

IMGD 4000/4500: Game Treatment

The Princess and the Cat



Roles

IMGD 4000 Students: Jarod Thompson, Team Leader, Programmer, jsthompson@wpi.edu
John Amaral, Programmer, jamaral@wpi.edu
Matthew Grim, Programmer, mtgrim@wpi.edu

IMGD 4500 Students: Laura Sawin, Character Artist, lesawin@wpi.edu
Will Suriner, Environment Artist, wesuriner@wpi.edu

Elevator Pitch

“It is a 3D platformer with light puzzle elements, where the core mechanic is to use your abilities as a wind mage to jump and navigate the dangerous traps set for you as you attempt to rescue your beloved cat from the castle's dungeon.”

Experience Goal

To give the player a sense of accomplishment through completion of a challenging game.

Detailed Description

Setting

The game is set at night in a medieval castle and dungeon. The player starts in the castle and travels down a trapdoor into the dungeon.

Protagonist/Adversary

The game's protagonist is a princess named Luna who possesses the power to control the wind. She must navigate through a dungeon, clearing challenging obstacles along her way.

Main Objective

The primary objective of the player is to navigate through the dungeon corridors to rescue their cat. The player must use their many wind abilities to avoid traps, activate switches, and cross platforms to complete the challenges presented by each room in the dungeon. Each room will provide different challenges to overcome and will slowly increase in difficulty. The player will win when the final challenge at the end of the dungeon is completed and their cat is rescued.

General Narrative

Once in every seven generations, daughters of the Ventus family are born with special powers: the power to control the winds. Princess Luna, ten years old, is the latest child born with this special ability. While she is eager to learn how to best harness her powers, her parents know that evil forces would try to capture her if this became common knowledge, therefore they limit her to the castle grounds only. One moonlit night, Luna is in the castle late at night craving adventure when she realizes her cat Sakura has gone missing! She must explore the castle throne room, courtyard, and dungeon to find her beloved companion.

Game Mechanics

The basic mechanics of the game involve utilizing different wind abilities to complete the challenges in the dungeon. These abilities can be used by the player at any time, but only certain abilities will be useful for navigating specific areas of the dungeon. The chart below describes some of the different abilities at the player's disposal:

| Ability | Description |
|-----------------------|--|
| Double jump | Player can jump twice before landing. |
| Air (Forward) dash | Shoot the player forward instantly, can only dash once before needing to touch the ground again. |
| Upwards dash | Propel the player vertically upward |
| Creating gust of wind | Player can create a gust of wind capable of interaction with traps and objects |

These abilities allow the player to avoid traps and complete simple puzzles that are present in each dungeon room. The chart below lists some of the traps and other interactable objects that will be present in the game:

| Traps/Interactable Objects | Description |
|----------------------------|--|
| Swinging spike balls | Spiked balls on chains swinging from the ceiling. |
| Spiked floors | Large spikes protruding from the floor. Deal damage when hit. |
| Flames | Large flames bursting from projectors. Deal damage if hit. |
| Fan | Switches that must be activated by creating a gust of wind. Will activate certain objects and make progression possible. |
| Pressure plate | Needs to have a certain amount of weight on it to be activated (push block) |
| Sand | Blow it off of pressure plate or switches using a gust of wind |
| Push block | Block that can be pushed with gusts of wind, can push onto pressure plates and also use as platform |
| Lever | Acts as normal switch, only needs to be activated once |

In an average gameplay session, the player will begin in the throne room of the castle. The throne room will serve as an initial testing grounds for the player to test their wind abilities. To enter the castle courtyard, the player will need to talk with the captain of the guards at the entrance to the throne room. The captain will inform the player that their cat has wandered into the dungeon and then open the doors to the courtyard.

The courtyard will serve as more open testing grounds for the player to experiment with each wind ability, especially the double jump and upwards air dash. A trap door in the middle of the courtyard will open up the entrance to the dungeon.

The dungeon will contain multiple rooms with corridors joining the rooms together. For the most part, the corridors will mainly serve as a transition from one room to the next. Each room will contain different challenges in the form of traps or interactable objects that the player must complete to advance further in the dungeon. The player must utilize specific wind abilities in each room depending on the challenge to overcome.

The beginning rooms will contain specific challenges, such as only having flames or only having fan switches, to introduce the concepts to the player. However, the final dungeon room

will be a test of all the previous challenges, making it the most difficult room in the dungeon. The difficulty will increase slightly with each dungeon room. Hitting traps will cause the player to die instantly. They will be sent back to the previous checkpoint, either at the beginning of the room or set checkpoints within a room.

Upon completing the challenges in the final room of the dungeon, the player will rescue the cat, and the game will be completed.

Technical Requirements

The basic controls will involve two major categories: movement and abilities. The controls will most likely be implemented with a keyboard and mouse first, but being able to use a controller would also be ideal, especially for 3D platforming.

The plausible keyboard and mouse controls could be the following:

- WASD to move
- -SPACEBAR- to jump, press again in midair for double jump
- Mouse to move camera
- Left click for forward dash
- Right click for upward dash
- E to create gust of wind

Potential controller inputs could be the following (assuming a basic controller layout):

- Left stick to move
- Right stick to control the camera
- A to jump, press again in midair to double jump
- RT (right trigger) for forward dash
- LT (left trigger) for upward dash
- B to create gust of wind

As for physics, we will be using realistic physics that allow us to simulate gravity, speed, momentum, and any impulses of the player character. This is especially important since the player's entire moveset revolves around aerial movement. We do not plan on having much AI in our game. Guards will stand still in the throne room, and the only character to have basic AI will be Sakura walking back and forth.

In terms of level design, we plan to have the throne room, the castle courtyard outside of the throne room, and the dungeon. The player will see the walls of the castle while in the courtyard, but will not be able to go outside the castle. For now, we plan on including 5 different rooms in the dungeon, with small corridors connecting each main room.

Asset List

| Models/Textures | Interactive? | Artist | Animations |
|--------------------------------|--------------|--------|-------------------|
| Throne | | Will | |
| Banners | | Will | Cloth Sim |
| Throne Room | | Will | |
| Castle | | Will | |
| Castle Walls | | Will | |
| Castle Turrets | | Will | |
| Trapdoor | | Will | opening / closing |
| Hedges | | Will | |
| Castle Doors | | Will | |
| Throne room doors | | Will | opening / closing |
| Stained glass | | Will | |
| Columns | | Will | |
| Dungeon stairs | | Will | |
| Dungeon walls | | Will | |
| Spikes | | Will | |
| Torch | | Will | |
| Flame trap | | Will | |
| Wooden supports | | Will | |
| Boxes | | Will | |
| Barrels | | Will | |
| Fan | Yes | Will | |
| Pressure Plate | Yes | Will | Pressed down/ up |
| Candles | | Will | |
| Middle Fountain / Gazebo maybe | | Will | |
| Rugs | | Will | |
| Tables | | Will | |
| Chairs | | Will | |
| Tapestry | | Will | Cloth Sim |
| Lever | Yes | Will | Up / Down |
| | | | |
| Characters | | | |

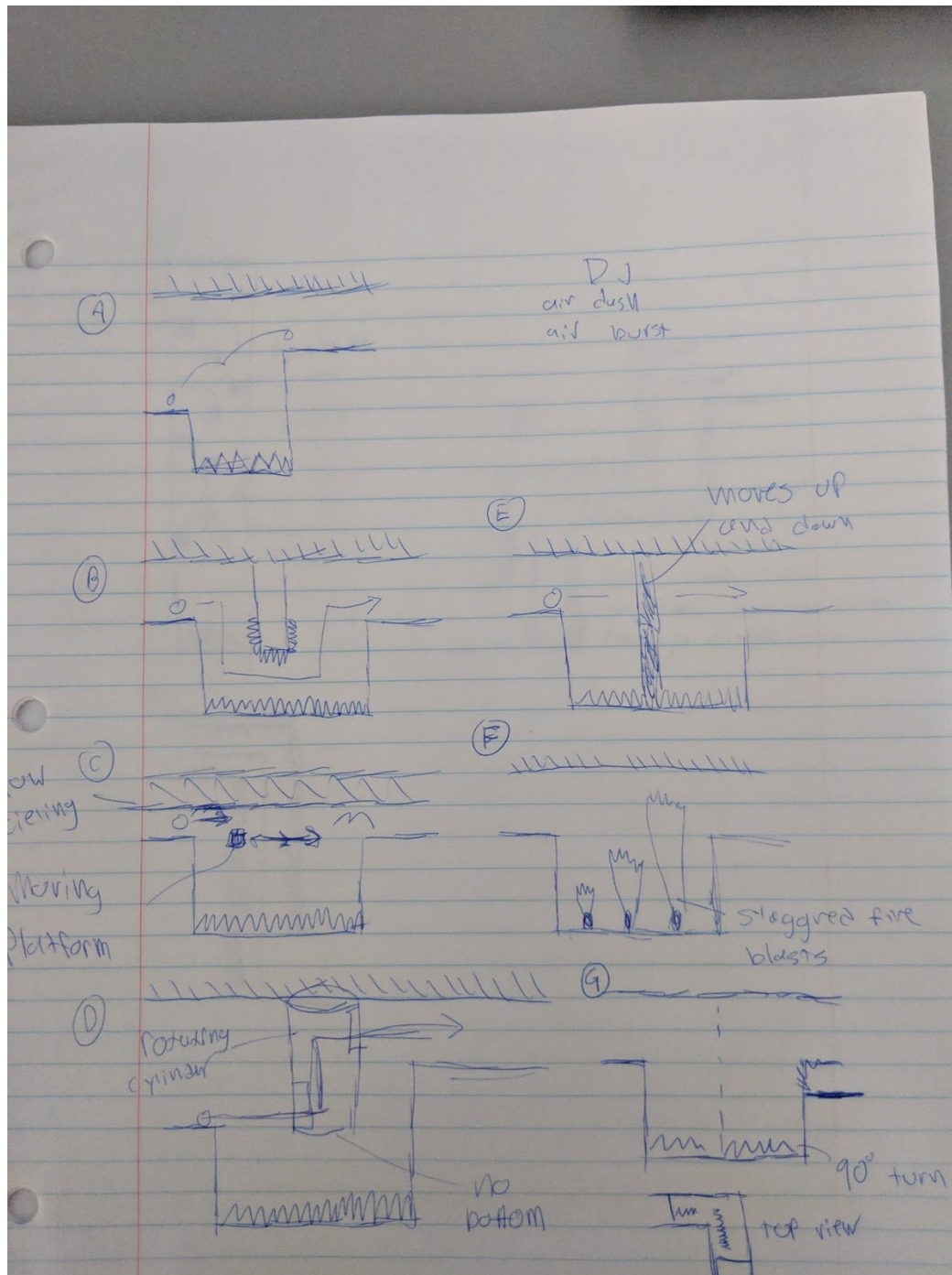
| | | | |
|------------------------------|-----|-------|--|
| Luna | PC | Laura | |
| Sakura | NPC | Laura | |
| Castle Guard Captain | NPC | Laura | |
| Castle Guard Generic | NPC | Laura | |
| | | | |
| Character Rigs | | | |
| Luna Rig (Biped) | | Laura | |
| Sakura Rig (Quadruped) | | Laura | |
| Castle Guard Generic (Biped) | | Laura | |
| Castle Guard Captain (Biped) | | Laura | |
| | | | |
| Character Clothing | | | |
| Luna Dress | | Laura | |
| Luna Sandals | | Laura | |
| Luna Tiara | | Laura | |
| Luna Necklace | | Laura | |
| | | | |
| Sakura Collar | | Laura | |
| | | | |
| Gen Guard Helmet | | Laura | |
| Gen Guard Jacket | | Laura | |
| Gen Guard Breastplate | | Laura | |
| Gen Guard Belt | | Laura | |
| Gen Guard Pants | | Laura | |
| Gen Guard Boots | | Laura | |
| Gen Guard Shin Guards | | Laura | |
| | | | |
| Cpt Guard Hat | | Laura | |
| Cpt Guard Jacket | | Laura | |
| Cpt Guard Pants | | Laura | |
| Cpt Guard Belt | | Laura | |
| Cpt Guard Boots | | Laura | |
| | | | |
| Character Animations | | | |
| Luna Run | | Laura | |

| | | | |
|-----------------------------|--|--------|--|
| Luna Walk | | Laura | |
| Luna Jump | | Laura | |
| Luna Wind Summon | | Laura | |
| Luna Death | | Laura | |
| Luna Double Jump | | Laura | |
| Luna Idle 1 | | Laura | |
| Luna Idle 2 | | Laura | |
| Luna Fall | | Laura | |
| Luna Air Dash Up | | Laura | |
| Luna Air Dash Side | | Laura | |
| | | | |
| Sakura Idle 1 - Sleep | | Laura | |
| Sakura Idle 2 - Stand | | Laura | |
| Sakura Walk | | Laura | |
| | | | |
| Gen Guard Idle 1 | | Laura | |
| Gen Guard Idle 2 | | Laura | |
| | | | |
| Cpt Guard Idle 1 | | Laura | |
| Cpt Guard Idle 2 | | Laura | |
| Cpt Guard Talk | | Laura | |
| | | | |
| Environment / Object Sounds | | | |
| Fire Crackle | | Tucker | |
| Fanfare achievement | | Laura | |
| Wind 1 | | Tucker | |
| Wind 2 | | Tucker | |
| Wind 3 | | Tucker | |
| Normal door open/close | | Tucker | |
| Trapdoor Open/Close | | Tucker | |
| Fountain Water | | John | |
| Spikeball Swing | | Tucker | |
| Fan Spin | | Tucker | |
| Pressure plate up/down | | Tucker | |
| Sand blown away | | Tucker | |

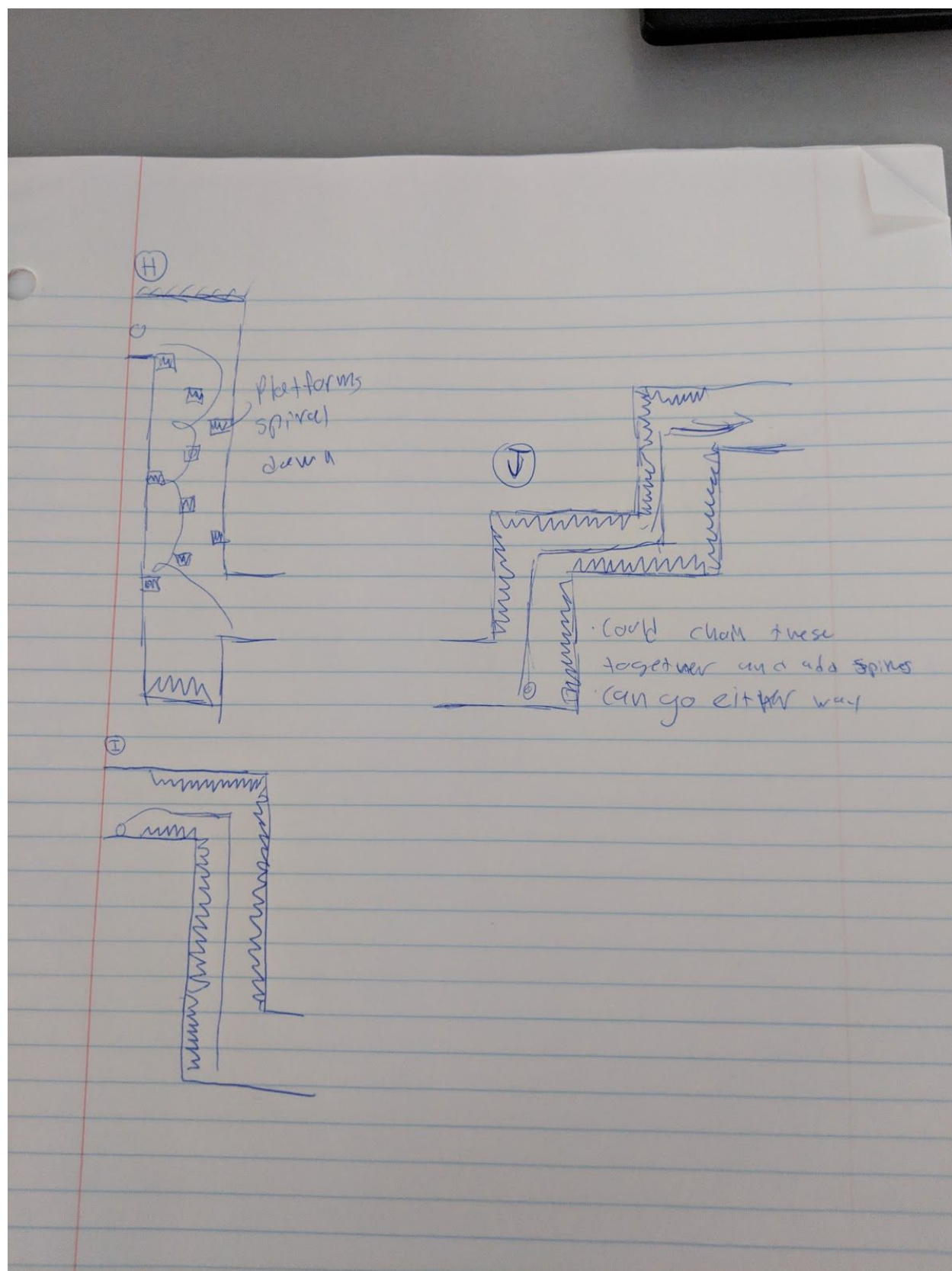
| | | | |
|------------------------------|--|--------|--|
| Lever on/off | | Tucker | |
| Push block being moved | | John | |
| | | | |
| Ambience - Throne Room | | Laura | |
| Ambience - Outside | | Laura | |
| Ambience - Dungeon | | Laura | |
| | | | |
| Princess Sounds | | | |
| Footsteps Walk - Throne Room | | John | |
| Footsteps Run - Throne Room | | John | |
| Footsteps Walk - Outside | | John | |
| Footsteps Run - Outside | | John | |
| Footsteps Walk - Dungeon | | John | |
| Footsteps Run - Dungeon | | John | |
| | | | |
| Jump | | Will | |
| Double Jump | | Will | |
| Updash | | Will | |
| Forward Dash | | Will | |
| | | | |
| Wind Summon | | John | |
| Talking sound | | Jarod | |
| Hit/Defeat | | John | |
| Idle | | John | |
| | | | |
| Cat Sounds | | | |
| Meow | | John | |
| Footsteps | | John | |
| Idle | | John | |
| | | | |
| Guard Sounds | | | |
| Talking sound | | John | |
| Idle | | John | |

Style Guide

Trap Diagram 1:



Trap Diagram 2:



Concept Art

Characters

The character designs drew inspiration from various games, movies, and books. The style of early concept art was influenced by the children's book, *Weather Girls* by Aki. Luna's character design has some similarities to Zelda from *Skyward Sword*. The generic castle guards were influenced by the soldiers in *Ocarina of Time*. The captain castle guard was influenced by guards from *Howl's Moving Castle*. We wanted Sakura to have a cute appearance and looked at *Neko Atsume* for her style.

Reference:

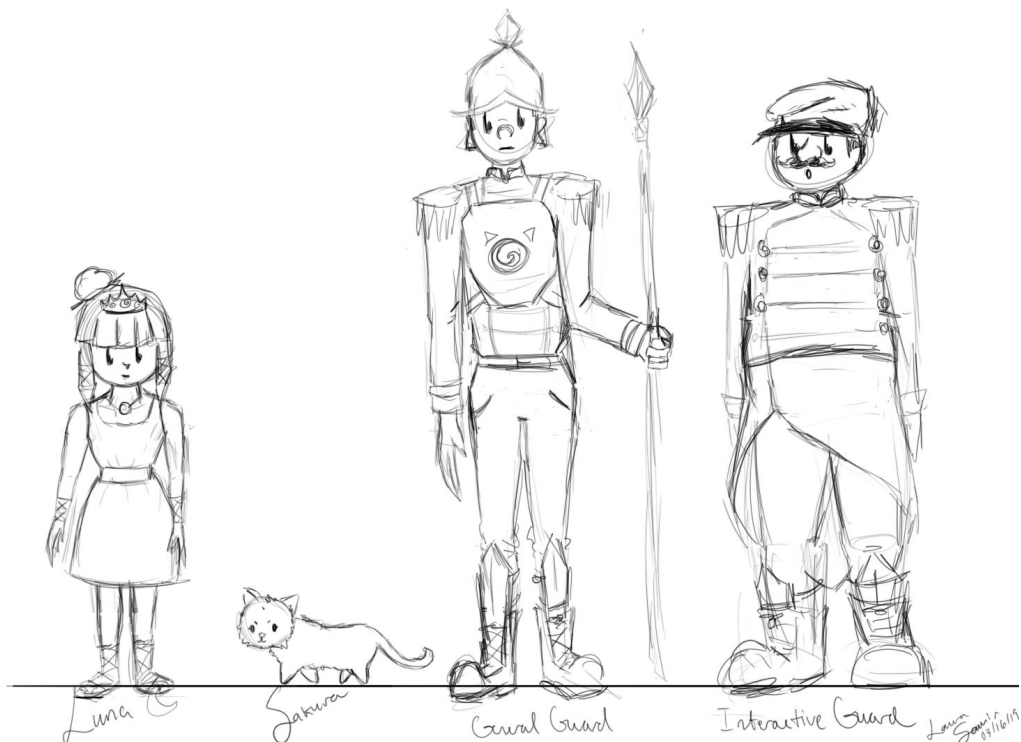


Upper left to lower right: *Weather Girls*, *Neko Atsume*, *Ocarina of Time*: Hyrule Soldier, *Skyward Sword*: Zelda, *Howl's Moving Castle*: Guards

Early Concepts:

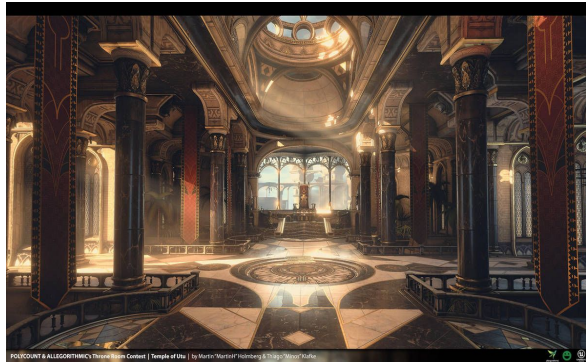


Character Line Up:



Environment

For the environment, inspiration drew from very different sources. For the throne room (starting room), both an independent unreal project and Ocarina of Time were the main references for this design. For the castle itself, inspiration for the design drew from a 3 sided castle in Scotland called Caerlaverock Castle. In terms of the dungeon the main influences were Hyrule Castle's dungeon in Ocarina of Time and Irithyll dungeon in Dark Souls 3.

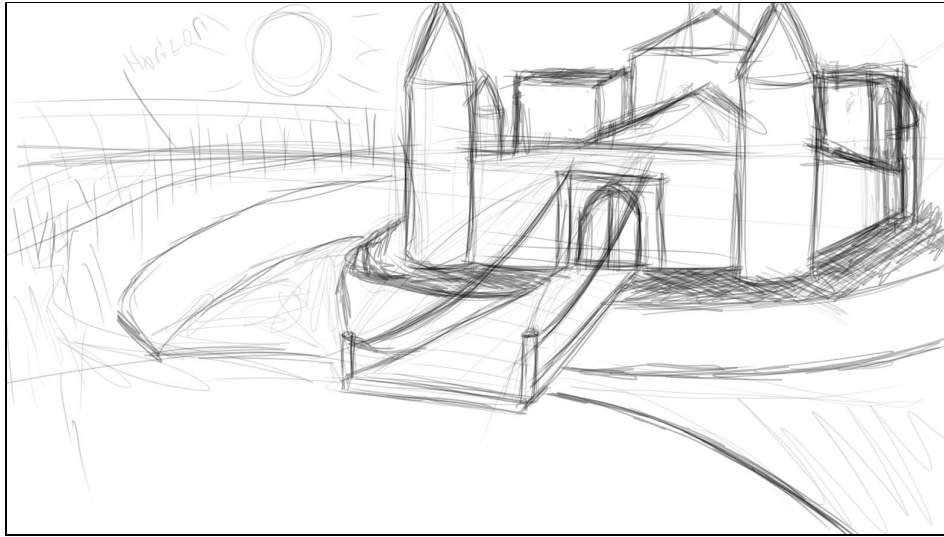


Upper right to bottom left: Ganon's throne (Ocarina of Time), Temple of Utu (unreal project), Hyrule Dungeon (Twilight Princess), Caerlaverock Castle (Scotland).

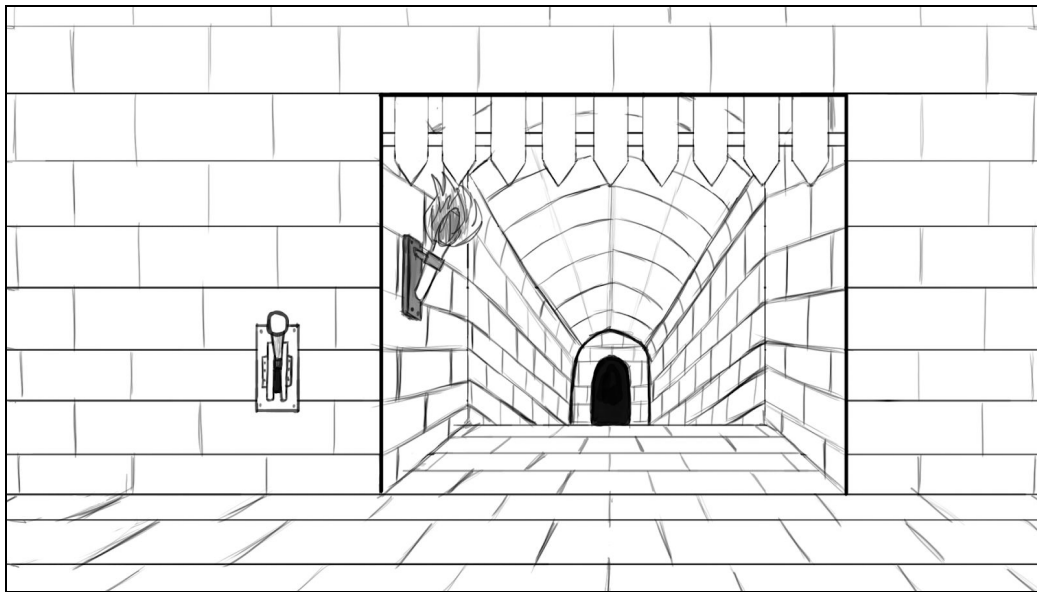
Throne Room Concept:



Castle / Outside Environment Concept:



Dungeon Concept:



Interactive Objects

The player will have to interact with certain objects to clear dungeon rooms. These interactive objects include floor fans, lever switches, and pressure plates. Below are some rough sketches of these objects.

