

There are jump gaps that if fallen into will drop the player into lava and kill them.

## Obstacles

Moving platforms, pressure plates and falling platforms were implemented to add challenge to each level. These require the player to think about timing jumps to reach the end goal.

# Graphics

Describe graphics features here. I.e., is your game top-down 2D? What post processing are you using? Include perspective, art style, graphic features. Justify graphics selection.

# Artificial Intelligence

Describe how your AI will works, i.e. state machine, fuzzy logic, GOAP. Describe the various behaviors

# Game Flow

## ‘Mission’ / ‘Level’ structure

If applicable. Are all levels stored in memory? what data is saved across levels, are levels loaded synchronously to prevent pauses?

## Objectives/Goal

1. Levels

If any of the Levels require specific behaviors, describe those here. UML chats provided if applicable.

Level tiling tool use identified if relevant, use by designer discussed, how was it built

# Interface

Make sure to address the differences needed per platform.

## Menu

What are the menu options, how is it presented to the player? Provide wireframe.  
How does this work for each input device chosen (keyboard/mouse, controller, touch)

## UI/HUD

What is involved in the UI/HUB, what information is being provided to the player. Mock up of intended UI/HUD design

# Progress report and feedback Meeting Minutes

## Friday 4th September

Describe state of project

* Main menu and game over scene are implemented
* One basic platform level

Feedback from teacher and peers:

* Fix issues with moving platforms
* Fix player movement
* Needs some menus
* Needs some textures

Action Items:

* Attempt to implement the suggestions received from peers
* Fix bugs

## Wednesday 9th September

Describe state of project

* Added android build
* Added textures to game
* Started adding touch controls for mobile devices
* Added a new level

Feedback from teacher and peers:

* Add more levels
* Fix invisible platform collision issues
* Fix player attachment to platform

Action Items:

## Thursday 10th September

Describe state of project

* Added textures
* Updated builds for all platforms

Feedback from teacher and peers:

Action Items:

## Friday 11th September

Describe what has been done since last time

* Fixed touch controls
* Added another level
* Added level select menu
* Fixed moving platform problems
* Changed pause icon

Feedback from teacher and peers:

Action Items: