Game Design Document

BLACKOUT

Version 3.0

Table of contents

When the AI can see the player it will look at him, and change its current state into chase state, if the AI gets close enough(3) to the player it will change its state into the Attack state (See the illustration below)   **27**

1.   Game Description

Blackout is an adventure/platformer game for Windows PC inspired in the book "The Illustrated Man".

The player finds himself in an alien planet with tattoos of unknown origin that give him powers.

The player's goal is to understand where his tattoos came from and kill his crew members that fell into the hands of a city trying to destroy humanity.

2.   Inspiration

The game is inspired by the book "The Illustrated Man" within "The City" chapter.

This chapter speaks of a city in a distant planet who waited for 200 centuries for the humans that had once ransacked the planet and left it in disease and ruin. Upon their return the city identifies their every sense, their smell, their odor, their voice… The city then wakes up and kills the captain of the vessel where the men came from, replacing every organ and inside piece with artificial ones, and reviving him, but now it was the city, the city controlled the man, the city had a voice.

After a failed attempt at running away from the city, the rest of the crew are caught and meet the same fate as their captain.

The chapter ends with the crew going back to earth with the biological weapons that once deserted the city, all of this while their bodies were being controlled by the city.

The game setting is inspired on the book and in "Blade Runner".

3. Game story

The city has fallen into darkness. There's no sign of organic life. The streets are empty, the ambient gives you the chills and every light is flickering, a blackout is approaching, and death comes with it.

The year is 3500, Xhama has fallen into the pit of The City, confused, with an empty memory. Soon after being dumped out in the middle of a place where there's no living soul in sight, he's been picked up by those who only know how to feed off one thing: human matter. Robot-alien-like beings, eager to eat off and chop every bit of flesh of the one human being that has set foot in their City for a long time. Right before he knows it, a crowd surrounding his debilitated body is surprisingly swept off by luminous energy coming from his skull: Xhama sees nothing but radiant signs reflected on the nubilous sky, coming from the top of his head. There's uncertainty and confusion felt from both parties, but quickly the metal slumber mass vanishes into the dark entrails of the city.

After the tantrum, Xhama returns fully to his senses, trying to understand and realize to an extent what has happened.

The light analogous as to the brightness and power of the human soul and of the consciousness. Contrariwise to all of the beings roaming the city, Xhama shares the power inherent to each and all human beings: the soul, principle of all life and thoughts, in opposition of all material things.

Each and every human has their own light, which grants them their own gifts. Xhama, like any other human being, has been surveillant by the Gods of the Afterlife. Legend says at birth, every human being is granted one guardian, which premeditates their path accordingly to their given sentenced destiny. Having been attentive to Xhama's destiny.

4.   Screenflow

4.1.   Main menu

- Play button

The button that leads to the game screen and starts the game.
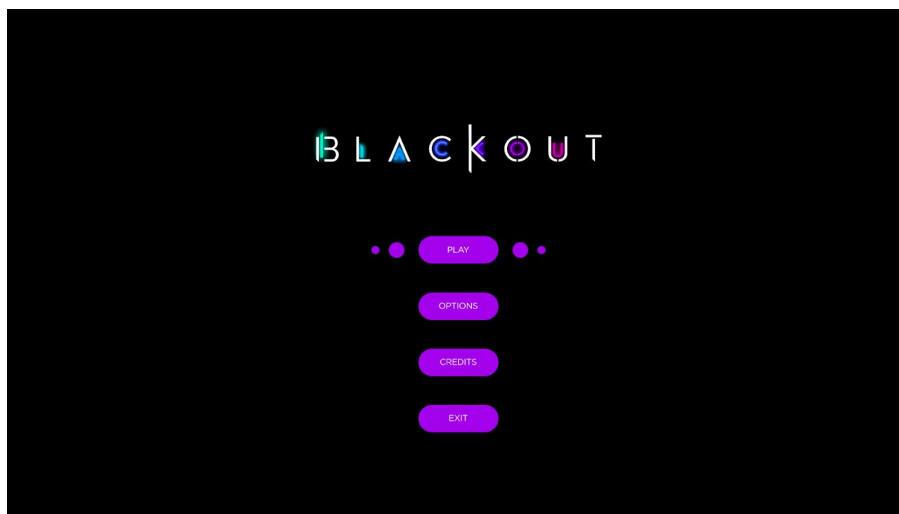
- Settings button

The button that leads to the game settings.

- Credits button

The button that leads to the credits of the game.

- Quit button

The button quits the game and closes the application.

4.2.   Pause menu

While the pause menu is up the game is paused.
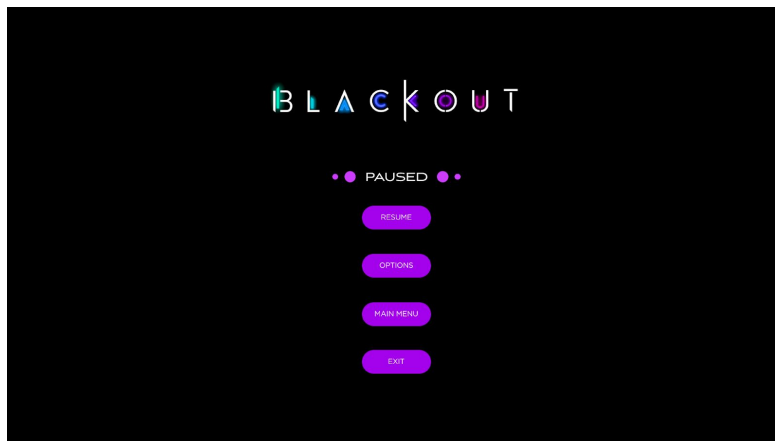
- Resume button

The button that unpauses the game.

- Settings button

The button that leads to the game settings.

- Quit button

The button quits the game and closes the application.

4.3.   Settings menu

- Master volume scroll bar

This bar will change the output volume of all the sound in the game. If the player slides to the right it fills the bar green and increases all the sounds of the game by percentage. If the player slides to the left it fills the bar red, thus decreasing the sounds of the game by percentage (see audio for further details).

- Background music scroll bar

This bar will change the output volume of the music in the game. If the player slides to the right it fills the bar green and increases the music sound of the game by percentage. If the player slides to the left it fills the bar red, thus decreasing the music sound of the game by percentage (see audio for further details).

- Sounds scroll bar

This bar will change the output volume of the in-game sounds. If the player slides to the right it fills the bar green and increases the sounds of the game by percentage. If the player slides to the left it fills the bar red, thus decreasing the sounds of the game by percentage (see audio for further details).

- Back button

The button will lead back to the previous screen (dependant on what screen it got in from).
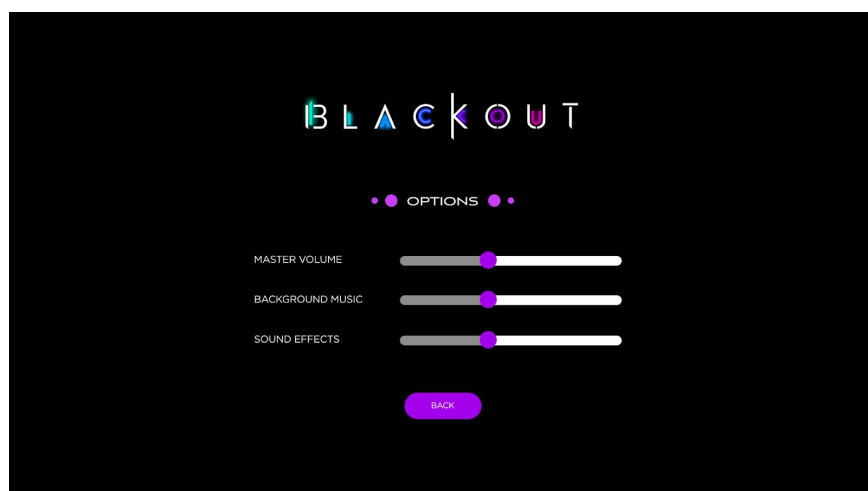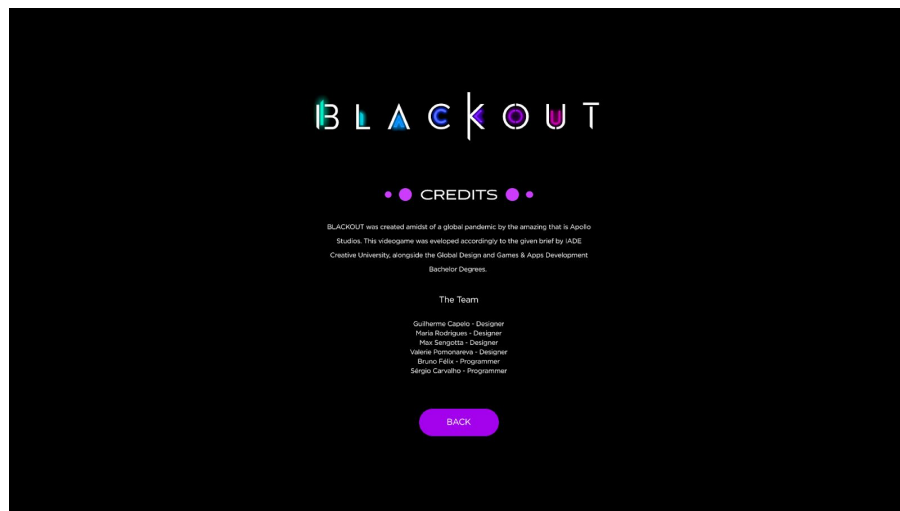
4.4.   Credits screen

- Credits text

Text to show who did what and all the references related to the game.

- Back button

The button will lead back to the previous screen (dependant on what screen it got in from).

- Menu Benchmarks

The following criteria must be met to complete this section
- There must be 4 menus: main menu, settings menu, credits menu and pause menu.
- The main menu must be the first thing the player sees upon entering the game and it must include 4 buttons: play button, settings button, credits button and quit button.
- The buttons must lead to their own indexes (ex: quit button should quit the game).
- When in the pause menu the game must be paused.
- The settings' sliders must change the volume of their respective indexes accordingly.

5. Gameplay

The player will start off in the bottom of the main tower in the city. With only one door to go through, the player should go to that door, open it and leave the main tower.

The player now finds themselves at the entrance of District 1, outside the main tower, with some enemies in the distance, and 2 paths to follow. To the right, the player will be ending up at a very hard part of the game, where it is only meant to confuse the player and give the feeling that they shouldn't be there. To the left, the player will find the first housing complexes of the city and a few enemies to fight against (this is the path the player should follow).

After clearing the enemies in certain areas of the map the player will be able to see the first checkpoint area and where to go next. In this checkpoint the player is able to save the position in which they will spawn after dying.

Beyond the first checkpoint, more enemies in a nonlinear fashion and the tattoo giver will show up. The tattoo giver (aka "The Worm") will give the player the ranged ability, necessary to open strong doors, this will prompt a cutscene where the player will see the tattoo giver printing a new tattoo to Xhama.

Next up, a checkpoint, this one may lead the player into believing it's just there so that the player doesn't need to regain the ranged ability, however, it's there because the next area will be really hard for the player, and will test the ability the player has to combo the abilities available to them.

In the end, there will be a checkpoint and a strong door, the player will need to shoot this door and enter the boss's area. Upon entering the player will be prompted to a cutscene where the boss will introduce himself and the first phase of the fight will commence.

Half of the boss' health is gone and a cutscene with him running into his tower is prompted. The player now has to enter the tower, find the boss once again, and defeat him in his second stage. To defeat the boss, the player must wait for the boss to use his beam attack to destroy the pillars in the room, thus giving the player a window of opportunity to attack (the player won't be able to attack the boss while in this phase, unless a pillar is destroyed, in which case the player will have a window of time in which he can damage the boss).

With a dead boss and an open area in the wall, the player will be prompted to a cutscene where Xhama will be seen halfway through the tower looking down at the rest of the city and the vast world beyond the city walls.

Apollo
STUDIOS

5.1.   Camera

The camera will position itself in a third - person perspective, behind the player. It will get closer to the player in order to not clip through walls, and the direction to where it is looking at will be controlled by the mouse.

- Camera Collisions

The camera must be aware of solid objects around it, must detect these and keep looking forward from its home coordinates if needed it pushes itself forward.
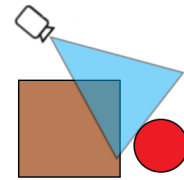
- Camera Sliding

The camera will slide along objects it is colliding with, to keep up with the object it is attached to, always looking forward, if the player gets too close it will look down .

The illustrations will demonstrate a player near a wall.
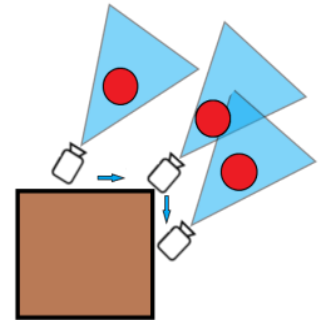
- Camera Height Perseverance

The camera should always strive to look forward, if it's near a wall it will collide with it and push itself forward until when it's too close, resulting in a rotation downwards in order to keep the player inside the view range.
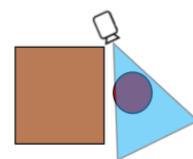
The illustrations will demonstrate a player near a wall from a side and top view (above is side, below is top view).
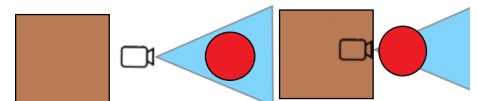
- Camera Movement Benchmarks

| The following criteria must be met to complete this section |
|---|
| - The camera follows its controller and preforms rotational actions |
| - The camera moves from one position to the next without going through objects |
| - The camera maintains forward looking when colliding with objects on the scene |

5.2.   Basic HUD

This HUD layout refers to the position of each element in the HUD screen.
Currently the layout covers these major sections.
-**Health bar**
-**Stamina bar**
-**Ability tab**
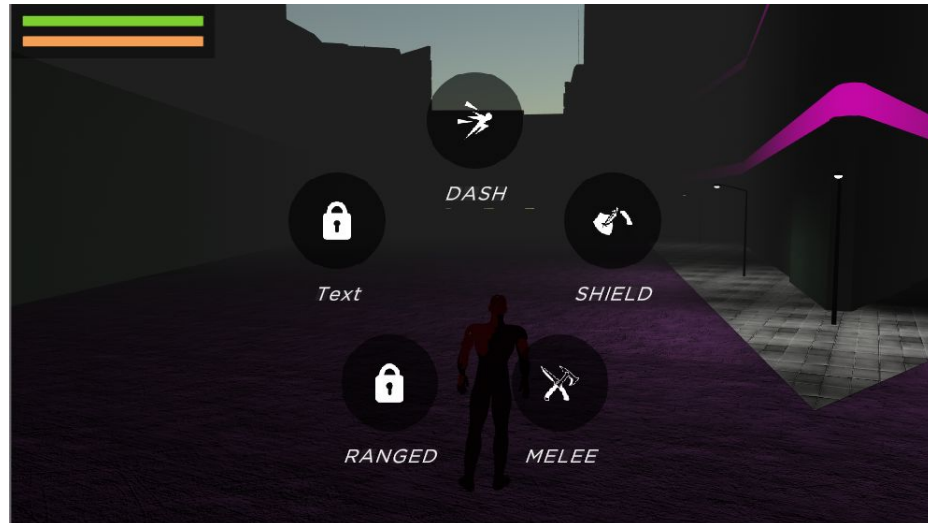
(See below for further details.**)**
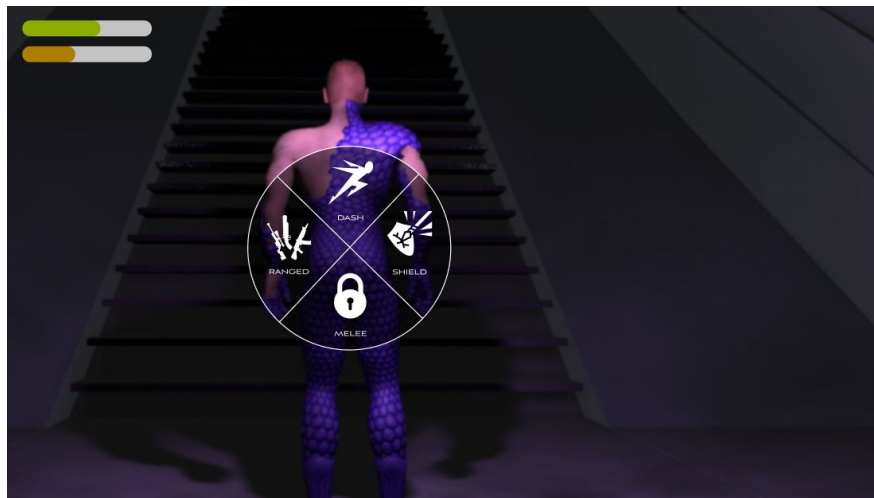
- Bars

Bars refers to the range between 0% to 100% of the health and stamina.
As health/stamina goes up or down the bars will change to represent that. The bottom of the bar always represents 0% and the top of the bar 100%. The bar always represents the current value between 0% to 100%.

- Abilities HUD

When the player enters the abilities HUD screen they can choose an ability to activate, if the player mouse is over one of the sections it highlights said section, and the ability, left-clicking on it will select it (see abilities for further details).

- Health bar

On the top left corner of the screen there will be a green bar symbolizing the player's health, whenever the player takes damage, the health will lower (see Enemies section for further details).

- Stamina bar

Below the Health bar there will be a yellow bar symbolizing the player's stamina, the bar lowers every time an ability that costs stamina is used (see Tattoos section for further details).

- Ability tab

Upon pressing the Tab key the player will be presented with a wheel of abilities where the player will be able to choose which ability to use next (see Tattoos section for further details).

- HUD Benchmarks

The following criteria must be met to complete this section
- As health/stamina goes up or down the bars must change to represent that.
- The abilities tab must show all abilities unlocked by the player and let them select said abilities.

5.3.   General mechanics

- Checkpoint zones

The player will encounter multiple checkpoints throughout the game , passing through them will give a message to the player "Checkpoint Reached" , if the player dies he will respawn in the last checkpoint he passed through (see illustration below).

- Health

The player will take and deal damage to the enemies (see illustration below).
Health will decrease when the player takes damage (see enemies section for further details).
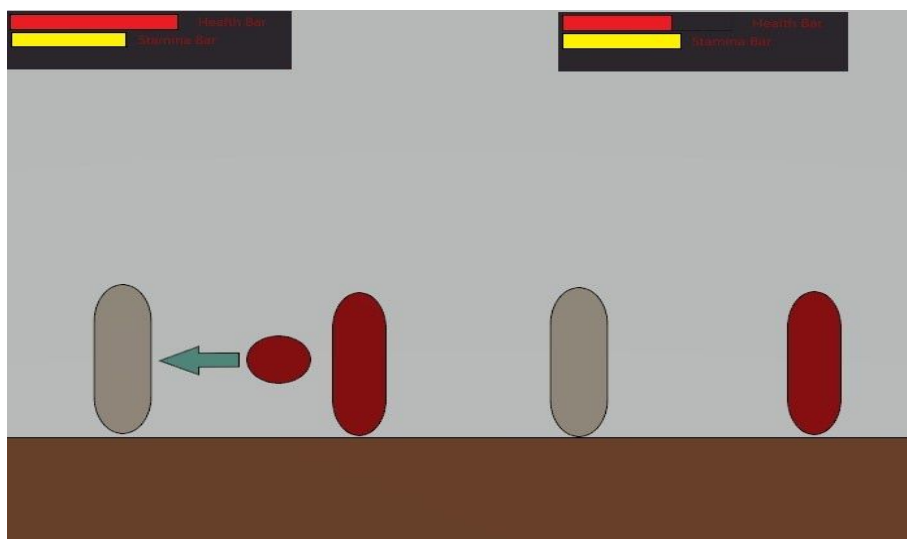
- Stamina

The player will use stamina in many abilities that require physical strength such as Dashing or Shielding (see Tattoos for further details on the stamina use).

The bar will deplete while using these abilities and will recharge after a while (see illustration below).
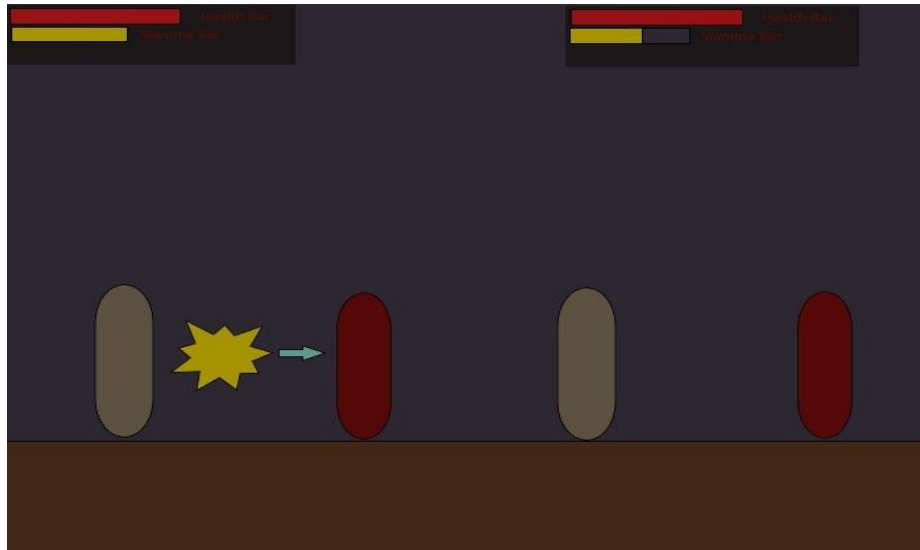
- General mechanics Benchmarks

The following criteria must be met to complete this section
- Upon death, the player must spawn at the last saved checkpoint (respawn at the start if they didn't save)
- Upon taking damage the player's health must lower.
- Upon using an ability the player's stamina must lower.

5.4.   Movement

Movement refers to the ambulatory state of a character.
These states are not limited to moving from place to place.
Movement as we define it even encompasses the idea of being idle.
We will define movement as postures, breaking them down into
subcategories: **passive postures** and **active postures**.

- Postures

Postures can be passive or active, passive postures are states
in which all characters can go back to, such as **idling** and **standing**.
Active postures are states in which the character is moving from point
A to point B and can be represented by a character **patrolling**,
chasing or **walking**.

Passive postures become active when movement occurs.

- Player character postures

The player character will walk upright moving as if he was
almost late for a meeting, they also strafe left and right rapidly and
walk backwards slowly.

The player can also change the direction in which the
character is facing with the camera (example: moving the mouse to
the left will cause the character to rotate to the left).

- Enemy movement

The enemies will patrol upright moving from point A to point B
carefully searching for the player, and will react to it when they are
close enough, thus triggering a posture change to chase. The enemy
will chase the player running upright, until they are able to attack
(see enemies section for further details).

- Movement Benchmarks

| The following criteria must be met to complete this section |
|---|
| - The characters can change through all postures. |
| - Characters execute the active postures while in standing posture. |
| - The player character strafes left and right, moves forward and backwards and jumps. |
| - Enemies transition from walking to running when they enter the chase posture. |

5.5.   Player mechanics

In Blackout the player will be able to Block, Melee attack, Dash and shoot Light bolts where they aim at.

5.5.1.   Tattoos

- Shield

When the player activates this tattoo, it creates a force wall in front of the player for as long as the player has stamina (it will use about 1 point of stamina per second out of the 100 total stamina points).
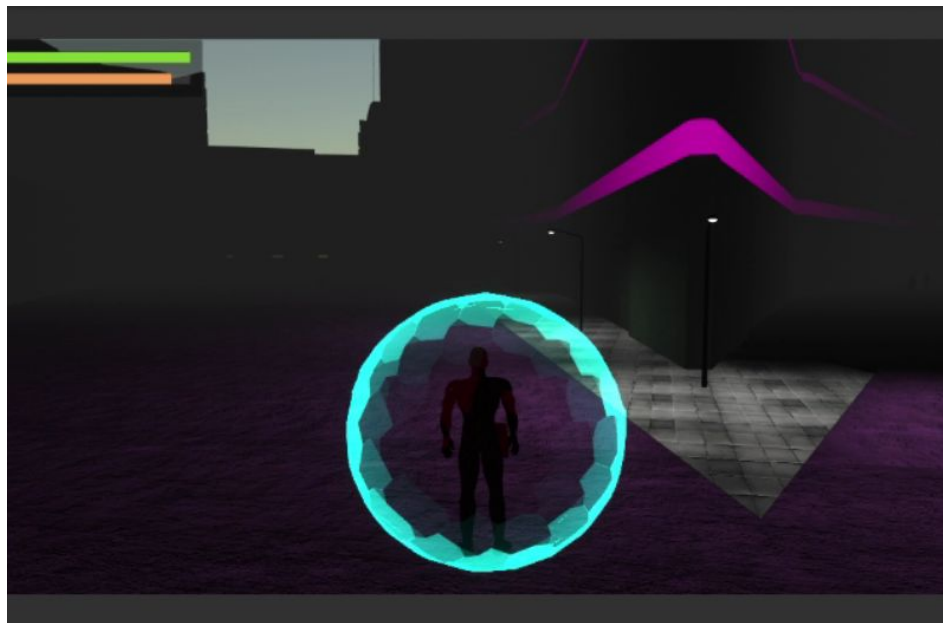
- Melee

When the player activates this tattoo, the player needs to use his right mouse button to attack he will punch the enemies in front of him very quickly (dealing 30 points of damage and using 10 stamina points per punch out of the 100 total stamina points with a 2 meter range).

- Dash

When the player activates this tattoo, the player will be able to dash by hitting the Left - Shift key (the player will dash in the direction Xhama is looking) with a short cooldown timer (it will use 50 stamina points per dash out of the 100 total stamina points).

- Ranged

When the player activates this tattoo, the player will be able to shoot projectiles at the enemies he/she is aiming at , to shoot the projectiles the player needs to use his right mouse button (aiming is handled with the mouse) with a short cooldown between shots (dealing 35 points of damage and using 25 stamina points per use out of the 100 total points of stamina with infinite range).

- Abilities Benchmarks

The following criteria must be met to complete this section
- The user can cycle through all unlocked abilities.
- The user can activate all unlocked abilities.
- When abilities are used they deduct stamina.
- Abilities can't be used without stamina.
- Attack Abilities cause damage to the targets they hit.
- Shield Ability blocks incoming damage.
- Dash ability pushes the player into the designated area.

5.6.   Controls

- Movement controls

W - Move forward;
A - Move left;
S - Move backward;
D - Move right.
Spacebar - Jump.
Shift - Dash.
Tab - Pick Tattoo

- **Camera controls**

    The camera gives the direction in which the player is looking at and it can be panned with the mouse.

- Ability controls

    Hitting the Tab key and selecting an ability with the mouse button (see UI elements for further details).

- Controls Benchmarks

The following criteria must be met to complete this section
-    The user can move with the WASD keys.
-    The user can jump with the SpaceBar.
-    The user can move the camera horizontally with his mouse.
-    Hitting tab shows the abilities menu.
-    The user can select abilities from the abilities menu.

6. Enemies

6.1. Automatons

- Melee

Melee enemies will patrol a certain area going back and forth, if the player gets close enough the enemies will follow and attack the player with a melee attack (dealing 20 points of damage, in a range of 2 meters) Melee enemies have a max health of 100 hit points.
If the melee enemy gets less than half health , he will run away from the player and find the nearest melee enemy to call for help . Both of the melee enemies need to change their state to chasing .

- Ranged

Ranged enemies will patrol a certain area going back and forth, if a player gets close enough the enemies will follow and attack the player with a ranged attack (dealing 10 points of damage) Ranged enemies have a max health of 100 hit points.

6.2. Boss automatons

The Boss automaton has 2 phases, in the first phase he is going to be waiting for the player to enter his detection range, after which it will follow the player until it gets close enough to start attacking with its ranged weapon (dealing 35 points of damage).
Phase 2 will start after the cutscene of the boss going away, in this phase the player has to create windows of time by making the boss destroy the 4 pillars in the room with its beam attack (the beam does 25 points of damage every second while the player or a pillar are colliding with it)
Boss enemies have a max health of 500 hit points.

- Enemies Benchmarks

The following criteria must be met to complete this section
- The enemies move in a patrol fashion between point A and point B.
- The enemies will chase the player if he gets into their chase area.
- The enemies will attack the player if he gets into their attack area.
- The enemies will reduce the player's health if their attacks collide with the player.
- If the player's attacks hit the enemies their health will decrease.
- if the enemies health reachs or equals 0 they will die.

7. AI

This Section will cover the AI, how they differ from each other, and how different conditions makes the AI act.

7.1.   Goals

Inteligent - The AI should never appear stupid or cofused.
Efficient - The AI should be efficient as to not over tax the users systems.
Pathing - The pathing should be dynamic as the AI may need to follow the player through alleys and open terrain
User Friendly - The user should understand the AI intentions, if it's friendly or menacing.

7.2.   Basic AI implementation

The levels will have designated waypoints for the AI, the AI with a navmesh , should be able to encounter a path for said waypoints.

- Melee
The melee enemies will follow a path through the waypoints previously designated to them, when the player gets within its detection range(20), he will switch from patrol state to chase state, in chase state the melee enemy has to use the navmesh to find a path to its target.
If the melee enemy gets close enough(3) to the player as to activate a condition "CanAttack" it will switch to the attack state and will continue until the player is within its attack state, if the player moves away he will switch to chase, and, if the player if out of his "Cansee" it will switch back to patrolling.
If the melee enemy gets his health low enough, it will switch to the state FindBuddy, he will search for the closest melee enemy and when he reaches it, both will switch to chase state,even if the player is out of the "Cansee" of both.

- Ranged

The Ranged enemies will follow a path through the waypoints previously designated to them, when the player gets within its detection range(25), he will switch from patrol state to chase state, in chase state the Ranged enemy has to use the navmesh to find a path to its target.

If the Ranged enemy gets close enough(20) to the player as to activate a condition "CanAttack" it will switch to the attack state and will continue until the player is within its attack state , if the player moves away he will switch to chase, and, if the player if out of his "Cansee" it will switch back to patrolling.

- Boss

The boss enemy will have 2 phases, in the first phase he will act like a ranged enemy, if the player runs away from the boss instead of going back to patrol state the boss will go back to its initial resting place, and he will heal all his health back, when he drops below half health, he will switch to phase 2, in this phase he will always be on attack state.

7.4.   AI Awareness

This section will cover how the AI detects the player and how it reacts to its presence

When the AI can see the player it will look at him, and change its current state into chase state, if the AI gets close enough(3) to the player it will change its state into the Attack state (See the illustration below)
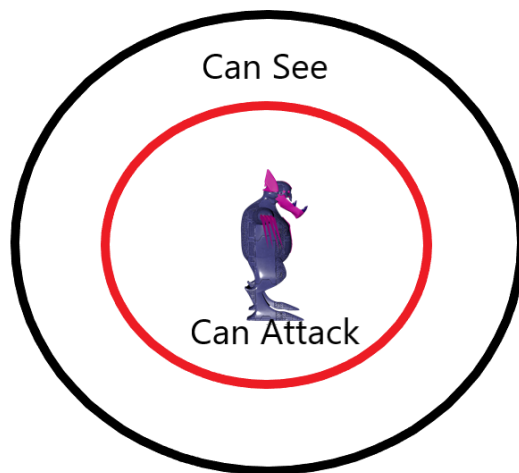
- AI Benchmarks

The following criteria must be met to complete this section
-    The AI needs to seems intelligent
-    The AI needs to be able to build paths anywhere on the map
-    The AI Intentions need to be understandable

8.   Cinematics

8.1.   Goals

Immersion - To provide a more vivid world
Satisfaction - To reward the player after a win or getting a goal of the game
Seamlessness - To provide gentle transitions into new scenes
Distinguishable - The cinematics must be distinguishable from the game play,the player must understand he is on a cinematic

8.2.   Stages

- Intro
  After the user presses play , he gets a cinematic which is the intro to the game.
- Tattoo
  After finding the tattoo giver , the user will experience a cinematic where the tattoo giver is giving the player a new tattoo
- Phase 2
  When in the boss fight , if you lower the boss to half its health , the user will experience a cinematic in which the boss is running away to his tower .
- End Level
  After defeating the boss , the user will experience a cinematic , in which he will see all of the city and where he has to go to defeat the other bosses.

- Cinematics Benchmarks

The following criteria must be met to complete this section
-   The cinematics need to be immersive
-   The cinematics should feed rewarding
-   The cinematics should play after their designated events

9. Audio

9.1. Music

- Main menu

> For the main menu the music chosen was "Scary Merry Clarity" by Bohn Studios (Free asset from Unity' asset store).

- Game

> The background music for the game was produced by Gil, a former student of the university.

- Music Benchmarks

The following criteria must be met to complete this section
- **Music plays and is regulated by the sliders in the options menu**
- **Main menu music doesn't play in the game scene**
- **Game music doesn't play in the main menu scene**

10.   Art

10.1.   2D Art

10.1.1.   Main menu art
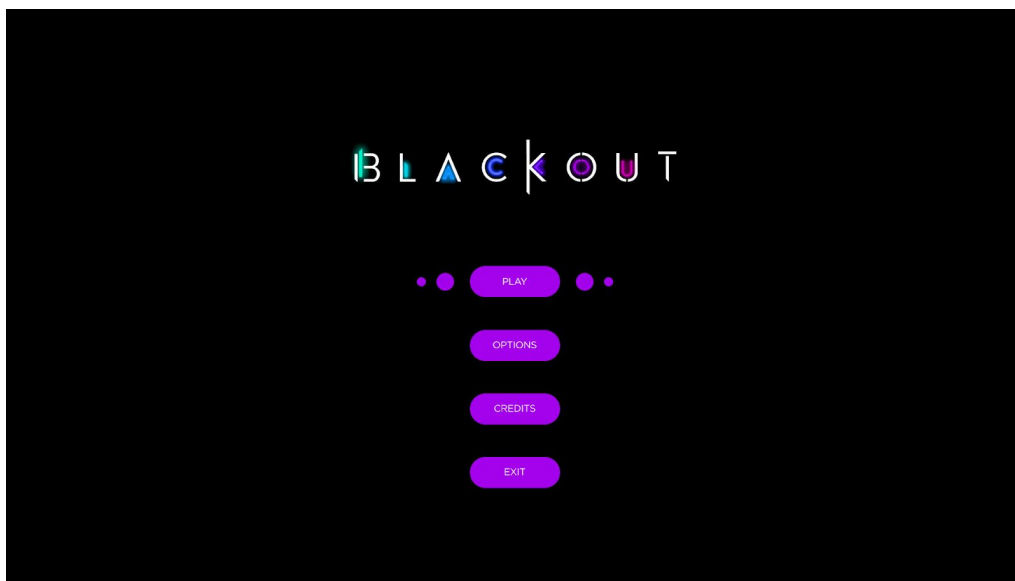
10.1.2.   Options menu art
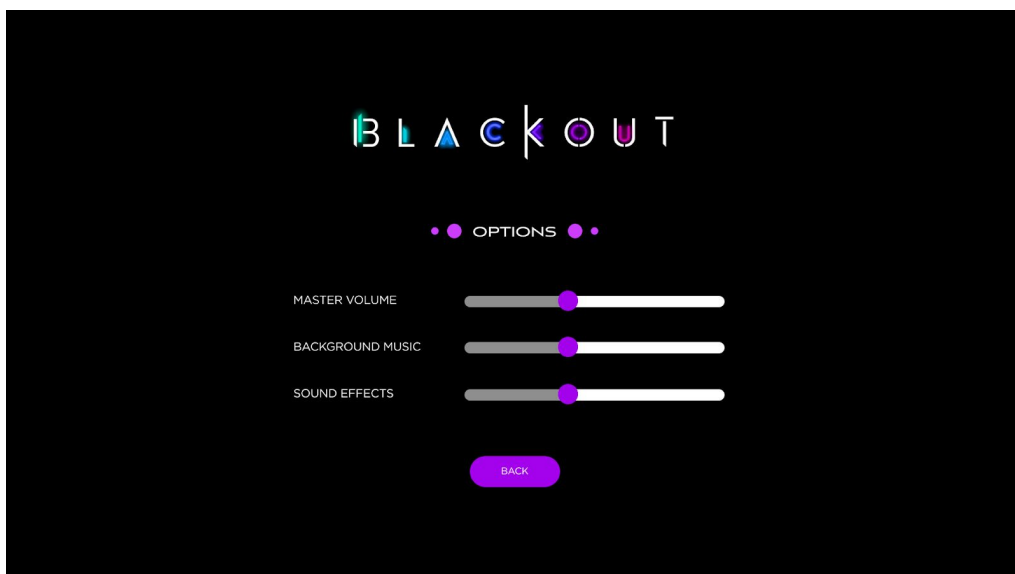
10.1.4.   Credits menu art
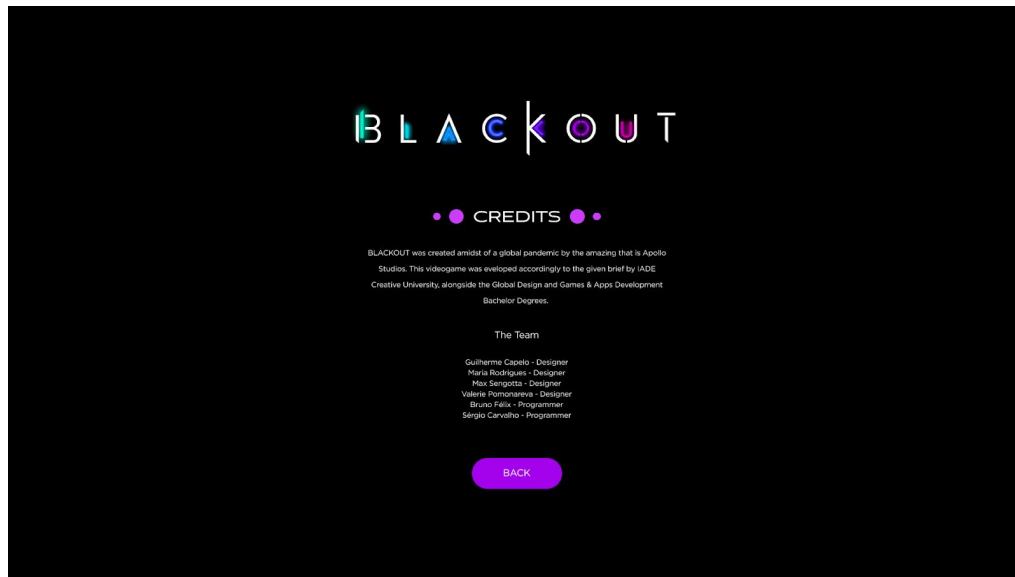
10.1.5.   Pause menu art
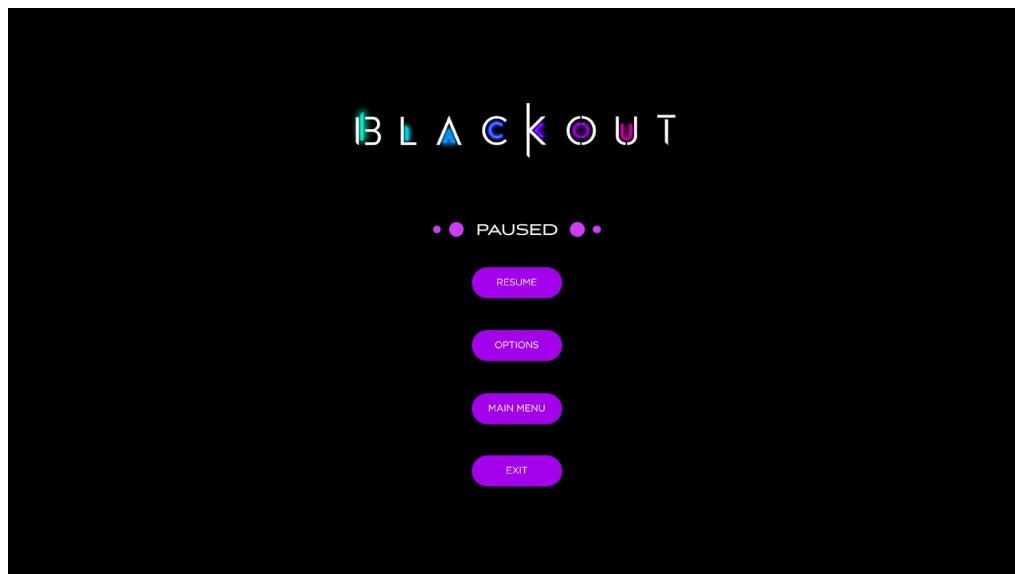
10.2.   3D Art

10.2.1.   Main character art

Sketches and ideas

More Sketches and ideas
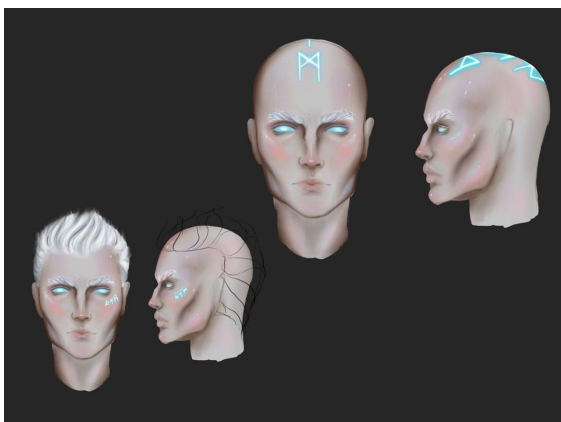
Headwear

Chosen Xhama characterisation
(Final)

Xhama will need a **character model**, the **tattoos layer** of texture, the **main body layer** of texture, and the **clothing layer** of texture.

For animations, Xhama will **walk**, **jump**, attack at **close range**, attack at **long range**, **block** attacks, and **dash.**

10.2.2.   Tattoo giver character art

The tattoo giver (or "Worm") will need a **character model**, and **a texture**.

For animations, it will need an **idle** animation for when it shows up on screen doing nothing, and an animation to **give the player the new tattoo**.

10.2.3.   Ranged enemy character art
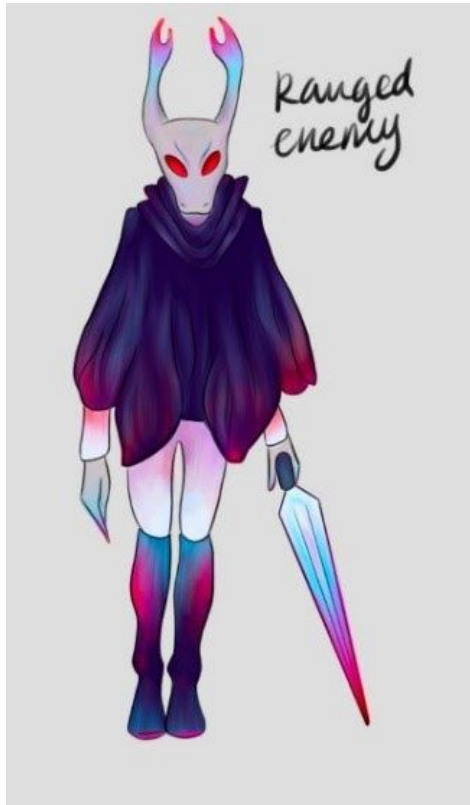
The ranged enemy will need a **character model**, a **projectile model**, a **body texture**, and **a weapon texture**.

For animations, it will need an **idle** animation for when it reaches waypoints, a **walking** animation, an animation for when it **gets damaged**,a getting **ready to shoot** ,a **shooting** animation, and an animation for when it **dies.**

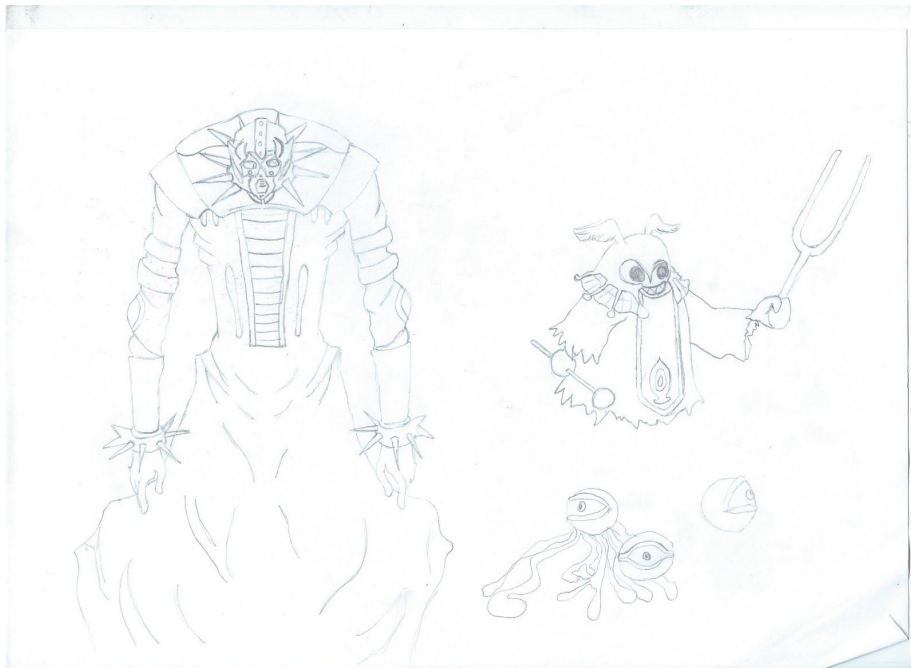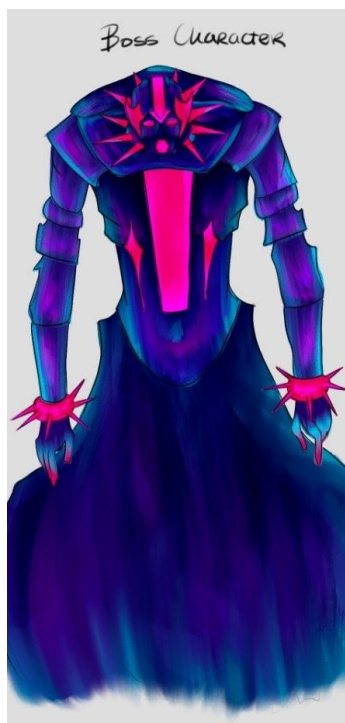### 10.2.4.   Melee enemy character art

Sketches

More sketches

Chosen Sketch (Final)

The melee enemy will need a **character model**, and a **body texture**.

For animations, it will need an **idle** animation for when it reaches waypoints, a **walking** animation, an animation for when it **gets damaged**, an **attacking** animation, and an animation for when it **dies**.

## 10.2.5.   Boss enemy character art
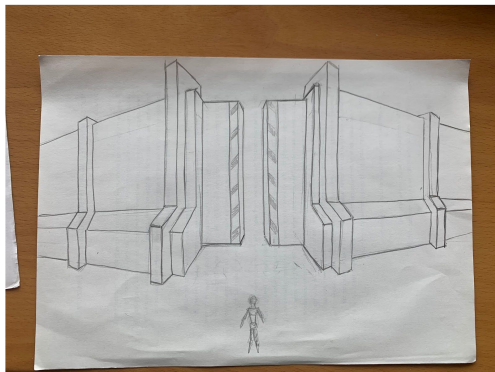

Sketches

Chosen Sketch (Final)

The boss will need a **character model**, a **projectile model**, a **beam model**, a **body texture**, a **projectile texture**, and a **beam texture**.

For animations, it will need a **ranged attack** animation, a **beam** animation, a **walking** animation, an animation for when it **gets damaged**, and an animation for when it **dies.**
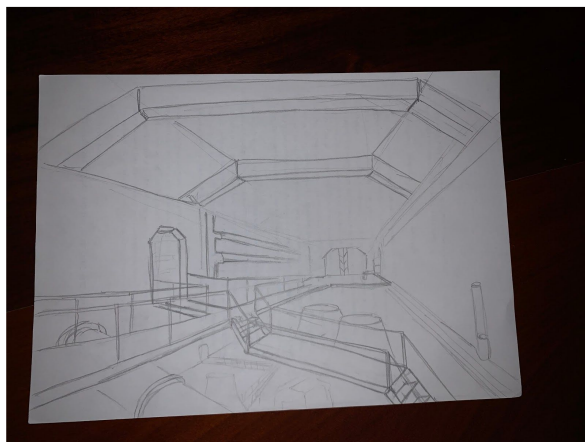
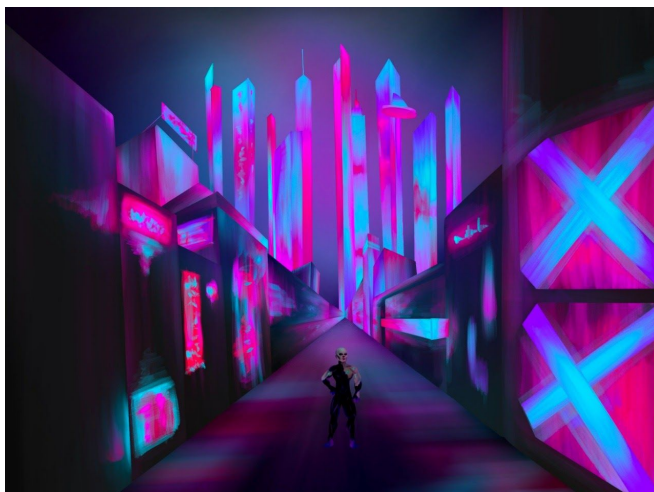### 10.2.6.   Environment art
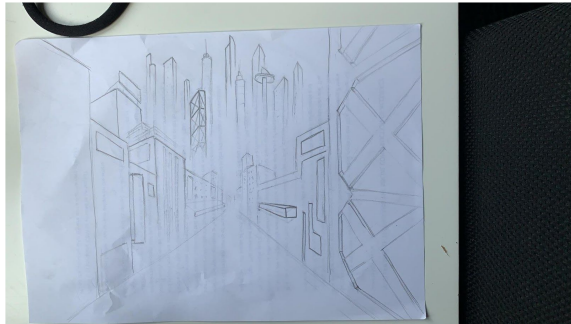
Sketches

More Sketches

More Sketches

Chosen Environment (Final)

The map will need varied **building models** and **textures**.

For animations the map will need to seem eerie, so some **dim lights** and make it feel like the **player is unwelcomed.**