Abstract

This document is will outline the idea of my game for the CPD assignment.

The Good Robot  
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 | Logan Ryan | 31/08/2020 | Filled in most of the template. |
| 0.2 | Logan Ryan | 4/09/2020 | Added feedback from today’s session. |
| 0.3 | Logan Ryan | 10/09/2020 | Added feedback from today’s and yesterday’s session. |
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# Development Environment

## Game Engine

I will be using Unity version 2019.3.6f1 for this project. The reason I am using this version of unity is because this is the version that was provided to me from the college.

## Source Control

Link to github repo: <https://github.com/loganryan01/AIECPDAssignment>

## Third-Party Libraries / assets

<State and explain the reason of use for any third-party libraries, assets from engine specific market places (Approval will be required) or packages.  
**All chosen third party libraries must be reviewed before adding to project by supervising teacher and licenses must be checked**>

|  |  |  |
| --- | --- | --- |
| Asset Name  License | Url | Reason for use |
| **Example:**  **Character Pack: Free Sample** Free –Unity Extension Asset | <https://assetstore.unity.com/packages/3d/characters/humanoids/character-pack-free-sample-79870> | Character asset use for main player in game. |
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# Game Overview

## Genre

The genre for this game will be a 3D Platformer game

## Camera Perspective and Movement

The camera will follow behind the player throughout the game. The camera will not move up, down, left or right. It will only move forwards or backwards.

## Platform

The platforms that the game will be deployed to is Windows, Web, Android. To deploy to windows, I will need to set the build settings of unity to target Windows platform, same with web but with Android I will need to download the necessary tools so Unity can build a .apk file for Android to launch the game. Once the files are downloaded, I will need to go into unity preferences and set the tools that are used to build the .apk file to the tools that were downloaded.

## Technical Goals

* Implement basic player movement.
* Implement basic platformer gameplay mechanics.
* Implement sound effects and particle effects.

## Game Objects and Logic

* Evil Robots – These robots are the main enemy in the game. They will move left and right in this game and they can be destroyed if the player either jumps on them or punches them.
* Boxes – The boxes are what the player can destroy to earn coins.
* Walls – These will stop the player from going off screen.
* Lights – These will light up the level so the player can see.
* Teleporter – This will be the finish line for the level.
* Electric Poles – These will shoot electric sparks back and forth every 5 seconds to provide the player a challenge with this game.

# Controls

## 3.1 Windows / Web

* The arrow keys will control the player movement.
* The spacebar will allow the player to jump.
* The left shift button will allow the player to attack

## 3.2 Android / Touch

* To move the player, they will be a joystick for the player to use.
* There will be two buttons that player can push to jump and attack.

# Mechanics

* **Jumping**

When the player presses the spacebar, the player will jump until it’s head just touches the top edge of the player’s view.

* **Attack**When the player presses the left shift key, the player’s arms will spin 180o and back to destroy enemies or boxes if the player is close enough to them

## Hazards

* Jump gaps
* Electric poles

## Obstacles

There will be evil robots throughout the game that will destroy the player if the player doesn’t jump or attack them.

## Items / Collectables

There will be coins for the player to collect in this game. Coins can be collected by player collision or boxes being destroyed.

# Graphics

The graphics used in this game is third person 3D because that is a popular graphic feature used in platformers.

# Audio

There will be sound effects when the player dies, an enemy has been destroyed, box has been broken, when a coin is collected and when the player reaches the teleporter.

# 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

The player’s goal is to reach the teleporter that is at the end of the level.

1. Levels

The level was built manually by me with close reference to the 1st level of the first Crash Bandicoot game.

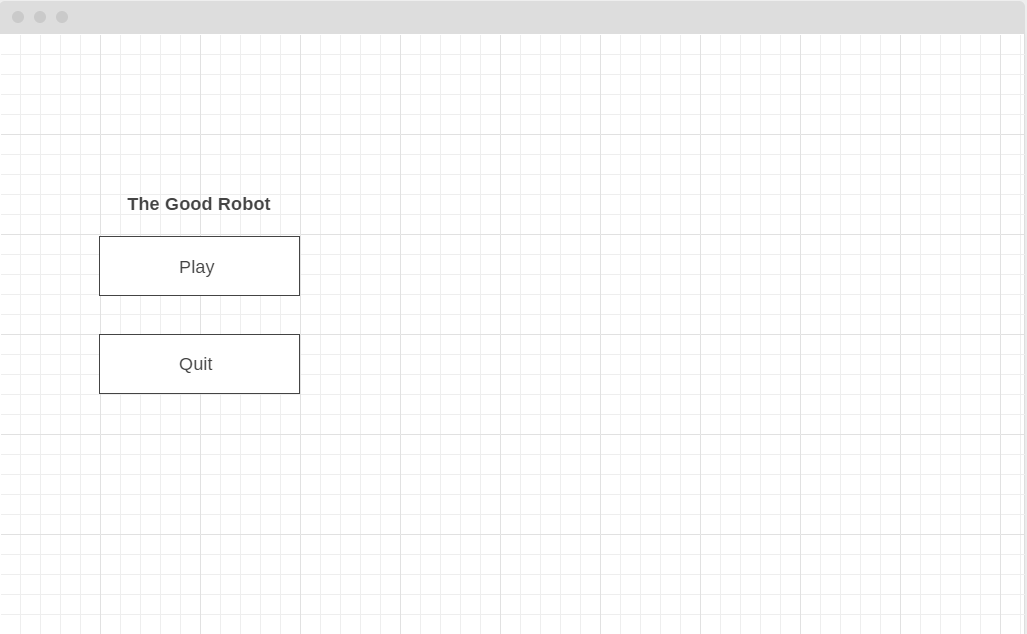
1. Items

The coins will increase the player’s score by 1.

# Interface

## Menu

The menu options that are available to the player is play and exit. It will be presented as buttons. If the player is playing the game on Windows or Web, they can use the mouse to click on which button they choose. If the player is playing on Android, they can use their finger to touch the buttons on the screen.



## UI/HUD

The score will be displayed in the top left corner of the player’s screen no matter what platform they use. A restart button will be provided if the player dies.

# Progress report and feedback Meeting Minutes

## Friday 4th September

Describe state of project

* Basic controls work
* Collision works
* Particle effects work

Feedback from teacher and peers:

* Try to implement a bouncing box
* Create an electric fence
* Make an auto-run level

Action Items:

* A bouncing box is a good idea as it can give the player more ways to earn coins in the game.
* An electric fence would look cool in my game and can be used to give the final obstacle a bit more of a challenge.
* I may not implement an auto-run level due to it changing the current level design, but I may consider doing an auto run level another time

## Wednesday 9th September

Describe state of project

* Textures on characters
* Main Menu
* Game Over
* Pause

Feedback from teacher and peers:

* Good pick of textures for characters
* Good demonstration of basic UI

Action Items:

* Try to implement controller input for menus
* Get a level working
* Change electrical obstacle from broken wire to electric fence

## Thursday 10th September

Describe state of project

* Victory menu
* Improved collision detection
* Wider area

Feedback from teacher and peers:

* Great game idea
* Good functionality

Action Items:

* Create a how to play menu
* Add lightning to the top of the electric fence to let the player know that they cannot jump over the electric fence

## Friday 11th September

Describe what has been done since last time

* Thing
* Thing

Feedback from teacher and peers:

* Describe
* Describe
* Describe

Action Items:

* Describe
* Describe
* Describe