Infinite Runner

Game Design Document

Version 1.0 (Jun 21st 2022)

# Overview

## Concept

1. *Pitch*

A scientist who seeks to escape from a facility and must make his way through platforms, shooting his enemies, jumping over obstacles.

1. *What is the genre?*

Endless runner with platforms.

## Style

1. What is the visual style?  
   Pixel Art combined with free assets found on the internet
2. Is the game going to be 2D or 3D?

2D

1. What is the game flow and feel like?

Retro style with fluid animations and destruction of elements with a high pace difficulty.

## Features

1. What is the main mechanic?  
   - Jumping

- Shooting

- Swimming / Floating (Posible level on the watter)

- Power ups (Posible implementation of speed or shield)

- Die

- Get Health

- Get coins

- Move Forward (Automatic)

1. How large is the scope?  
   Small scope, targeting a casual player audience and planned to finish the game within a few weeks

## Targeting

1. What platforms will the game be released on?   
   Designed to be on mobile devices
2. What is the target audience?

Casual players, mainly a non-formal game

1. What are the game’s advantages compared to its competitors?

High pace with simple but attaching graphics and maintaining a straightforward goal (Get as far as posible).

# Management

## Schedule

1. Release date?  
   9th of July 2022
2. Milestones?

Alpha

1. Get the movement (Jump) and animations right and parallax
2. Generate the random platform generation
3. Shooting mechanics and targets (Enemies and boxes)
4. Coins and point system and health recovery
5. Music and sounds implementation
6. UI Design

Future Add-ons

1. Level under the water (Swimming mechanic)
2. Different power-ups (Speed or immunity)
3. Boses? ()
4. When should there be a playable version ready?

2th of July 2022

## Budget

1. Personal project only to show on portfolio and possibly with an upload on Play Store

## Management Tools

1. Scrum board? Trello? HacknPlan? Post-its?  
   Usage of notion to structure all the milestones and the organization of the project
2. Version control? Git? SVN? Perforce?  
   Git repository to have a control of the versions and to see a gradual progress

## Test Plan

1. What is the goal of testing?  
   Check the limits of the random generator platforms and to see if there is a memory leak.
2. At which points must the game be tested?

This will be defined by the space of the UI and the proportion of the points gained during the development process

## Risk Analysis

1. Running over budget?  
   No budget risk because the game isn´t seen as an investment with hope of a financial return.

## Localization Plan

1. Is there a possibility the game will be localized to other countries and languages?

Planned to be in 2 languages (Spanish and English)

1. Are audio (e.g. dialogue) and art (e.g. logos) assets localized?

Yes, the audio is still TBD but the character is from itch.io and it is a renowned free asset used in various free tier games or projects and the Typography is the one proportionated by the unity asset store but this might chance in the future.

# Game World and Narrative

## Look and Feel

1. Where does the game take place? Earth? Space? Fantasy world?  
   Placed in a pseudo-Earth/Space environment which is ambient on the insides of a cave
2. Is it modern day? Future? Past?  
   Future
3. Does something look or feel different from the real world?  
   Kind of but the pixel art gives me freedom to explore new possibilities.

## Locations and Structures

1. What locations does the player explore? Do they differ from each other?  
   This is TBD, but the game is only in one location, but it can expand to a water level

## Plot

1. What is the backstory?  
   No plot, just a scenario where the main character tries to escape the cave. The player is free to speculate the backstory, but it is no discard the idea of a narrative in the future.

## Characters

1. Who are the central characters in your story? How are they relevant?  
   No character development for the moment just the asset predefined

# Art

1. What is the general color policy for the game art?  
   Not a specific art styled defined because of the lack of skill in the team (me) to develop assets, so we´ve adapted to the free tiers of assets found online and try to be directed to a pixel art game with not a palette demarcated.

## Characters

1. A picture containing graphical user interface

   Description automatically generatedA picture containing qr code

   Description automatically generatedGeneral guidelines for character design?  
   Follow a simple guideline of color and stick with the assets found. It already comes with several sprites and animations

Main character Enemies

## Effects (GFX)

1. What post processing will be utilized?  
   TBD
2. What events or actions require particle effects?  
   Explosion particles, pick-up particles, death particles, shooting particles.

## User Interface

1. What is the art style of the menus? Fonts used?  
   Pixelized font with poppy art styled. Simplistic menus and not a lot of UI in-game

# Mechanics

## Progression

1. What is the goal in your game?  
   Get as far as posible
2. What are the consequences of losing?  
   Restarting from 0
3. When is the game saved? What parts of it are saved?  
   Only a high score is saved

## Challenge

1. What mechanics do the players have to learn in your game?  
   Jumping and shooting
2. How do you make sure they don’t learn everything too quickly (and get bored)?  
   Speed up the velocity and make the enemies more aggressive
3. At what pace and in which order are new challenges and elements introduced?  
   Depends on the landmarks in the testing phase

## Movement and Actions

1. In what different ways can the player move in the game?  
   Right, and a vertical jump
2. Are there special moves or actions?  
   Shooting
3. How does the player actively affect the gameplay?  
   The survivability depends entirely of the player movement

## Screens

1. Intro screen? Main menu? Credits?

Main menu which shows the player on the background and possibly and options menu, but all will be pop-up menus.

1. What options does the Options menu include?  
   Mainly audio configurations or the language.

# Levels Level Flow

1. Are the levels generated or hand-crafted?

Random generated. Only 1 level in the alpha with the possibility of a water level

## Objectives

1. Survive as long as possible

## Obstacles

1. Boxes random generated in the world just to obstruct the player (Can be destroyed)

## Physics Items

1. Only collision on boxes and gravity is applied. Also the bullet projectile.

# Objects

## Pick-ups

1. Are there pick-ups? Money? Health?  
   - Hearts: Regenerated health  
   - Diamonds/Coins: Extra points
2. Power-ups? TBD

# Non-Player Characters

## Enemies

1. Types of enemies and where they spawn?  
   Like the character, but they can only shoot at the player when seen.
2. Behavioral patterns or strategic decision-making?  
   Increase of fire rate when the game speeds up and have a larger line of sight

# Interface

## Controls

Check for touch screen buttons

|  |  |  |
| --- | --- | --- |
| **Action** | **Keyboard+Mouse** | **Gamepad** |
| Shooting | Left click | - |
| Jump | Spacebar | - |

## Visual System

1. How does the in-game camera operate?  
   Camera focus on a point (static) and the world moving around it.

## Graphical User Interface

1. Describe the graphical user interface in all the different screens of the game.

HUD displayed on top of the screen to maximize space and there will be a loosing screen

## Audio

1. What types of events require audio feedback?  
   Shooting, pick-up objs (hearts and coins), death, walking, jumping

## Help System

1. TBD- Static image that show mechanics in the game (Tutorial)

# Audio Music

1. Main menu music
2. Check for a pace up music algorithm
3. No pause (TBD)

# Technical

## Target Hardware

1. A black screen with white text

   Description automatically generated with low confidenceA black screen with white text

   Description automatically generated with low confidenceTested on a Huawei P20 model mobile device

## Development Standards

1. Code guidelines?  
   - A mixed between Pascal and Camel case for certain scenarios.  
   - Low dash for private component and Pascal for Getters  
   - Comments in xml for readable code and future documentation  
   - Encapsulation of variables if possible, with getters and setters  
   - Use a component base with reusable code or code than can evolve with few changes and only additions.  
   -Uppercase for Constants   
   - Alignment of braces for an correct indentation and more clean code

## Game Engine

1. What is the primary game engine for the project? Why?  
   Unity, easy to use, a lot of build-in functionalities and it facilitates the development.
2. Which versions are used and can they be updated during the project?

2021.2.12f1