# CIS5014 PORT1 Technical Design Document (TDD)

Written by: Jacob Willcocks - st20235124

Point of contact: [st20235124@cardiffmet.ac.uk](mailto:st20235124@cardiffmet.ac.uk)

Date of publishing: 15/12/2023

# TDD Outline

Over the course of four weeks, I will create assets for an implementation of part of a level of a game designed around the mechanics of Populous II.

Table of Contents

[TDD Outline 1](#_Toc153541321)

[Development Requirements 1](#_Toc153541322)

[Asset Specifications 2](#_Toc153541323)

[3D Model Polygon Counts 2](#_Toc153541324)

[Project Structure 2](#_Toc153541325)

[Development Plan 3](#_Toc153541326)

## Development Requirements

|  |  |
| --- | --- |
| Aspect | Software |
| 2D software | Photoshop 25.1.0 |
| 3D software | Blender 3.4.1 |
| Documentation | Word  PowerPoint |
| Engine | Unreal Engine 5.2.1 |
| Programming | Blueprint Editor |
| Sound | Audacity 3.3.1 |
| Source Control | GitHub desktop 3.3.6 |

## Asset Specifications

|  |  |  |  |
| --- | --- | --- | --- |
| Asset type | Naming conventions | File format while in progress | Exported file format |
| 3D models | exampleModel\_v1 | .blend | .fbx |
| Animations | animation\_exampleName\_walk | .blend | .fbx |
| Textures | exampleTexture\_c  C is diffuse map, g is gloss/specular, n is normal and e is emission | .psd | .tiff |
| Materials | m\_materialName |  | .uasset |
| Sounds | exampleSound1 | .aup3 | .wav |

### 3D Model Polygon Counts

|  |  |
| --- | --- |
| Model | Polygon Count |
| Tier1 | 144 |
| Tier2 | 379 |
| Tier3 | 1158 |
| Robot | 1755 |
| Terrain(flat, slope, inside corner and outside corner) | 6 |
| Total | 3442 |

## Project Structure

The main content folder will contain the following folders: buildings, levels, materials, robot, sounds, terrain, textures.

Buildings: stores the three building models with their material applied.

Levels: stores the levels, there will only be one demo level.

Materials: stores the building, robot and sand materials.

Robot: stores the robot model with skeleton and material applied, also stores the animations.

Sounds: contains a folder for footstep sounds and a folder for shooting sounds. Sound files and cues are stored in their respective folders.

Terrain: stores the terrain models with sand material applied.

Textures: stores all the texture image files used by the materials.

## Development Plan

|  |  |
| --- | --- |
| Week | Goals |
| Week 1 | Find reference images and draw designs for the buildings and characters.  Create the model for the first building and terrain.  Create the texture for the bricks and sand. |
| Week 2 | Create models for the tier 2 building.  Create tiles and wood textures for the terrain and buildings.  Create footstep sound effects. |
| Week 3 | Create gunshot sound effects.  Create the models for the tier 3 building and the robot.  Create an armature for the robot. |
| Week 4 | Create animations for the robot.  Create textures for the robot.  Import all assets into the game engine.  Create the level layout.  Build the game into an .exe file and test. |