Design Document for:

Tiny Planet Apothecary

"Let your potions propel you!"

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Version # 1.0

Table of Contents

Design History

Version	Date	Author	Comments
1.0	10 December 2020	Devin Hicks	Initial version

Game Overview

Vision Statement

Tiny Planet Apothecary is a task-driven potion making and exploration game set on a very small planet in a star system full of magic. The player controls a human character of their own design, and explores the different areas of their little home planet, collecting different ingredients to farm and craft potions with. Drawing from *The Legend of Zelda: Breath of the Wild*'s open world feel and cooking mechanic, *Minecraft*'s versatile crafting mechanics, *Stardew Valley*'s objective system and farming mechanics, and *Animal Crossing: New Horizons'* charm and customizability, this game seeks to give players an experience that inspires freedom and curiosity. Players should feel a connection to the world they create and be inspired to explore the possibilities when it comes to crafting and navigating their environment.

Tiny Planet Apothecary wants to emphasize the fun in failure, and provide players with a lightly challenging gameplay experience by assigning sometimes puzzling objectives and requiring players to experiment when crafting potions. The game rewards experimentation and curiosity, while still giving players direction to progress through the game. Throughout the game, players meet new characters, unlock new biomes, worlds, items and ingredients, cultivate their land, grow their apothecary business, and decorate their tiny planet to make it their own. When all of the main objectives are met, the player is left with a little home of their own creation that they can continue to reshape and explore, with a cast of unique characters to interact with, and a variety of stretch goals to keep them curious.

Gameplay Synopsis

Players begin on their home planet with limited exploration range and no knowledge of potion making, but through some experimentation, and the help of a certain magical creature they find when they move in, they can soon access and discover the different regions of their world. From there, the player expands their inventory and knowledge of potion making to propel themselves to new places - in this case, the merchant's moon orbiting their planet. The players reach only grows beyond this point, and with 7 other star systems to visit and explore, they'll soon find themselves working hard to grow their business, turn a profit, and purchase a ticket for the intergalactic highway.

Where does the game take place?

Tiny Planet Apothecary takes place in a magical galaxy home to a number of star systems, each with their own unique planets. The gameplay is primarily focused on the player's home planet - a multi-biome tiny planet that used to be the home of the galaxy's premiere potion apothecary.

What does the player control?

The player controls a human avatar that they design at the start of the game, and can customize throughout the game. On their own, the player character can walk, run, collect ingredients, pick-up small rocks, interact with other characters, and craft potions. The player character is accompanied by a magical

creature that can make use of the potions the player crafts to assist the player in farming and in accessing different regions and planets.

What is the main focus?

The main focus of the game is the core gameplay loop: explore, collect, farm, craft, sell, upgrade. Players explore their home planet and other planets to collect ingredients, which they can farm and turn into potions, which can then be sold to purchase items or cosmetic upgrades. The progression of the game maintains and expands upon this loop.

What's different?

Tiny Planet Apothecary draws inspiration from many games, but finds its own footing as a space exploration game with purely magical mechanics. Most space-themed or space-centric PC games currently on the market are sci-fi heavy, so *Tiny Planet Apothecary* stands in contrast to them with its whimsical nature and lack of technological elements.

Marketing

Audience

The *Tiny Planet Apothecary* target audience is people who enjoy the *Animal Crossing* franchise, *Minecraft*, and *Stardew Valley*, as well as *The Legend of Zelda: Breath of the Wild*'s cooking mechanic. The tiny planet setting, potion crafting mechanics, and fun locations to explore will appeal to this audience most.

Platform

Tiny Planet Apothecary's target platform will be for PC. Later ports will target major console systems, such as the PlayStation 5, XBox Series X, and Nintendo Switch.

Feature Comparison

Compare features to other games

	Tiny Planet Apothecary	Minecraft	Stardew Valley	LoZ: Breath of the Wild	Animal Crossing: New Horizons
Farming	X	X	X		
Crafting	X	X	X	X	X
Magic	X	X	X	X	
Potions	X	X	X	X	
Tools Lifespan		X		X	X
Multiplayer		X	X		X
Space	X	If modded			
Non-Earth flora and fauna	X				

Gameplay

Overview

Gameplay maintains the core gameplay loop of **exploring** different regions and planets, **collecting** ingredients and items, **farming** to grow a greater quantity of those found ingredients, **crafting** potions out of those ingredients, **selling** potions to make a profit, and **purchasing** upgrades and cosmetics. The game comprises the following primary systems: exploration, farming, potion making, and the apothecary business. Each of these systems has a unique interface, but employs similar interaction types.

Gameplay Description

A walkthrough of an example gameplay session follows:

When a player starts up the game, the intro cinematic scene plays before loading into the main menu. There are three options here: Load Game, New Game, and Options. Load Game allows the player to load into a save of the game and pick-up where they left off. New Game allows the player to start a new save file from the beginning. Options allows the player to adjust the game settings to their liking.

A player starting a new game will first design their avatar. The player will select the following features for their character:
- Skin color
- Eye color
- Eye shape
- Nose shape
- Mouth shape
- Facial details (freckles, makeup, etc)
- Hair color
- Hair style
- Starting outfit

The player then names their character and begins the intro story cinematic.

A player loading into the game will begin where they last saved. From there they can begin the core gameplay loop wherever they left off. Players can check their current objectives by opening their menu, view their current inventory by opening their backpack, check the status of their crops, try crafting new potions, explore new parts of their planet, visit and trade with the traveling merchant, travel off world to other planets, or decorate their home, to name a few things.

Controls

The following controls are as described for the PC, where the player controls the game with a mouse and keyboard.
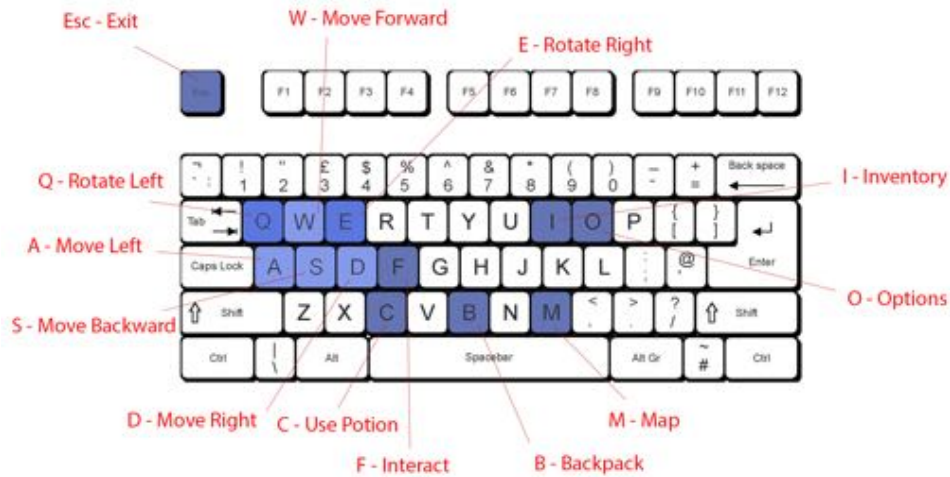
Game Progression

Game progression is metered by **objectives**. There are main objectives - which the player is required to complete to progress through the game - and side objectives - which the player is not required to complete. Objectives are activated either as a result of an interaction with a character or object, or as a result of time passing. Multiple main objectives can be active at one time, but most objectives cannot be activated until previous objectives are fulfilled.

Stages

The players progress through the different zones in the game in the below order.
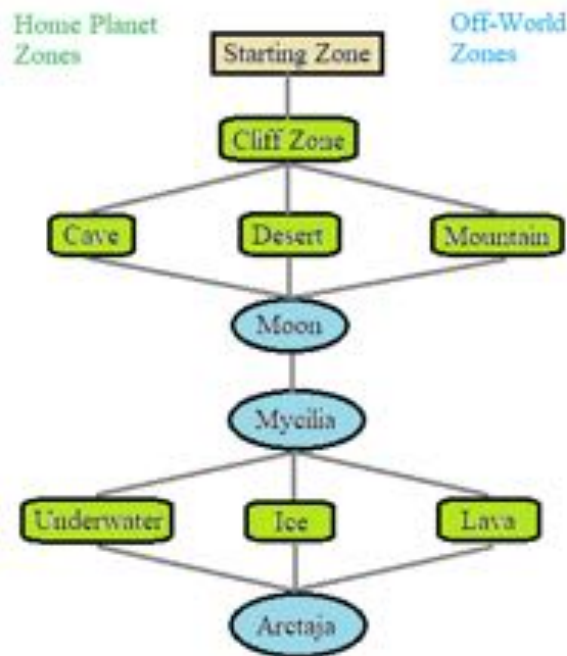
Potions

There are two types of potions: **utility potions**, which the player can feed to Tako, and **merchandise potions**, which the player can only sell. Potions are the primary way players can meet the objectives in the game, either by using them to unlock new areas or mechanics, or by selling them. See the "Potion Appendix" for a list of all currently planned potions.

Utility Potions

Utility potions are used for farming, exploration, and interplanetary travel. They only need to be made once, and have an infinite amount of uses. Utility potions can be made in mass quantities and sold, but do not return much profit. Transformation type potions will be activated automatically when a player travels to their corresponding region.

Merchandise Potions

Merchandise potions are used only for selling - Tako will not drink them. The player can sell them to a number of different merchants to turn a profit and expand their business. The player may be able to use some of the potions on themselves, such as Cosmetic type potions, if they wish to.

Procedures

Potions are crafted using the cauldron, which is found in the player's house on their home planet. The cauldron has a rating between one and three stars. One star cauldrons can hold two ingredients, two star cauldrons can hold three ingredients, and three star cauldrons can hold four ingredients. The cauldron can be upgraded at various points in the game to allow the user to craft more powerful potions.

Ingredients

All of the ingredients found in the world are used in at least one potion. Ingredients are consumed when they are used to successfully make a potion, and returned to the player's inventory when used unsuccessfully.

Recipes

Potions are defined by pre-determined recipes, and as such require specific ingredients to be produced. Most combinations of ingredients will not yield a potion. Players must discover a majority of the potion recipes on their own, and in their experiments are likely to accidentally create other existing potions.

Exploration

Exploration is the core of the gameplay. Players are tasked with finding different items and ingredients, gaining access to the different zones on their home planet, and traveling to other planets and star systems.

Collecting Items

Players have a near infinite inventory (e.g. they likely won't acquire enough ingredients to max out their inventory) in which all of the ingredients they find or purchase are stored. Items in their inventory stack,

and can be used in potions, made into seeds (though some ingredients require an upgraded seeding potion to do so), sold as raw materials, or dropped back into the world. Dropped materials will disappear after a certain amount of time. Players can find ingredients on the ground, on trees, or pick up rocks to find hidden ingredients. See "Ingredients Appendix" for a list of current ingredients.

Limitations & Potion Use

Accessing the different zones on the home planet (and other planets all together) requires the player to use **utility potions**. Players must progress through the game to discover the potions suited to helping them access the rest of their world.

Farming

Ingredients will typically only be available in single digit quantities, which will not be sufficient for creating the quantities of potions that are requested by the merchants each week. Farming allows players to grow those ingredients, with the help of Tako and a few utility potions. Their home planet has a designated farming plot that can be expanded and adapted as they progress through the game.

Procedures

To farm, players must complete the following steps:
1. Create a seed using the **Seeding Potion**. One ingredient will produce one seed packet, which will grow one plant.
2. Prepare a farming plot with the **Tilling Potion**. This tills the ground of a single plot so that seeds may be planted there.
3. **Plant** a seed in the tilled farming plot.
4. Water the seed mound with the **Watering Potion**. The seed moun will immediately sprout and begin its growing cycle. Unwatered seed mounds will not begin growing.
5. **Wait** for the plant to mature. Without additional potions, a planet will reach full maturity in 12 in-game hours, and produce its first crop in an additional 12 in-game hours.
6. **Harvest** the ingredients that are grown. Collecting ingredients off of the plants is the same as collecting ingredients elsewhere.

Plants

Each plant has a 7-ingredient lifespan once it reaches maturity. It will produce one ingredient per day for the player to collect. If an ingredient is not collected, the plant will remain unchanged. Once the player has collected an ingredient from the plant 7 times, the plant will wither and die. The farming plot it occupied must then be re-tilled to be used.

Environment Specs

Some plants require unique soil treatment to grow. Soil treatments are multi-use potions created to simulate a different environment on the player's home farm plot. This allows players to grow plants from ingredients found in different zones or on different planets.

Apothecary Business

One way the player progresses through the game is by developing their apothecary business. The merchants are looking for someone to supply them with potions and meet the current customer demands. Each week, the merchants will have new potions they'd like to purchase at varying amounts and prices. Fulfilling these requests will not only provide the player with income, but unlock new items and opportunities as they grow in the merchants favor.

Objectives

Merchants will buy and sell different items depending on the day, and will sometimes be linked to game objectives necessary for the player to progress. Either buying a certain item or ingredient, or selling certain potions, will allow players to complete their objectives. Item, ingredient, and potion selling and buying prices will vary daily.

Upgrades & Customizations

Players can upgrade their cauldron and farm plot to craft more powerful potions and increase their productivity. They can decorate and customize their house and the surrounding area in the Grass Zone, and they can customize their avatar and Tako's looks.

Equipment Upgrades

Cauldrons come in three levels: one star, two star, and three star, which increase the number of ingredients they hold from 2 to 3 to 4, respectively. Players can purchase these upgrades at different stages in the game. They can also upgrade their cauldrons to process more potions at a time and make them in batches.

The player starts out with 12 farm plots. They can unlock upgrades that increase the number of farm plots they have at different stages in the game.

Customizations

Players can upgrade and decorate their home throughout the game. Home upgrades can be unlocked when the player reaches a certain stage in the game, and give the player more room to decorate and arrange. Players can also decorate outside their home in a predetermined grid space surrounding the house.

Players can purchase outfits for their avatar and change up their look or hairstyle at will. They can also purchase hats for their companion to wear.

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Game Characters

See the full descriptions of the characters and their stories here: Narrative Design Document

Player Character

The player is the new owner of a former-apothecary planet. They planned to just live here, but when they meet Tako, they embark on a journey to help Tako.

Avatar Design

The player will have the ability to customize their avatar with different skin colors, hair styles/colors, and facial features.

Tako

Tako is a magical space octopus who got separated from his family and needs the players help to utilize Tako's potion making knowledge to explore the star system and find his brothers and sisters.

NPCs

Space Octopi

Tako has five brothers and sisters, each of whom are scattered across the zones of the gameworld. Once rescued, they will move in with Tako and the player on the home planet and help with farming tasks.

Uma the Mycilian Merchant

Uma is a wandering merchant from the planet Mycilia. She will buy small quantities of specific potions from the player and offer them unique ingredients.

Ceros the Moon Bee

Ceros is a small, angry bee who runs the shop located on the home planet's moon. Ceros will buy potions in bulk or single quantity from the player, and sells a wide variety of wares.

Mycilians

The Mycilians are the residents of the planet Mycilia. They live among the giant mushroom forests and are friendly and warm.

Arctajans

The Arctajans are the residents of the planet Arctaja. Small and hardy, they live amongst the icy environment of their home world on floating ice structures above a great lake.

The Game World

Overview

The game is set in a whimsical galaxy with an otherworldly feel to the flora, fauna, and other life the player encounters. The following section describes some of the details that are important for understanding how the player interacts with this unique and unfamiliar world.

Time

One in-game hour passes every real world minute. Time can be passed by sleeping.

Day & Night

Each day/night cycle lasts 24 in-game hours. Day lasts for 18 in-game hours and night lasts for 6 in-game hours. During the day, the sky is light and can be a variety of colors. At night, the sky takes on a dark blue, but the world is still partially illuminated. It will be the same time of day no matter where the player is on their world, and traveling to different planets does not change the time of day.

Seasons & Weather

When a player first starts a game, it will be the first day of Spring on their home planet. Spring will last for 30 days, followed by 30 days of Summer, 30 days of Fall, and 30 days of Winter. The weather will change corresponding to the season, and will be random. The player's home planet is the only one that experiences seasons or weather variations, but some of the NPCs' behaviors may change based on the season. Seasonal changes will also result in a change in the types of ingredients and NPCs the player can find.

Physics

This galaxy does not follow normal laws of physics. The following are the changes of note:
-   Each tiny planet is lit equally on all sides, and as such does not have a day and night side.
-   Not all planets spin or orbit another object - some are simply suspended in space.
-   All planets have the same - or at least very similar - atmospheres, and as such are all breathable.

Magic

Magic is a very important feature in this universe, and can explain anything that is not explained by the game's physical laws. The most important aspects of magic are as follows:
-   Magic can be used for virtually anything - from farming, to traveling, to medicine.
-   Magic is required to use some, but not all, potions. Use of medicinal potions, for example, does not require magical abilities.
-   Only some beings are capable of magic.

Teleportation

> Players can use teleportation magic by activating a number of portals throughout the game. Most portals are on the player's home planet, and allow them to quickly navigate between their planet's regions. Teleportation is also used to travel between star systems, once unlocked.

Scale

At walking speed, the player character can travel the circumference of their planet in about 5 minutes. The player's home planet is the largest planet they will visit in the game. Other planets are roughly a fifth of the size of their home planet. In-game objects have scales similar to scales of objects in real-life. The player character is approximately 3.5 Tako's tall.

Mapping

Planets are mapped like globes, with key locations highlighted by a variety of markers. The player's home planet map can be used to teleport to different regions, but

Star Systems are mapped in 2D. Details about a star system are only visible after the player has traveled to that star system.

Travel

Players use the **Interstellar Jump** potion to travel between planets in a star system. To travel to a star system, they must jump to their star system's space port. Players can jump between planets without returning to their home planet, but must return to their home star system before traveling to a new one.

Interactable Objects

Players can interact with the following items:
- Cauldron: opens up the crafting interface
- Bed: opens menu with options for sleeping (until tomorrow, until tonight, nap for a few hours)
- Portals: opens menu with yes or no option, on yes - opens map to let player select where they'd like to teleport to
- Ingredients: added to the player's inventory
- Rocks: if there is an item under the rock it will be added to the players inventory; rock will be replaced and can be picked up again
- Signs: opens dialogue to show what is written on the sign
- Items they use to decorate: may activate an animation

Star Systems

There are 8 star systems in the game. Each star system has its own unique planets, and exists in a space separate from the other star systems. Star systems cannot be seen from other star systems, but can be reached by teleportation from the star system's space port. Players will meet new characters and have new objectives in each star system they encounter.

Home System

The player's home star system contains their home planet, the merchant moon, and the planets Mycilia and Arctaja.

Travel

Players can unlock traveling between star systems after completing the main storyline in their home star system and visiting their three orbital bodies.

Home Planet

The player's home planet is the primary setting for the game. Players can name and decorate their home planet to make it their own. Their planet is the only planet they visit that has multiple biomes, which are detailed below.

Name	Description	Key Features	Unlocked By
Grass Zone	Lush grassy area, surrounded by forest and cliffs, and bordered by desert	House, farm plot	Beginning the game
Cliff Zone	Similar to the grass zone, more forests and different types of ingredients	Traveling merchant arrives	Jump Potion
Cave Zone	Dark, glowing, crystalline caves full of strange new creatures and sparkly gems	Only place to get certain gems	Glow Potion
Lava Zone	Found deep within the caves, hot magma and dark, smooth rocks	-	Extra Cooling Potion
Desert Zone	Vast, duney landscape with spiky plants and a hidden oasis	-	Cooling Potion
Underwater Zone	Accessed through the hidden oasis, a world full of sea life and color	-	Underwater Potion
Mountain Zone	Rocky mountains that are difficult to scale without aid, forested and home to flora and fauna that thrives at higher altitudes	-	Climbing Potion
Ice Zone	The slippery, frozen mountain peaks, covered in snow and full of secrets	-	Warming Potion

Story

The main plot of the game revolves around the player rescuing Tako's family. They have been scattered throughout the star system, and since they are so far from home and from their main source of magical energy, they aren't able to rescue themselves. The player must travel through the start system and across their entire planet to find Tako's family.

While they do this, the player is also building and establishing their presence as a new apothecary, and they must do business with and meet the needs of citizens across the star system.

Synopsis

The player begins by meeting Tako at the home built in the starting grassy zone. There, Tako explains his plight, but doesn't yet ask the player for help finding his family. First, he asks the player for help in the simple task of finding his hat.

This task leads the player to explore the farming system, discover a new zone, and make their first potions. Once they do this, Tako asks for the player's help finding and rescuing his family. They need to get off of the starting planet to explore the neighboring planets. They get their first direction from Uma, a wandering trader from Mycilia. She asks the player to prove they're a serious apothecary, and once they do, she helps them travel off the home planet to the moon.

On the moon, they meet Ceros, the moon bee merchant, who they player sets up a trade agreement with. From here the player goes further in doing apothecary business and meeting those needs. At the same time, they use their earnings from this business to get the supplies they and Tako need to travel to the next planet, Mycilia.

On Mycilia, the player finds a host of new ingredients and the first member of Tako's family. After rescuing them, the player can then explore zones on their planet previously inaccessible. In those zones, they find three more of Tako's siblings. At this point, there's only one more missing, who they suspect to be on the ice planet Arctaja.

After getting to Arctaja and rescuing the final sibling, Tako and the player complete one more quest to align the player's planet with the source of the octopi's energy. This way, the octopi continue living with the player and assisting in the apothecary business. The player officially completes the story.

From this point on, players can continue to conduct apothecary business and decorate their home and unlock accessories for Tako, if they so choose.

Narrative Design Doc

The full story descriptions can be found in the narrative design document, [here](#).

Media List

Art Direction

For the art style of the game, it is meant to be very light and cute. The creatures are cute and whimsical, and the ingredients and flora of the planets provide reference to Earth items with a colorful alien spin on them.

Interface Assets

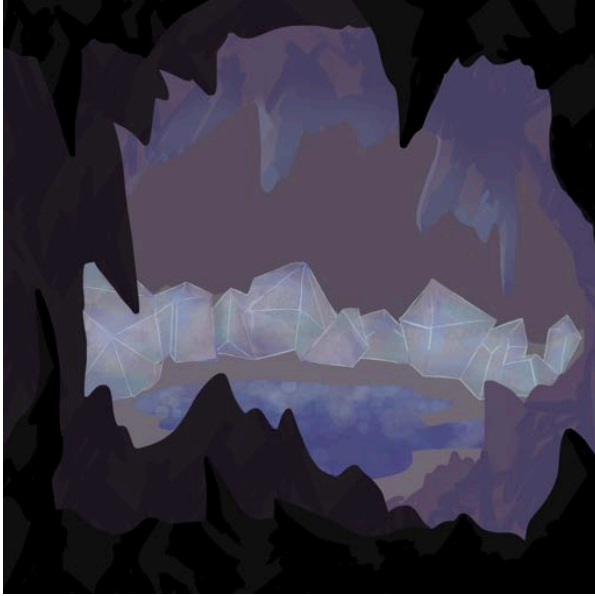**Concept for in-game Icons**

Concept for player Inventory

Concept for player Potion Inventory
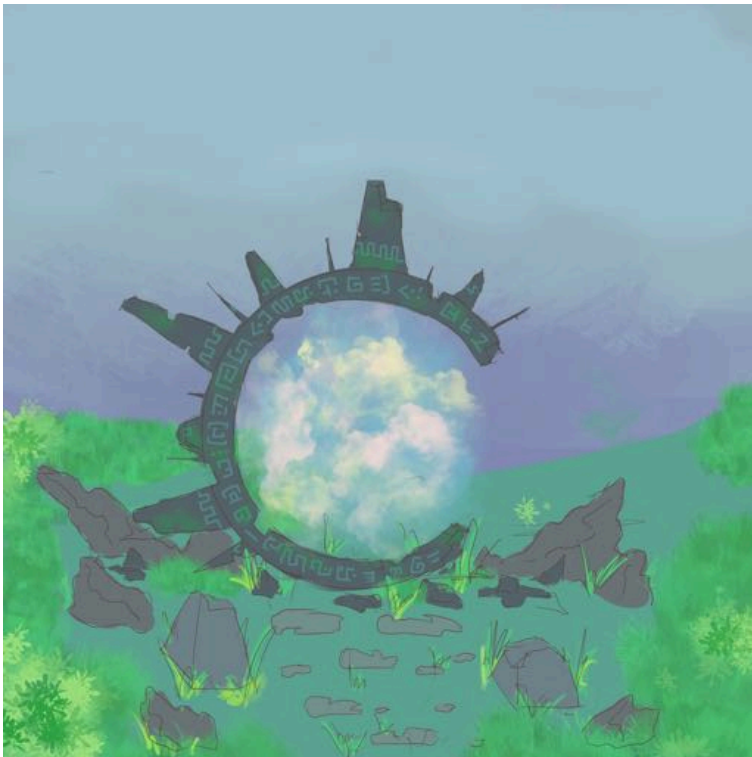
Environments

Home Planet

The player's shack

Cave Zone

Cliff Zone

Teleport Hubs

Other Planets

Moon Bee (Ceros) Shop

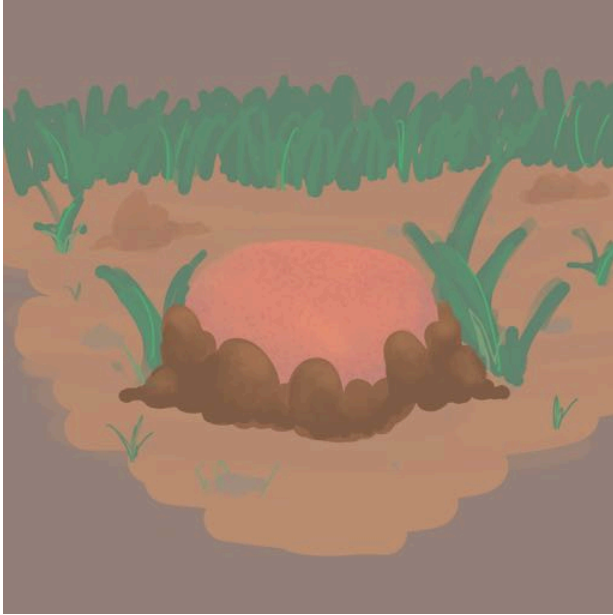# Objects

Ingredients

Melon

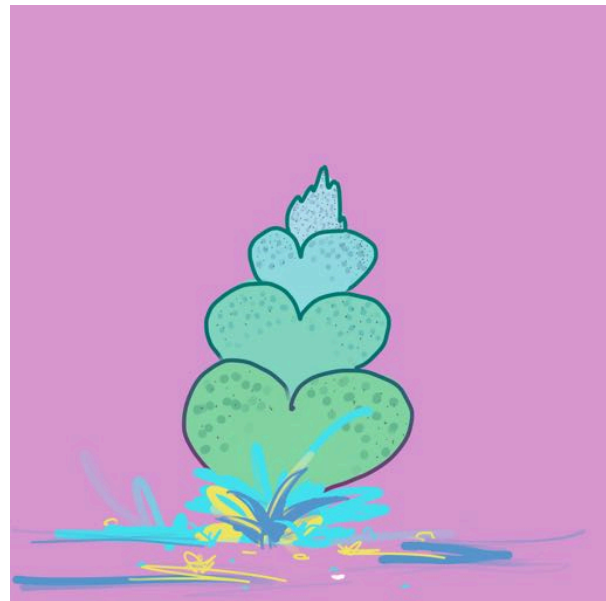**Gem**

Potato

Scoop Shroom

Misc. Mushrooms

Berry

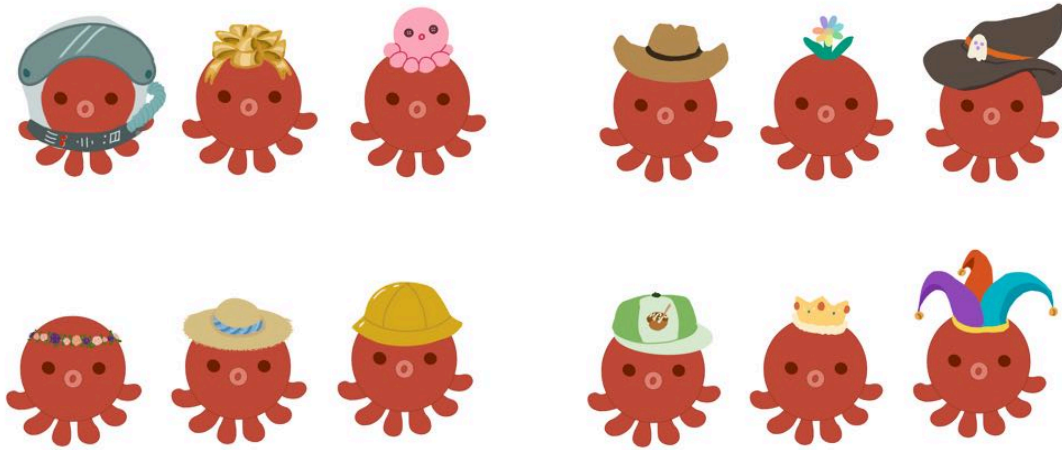**Potions**

Each potion will have its own icon. They will have variations in shape, color, borders, etc. to differentiate them from each other visually.

Customizations

Hats for Takoz

Characters

Player Character

Avatar 1 Concept
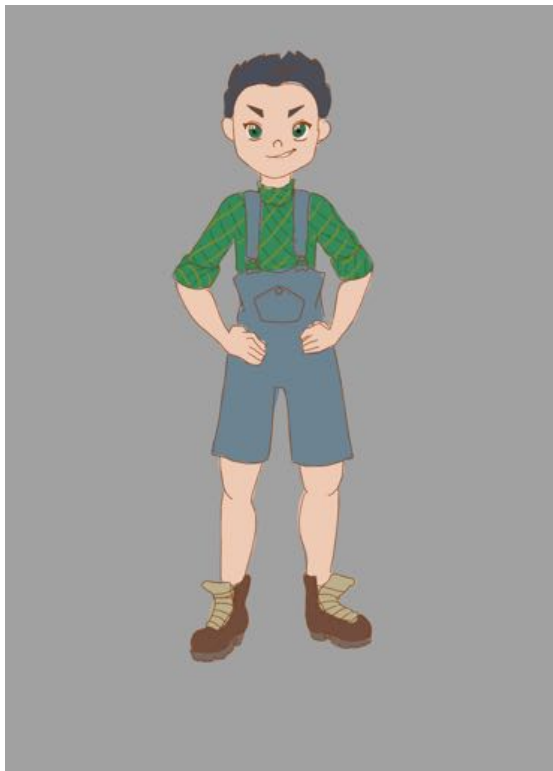
Avatar 2 Concept

Avatars 3 & 4 Concepts

Tako & Family

eyes
stick out
slightly

the snout:

← curvy!

Tako Shape

Tako Colors

Tako's Family (Color Variations)

Sun Mother: Source of Magic

NPCs

Ceros (Moon Merchant)

Mycilians: Occupants of the planet Mycilia

Arctajans: Occupants of the planet Arctaja

Animation

Animation will be done in Autodesk's Maya and imported into Unity3D.

Music & Sound Effects

Music idly plays in the background. Depending on the area, the music changes. In the cavern, ominous music plays. In the mountains lighthearted music plays.

Sound effects will be played in the following parts of the game:
- Interacting with an object (pickup, drop, consume, etc)
- Potion use
- Crafting a potion
- Purchasing an item
- Walking/Running (different depending on surface)

All sound effects will be created using Adobe Audition.

Technical Specs

Overview

The Technical Design Document goes through the more mechanical aspects of the game. It contains the work schedule for teams including what gets done when and who does it. It goes into the choice of game engine as well as the technology we are using to create this project. Included is an in depth look to the games physics system, interactions, AI, persistence, and more…

Technical Design Document

"Ingredient Appendix"

Name	Location(s) Found	Description	Potions Used In
Scoop Schroom	Grass Zone Cliff Zone	This mushroom is distinct for its firm shape that fans out from the stem. It is very hard to break in half.	Tilling Potion
Watermelon	Grass Zone	This hard-shelled fruit is ripe with juice on the inside. If you break it open, the sweet-smelling juice runs out.	Watering Potion
White Gem	Grass Zone Cave Zone	This glittering gem reflects light brightly off of its many-faceted surface. It grows in clusters of many small versions of itself that grow together to make the gem.	Seeding Potion
Potato	Grass Zone	This hearty root grows underneath the soil. It has a round shape that leaves a little crevice when pulled from the ground.	Tilling Potion
Berry	Grass Zone	These berries have a rich, juicy flavor that tempts the picker to eat them whole, though their thick clusters of seeds on the inside make them much more enjoyable to be consumed when they're sliced up.	Seeding Potion
Springy Shroom	Grass Zone (after Cliff Zone accessed) Cliff Zone	This mushroom has a springy texture to it that is strange by itself but more enjoyable in larger quantities.	Jump Potion
Cliff Mushroom	Cliff Zone	This mushroom is found mainly growing out of cliffs. Its pleasant flavor mixes well with many things.	Glow Potion Cooling Potion Climbing Potion
Glow Worm	Grass Zone (after Cliff Zone accessed) Cliff Zone	This larva is found in dark, damp areas, such as in caves and under rocks. At night, it lets off a gently blue glow.	Glow Potion Interplanetary Jump Potion
Creeping Ivy	Cliff Zone	This viney plant clings to cliff walls and trees, growing continually upwards with its thick, leafy tendrils.	Climbing Potion Interplanetary Jump Potion
Space Mint	Cliff Zone	This brightly colored herb has a soft smell that sharpens into a bright cold taste when consumed.	Cooling Potion Interplanetary Jump Potion

"Potion Appendix"

Utility Potions

Name	Type	Rating	Ingredients	Tako will
Seeding	Farming	★☆☆	1x white stone 1x berry	Ask for an ingredient, then will turn one item into a seed that will yield one plant
Tilling	Farming	★☆☆	1x scoop shroom 1x potato	Dig one hole for a seed to be planted in
Watering	Farming	★☆☆	2x watermelon	Water one plant
Fertilizing	Farming	★★☆		Magically fertilize one plant (which will increase growing speed)
Instant Grow	Farming	★★★		Magically grow one plant to full maturity
Revival	Farming	★★★		Magically revive a plant for another cycle
Jump	Travel	★☆☆	2x springy mushroom	Grow and become springy so the player can jump on his head to reach the cliff
Glow	Transformation	★☆☆	1x cliff mushroom 1x glow worm	Glow brightly so as to illuminate a dark space
Climbing	Travel	★☆☆	1x cliff mushroom 1x creeping ivy	
Cooling	Transformation	★☆☆	1x cliff mushroom 1x space mint	
Interplanetary Jump	Travel	★★☆	1x space mint 1x creeping ivy 1x glow worm	
Extra Cooling	Transformation	★★☆		
Underwater	Transformation	★★☆		
Warming	Transformation	★★☆		

Merchandise Potions

Name	Type	Rating	Ingredients	Effect
Cough	Medicine	★☆☆		