Twofold Land: Level Design

# Basic Flow and Game Loop

**#1 Area 1, Room 1 (Introduction, Abstraction)**

Ricci starts the Level in a room with two passages. One is a locked door on the left, the other an open passage to the right.

Next to the locked door is the Unlockable Abstraction on the wall. Ricci looting the Abstraction will trigger the appearance of two enemies in the chamber.

Ricci does not know combat skills yet, so her only option is to run through the open passage. As she enters the other room, the passage is closed and the enemies locked out.

**#2 Area 1, Room 2 (Didactic Puzzle, Abstraction)**

The new room has a jammed door at the opposite corner and a chest in the middle of the chamber.

Opening the chest, through the Unlockable Abstraction, and solving its puzzle, gives Ricci the Damageable Abstraction, which allows her to hit the creatures seen before, as well as damaging the jammed door to open.

**#3 Area 1, Room 3 (Learning Combat, Didactic Puzzle)**

Ricci passes the door and enters a room with one foe.

Defeating this enemy and looting his corpse will give Ricci the key that opens the passage back to the first room.

**#4 Area 1, Room 1 (Epic Combat)**

By returning to this chamber, Ricci will need to defeat the first two foes.

With the beasts defeated and the place safe, a NPC will open the locked door and invite Ricci in.

**#5 Area 2, Hub - Northbridge (Reward, Managing)**

By entering the safe place, the game will save.

Ricci will have access to the managing part of the game and NPCs that will grant her quests and maybe give important information. She will also be introduced to The Compiler, where she can create and allocate her spells.

After a conversation with an NPC, she will leave to a new area with a new objective.

**#6 Area 3, Room 4 (Didactic Puzzle)**

This room has a locked door in the end and something that will give Ricci a Lore Item.

In order to open the door, she will need to solve a Matrix Puzzle. Then she reaches the other room.

**#7 Area 2, Room 5 (Reward)**

This is the last chamber on the level. It contains a chest.

// More descriptive rooms (style, contained objects, illumination and so on)

// Give names to the Areas, Rooms and Hub

// How is the illumination going to work?

// Plan and document enemies (type, appearance, weakness)

// Define more possible loots (like equipment, for instance)

// Decide loot for the two enemies on the first chamber

// Better description on the Hub

// Create NPCs (names, necessary backstory, objectives, quests and dialogues)

// Put more stuff in the rooms 4 and 5 and enlarge Area 3

// Figure out how to do this without tons of tutorial windows (show things In Game)

# Assets Description

## 3D

**Dungeon**

The Dungeons are the largest parts of the game, and usually are connected by the HUB. Is where the game action will occur (combat, puzzles, loots), and where the player will test and develop skills in game as well as in computational area.

**Hub - Northbridge**

The HUB is the managing part of the game, and a safe place for Ricci. The HUB consists of a ‘’safe looking’’ place with passages for the other places of Twofold Land. There are Story and Merchant NPCs that will grant Quests, Equips and Items for Ricci. Somehow, she will be able to change her gear and by The Compiler she can create and allocate Spells.

**HUB Door**

This is the master and unique Door that will take Ricci to the game’s safe place. This door is one of the first things the player will see in the game, and since it’s blocked, it needs to pass the message of importance and objective. That’s why it has to differ from the regular doors in the game.

**Default Doors**

These are the regular doors encountered through the game. When locked, they can be opened by key, pick locking, spells or puzzles. They will grant passage to other areas in a dungeon.

**Enemies**

**Blocked Passage (for the first room)**

**Chests**

Chests are the most important loot assets of the game. The best and more important items will be stored in them. Since they are a crucial part for the game loop (as little rewards during the dungeons), and gives the player satisfaction to find and open it, the chests must be good looking and have opening and close animations.

**Abstractions**

Abstractions represent a piece of an Actor’s behavior and properties. Ricci can interact with the world by issuing Commands based on an Actor’s abstractions.

**Keys**

A readable item as a note or a rune represents a key. The readable number on the item is the decimal key of an Unlockable.

**The Compiler**

This is the object needed for Ricci to create and allocate Spells. It is located at the HUB and has a proper interface for managing its functions.

//How this should look like?

**NPCs**

// Create NPCs (names, necessary backstory, objectives, quests and dialogues)

## Interface

**Loots from Foes and Chests**

**Chest Puzzle**

**Passage Puzzle**

**Door Puzzle**

**Saved Game Icon**

The Saved or Saving Game Icon is important to let the player know the game’s progress is secure. The game will save every time Ricci enters or lives the HUB. The icon must pass a clear message and be visible to the player.

**The Compiler’s Interface**

**Lore Items**

// Decide if the HUB’s key will be a 3D or Interface Asset

// Think about the quest log. It’ll be the game’s default quest log or it will be shown, like dialogs in the Console, by typing a specific command?

# Didactic Features

The game’s main goal is to teach Computer Science concepts through Jean Piaget’s Constructivism theory. It means that the learner should **assimilate** every **concept** by the process of incorporating **new** **experiences** into an **existing framework**[[1]](#footnote-1).

Following is a list of concepts and their respective learning mechanisms.

## Algorithms

## Computer Architecture

## Mathematics

* Binary Conversion:
  + Ricci can unlock Actors such as Doors and Chests by Unlockable.Unlock(). Then, a GUI showing a binary conversion minigame will appear.
  + The goal of the minigame is to convert that Chest’s binary key to a decimal number. Other characters cannot do this since they do not understand binary.
  + Ricci can also use the decimal key by inputting Unlockable.Unlock(decimalKey). This way, she will not need to do the minigame already knowing the key.

## Networks

## Operational Systems

1. http://en.wikipedia.org/wiki/Constructivism\_%28philosophy\_of\_education%29 [↑](#footnote-ref-1)