- Game Design Document -

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LAFTERBURN STUDIOS

GENERAL

Intent

The intent of *Frog Bath* is to create a 3D multiplayer capture-the-flag platformer focused on unique frog-inspired movement and item-based player-versus-player action. The target market for this game consists of players who enjoy multiplayer games with short play times and high replayability, especially those that can be easily played with their own friends. The game's art direction focuses entirely on the ridiculous theme of frogs taking baths. The environments and props are directly connected to either frogs or baths, the characters are simple and cute, and the overall aesthetic utilizes soft edges, vibrant colors, and simple geometry. *Frog Bath* is being developed in Unreal Engine 4 due to its capabilities with networked games, which this game will depend on. Additionally, Unreal can allow for a more streamlined art pipeline, allowing for the art team to quickly iterate and create assets. We plan on releasing *Frog Bath* as a couch-competitive title with controller support, with a later shift to online PC networked play (keyboard controls).

Value

The value of Frog Bath lies primarily in its accessibility as a chaotic and goofy party game. A very simple goal is made more complex through player-vs-player interactions such as stealing bath items from other players, interactable environments such as shower curtain ziplines, and powerups that give you unique advantages for a short period of time. The game is very easy to pick up and enticing to keep playing. On top of this, the ridiculous theme of frogs giving their Frog King a bath automatically draws in players. Combined with the colorful, round, and friendly art style, the premise of the game alone is attractive to players. The game also provides some level of depth for players who want to be more competitive with their friends while playing, since skill-based mechanics like "perfect frog hopping" allow players to move faster around the map.

Audience

Fans of Frog Bath are players who enjoy short party games that they can play with friends. They love replayability in games and almost necessitate that the games they play will never have the same two matches when replaying it. These players are also fueled by competition; they enjoy being able to beat other players, but more importantly, their friends. They also like to have control over the game they are playing, which fits very well into the platformer/capture-the-flag genre.

Context

In a universe separate from our own, there is a kingdom of frogs who all obey and follow their Frog King. These frogs love their king so dearly and make sure to do anything to gain his favor, including bathing him. In fact, these frogs have grown a certain addiction or obsession with their king's hygiene and compete to see who can bathe him the fastest and the best. The Frog King sees this as flattering, and does nothing to stop this craze; after all, he's getting a free bath out of it, so why get in the way?

Environment

Frog Bath takes place in a bathing-themed frog kingdom, where its geometry is composed of items commonly found in a bathroom. This includes bathtubs, shower heads, tissues, sponges, toilets, toilet paper, toilet brushes, etc. The environment is surrounded by tall castle walls with flanking towers, which contributes to the "kingdom" aspect. Some of the levels plan to feature a prominent bathroom-themed central building containing the Frog King that acts similar to a traditional castle's keep. An example of this is the Frog King's Bathtub Pantheon.

References

Cap Kingdom from Super Mario Odyssey. It's not actually taking place in a hat store. Instead, they embrace the "hat" theme and make things simply look like they would belong in some "hat world".

Dry Dry Ruins from Mario Kart Wii. The level is essentially themed around an ancient Egyptian Mario world.

SYSTEMS & MECHANICS

Gameplay Overview

The goal of *Frog Bath* is to give the Frog King 3 (three) baths before any other player does. In order to do this, the player has to pick up the Frog King's desired item, which spawns somewhere in the level, and bring it back to the Frog King. In doing so, players must avoid getting their item stolen by others while also moving around like a frog and using their frog tongue to help achieve their goal. The game ends once a certain player successfully bathes the Frog King 3 (three) times; that player is declared the winner.

Movement

The movement in *Frog Bath* is one of its key pillars. Aside from the Tongue Grapple, movement is performed using only WASD, SPACEBAR, and the MOUSE.

Controls

WASD

Grounded movement (while frog is grounded)
Midair Movement (while frog is not grounded)

SPACEBAR

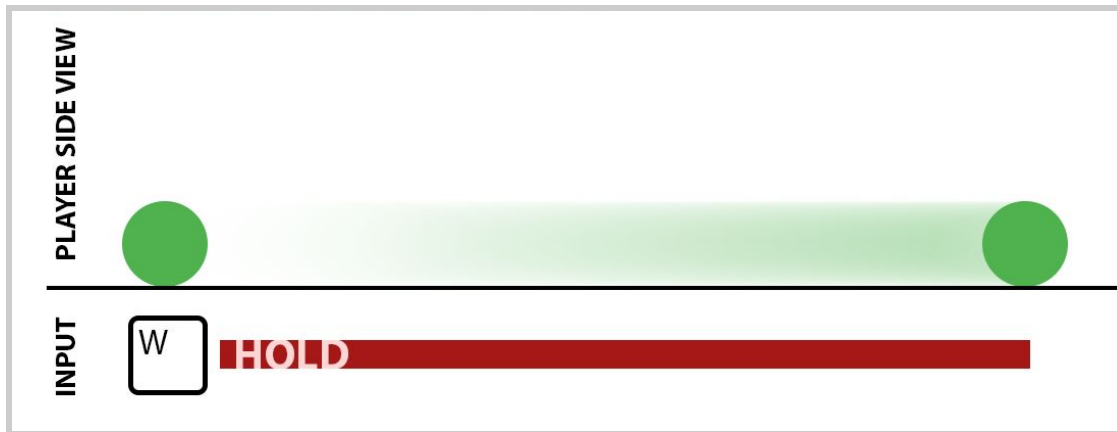Hopping or Perfect Frog Hopping (PFH) (while tapped)
Jumping (while held)

MOUSE

Camera (when moved around)

Grounded Movement

PLAYER SIDE VIEW

INPUT

| W | **HOLD** |

A side view example of grounded movement. The character moves forward at a constant speed so long as W is being held.

Rules

1] Grounded movement is performed using WASD while the frog is grounded. It consists of the frog moving in a direction parallel to the ground they are standing on (W is forward, A is left, S is backward, and D is right). In other words, it only causes the frog to move horizontally. Frogs can move diagonally by pressing W or S and A or D at the same time. Forward is defined as the horizontal component of the direction the [camera](#) is facing.

2] The frog will move forward at a constant speed while the key(s) are held, but the movement will operate with forces and velocity to give them a little bit of a ramp up in speed at first (this ramp should max out after a fraction of a second).

3] Switching movement directions should emulate a sudden change in the direction of the movement vector, rather than the addition of a force along a new movement vector to counteract any remaining inertia of the previous movement vector. In other words, movement should be snappy, not floaty. Letting go of the movement key(s) will cause the frog to stop abruptly.

Usage

Normal movement is the easiest form of movement to perform. Due to the verticality of the environment, many locations will <u>not</u> be accessible using strictly normal movement from the start.

Midair Movement

Midair movement is **the same as grounded movement except for the following rules**.

1] Midair movement is performed while the frog is <u>not</u> grounded.

2] Switching movement directions should instead emulate the addition of a force along a new movement vector to counteract any remaining inertia of the previous movement vector rather than a sudden change in the direction of the movement vector. In other words, it should be floaty, not snappy.

Usage

Anytime a player uses WASD movement while their frog is in the air, they are using midair movement. **The only exception** to this rule is [Perfect Frog Hopping](). Midair movement is not utilized while Perfect Frog Hopping. Midair movement is slightly <u>slower</u> than grounded movement.

Hopping
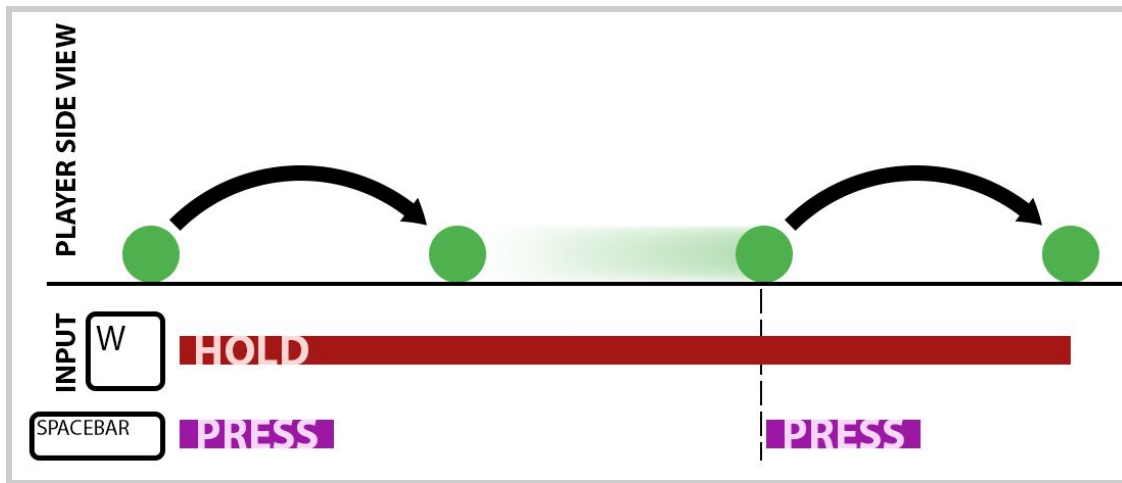
*A side view example of hopping in unison with normal movement.*

Rules

1] If the player presses SPACEBAR, their frog will hop once. This gives the frog a vertical impulse force directly upwards.

2] Frogs can only hop if they are grounded.

Usage

After performing a hop during grounded movement, the frog will begin to utilize midair movement instead. Due to midair movement being slower than grounded movement, utilizing midair movement by hopping is slower than using grounded movement (not hopping). However, the vertical gain that hopping provides over normal movement makes more locations accessible.

Perfect Frog Hopping (PFH)
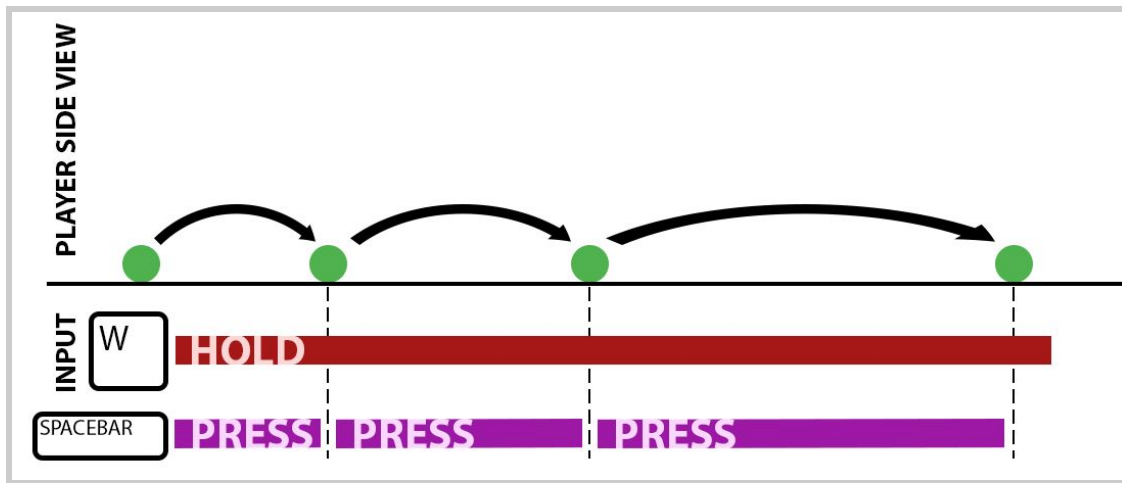

A side view example of Perfect Frog Hopping.

Rules

1] Perfect Frog Hopping is done by pressing SPACEBAR within a small window of the frog landing on the ground. The window activates very shortly before landing and only lasts for a very brief amount of time after the frog has landed.

2] PFH provides a considerably large horizontal impulse force in the direction of the frog's movement. This force takes the place of midair movement.

3] The vertical gain provided by PFH is the same as the vertical gain provided by hopping.

Usage
Perfect Frog Hopping is the fastest form of movement horizontally. To balance this, PFH is a timing-based technique that players need to become skilled at.

Jumping
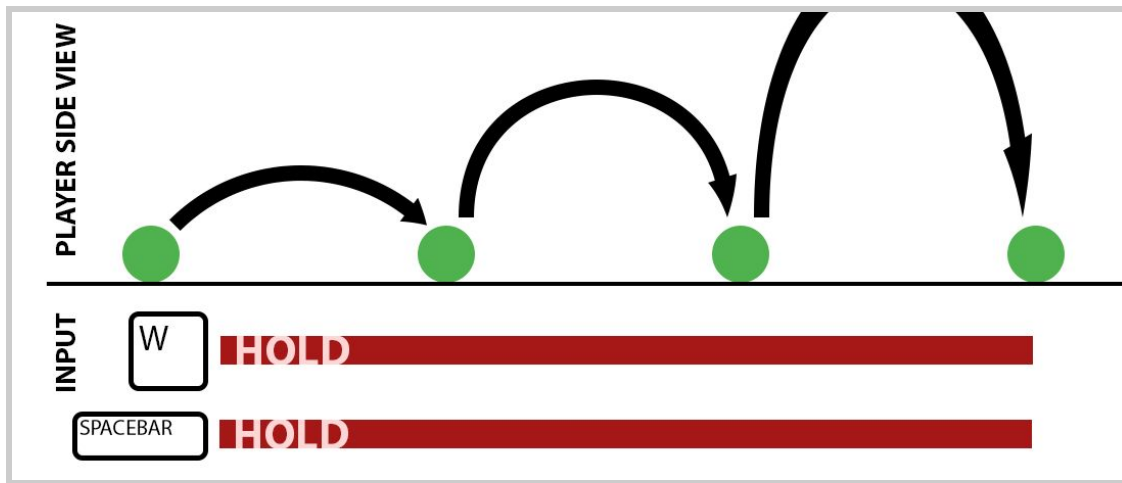
A side view example of jumping. See how each successive jump is higher than the last for all three jumps.

Rules

1] If the player were to hold down SPACEBAR instead of pressing it, their frog will initially perform the same action as a hop. The difference is that every subsequent hop done without letting go of SPACEBAR results in a higher vertical height than the previous hop.

2] After 3 (three) jumps, the height gain caps off, and every following jump will have the same maximum height until SPACEBAR is released.

Usage

The vertical distance achieved from the second jump and especially the third jump is much higher than the vertical distance achieved from hopping. All areas of the level must be accessible through a combination of normal movement, hopping, and jumping.

Camera

In *Frog Bath*, the player's screen depicts a third person camera that follows each individual player behind them. The player can freely rotate the camera around their frog using their MOUSE. However, the rotation of the camera is locked so the player can't look more than 90 degrees up or down.

Frog Tongue

Every frog has a **tongue**. The tongue is controlled with the LEFT MOUSE BUTTON. The tongue can extend out of their mouth and retract back in in order to perform various tasks. This extension and retraction is performed over time, not immediately. **Note:** A frog <u>cannot</u> use their tongue if it is carrying a [Bath Item].

Controls

LEFT MOUSE BUTTON:

[Extension] (when held)
[Retraction] (when released)

Extension

Rules

1] When a player holds down the LEFT MOUSE BUTTON, their frog will **extend their tongue outward** in a straight, rigid line. While the LEFT MOUSE BUTTON is held, the tip of their tongue will move towards the position of a crosshair located directly in the middle of the player's screen.

2] While shooting their tongue, the **player's position freezes** until the tongue [hits a surface] or [hits another player]. If the tongue does not hit a surface or hit another player after a certain distance, the tongue will begin to [retract] back into the player's mouth and the player's position will unfreeze.

Retraction

If the player releases the LEFT MOUSE BUTTON while the tongue is extending, the tongue will begin to **retract back into the players mouth**.

Usages

Tongue Grapple

Another movement option for frogs outside of standard movement is to use their **tongue as a grapple**. If the tongue hits a surface, the tip of the tongue will stick to the surface and the player will **move toward where the tongue hit**. The tongue cannot grapple to surfaces if the player is grounded and the tongue is aiming at the ground. This is to prevent players from using the tongue in the same manner that grounded movement is supposed to be used in.

Hitting Other Players

If the player shoots their tongue at another player, the player that got hit will become **stunned** for a brief moment and the tongue will retract back into the player's mouth. If the player that was hit was holding onto one of the bath items, they will **drop their bath item**.

Frog King

At the center of the level is the large **Frog King**, who acts as the bath item capture point in *Frog Bath*. At the start of the game, the Frog King will demand a bath item from the players. When a player brings that specific bath item back to them, they will ask for a new item unless that player is declared the winner. If a player is in possession of a bath item - whether it's on their tongue or in their mouth - and they collide with the Frog King, they will have successfully delivered it to them.

AI

The Frog King is planned to exhibit a variety of AI behaviors.

Proximity Kick

The Frog King will occasionally hop in place to switch the direction it is facing. Staying too close to the Frog King for an extended period of time will endanger a player's frog. If

the frog is within a viewing arc in front of the Frog King, the King will kick the player's frog away, sending them a generous distance away and stunning them for an extended period of time.

King Stomp

The King Stomp is one of two behaviors that occur if a player lets their bath item diminish completely. Contextually, the Frog King becomes very angry, and jumps extremely high in the air. Then, they land directly on top of the player that diminished the item, flattening and stunning them for an extended period of time. After landing, the Frog King will then perform a smaller jump off the player and land on the closest viable spot to the player. A "viable" spot is an area with enough space for the Frog King to sit comfortably (aka their entire froggy body is sat firmly on the ground).

King Tongue

The King Tongue is the second behavior that is triggered by the bath item reaching "critical smallness." The Frog King will shoot a massive tongue out of its mouth, which snakes through the geometry of the level to the player that diminished the item.

Bath Items

The core of a gameplay round revolves around players fighting over acquisition of a single item while trying to deliver it back to the [Frog King](#). This item is known as the **Bath Item**. The bath item is comically large when compared to the player - remember, they're thematically meant for use by the Frog King. There are a variety of bath items that the Frog King will randomly pick from: they currently consist of a **Soap Bar**, a **Shampoo Bottle**, and **Mouthwash**.

In the Level

When the item is sitting in the level, it is floating slightly above the ground, similar to the coins in 3D Mario games. If a player's frog comes into contact with the bath item with their body or with their tongue, the item will be in their possession and it will stick to the end of their tongue.

In a Player's Possession

A bath item is considered to be in a player's possession when it is either **on their tongue** or **in their mouth**. While an item is in a player's possession, that player will be **unable to use their frog tongue** normally. Instead, pressing the LEFT MOUSE BUTTON will toggle between the item being on the frog's tongue or the item being in their mouth.

While in a player's possession, the bath item will begin to slowly **decrease in size** over time. Once the item reaches a certain small-ness (where it is essentially too small to see), the item will be destroyed and the Frog King will be mad at the player and will jump to where the player is, crushing them and stunning them for an extended period of time. The Frog King will then jump off of the player to a nearby viable surface to stand on, and a new item will spawn in the location the Frog King jumped from.

As the bath item decreases in size, a certain passive buff to the player's movement will increase along with it (the smaller the item gets, the stronger the buff becomes). The buff is determined by type of bath item:
- **Soap Bar** will grant the player faster frog hops, giving them more horizontal distance covered
- **Shampoo Bottle** will grant the player higher frog hops, increasing the overall height of each successful jump executed
- **Mouthwash** will slow down the rate of the sickness meter when the bath item is the player's mouth

The player **cannot** **voluntarily drop the bath item** once it is in their possession, but when the item does come out of their possession due to the Frog King jumping on them or due to it being stolen by another player, the item's size resets back to normal.

Possession - On a Player's Tongue

When a bath item is on a player's tongue, the frog's tongue will hang out of the player's mouth and act as a physics-based rope object with the item attached to the very end of the tongue. This rope-tongue has a defined length and will never be shorter or longer than this length. The bath item moves with the player due to the physics of the tongue - think of it like dragging a pet rock on leash around with you everywhere you go.

When entering this state, the frog will open their mouth and their tongue will flop out of their mouth with the item on it. The item will have a very small force initially when coming out of the mouth so it can plop in front of them.

While in this state, the player and the bath item are physically two different objects that are connected by the rope-tongue. When another player shoots their tongue at either the player frog or the bath item, two different outcomes will occur:
- If another player **shoots their tongue at the frog** while in this state, the player that got shot will be stunned and nothing more.
- If another player **shoots their tongue at the item** on the end of the tongue, the item will go into that player's possession and its size will reset to normal.

Possession - In a Player's Mouth

When a bath item is inside of the player's mouth, it eliminates the rope-tongue idea as a whole, making the player smaller to hit since the bath item is not trailing behind them. Additionally, the player has a small speed boost when in this state, with little sweat particle effects trailing off of them. That being said, as the player has the item in their mouth, they start to slowly build up **sickness** at a certain rate that is yet to be determined. (most likely visualized through some sort of bar).

When the player's sickness reaches the maximum value, the player will become stunned for a moment, and they will spit out the item on their tongue, moving them back into the state with the rope-tongue. By the end of them being stunned, their sickness meter should be empty once again.

If the player has built up any sickness and then moves to a state where the bath item is no longer in their mouth (whether it's still in their possession or not), their sickness will begin to deplete at a certain rate that is yet to be determined.

Stunning

When a player is stunned, they will be unable to move at all or use any powerups but are still able to use their camera. There are multiple different ways to stun other players, and most methods have their own duration of stun time. During this time, the player can not be stunned again. After their stun is over, they have a brief moment of time (yet to be determined) where they are invincible to stuns.

Powerups

Not related to bath items at all, powerups are consumable items that players can use to turn the tide of the game. Items appear in the level as regal-looking clam shells (think of how clams are often used in fancy bathrooms [Example 1] [Example 2]) with their mouth open and a question-mark sitting inside of them. In the level, they would be floating slightly above the ground and idly spinning around slowly. There would also be predetermined spots where the clams would spawn. After a player picks one of them up, the clam disappears, and a new one would respawn at the spot after a certain amount of time (yet to be determined).

Players pick up powerups by either coming into contact with the clams with their body or with their tongue. Players can only hold one powerup at a time; if they were to try to collect a clam while holding an item, the clam would disappear and they would still have the same item as before. Upon collecting a clam, the powerup given to them is determined randomly, with each

one having their own rarity. When a player is holding onto a powerup, they activate its ability by pressing RIGHT CLICK on their mouse.

Here is a link to the spreadsheet containing all of the items.

Levels & Hazards

Each level has its own theme and with it, its own hazards that influence the way players play on that map.

Bathtub Level

The bathtub level has 2 main environmental mechanics, with the first one being the shower curtain rings. Throughout the level are multiple shower curtain walls, acting as large barriers in the map. Some of the pipes that are holding the shower curtains only have the **rings** on them, and when the player tongues onto one of them, they will attach to it and zipline to the other end of the pipe. The player can jump off of the rings at any point, but the ring will always travel to the other end of the pipe before stopping.

There are also stationary **rubber duckies** throughout the bathtub level; when the player comes into contact with one, they will be launched upwards with a tremendous amount of vertical gain (more than the highest jump a player can normally perform). After jumping off of a rubber ducky, it will become angry and its eyes will go red. When it is angry, it will chase down nearby players within a certain range and try to attack them and stun them. After a certain amount of time (yet to be decided), the ducky will calm down and return back to its original position where it will become stationary again.

Shower Level

The shower level has multiple **shower heads** in it that each cover a certain area. Each shower head has two knobs that control the heat of the water: a hot one and a cold one. When a player hits one of the knobs with their tongue, it will change the state of the shower.
  - The **hot water** knob turns the shower on with hot water. The area under the shower head will begin to fog up with steam, which inhibits the player's sight (essentially a thick fog). The fog will disappear when the shower is no longer in this state.
  - The **cold water** knob turns the shower on with cold water. If a player is in the shower's area when the cold water is active, their movement becomes halved in every aspect: distance, height, speed, tongue length, etc.
  - When neither knob is active, the shower is off and nothing special happens.

Hitting one of the knobs when the shower isn't in that state will move the shower into that state, and hitting one of the knobs when the shower is in that state will turn off the water.

Toilet Level

In the center of the toilet level is a giant toilet. Players can enter the toilet and shoot the flush handle with their tongue in order to flush the toilet. Upon doing so, every player in the toilet will be flushed down and sent through the plumbing, where they will be spit out at random pipes found somewhere in the level.