

# ASTRO FROG

EDG-220-06, Team 1 Project 3 - Isaac Eddy

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## Intent:

AstroFrog is a top-down adventure collectathon game where the player takes the role of a space frog who uses their tongue to grapple around a zero-gravity environment to capture the collectibles scattered across the level. Our intent with AstroFrog was to create a fast-paced collectathon that creates a high-octane and exciting atmosphere that incentivizes repetition and practice to master the game's levels and to collect everything within them.

The game's speed is incentivized through the usage of an oxygen meter that slowly goes down over the course of the level incentivizing the player to complete the levels as quickly as possible, as not only will losing oxygen eventually result in a game over, the oxygen level remaining will be shown to the player at the end of the level, pushing them to complete the level faster to beat their previous time. The game's focus on repetition and mastery can be seen through the levels in AstroFrog, as they are intended to be played over and over again so the player can master their layout and complete them in the most efficient manner possible.

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## Audience:

AstroFrog's core audience is focused on young teens between the ages of 10 - 15, as teens around or in this age range tend to enjoy games with high-intensity gameplay that require fast reflexes and practice to become proficient at them. The size of AstroFrog's core audience is very strong, as kids around 10 - 15 are a large percentage of the video game market. AstroFrog appeals to creators on online video platforms, such as Twitch or Youtube, as the game's unique controls and high challenge could appeal to content creators trying to make content based around AstroFrog. AstroFrog's appeal to online video platforms helps strengthen its appeal to its core audience, as kids around this age range are usually fans of creators or Twitch or Youtube further bolstering the strength of an already strong core audience.

AstroFrog's core gameplay is based around the collection of collectibles and mastery over the game's mechanics and levels, so AstroFrog best fits under the Challenge and Completion Quantic Foundry motivations. AstroFrog's core gameplay loop is based around completion as within the game's levels is a treasure trove of collectible flies that the player can collect. At the end of a level, the amount of flies that the player collected is shown to them along with how many flies they missed, creating the motivation within the player to retry the level and collect the remaining flies that they're missing. Further incentivizing the retrial of levels is the challenging aspect of AstroFrog's appeal. Due to AstroFrog's gameplay's fast nature and high skill ceiling, there's a lot of room for the player to improve, which alongside the player's best completion time being shown to them at the end of a level creates a drive within the player to best themselves. Because of the fast-paced gameplay that focuses on replayability and mastery, the game cleanly falls under the acrobat Quantic Foundry Archetype, as the game's unique mechanics and high-octane gameplay keep players engaged while learning and mastering the game's mechanics.



## Context/Environment:

The context of the world of "AstroFrog" takes place in the depths of space, where the player takes the role of the titular AstroFrog, a space frog bounty hunter who has been tasked with capturing an evil group of space pirate flies known as the Fly Guys. During their hunt, they are suddenly ambushed and attacked by the Fly Guy's, damaging it and leaving AstroFrog floating in zero gravity while they invade AstroFrog's ship. AstroFrog, now set upon by hordes of evil space pirate flies, must capture these dangerous criminals all the while maneuvering around their zero gravity environment and dodging dangerous hazards. AstroFrog must use their bionic tongue as a grappling hook to swing around the zero gravity environment, all the while collecting each and every one of the fly guys who act as the main collectible of the game. AstroFrog upon completing a level is shown how many flies they



capture before a brief cinematic is shown giving context for what's happening in the next level.

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## Monetization:

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AstroFrog's monetization method is based around its addictive yet challenging gameplay that keeps the player wanting to return over and over to keep getting better at the game, mixed with its unique controller makes it the perfect fit for an arcade system of monetization. We intend to sell AstroFrog as part of an arcade cabinet complete with the game and its unique controller, the game will require the insertion of a token to play through a level. To fund the creation and distribution of AstroFrog initially we intend to pursue crowdfunding through sites like Kickstarter. Crowdfunding would allow us to stay relatively independent while being able to procure the parts necessary to begin creating and distributing the cabinets. The AstroFrog Kickstarter would also have reward incentives for donors, which can range from AstroFrog merchandise which will be produced post-launch, to a playable version of the AstroFrog build for PC, to the highest tier of funding where a limited selection of donors will be sent an AstroFrog cabinet for personal use.

The arcade system works best for AstroFrog because of its focus on playing better through repetition, because the game is meant to be played over and over again to master its mechanics, a system where arcades or bars can monetize that repetition would prove lucrative. The game would be sold to establishments that would profit off of arcade games, such as bowling alleys. The game would come complete with a custom shell with the computer parts necessary to run and display the game, and the controller used to control the game. The cabinet would retail around \$1,000 - \$2,500, hitting a more affordable price range would be beneficial to selling units as it would allow for smaller establishments to afford the asking price, additionally it help our product stand out as a preferable option to these establishments due to our at the moment low reputation within the gaming community.

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# Player Motivation:

The greatest motivation for the player in AstroFrog is the collection and mastery aspects, as almost all of the game's elements revolve around creating an environment that makes the collection and mastery gameplay elements the most fun. The player's main goal in each level is to collect all of the flies within the level before reaching the end. The collectible flies scattered throughout the level are used as an extra challenge for the players, as these flies are put outside of the main path the player needs to take to complete the level, pushing the player to take on greater challenges in exchange for greater rewards. There are more traditional challenges within AstroFrog's levels as well, as there are hazards and obstacles that the player needs to avoid lest they lose the game. The combination of collectibles and hazards work together to better enhance the rewarding feelings of mastery that AstroFrog tries to invoke. AstroFrog's focus on its collection and mastery is also used as a reward for player skill, as both how many flies the player collects as well as their remaining oxygen levels are displayed and recorded upon completing a level, showing the players progress as they improve and complete the levels faster and more thoroughly.

# Game States:

**Core Gameplay:** The core gameplay of AstroFrog revolves around navigation through a zero-gravity environment through the usage of the player character's tongue as a grappling hook. The player must navigate through this zero gravity environment all the while trying to capture the rogue fly space bandits who are causing mischief on the spaceship and avoid any hazards and obstacles that these flies send their way. The player also must be wary of their oxygen, as their oxygen meter will slowly tick down until it reaches 0, resulting in a game over. The way the player controls the game is through the usage of the "DJ Hero" controller which holds a circular palette and a button that the player can use to turn their character and fire their tongue grapple.

**Controls:** The game has two major actions that the player can perform. This first is turning where the player, by moving the palette left and right, can rotate the player can rotate their character to the left or right, allowing the player to readjust where they are facing. The second ability is the tongue grapple,

where the player launches out their tongue toward whatever's in front of them and retracts after it either hits its maximum length or if it hits an object. The tongue grapple has two main capabilities, the first is that it can latch onto certain objects, after which it drags the player character towards that object. The second ability is fly capture as if the tongue hits one of the flies scattered about the level, it will latch onto it and drag it back to the player to be collected.

**Oxygen:** The player's oxygen meter acts as both the game timer and health system. The oxygen meter will slowly tick down as the player plays the game until it eventually reaches zero when the oxygen meter hits zero the game ends and a game-over screen appears prompting the player to either restart the level or quit back to the title screen. Additionally, if the player gets hit by one of the hazards within the game's level then the oxygen meter loses a chunk of its remaining oxygen, costing the player precious time. At the end of a level the player's remaining oxygen is recorded and displayed, showing the player how much oxygen they had left.

**Hazards:** Within the game world, the player will have to avoid or else they will lose the game. When the player comes into contact with a hazard the player's oxygen meter loses a chunk of its remaining oxygen. Different hazards can have different aspects about them that make them harder to avoid, for instance, some are stationary while others move.

**Flies:** The player's main goal in the game is to capture all the flies scattered around the game's levels. These flies are part of a dangerous group of space fly pirates who cause trouble for all those they come across. The player can collect these flies by either touching them with their body or grappling them using their grapple tongue which will grab the flies and bring them back to the player. There are several different types of flies each that have a different method needed to grapple onto them. For instance, a puffer fly will puff up with spikes that damage the player when they collect them if the player gets too close. At the end of a level is the captain fly, the captain flies are bigger flies which act as the ultimate goal for the player. Collecting this fly ends the current level and takes you to a screen which will show the player how many flies you collected in the level and how many the player missed.. Collecting all the flies aren't required to beat a level, only the captain fly is.

**Title Screen:** When the player begins the game they're taken to a title screen where they can transition to different parts of the game. The title screen will have part of a ship's cockpit with a small computer terminal at the bottom. As the player rotates the palette on the games controller the options displayed on the monitor let the player go to different parts of the game, the player will be able to start a new

game, access the level select, access the options menu, view the credits screen, and finally quit the game. Choosing any of these options takes the player to a new screen.

**Level Selection:** The level selection screen allows the player to choose a level they previously completed to play again. The level select screen is going to display a snapshot of the level itself as well as their top score for how fast they completed the level as well as how many flies they collected within the level. The player can rotate the palette to change which level they are viewing.

**Character Selection:** Upon choosing a level to play the player will have the option to choose from a small list of characters to play as. Each character has the same core gameplay structure but so have slightly different elements to them. For example, one character may be able to launch and retract their tongue faster while another may be able to move faster. After choosing a character the level will start with the selected character.

**Win State:** The win state of AstroFrog occurs when the player reaches the large fly at the end of any of the game's levels. Upon reaching the fly the level ends and the player is taken to a victory screen. On the victory screen, the player will be shown some information about their performance in the level, how much oxygen they had remaining, and how many flies they captured out of how many flies are in the level. At the bottom of the screen will be a button the player can press to transition to the next level. Upon pressing the button a small comic will be shown, giving a story explanation for the context of how the player ended up in the next level's environment, then the next level begins.

**Lose State:** The lose state of AstroFrog occurs when the player's oxygen meter hits zero. When this happens a small animation plays and the game over screen is shown. On the game over screen, the player will have two options, one to restart their current level and another to return to the title screen.

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## Systems and Mechanics:



## Systems:

### Turtable Movement:

- ❖ Whenever the player starts the game, they will be able to use the DJ Hero turntable to spin the player left and right. This will also change the direction in which the player can aim and shoot their tongue. The turntable will also be able to select menu options on UI based scenes.

### Tongue Launch Trigger:

- ❖ On the DJ Hero turntable, the singular button above many of the sliders and knobs can be used in our game to fire the player's tongue. This button will also be used for our game menus and UI functions.

### Fly Counter:

- ❖ In the bottom right corner of the screen, a piece of UI will display the amount of enemy flies remaining in the level. This will not include the boss fly. This counter will not complete the level when finished, but will help completionists finish the levels to 100%.

### Level Select:

- ❖ From the main menu, the player will be able to navigate to a level selection menu. From this menu, the player will be able to load any level in the game and play through it.

### Start Menu:

- ❖ When the player boots up the game, they will be greeted by a title screen. This title screen will allow the player to start a new game, select a level, exit the game, change game options, or see the credits for the game.

### Level Complete Menu:

- ❖ Whenever a player completes a level, they will see a pop-up screen that tells them specific things about how they completed the level, such as the time remaining and the flies they collected. The player will then be prompted to continue to the next level.

### Frog Characters:

- ❖ To add a more interesting and fun experience to our game, the player would be able to play as many different characters throughout the game. The player would also be able to switch between these characters at the beginning of each level.

### **Character Select:**

- ❖ At the main menu or the beginning of each level, the player would be able to select from a pool of other playable characters with different stats and abilities. These characters would not change the gameplay dramatically, but add some spice to how each level feels, and could potentially fit someone's playstyle better.

## **Mechanics:**

### **Zero-Gravity Physics:**

- ❖ The zero gravity physics of AstroFrog are the games main challenge. The player has no way to move in a traditional manner, as the zero gravity prevents the player from moving in any way.
  - Within the zero gravity environment momentum is incredibly important, as even the slightest bit of momentum in any direction will cause the player to float in that direction until they hit an object that stops that momentum.

### **Grapple Tongue:**

- ❖ The grapple tongue is the main method of movement for the player, when the player presses a specific button their tongue will be launched out. The tongue will move forward until it either hits an object or until it reaches its reach limit, then the tongue will retract.
  - Once the tongue hits an object it will check what that object is, if the tongue can interact with the object it will perform a specific action.
    - If the object is a wall the tongue will latch on and drag the player to its current location.
    - If the object is a collectable then the object will be attached to the tongue and the tongue will return to the player
- ❖ The player has to hold down the grapple tongue button to continue grappling. If the player releases the button at any time while the tongue is out, then the tongue will drop whatever it's connected to and retract.



### Eating Flies:

- ❖ The fly eating mechanic is the main way collectibles are acquired by the player, once a player touches a fly they get eaten, being eaten removes the fly from the game world.
- Once a fly is eaten the flies collected counter goes up by one.

### Puffer Flies:

- ❖ The poison fly is a with a special ability, when the player character gets within a certain distance of this fly, they puff up and protrude spikes.
- When the player eats the fly in this state they lose a chunk of their remaining oxygen.

### Moving Flies:

- ❖ Moving flies are a special type of fly that moves back and forth between two walls. The fly will move until it comes into contact with a wall, once that happens it will reverse its direction.

### Shield Flies:

- ❖ The shield fly is a fly with a special ability, they have a shield that blocks the players tongue and prevents the fly from being eaten from that side. This shield protects the side of one of the sides of the fly; if the player's tongue comes into contact with the shield the tongue is forced to retract.
- The player must eat the fly from an angle that isn't protected by a shield.

### Oxygen Tanks:

- ❖ Oxygen tanks are another type of collectible found in the game's levels. These tanks act much like flies, as they can be grabbed by the tongue and can be eaten.
- When the oxygen tanks are eaten a portion of the oxygen in the players oxygen meter is restored.

### Boss Flies:

- ❖ The boss fly is the end goal of the game's levels. Once the player eats this fly the level will end and take the player to the end screen.
  - This fly is exactly like a normal fly, but doesn't add to the flies collected counter.
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## Aesthetic Direction:

AstroFrog's aesthetic direction should lean into creating a campy and over-the-top environment that is reminiscent of the old Saturday morning cartoons of the 90s. This general aesthetic is focused on surface-level entertainment, as the old action-packed cartoons focus mainly on entertaining the young audience that would mainly watch it. This aesthetic greatly benefits AstroFrog, it's the best choice for this game's target audience due to their priorities. The target audience of AstroFrog is players who focus much more on the gameplay and its fluidity and spend little time focusing on the aesthetics of the game, so we chose this campy aesthetic, as it appeals on a very surface level, this is perfect for the arcade-like style of gameplay we chose for AstroFrog. This aesthetic style allows us to present the game's main attraction, the fast-paced gameplay in a shiny coat of paint that can keep players entertained and engaged without overpowering the core gameplay too much.

## Art Direction:

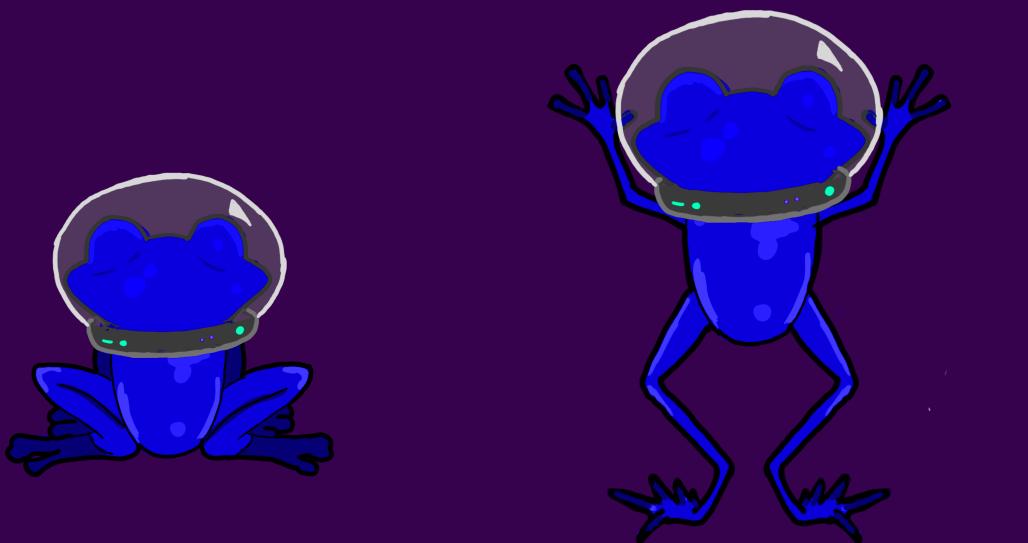
The art direction around AstroFrog's art is about making the player feel the fast nature of the game's challenges and the campiness of the game's story. So, the art style of our game is focused on making the player feel in an action-heavy and campy environment, much like the Saturday cartoons of the 90s to 00s, so the art style is going to be slick, simple, and have a wide variety of colors. Additionally, the game's animations will follow a similar format, with movements being quick and each action being distinct. The artstyle we chose to best fit the aesthetic direction of the game is a mix of a cel shaded comic artstyle for the assets and a flat color style for the environment. The cel shaded comic style utilizes dynamic linework with flat colors and cell shading to create very dynamic and interesting characters and environments. The flat color art style features clean, open space, crisp edges, bright colors and two-dimensional illustrations. It displays Characters and environments without shadows and the illusion of volume. Using the cel shaded art for the character and other assets and the flat color for

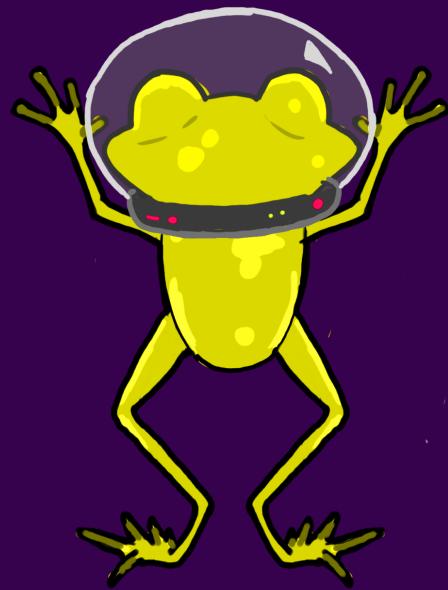
the environments allows us to create a game where important elements like the player, collectibles, and hazards pop in comparison to the background as the hard black lines of the cel shaded art style contrasts the less distinct flat environment art.

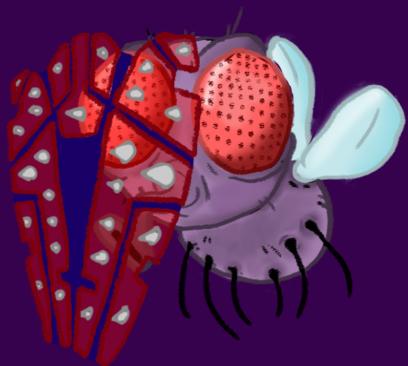
#### AstroFrog Sprites:

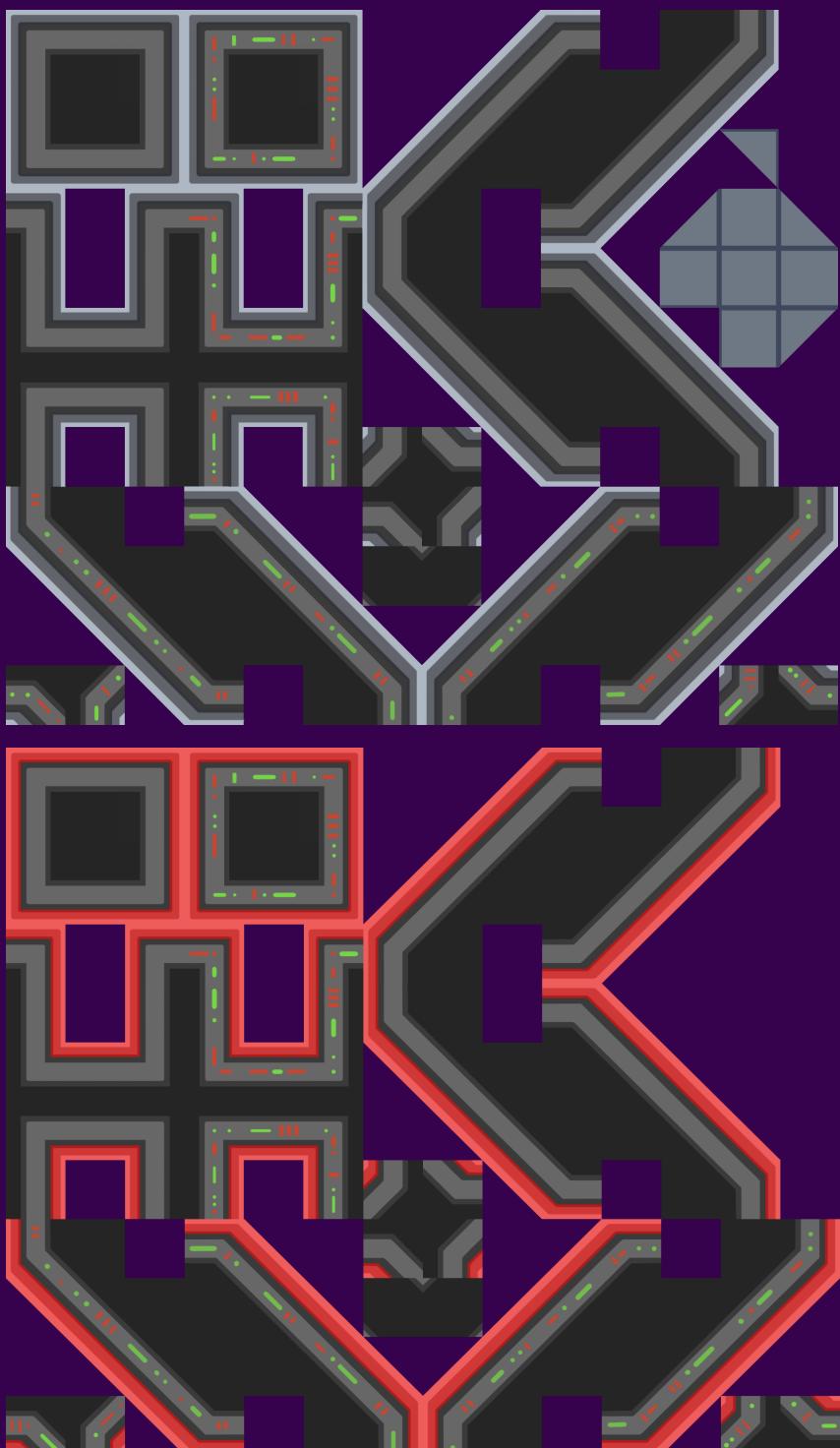


#### Additional Play Character Sprites:





**Fly Sprites:**

**TileSets:**

**Background:**

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## Sound Direction:

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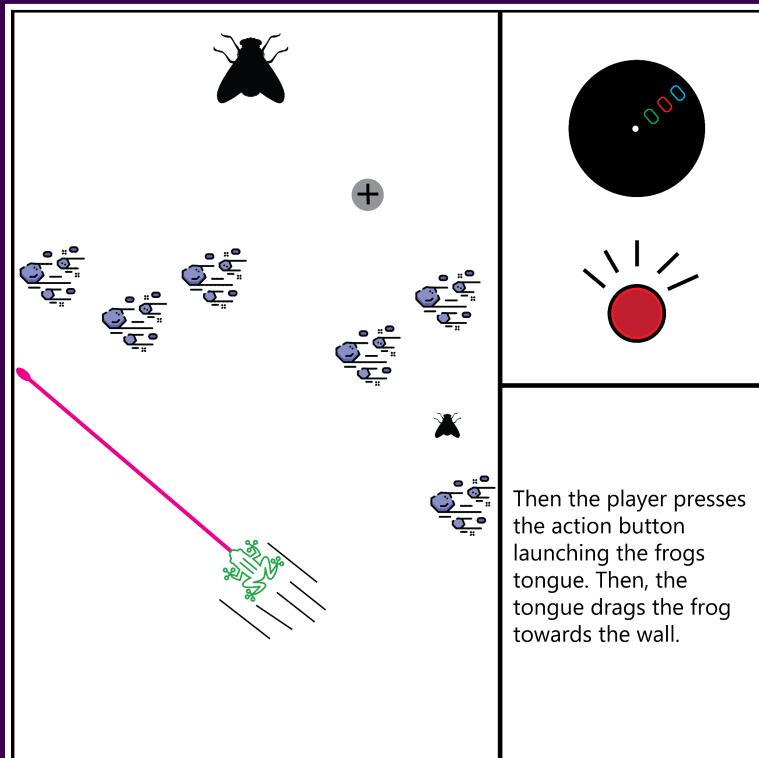
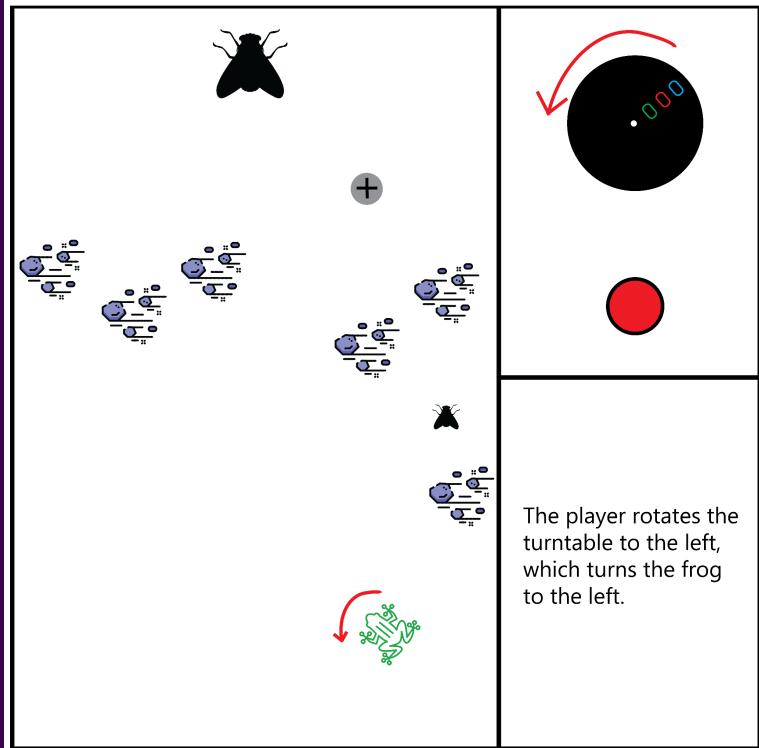
The sound direction of AstroFrog is meant to further emphasize the campy and exciting gameplay of the game as well as fitting the game's aesthetic. The sound and music should go to enhance this aesthetic as well to add more impact to the fast gameplay. The impact of the sound should resemble that of a Saturday morning cartoon, with the sounds being loud and fast. The sounds shouldn't linger for any longer than a second as the gameplay will quickly move on from whatever action made that sound. Additionally, the sounds should be played in repetition without getting grating or annoying to listen to, as each sound will most likely be played a plethora of times over the course of a level. This problem can also be alleviated by having multiple sound effects for a single action. The music of the game should be upbeat and lively, it shouldn't leave much downtime and should instill only more positive emotions like feelings of joy, excitement, or relief. The music should also go to instill a sense of speed in the player making the games already high speed feel even more intense, all the

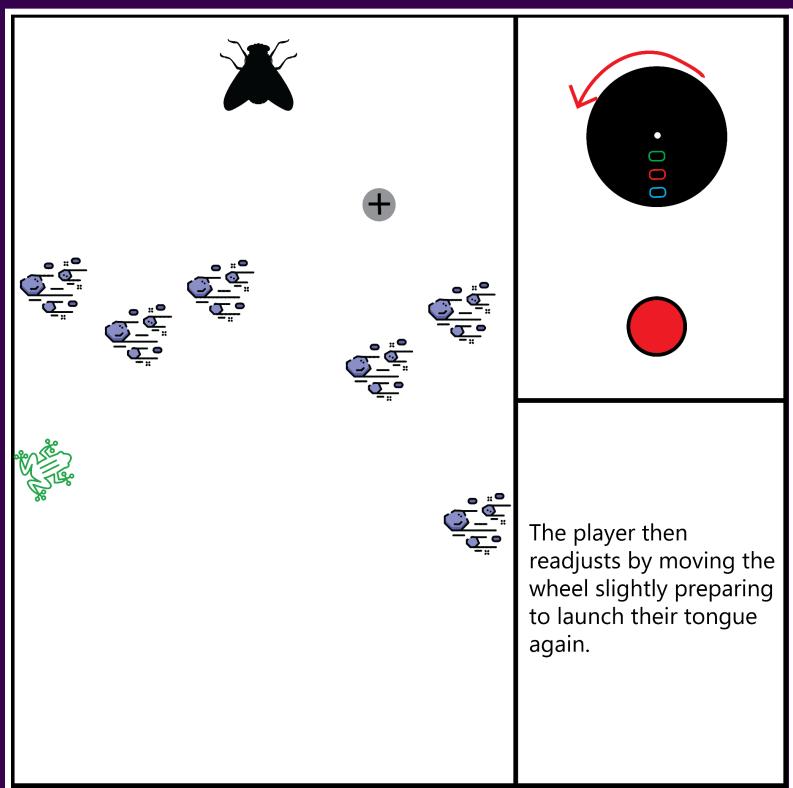
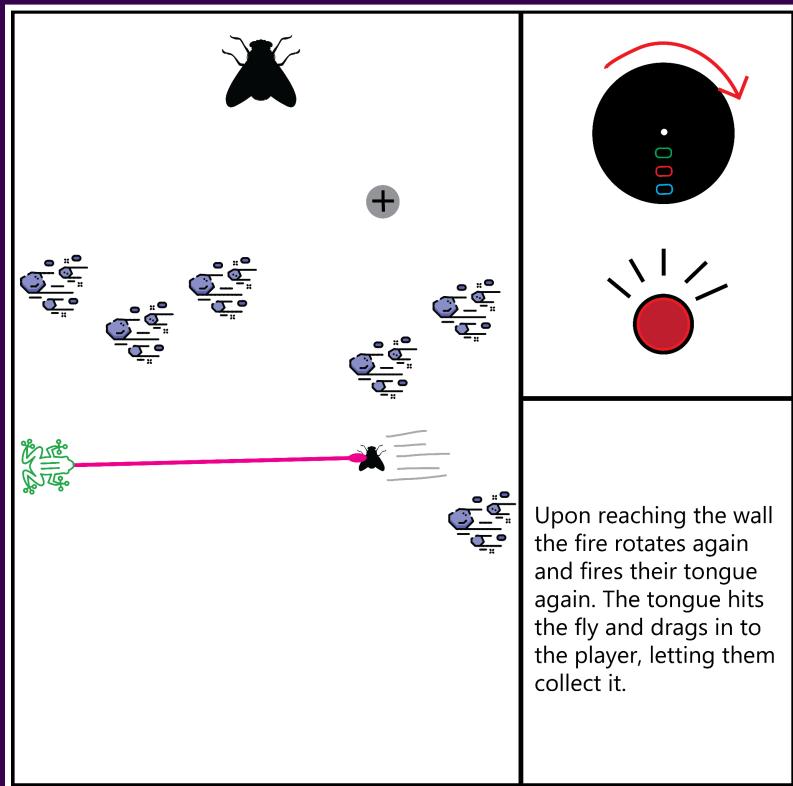
while having a small sense of urgency, forcing the player to want to move forward as the clock ticks down.

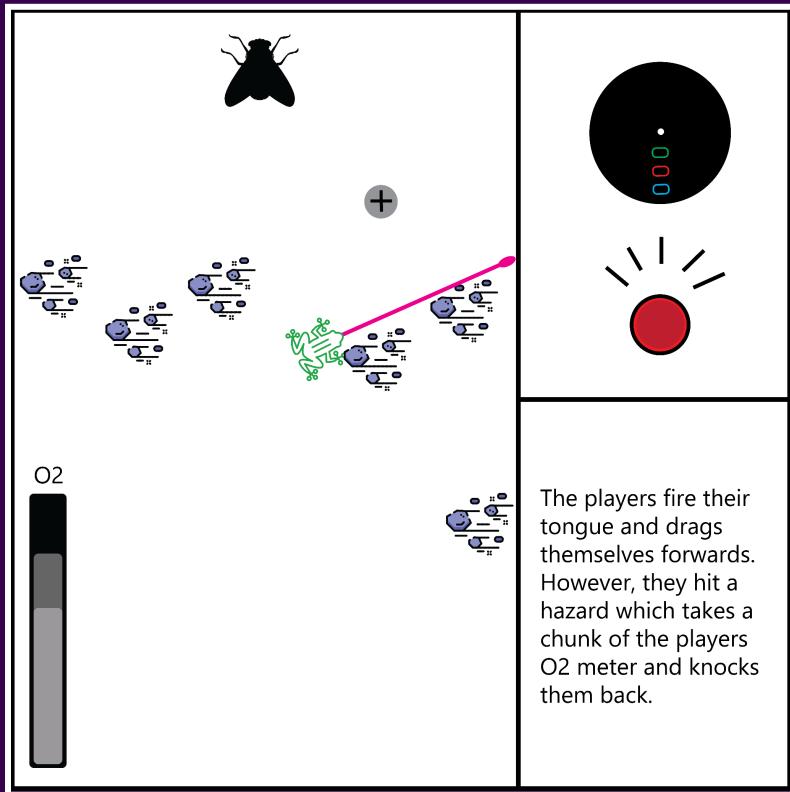
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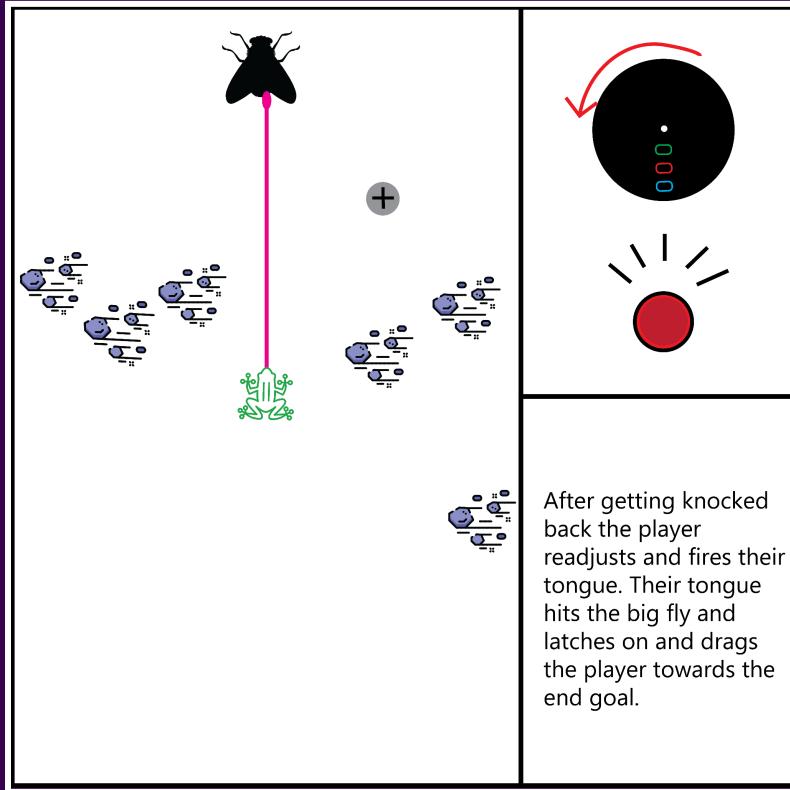
## Example:



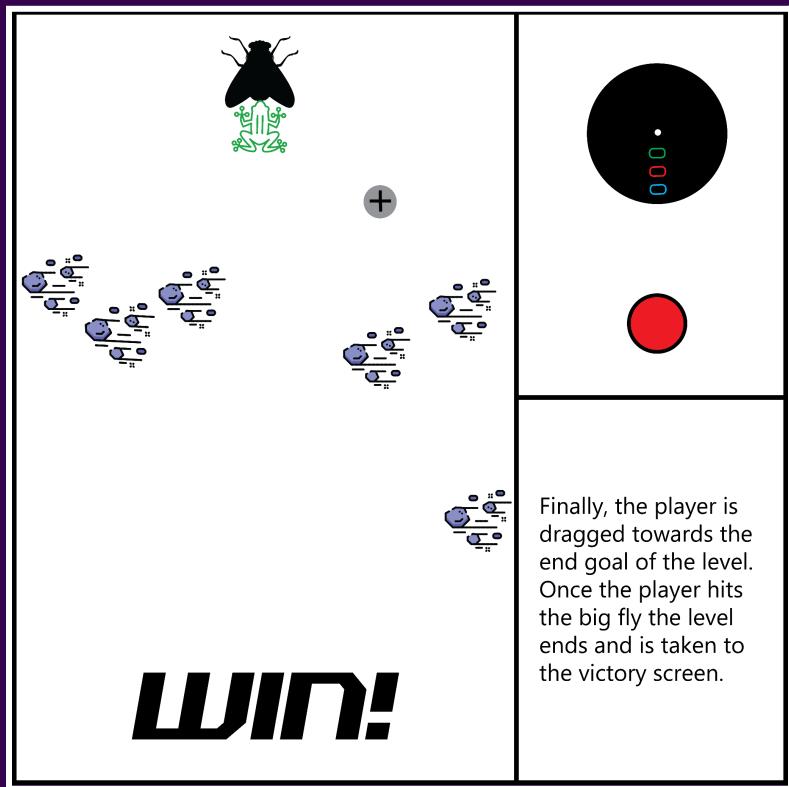




The players fire their tongue and drags themselves forwards. However, they hit a hazard which takes a chunk of the players O2 meter and knocks them back.



After getting knocked back the player readjusts and fires their tongue. Their tongue hits the big fly and latches on and drags the player towards the end goal.



## Sources:

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"The 9 Quantic Gamer Types." Quantic Foundry, 10 Dec. 2021,  
<https://quanticfoundry.com/gamer-types/>

Quantic Foundry, 8 Nov. 2022, <https://quanticfoundry.com/#>

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