

**Note:** This is a section from our global design document I upkeep on the regular besides working on level design and other lead design duties. I am not allowed to show all, but have been allowed to show some sections and only parts of sections. For example, I will only show 2 levels from zone 2 and the environmental elements that need to be known to understand the levels; these are specifically some of my levels that are made alongside my designers' levels. This is all during production so details are subject to change or be out of date with what is current.

## Chapter 1: What is a Level?

This chapter is meant to clarify the idea of what exactly composes a level.

First we will talk about **the goal** of each level: every level will have a *doorway* that we want Koa to get to. The doorway will be represented as a rune that causes Koa to "grow" into our main level select screen through our no-cut UI system.

Before being able to go through the door though, it has to be unlocked. There will be *prisons* each level that have trapped other spirits. To free these spirits, Koa has to come in contact with these prisons. When a prison is destroyed, there will be an animation that has magic from the freed spirit flow to the rune. After all the *prisons* are destroyed, then the *doorway* will open (the camera and animations will show this) and Koa can pass through.

Now where will this *doorway* be? Well the **level layout** is what will hopefully clear this up: Every level will have *Koa*, the *doorway*, and a (or a few) platforming puzzle(s) keeping the two apart. *Koa* will always come walking in from the left, and the *doorway* will usually be on the right side of the level.

The level will at times be greater than the screen, specifically as the puzzles increase in difficulty over time. At most, we want each level to be "4 screens" big in any direction from the starting position.

## Chapter 2: Environmental Objects

Environmental Objects are objects that interact with Koa and their branches in the levels of our game. They can benefit or hinder players depending on the situations on the level. They are each introduced incrementally as the game progresses in their perspective zones. Elements from previous zones can be used in future ones.

## **Chapter 2-1: Elements Introduced in Zone 1**

Zone 1 is a visually nature-focused level so the elements introduced will match this theme in a diegetic way.

Zone 1 is also the zone where we will teach the player our base mechanics so we will only introduce 1 element on top of that:

- Rushing Water Treadmill

### **Chapter 2-1-1: Rushing Water Treadmill**

#### World Representation:

Throughout the levels, there can be water in the level that pushes Koa and their branches around. These streams are represented as small streams that come from openings in the level environment and can either be seen only on a surface or even coming off a surface for a "pushing" effect on anything it hits.

#### Behavior:

When Koa or a branch is on top of the water it acts as a treadmill that moves the objects in its direction. If the player tries moving in the same direction as the treadmill then the player will move at increased speed. If the player tries moving in the opposite direction, then they still move in the direction of the treadmill but at a rate slower than if the player will idle on the treadmill. The rate of the treadmill is adjustable per treadmill, per level.

If Koa or a branch bumps into the "run-off" of a stream (meaning it goes past just being on a surface) then the object gets pushed in the direction of the stream until it reaches the ground. And once the object hits the ground, it moves away from the run-off stream in the horizontal direction of the stream until it is no longer in contact.

Water Streams can only push downward or horizontally.

### Tuneable Values:

- Force of water of water
- Buoyancy of water

## **Chapter 2-2: Elements Introduced in Zone 2**

Zone 2 is a more polluted or "infected" zone: a mix between Zone 1 and Zone 3. Because of that, our elements will be mostly intrusive and slightly dangerous, introducing our player to a more hazardous game.

We have 2 elements introduced:

- Toxic Gunk
- Cutting Light

### **Chapter 2-2-1: Toxic Gunk**

#### World Representation:

Since Zone 2 goes from the end of a river towards a source of its pollution (an outgoing pump of waste), there will be chunks of trash and toxic byproduct from said pipe. In the levels these will be represented as purple gunk on the surface of objects.

#### Behavior:

If a branch comes in contact with the gunk, then it will change color to match the gunk's color over time. It will fill from point(s) of contact. Once the color is filled, the branch will be deleted. If the Koa comes in contact with the gunk, their husk will disintegrate quickly (not gruesomely) and another body will grow nearby (respawn).

#### Tuneable Values:

- Time to fill branch with gunk.

## Chapter 2-2-2: Cutting Light

### World Representation:

Remember burning things with a magnifying glass as a kid? Well this is where the idea for the cutting light comes from. For those of you who weren't arsonists in their childhood, it worked by using the magnifying glass to focus sunlight into a point you want to ignite. Over time the focused energy from the sun would cause the object (ie. a leaf) to sizzle then eventually there would be a hole in the leaf.

### Behavior:

Usually this process also causes the leaf to burn outward from the point but we believe this might cause some annoying situations and confusion in our game. "Is everything going to catch on fire?" is a likely question. So we decided to have branches be cut instead at the focused point.

In the level, the light will be represented as an intense light in the form of a beam with parallel sides that is distinguishable from normal light. Once a branch is in the beam of light and no longer moving, the beams side will angle inward to focus the light on a point on the branch in the center of the light beam. After this a visual and audio sizzle feedback will play for a few seconds before the branch cuts in half. The cut will have a very small explosive force moving both halves in opposite direction, just so that they don't end up in the light again.

The light source will never be shown, they will either be coming from out of the level-boundary or an opening in the background. And the lights can be blocked, meaning they don't pass through objects.

Players can use this object as a delayed cut in more complex puzzles but when it is introduced it will more likely be seen as a hindrance than a tool, destroying bridges players create.

### Tuneable Values:

- Time to cut branch

## Chapter 3: Level Design Pipeline

As we create our levels we will have different goals for doing so. We will want to teach the player something, test/challenge them on something we've taught, just have a fun idea, show the player a new way to use an environmental element, etc.

I recommend watching the Mark Brown video on puzzle design. He has two, I think both are helpful but if you can only watch one, do the later one. One of our design pillars revolve around

his philosophy of leading the player by teaching them something, challenge what you taught them by appealing to possible misconceptions (can be done in different ways), then have a bit of "zen" in a puzzle that has no surprises and just a normal challenge.

With that said, our workflow I think will be pretty simple (in theory).

Another note: After the diagram from step 2, designers can choose to pass the level to another designer in between steps. A designer can do this if they believe they have something else more pertinent to work on or if they believe another designer may make it better (of course the other designer has to agree to take it). This is a collaborative task so other designers can be involved throughout the pipeline anyways, but we need one in charge of getting it through the whole pipeline. You could just choose to keep the level all the way if it is your baby, though; also keep in mind that if someone else has the level they can kill it if it seems unneeded.

### Step 1:

Pick a zone so that you can know what environmental elements are involved. Then have at least a loose idea on the difficulty or what section of the zone the level will be; you can look at what current levels we have to help with this. This will also help with imagining how the level will look.

### Step 2:

While keeping in mind what the goal of the level's design is, make a diagram of the idea with 1-3 stations. This can be a diagram drawn on paper or through some software, just make sure you can get it to an attachable file.

### Step 3:

This is the most important step: play as you build in editor. No amount of forethought in your diagram will make the level perfect the first go-round. Sections will feel too hard, annoying, unfun, etc. And to detect this we must play the level as we build it; we are the advocate for the players after all. So because of these realizations, we will tweak our levels in editor to get the right feeling.

It will also give us a better idea on what visual information is available to the player as they play. Causing us to either shrink or expand the level's layout.

If at any point the changes make the level move in where it fits in the zone, take note of that so that we can make sure it fits correctly somewhere. If you get to a point where it doesn't feel fun unless there is an element from another zone, we can change the zone it's in; but this should be a last resort, we should really try our best with what we have at hand.

This is the most important part but also the most fun; we get to mess around and test our levels and watch them grow into something players will enjoy. So have fun with it, a new idea may come from the constraints of the zone and Koa's mechanics.

Keep in mind too, that this step may show you that we have to go back to the drawing board.

Step 4:

Stress Testing. We will have internal tests/reviews from fellow designers and any other team member interested in helping. After we are happy there we give it to usability to get some player feedback.

Step 5:

After all the testing is done, it is time to work on the look of the level with our art directors. It is more useful to have an idea of the look of the level (and it most likely will come to you as you build in editor with the zone in mind) but if you don't have an idea you can have a conversation with the art director on how it should look. Either way, in the end the art director decides how it looks; it's up to you to give input and feedback.

When it comes back from the art director we internally review it again and if we have changes we send it back to Art. Once we are happy, we again give it to Usability for testing. Make needed changes until everyone's happy (or happy enough without using too many resources), and then the level should be marked done.

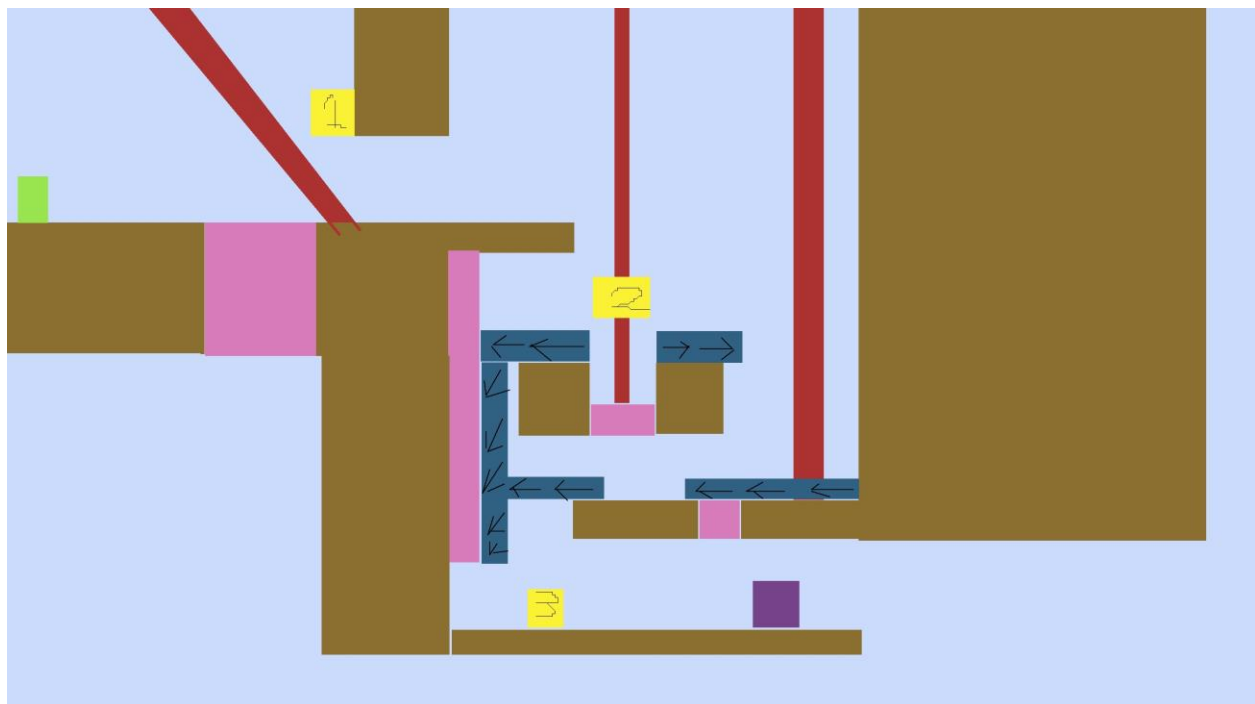
The first puzzle introduced near the spawn on Koa is used to teach a few things. First, we want the Player to know that Koa gets hurt by the gunk. For this we will have a mantle-able height wall that is covered in gunk so that the player may try to climb it. Obviously if they try to climb it then the Koa gets hurt and respawns. From there the player just has to build up around the gunk. The point of the gunk hanging from the ceiling is so that if the player didn't learn they could get hurt from trying to mantle, they may learn they get hurt if they bump into the gunk from the ceiling. From here the player can get the first station.

The next station puzzle's goal is to teach the player that branches disintegrate over time on gunk and that Koa can walk on it before the branch disappears. We have the ceiling narrow enough so that the player cannot build a bridge over the gunk.

The final puzzle is then a reminder that there is water in the game and let's the player know that levels will include elements from past zones. It is both built off the station 3 puzzle in 1-6 and sets up for later puzzles in zone 2 (like level 2-6), where the player uses water and branches to get to a targeted location. More specifically here, the player draws a branch that will go down the stream and cover the gunk so that the player can cross the gunk safely and reach the station. It is basically a similar puzzle to station 2 but showing how water and gunk are used together.

Afterwards, the player can just walk Koa over to the Exit.

## Chapter 4-2-6: Level 2-6



### Legend:

- Green Box: Koa Spawn
- Yellow Box: Stations
- Purple Box: Exit
- Brown: Ground/Platforms



- Pink: Toxic Gunk
- Orange: Cutting Light
- Blue: Water with given direction

### Description/Goals:

The player starts with Koa nearby station 1. To get the station, the player must build a branch up to the station, simple. But this also helps the player cross the gunk even with the light there. The player must be quick enough to be on the right side of the branch when it is cut so that the falling branch is safe to walk off to continue (before it melts and/or gets cut again). This small puzzle could also hint to the player what to do in the next station puzzle.

Station 2 is above a gunk gap where both side ledges have water streams moving away from the gap. The player may drop a branch down there and realise that the opposing forces keeps the branch stationary across the gap until it gets cut by the light. The player can drop Koa down on the branch to reach the station but must also make sure they are on the right side of the cut. If they are on the left, they will be sent towards a wall of gunk.

As the player rides the water towards the right, they drop to a lower level where they reach their next puzzle. The light and gunk to the right are there to get rid of any excess branches that may annoy the player (also they add atmosphere to the water ride).

The last puzzle is that Koa cannot ride the water stream without getting melted by the gunk wall. The player must send a branch that gets pushed against the gunk wall so that Koa can use it as a buffer and drop down safely. The branch melts over time so the player must send Koa in immediately after they send the branch.

Finally from there, the player can just move to the right to exit and complete the level. The station puzzles were complicated enough that we can let the player relax as they exit (make it a pretty walk to reward them).