

Game Design Document

DMED 521, Projects II

Alpha Squad Adventures



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In collaboration with



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Document History

Version	Date	Summary	Future Improvement
0.0.1	2021.02.04	Doc Created	Finalize Structure
0.0.2	2021.03.04	Added content	Game Summary,Gameplay,some draft. ect.
0.0.2	2021.03.09	Added content	Alien Design: 1 Alien example, 4 types of emotions, Data structure Draft; Interactions & minigames
0.0.2	2021.03.15	Added content	Revised the indent, finished these parts: Item, Bag, Store, Energy
0.0.2	2021.03.16	Added content	Revise some pictures, finished currency/ Economy System. Explorations.
0.3	2021.03.21	Structure & content reworked	Add more content to AR modes & Stages 2/3. Fix language issues.
0.4	2021.03.22	Structure reworked	Asset Lists Moved to End & more content reworked
0.8	2021.04.02	Content edited	Submitted for first pass
1.0	2021.04.06	Completed	

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One-Page Summary

One-Sentence Summary: Alpha Squad is a game about developing empathy by interacting with Aliens in an Augmented Reality environment.

Tagline: Empathize and Make Friends

Logline: Aliens are scattered all over our planet, and they are in danger! Grab your phone, step outside and rescue them until it's too late! But Aliens won't immediately believe, because trust has to be earned. Show empathy and support the Aliens in their time of need to become friends and save them.

Essence Statement:

In this infinite universe, we are not alone. Many lovely aliens live on different planets and some of them like travelling on the Alpha-1 spaceship. Unfortunately, due to an accident, a lot of Aliens were scattered all over the Earth. Your job is to help the Alpha Squad rescue the Aliens before it's too late. Earn their trust by figuring out how they feel and support them with their needs. Can you earn their trust, and go from strangers to friends?

Key Features:

- **Realistic Emotions** - learn empathy by interacting with aliens, designed with emotional complexity of real humans;
- **Discover New World** - immerse yourself in the world of Augmented Reality and experience the world in the new way;
- **Befriend the Whole Galaxy** - make friends through the powers of understanding and social awareness.

Target Platform

- All Mobile Devices built on: Android & iOS;
- Preferred devices: Pad & Tablet devices.

Business Model

- Premium Subscription to boost accounts;
- Purchasing items (power ups, clothing, hints, etc.) from the store.

Game Overview

Alpha Squad Adventures is a Mobile Augmented Reality (AR) game about rescuing aliens through the use of empathy. Its goal is to teach children appropriate social interactions and behavior through non-violent gameplay that focuses emotional responses. With the use of body language and facial expressions of different aliens, kids will be taught self-awareness by reacting to social context in real-time. Most importantly, the game emphasizes the parent-child dynamic, where players have to gain trust of the aliens, rescue them from the dangerous environment, nurture and prepare them to be released back to their home planet, and eventually release them.

The emotions of the Aliens are designed in a realistic but subtle manner, not to make the whole experience too obvious to learn something from it. By observing movements, change in facial expressions and social cues, the player will be able to figure out the correct action within the given context. The game tries to facilitate the constant state of awareness, exciting players with how realistic the fake interactions are. By constantly dealing with emotions of different aliens, the kids will be able subconsciously memorize the patterns and implement their learnings in the real world.

The game pushes the boundaries of Mobile Augmented Reality by utilizing the camera both in real environment and in 360 3D generated environments. One of the ways how the game promotes positive screen time is through physical movement, which is an essential part of the core experience of the game. By walking around the environment with phones in their eyes, kids will feel more inspired to take each step to find many hidden things and explore cool sci-fi environments.

Pillars

- Inspiring Empathy through entertainment:
 - Understand what other creatures are feeling;
 - Interact with aliens in a non-violent way;
 - Explore the planet in a real and artificial environment.
- Collectibility & Customization:
 - Rescue & collect Aliens.
 - Purchase additional items to simplify gameplay and improve the visuals;
 - Discover unique and rare aliens of different sizes, shapes, colors, etc.
- Sharing & Cooperation:
 - Play together with your family members by asking them advice;
 - Socialize with other players in a virtual environment.

Core Mechanics

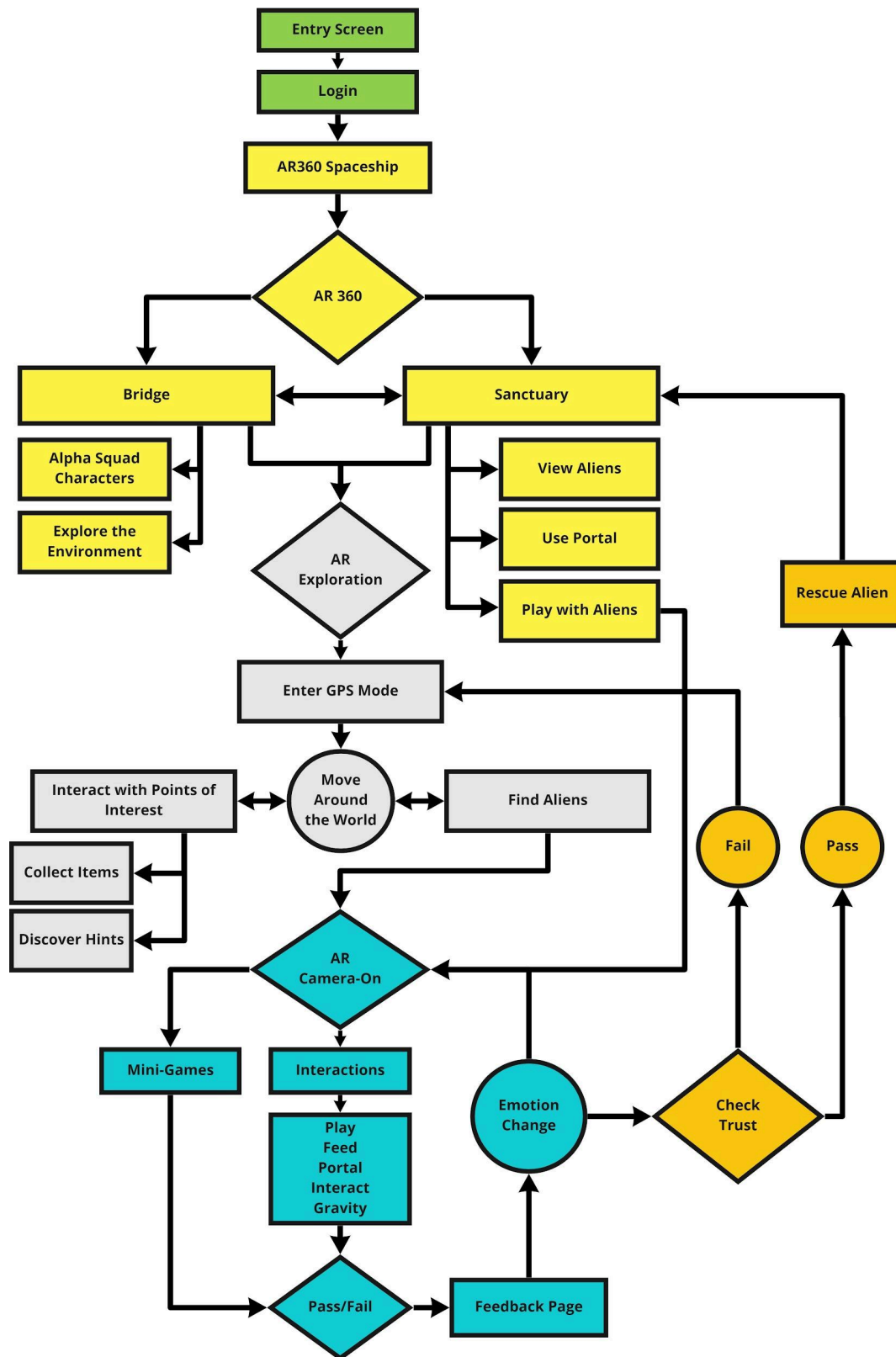
For more information, check the Core and Sub Loops.

- **Rescue** - bring the alien to the Sanctuary on the Spaceship through basic interactions;
- **Nurture** - play games on the spaceship to gain further trust;
- **Release** - when enough trust & emotions are gained, release the alien and visit its home planet.

Dynamics

1. Walk around the GPS environment (AR Explore);
2. Collect items and energy from the map;
3. Find an start interaction with the Alien;
4. Enter AR Camera-On Mode;
5. Use Basic Interactions to gain Alien trust;
 - a. If enough trust is gained before running out of energy: bring the Alien to Sanctuary;
 - b. If too many activities fail or not enough trust is gained: the Alien escapes.
6. When the Aliens are rescued, go back to the Sanctuary;
7. Play mini-games or interact with the Aliens to gain more trust;
8. When enough trust is gained and emotions are maxed out, initiate the release;
9. Open the portal to the Alien's home planet and wait for the Alien to enter the portal;
10. When the portal is entered, the player can visit the Alien on the home planet.
11. Repeat the steps with the new Alien.

Feature Map



Aesthetics

This section breaks down the reasoning behind game design choices and art work.

Setting and Inspiration

Our aliens were created as a mix of different animals with the priority to make them cute for the target audience and 'alien', rather than mythical. By focusing on the alien concepts, weird shapes and faces that can easily show different expressions, we ended up with the unique artwork.

Genre

- **Sensation:** the game uses sci-fi visuals on top of the real world (AR Camera-On) or as a substitute (AR 360). Audio effects are implemented to give feedback and dive players deeper into the environment;
- **Discovery:** the game offers two different worlds to explore. AR Camera-On creates complementary experience to the real world viewed through the lens of player's devices. AR 360 offers a substitute to the real world while incentivizing physical movement in the real world;
- **Expression:** the game offers customization of the player's avatar & has additional cosmetic mechanics to purchase additional items for Aliens.

Art Work

Concept Art

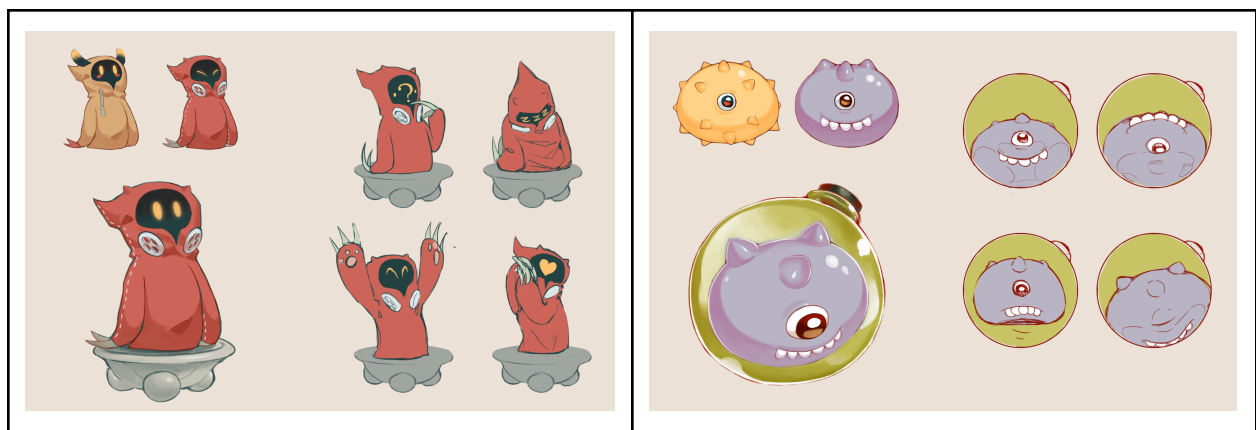
We began with trying to mimic the style of original MPath artworks. After figuring out the basic aesthetics and style of the characters, we can finally start coming up with our own designs. The basic designing process is focusing on the character silhouette first in order to have a basic understanding of the body types of the characters. After that, we can start researching for features and textures that might have interesting interactions. This is why the first set concept art of aliens was based on mixing multiple animals or plants together.

After receiving feedback to make the game more 'alien', from the second image we focused on changing up the style to differentiate ourselves from the main competitor: PokemonGo. Finally, we concentrated on the nitty gritty part of the designs after we received the feedback, this is the part where we shifted the focus on facial features such as big eyes, tiny limbs and giant heads to emphasize the cuteness of these characters.



High Fidelity

Eventually, we narrowed down on 2 designs that both we and the clients are interested in, and then we began to focus on refining those 2 designs with more emotions, poses. After conducting user research, the Aliens below were selected as the contenders most fit into the game environment.



3D Model

The alien 3D models for the game require at least 9 animations: idling and 1 for each emotion. To accomplish this, the developers are required to create a rigged 3D model with weight and controllers, designed in a way that can be imported in Unreal Engine.



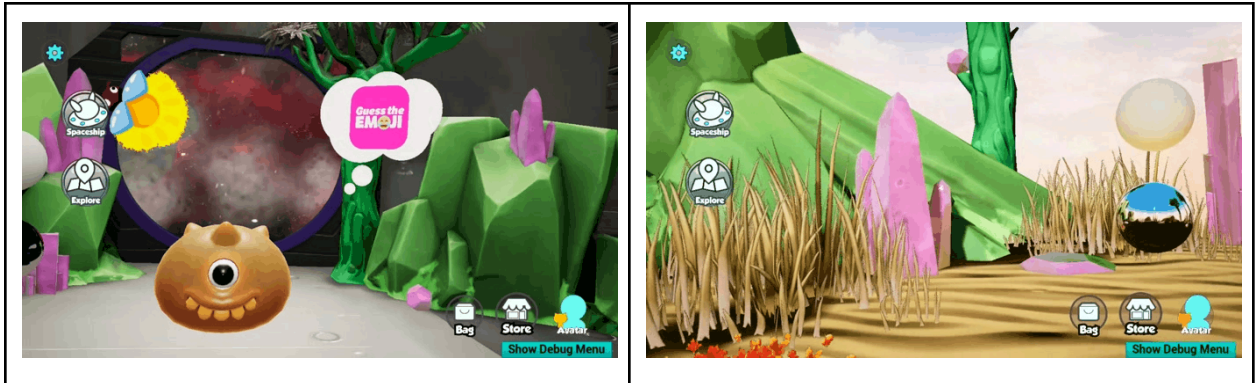
AR Modes

The term Augmented Reality (AR) frequently represents extremely vague concepts. For this reason, the project introduces its own terminology when referring to different AR Modes.

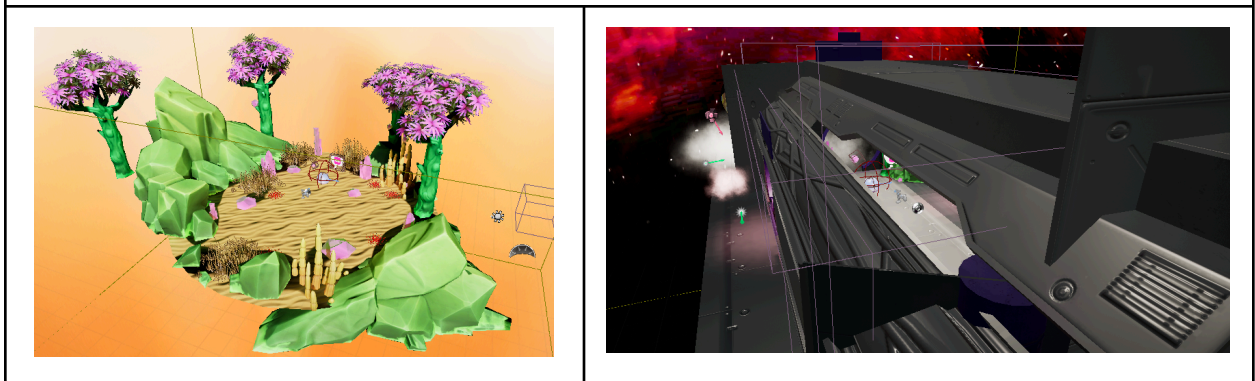
AR 360

AR 360 is a game mode that fully substitutes reality with an artificial environment. The movement in the real world translates into the movement in the AR 360 space. At the current stage of development, the game has 2 AR 360 Spaces:

Sanctuary	Hulu's Homeworld
A space that contains all of the rescued Aliens, also referred to as Stage 2: Nurture.	A planet, where our first alien Hulu is coming from. It is accessible by opening the portal.

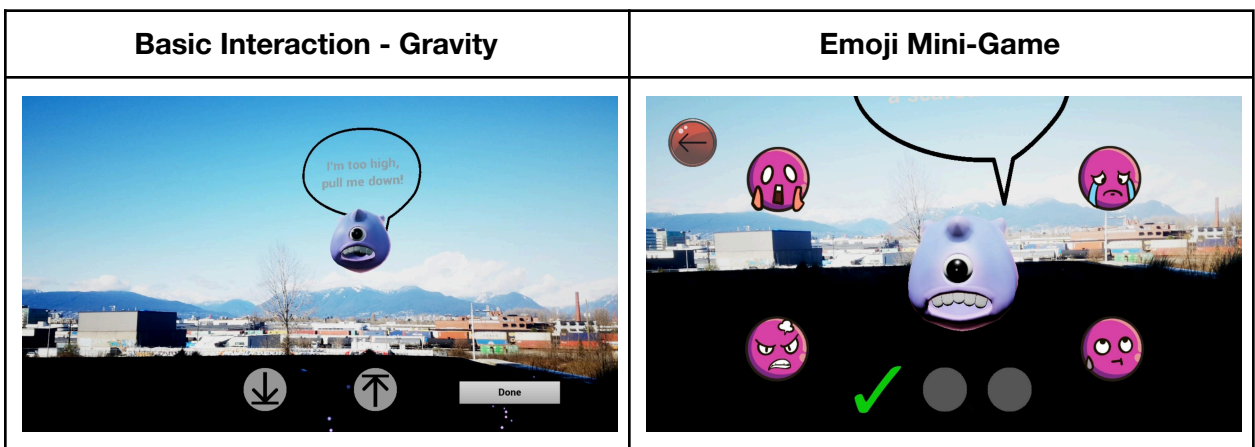


Unreal Engine AR 360 Models



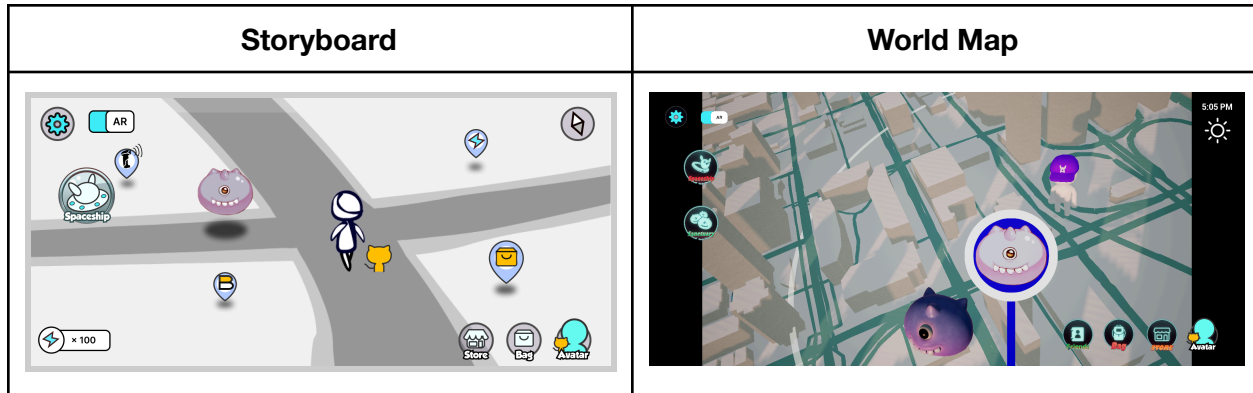
AR Camera-on

AR Camera-On is a mode defined as a complementary experience to reality. It utilizes the camera of the mobile device or tablet, shows the real world, and creates additional content either on viewport (screen of the device) or in the real world through the use of planes.



AR Explore

AR Explore is a different way of saying GPS Mode on the real world map. When entering, the player has to turn on the Location Services on their mobile device, which triggers the Coala plugin, and the player's real-life location is displayed on the map. Currently, the maps are only available in North America.



User Interface / Screens

User journey of the full-game with screenshots. All images are presented in playable sequence.

Stage 0. Intro Screens

Start Screen:

Includes Debug buttons to quickly access features.



Introduction

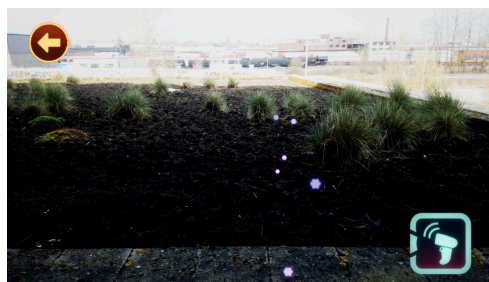


Stage 1. Rescue

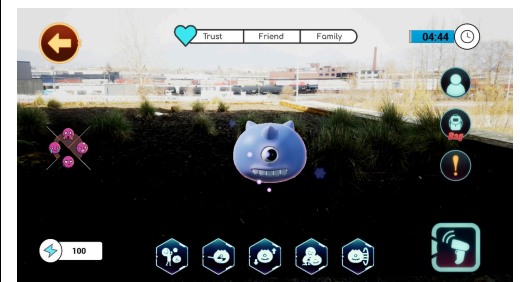
AR Explore




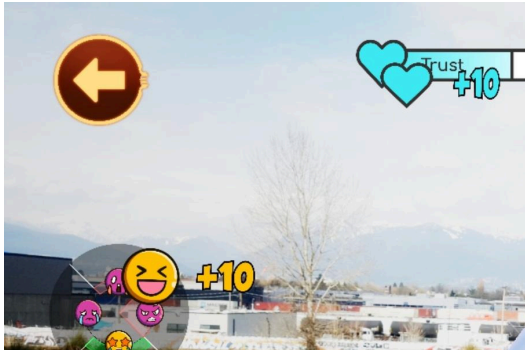
AR Camera-On - Find Alien




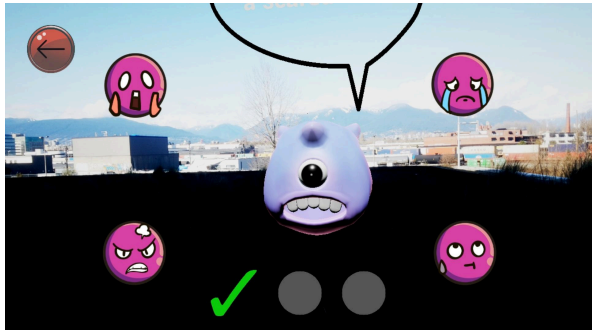
AR Camera-On - Rescue Alien



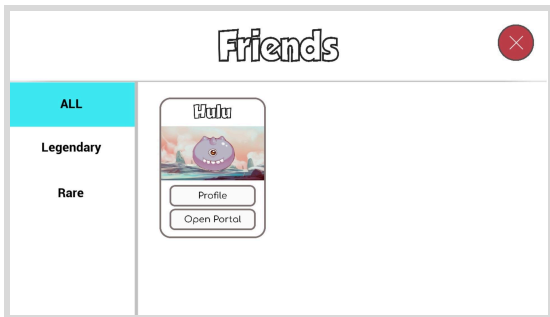

Basic Interactions

Gravity (Basic Interaction)	Pop-Up Symbols / Feedback
	

Stage 2. Nurture

AR 360 Sanctuary	EmojiGame
	

Stage 3. Release

Friend List - Open Portal	AR 360 Home Planet
	

Character, Camera & Controls

Character

There are 2 types of characters:

1. **Player's Avatar** - in AR Explore Mode when exploring the World Map;
2. **Player** - in AR 360 & Camera-On Modes when viewing the world through the camera.

Camera

The camera is utilized in 2 different ways:

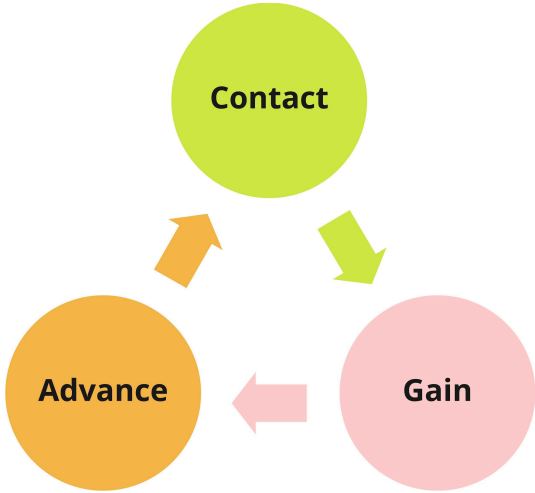
- **Complementary Environment (Camera-On)** - turns on the camera to view the real world and builds additional assets on top of it;
- **Substitute Environment (AR 360)** - camera is used to navigate the artificial world built with 3D models around the player.

Controls

There are 2 types of controls:

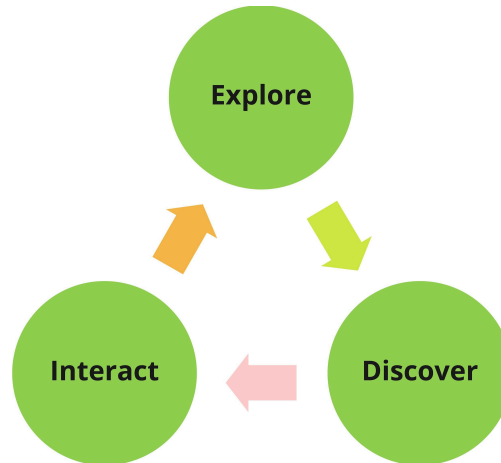
1. **Physical Movement** - manipulation of the camera in the real world;
2. **Screen of the Device** - buttons, clicks, swipes and others.

Gameplay

Core Loop	
<p>Core loop is defined as the most frequently repeated sequence of actions in the game that are vital to its purpose.</p> <ol style="list-style-type: none">1. Contact - initiate contact with Point of Interest (PoI). E.g. aliens, explore flags, objects in AR 360, etc.;2. Gain - interact with PoI as pass/fail and gain items or points;3. Advance - proceed to the next stage, menu, etc.	

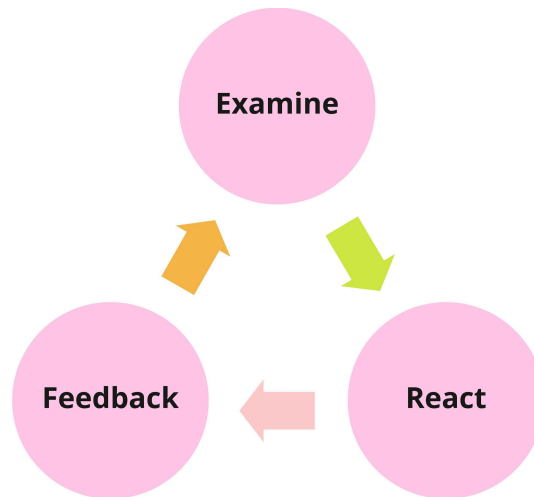
Contact Sub-Loop

1. **Explore** the world
2. **Discover** the Pol
3. **Interact** with Pol



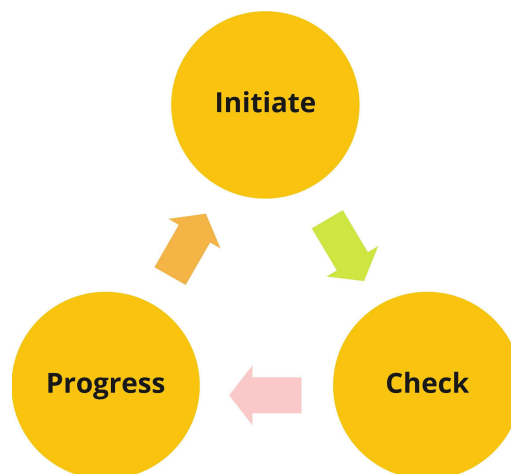
Gain Sub-Loop

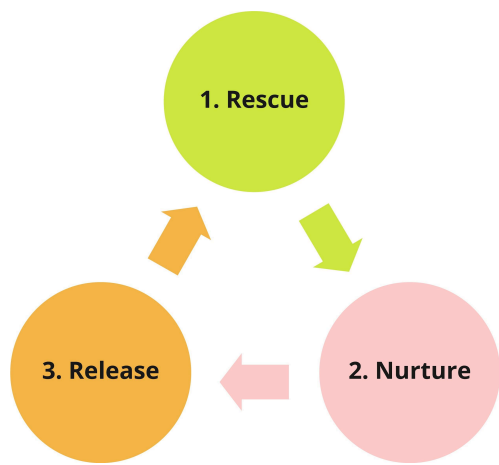
1. **Examine** the Situation
2. **React** to Event (e.g. emotions, items, etc.)
3. **Feedback** - get an immediate feedback



Advance Sub-Loop

1. **Initiate** - launch final activity of the stage;
2. **Check** - if all requirements are fulfilled
3. **Progress** - pass or fail the check



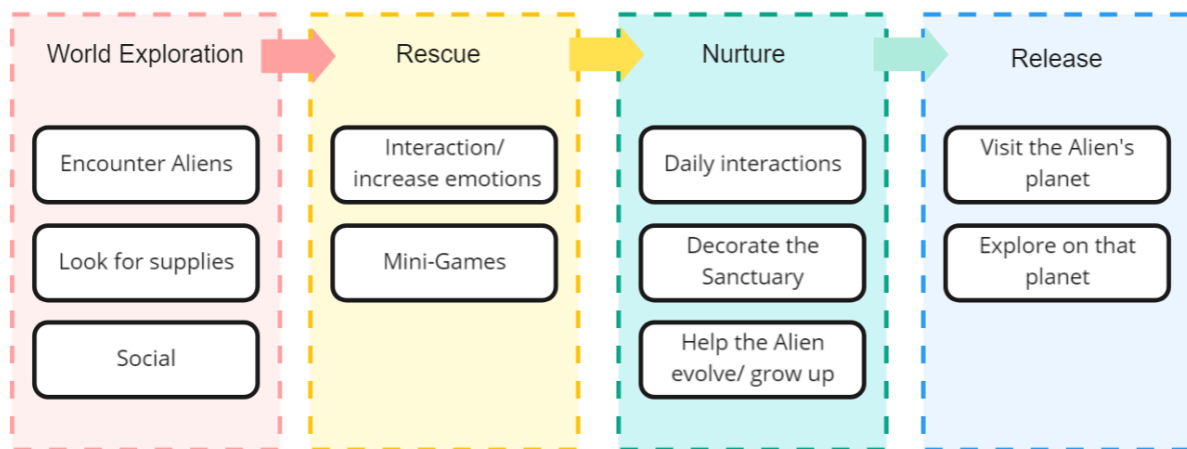
<h2>Meta Loop</h2>	
<p>Full experience of the game:</p> <ol style="list-style-type: none"> 1. Stage 1. Rescue Aliens from the Earth 2. Stage 2. Nurture Aliens in the Sanctuary 3. Stage 3. Release Aliens to their Home Planet 	



Game Structure

The game consists of 3 main stages and emphasizes the exploration of different worlds through AR. The player:

1. Explores the world, looking for aliens and supplies;
2. Rescues aliens by finding them on the map, starting the encounter, using the energy;
3. Nurtures Aliens by playing mini-games and helping them to evolve/grow up;
4. Releases Alien back to their home planet with the use of a portal and can visit them in the future.


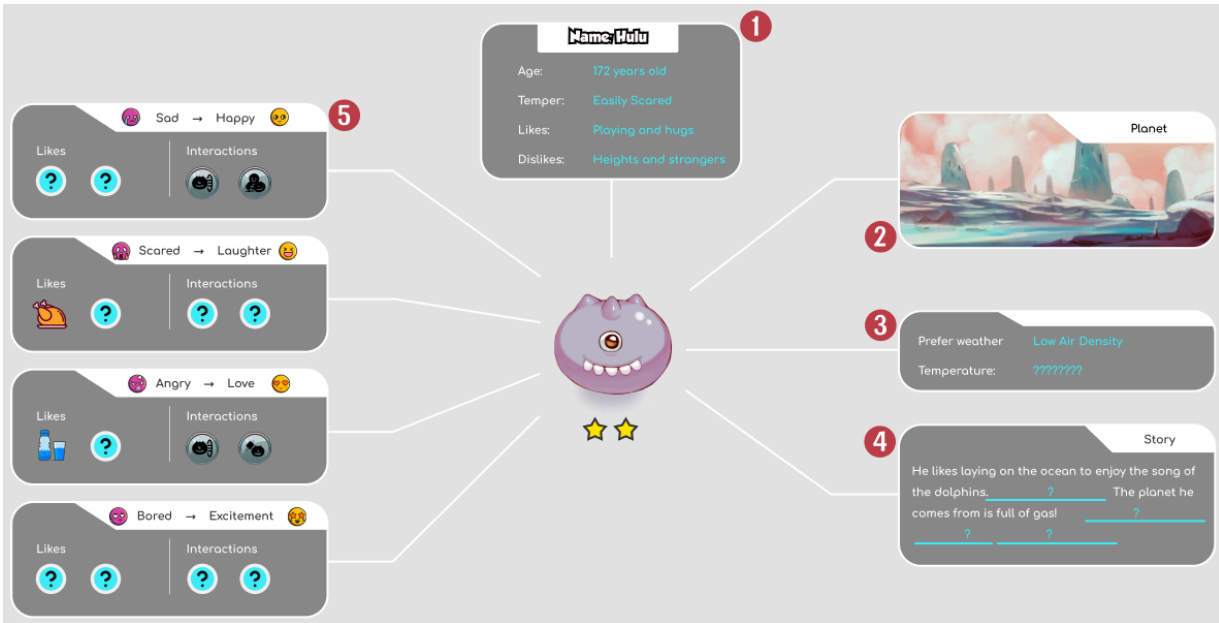


Alien Profile

Mental State & Backstory

Players encounter aliens while exploring the world by physically moving around. Each alien has a set of emotions and the player is required to pick correct actions to address their issues in the empathetic manner. By performing correct actions the player will be getting alien trust and improve the variables on the emotion grid.

There are many Aliens coming from different planets, having different personalities and behaviours. Some of them like hot temperatures while others do not. Some of them are easy to calm down while others are not. The players can figure it out by observing the animations and body language. Whenever you complete a correct action, Alien's profile will be updated with its likes & dislikes.

	<p>Name: Hulu</p> <p>Age: 172 years old</p> <p>Temper: Easily Scared</p> <p>Likes: Playing and hugs</p> <p>Dislikes: Heights and strangers</p> <p>Rarity: ★★☆☆☆</p> <p>Planet: Bubble Star</p> <p>Prefer environment: Low-density world</p> <p>Temperature: Low, earth is hot to him</p> <p>Favorite foods: Kelp, Ice cream</p>
<p>Short line: Hulu comes from a gas planet and has to breathe the air from his planet to survive.</p>	
<p>Background Story: Too much oxygen would put him in a coma. After an expedition, he likes floating on the top of the factories to breathe in its fumes. Sometimes he lays on the ocean to enjoy the songs of the ocean.</p>	
	
<p>Descriptions: Aliens' profile displays all kinds of information about its characteristics. Including basic information [1], home planet [2], environment preferences [3], stories [4] and emotions affect elements [5]. Getting complete information requires players to have more contact with them. They can get more information by scanning the alien and choosing the correct interactions in the rescue stage [Stage 1], or from interacting with rescued Aliens in the nurture stage [Stage 2].</p>	

Emotion Profile

Emotion	Story	Positive Interactions
Sad / Happy	During the noon, the sun rises up and makes Hulu hot, then he expresses sadness.	1. Feed-Ice Cream; 2. Adjust temperature- From high to low;
Fear / Laughter	He is enjoying a hearty picnic on the ground. Because of low gravity, he is tying a stone on his body, but the player scares him, so the stone rolls away and he flies up to the sky. and expressing so scared.	1. Feed Kelp; 2. Adjust gravity - 2 clicks down;
Angry / Love	A rubbish can hits him, he gets angry immediately, telling players don't litter.	1. Feed-Ice Cream/Kelp; 2.Hug ;
Bored / Excited	He is rolling over the tree leaves and sighing constantly.	1. Feed-Ice Cream/Kelp; 2. Play ;

Rarity

Rarity determines the probability of encountering aliens and becoming friends. Rare aliens are hard to encounter and difficult to rescue. There are 5 stars in total, 1 is the most common, 5 is legendary.



Trust

Trust is another important value to determine the probability of making friends. Every type of Alien has a basic value of trust and will increase after every encounter.



During the rescue activity, you can use power-ups to add some temporary trust. Additionally, trust has a limit which is influenced by the rarity of the Alien. Also, basic trust value can be influenced by alien races.

Emotion Grid

The game uses 8 core emotions, represented through 4 variables. To come up with these variables, [a Two-Dimensional Russell Emotional Model](#) was used that grades emotions through Active/Passive & Negative/Positive. This research allows us to determine the connection

between emotion and define them with 1-5 scale, where one represents the most negative and five represents the most positive:

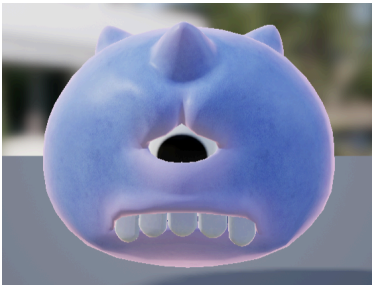

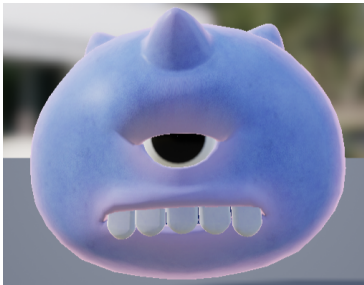
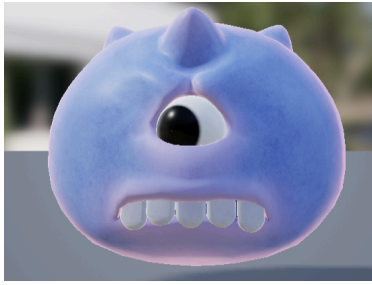
<div> 1. Sad -> Happy 2. Angry -> Love 3. Fear -> Laughter 4. Bored -> Excited </div>	
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The table below showcases the framework. To simplify the complexity for the target audience, the value 3 still represents the negative emotion (not neutral, which would require creating 4 extra emotions for each variable):

<div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> </div>							
Bored	Fear	Angry	Sad	Love	Excited	Laughter	Happy

Images: Alien Emotions

Happy	Love	Excited	Laughter

Sad	Angry	Bored	Fear
			

Environmental Elements

When interacting with aliens, there are many environmental variables that need to be accounted for. If it's raining, the alien will react to some actions in a different manner. During darkness, the alien might hide for longer, or not show up at all.

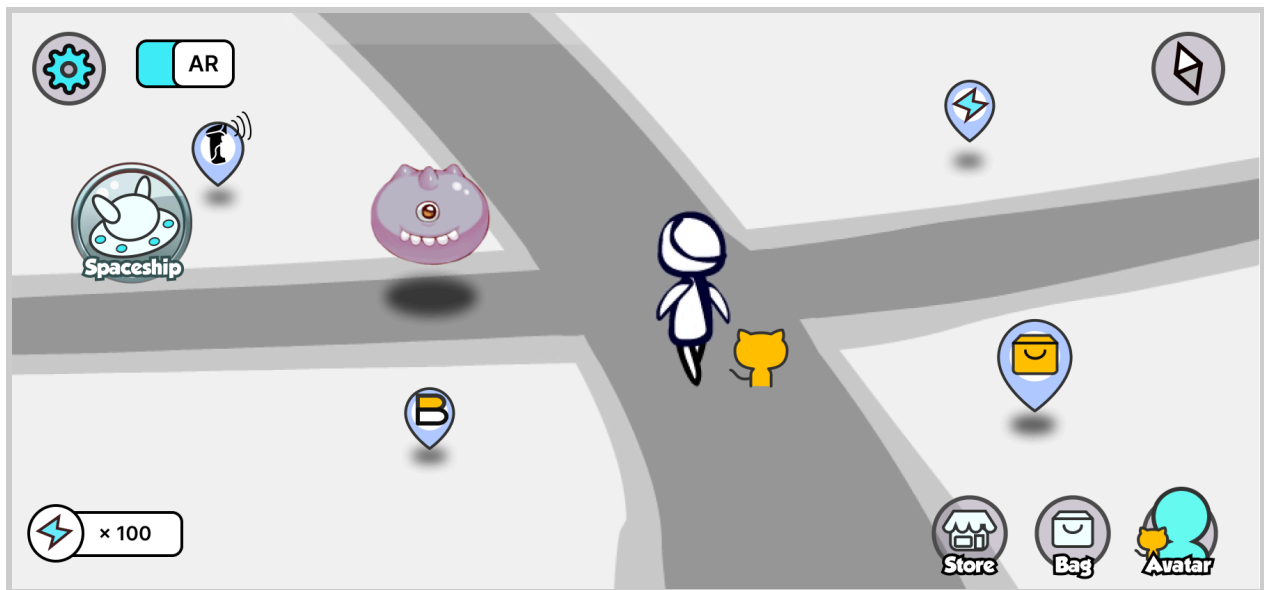
- After you've interacted with the creature enough times you can 'learn' it's behaviors through automatically updated profile:
 - Food
 - Music
 - Water
 - Touch
 - Warmth
 - Cold
 - Gravity
 - Light
 - Dark
- To simplify the gameplay elements, players are able to use additional items:
 - Consumables
 - Scanner
- Progress
 - Rescue Aliens and fill up your Friend List
 - Share your collection on social media
 - Upon releasing aliens back to their home world, their home planet opens as a new level
 - Emotion Grid updates the player in real-time
 - Badges are awarded for completing complicated tasks

Emotion Variables

When the Alien shows up, the system will adapt the variables of bad emotions according to rarity. The system then determines the Alien's behavior to specific events, account for environmental variables and will showcase the final outcome through an emotion grid.



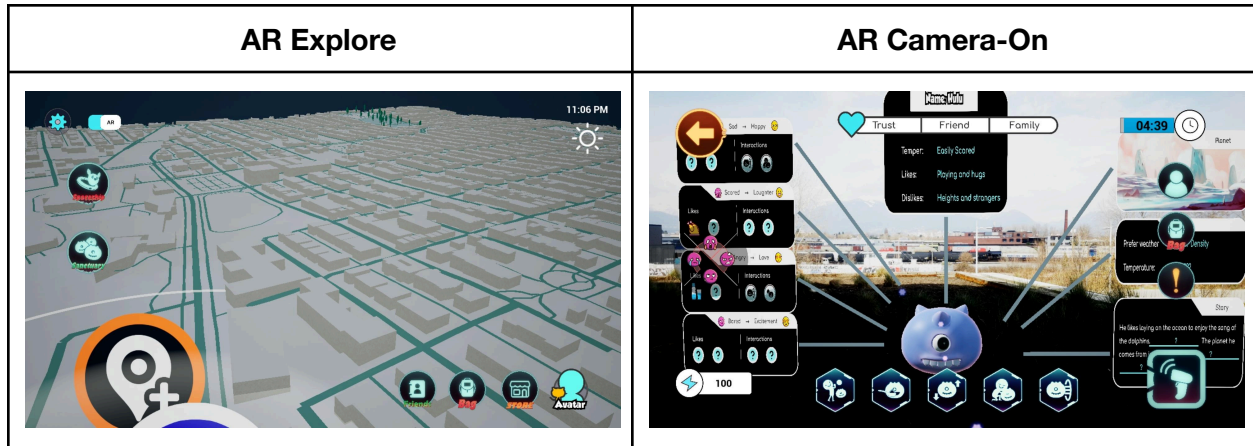
Stage 1: Rescue



Description: This is where the story starts. Every one comes to this world for their virtual adventures of rescuing Aliens. Besides Aliens, they can explore anything on the map as the game goes on. The walking recorded through pedometer and GPS reward players with additional items. In the future development, players would be able to socialize with others.

AR Modes

This stage uses two AR modes: exploration on the real world map (AR Explore) and complementary experiences to reality (AR Camera-On):

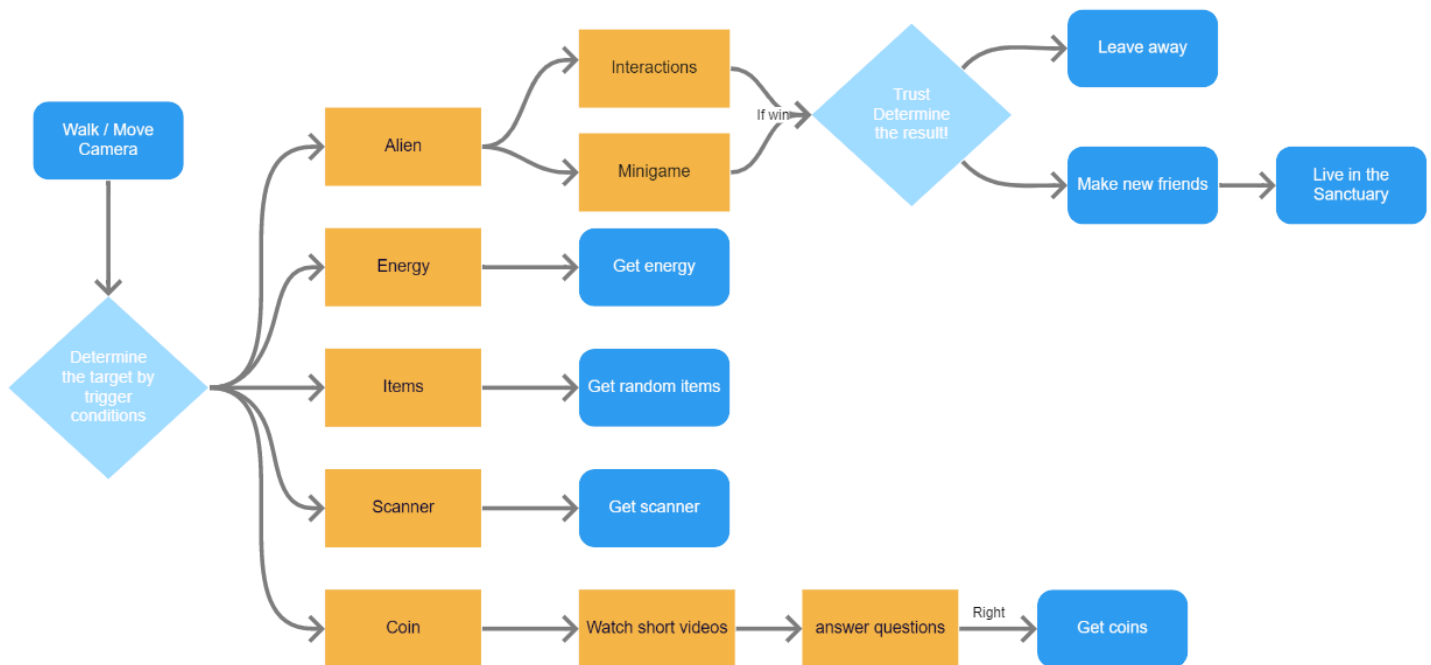


Points of Interest (Pol)

There are 5 types of Points of Interest (Pol): Alien, Energy, Coin, Items.

Pol	Trigger	Trigger	Results
Alien	Walking [10] steps triggers an opportunity to refresh out [1 or 2] Aliens.	Walk	AR Camera-On
Energy	Daily refreshed energy mission/ reach [X] to will refresh out [1] energy point	Click	Replenish energy for Alien interactions
Coin	Every time after completing [4] rescuing activities, regardless of success or failure, it will refresh 1 coin point near the player.	Click	In-Game Currency increase
Items	Walking [15] steps triggers an opportunity to refresh out [0 or 1] item point.	Click	Power-Up Item
Scanner	Walking [25] steps triggers an opportunity to refresh out [0 or 1] Scanner point.	Click	Discover Aliens

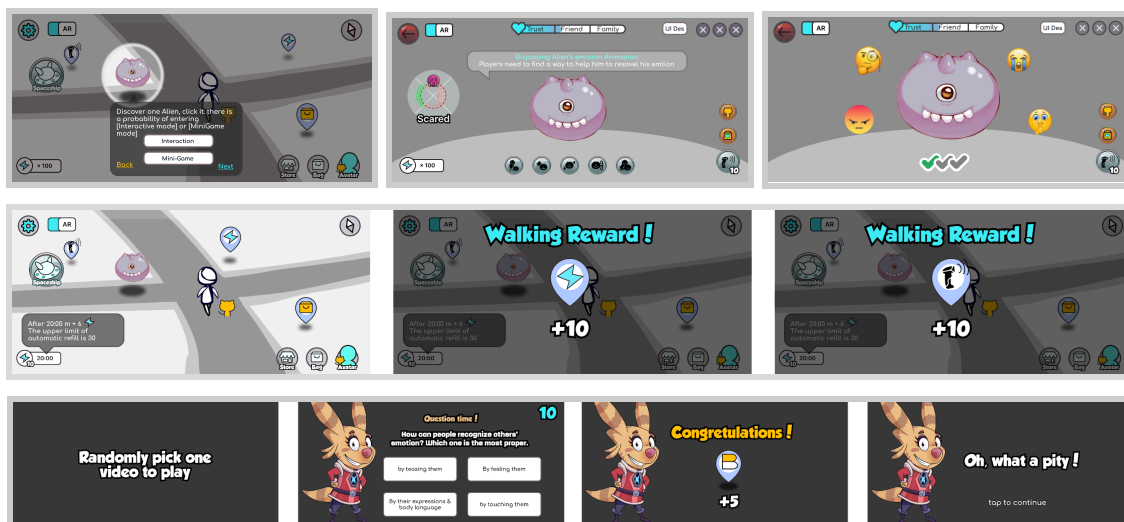
Flow Chart



1. Players encounter aliens and other supplies on the map during walking (pedometer)
2. When the is clicked Alien there is a probability that the alien will escape
3. After the interaction, check if you gained enough trust, and rescue alien if enough trust was gained
4. Other types of Pols will have their own functions: Energy / Items / Scanner / Coin

User Interface Flow

The following flow is accessible on [Figma](#)



Rescue Activities

When the player clicks on the Alien's PoI, the player is redirected to AR Camera-On Mode. In this mode, the player has to respond to prompts from the Alien with correct actions, referred to as **Basic Interactions**. Each interaction has a pass/fail mechanic that has an effect on trust level and 4 emotion variables (representing 8 emotions).

Rescue activities focus on empathy development by focusing on the players' ability to feel, empathize and care about the aliens. By providing players with different variety of information to explore, making it both fun and realistic, would enhance their ability to interact with people in real life.

Basic Interactions

These activities focus on increasing Alien's Emotions from negative to positive by choosing correct interactions. Players make their choice by analyzing the alien's expressions and body language. Each interaction affects different emotional variables. If the choice is correct, the emotions will improve; if not - decrease. The player has 2 chances to select the wrong action, and will fail the interaction on the third failure.

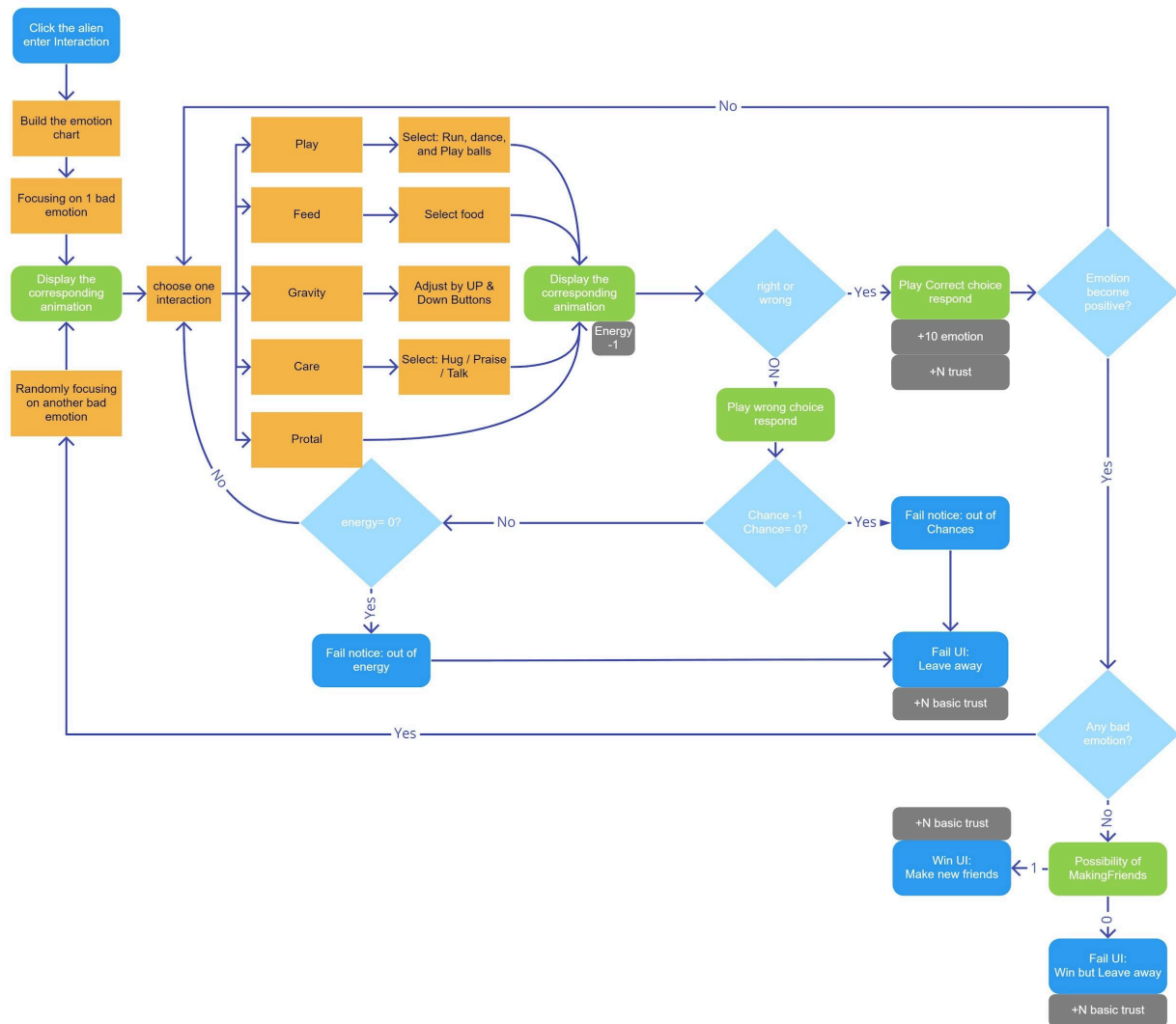
Future design: If we expand more interactions, then after each selection, the interaction buttons will refresh out from the interaction pool, containing at least one correct choice. For example: temperature adjustment.

5 interactions in the test phase:

- **Play:** alien shows an excited animation and asks to perform a specific activity;
- **Feed:** alien is angry. The player sees the food inventory and needs to choose what to feed the alien;
- **Gravity:** displaying two choices for players to adjust the Alien's gravity. Players need to click the UP or DOWN button to place the alien in the proper place;
- **Socialize:** displaying a sad face animation. Players need to choose what to react: Hug, Praise or Talk.
- **Portal:** helps the Alien remind their hometown, aiming to make them happier, but will react negatively if not enough trust is gained. It activates a portal and users can view part of the alien's home planet.

Interaction Flow

Full version is available on the [Miro Board](#).



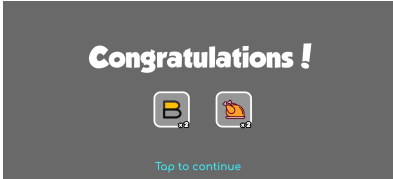

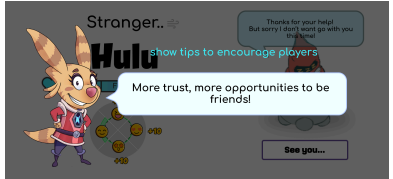
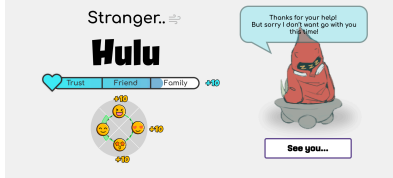
Rewards

Rewards will encourage you to continue playing and explore the world. They are given by successfully completing the activities or discovering Pols after walking certain distances.

Rewards vary depending on different Aliens. Making friends of high rarity will get more rewards and vice versa. In this case, players will get coins and items randomly from the data provided.
// Data->Alien



Post-Interaction Feedback

At the end of each activity, Alpha Squad characters provide feedback to the player, depending if the outcome was successful or not. If successful, the Alpha Squad will provide a positive reinforcement. If failed, the player will receive advice on why the action was incorrect.

Success	Failure
 	 

Pop-Up Symbols

After each interaction, it is vital to notify the player about the actual changes that occurred within the Emotion Grid and Trust Bar. Each game either adds or subtracts scores from emotion and trust variables and each unit is represented as +10 or -10.

Game screen post-interaction	
Emotion Grid symbols 	Trust symbols 

Additional Features

The additional features are focused on simplifying the gameplay and creating a sense of urgency in completing the tasks.

Items

There are 2 types of items in current phase:

Power-ups

Note: they can make it easier for players to rescue aliens. They can be bought in the store or got freely during exploration (POI) and from the interaction reward.

All power-ups so far:

id	Name	Description
1	Scanner	A Magic tool, it knows everything you don't know.
2	Mysterious Orb	It is a consumable item and can plus some temporary trust when you rescue Aliens. Trust +5.
3	No. 115	This element is unique and hard to get. Plus 10 points temporary trust.

Scanner

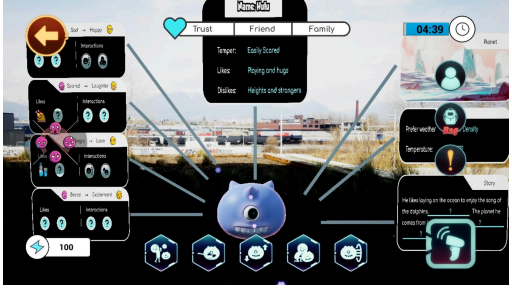
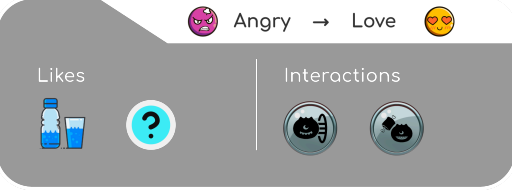
It is a consumable item and can help players learn Aliens behaviour or finish the game easier. Each scan consumes 1 scanner. Its functions are different in interaction mode and minigame mode.

It can scan out several types of information. After scanning, players will fill 1 field from its profile data. The information you get will appear on the Alien's profile. Scanner gives priority to interactions and what you don't know about the Alien:

AlienID	Profile Type	subID	visible	profileDes	tipsDes	Weight
1	1	1	1	Name: Hulu	Hi my name is Hulu! So glad to meet you!	10
1	1	2	0	172 years old	Hi, tell you a secret! I am 172 years old! Can you believe it?	10
1	1	3	1	Easily Scared		N/A
1	1	4	1	Playing and hugs		N/A
1	1	5	1	Heights and strangers		N/A
1	2	1	0	planet:1	The planet I come from is full of bubbles! A quite beautiful place.	10
1	3	1	0	Low Air Density	I enjoy a Low Air Density environment	20
1	4	1	0	He likes laying on the ocean to enjoy the song of the dolphins.	You can't believe how beautiful the dolphin's song is. It's the best thing I've heard on your planet.	10
1	4	2	0	Sometimes he likes floating in the top of the factory to gain more CO2	I enjoy CO2, you might not like it.	10
1	5	1	0	5: Playing ball (Icon)	Playing a ball can make me HAPPY!	30
1	6	1	0	6: Gravity(Icon)	I will get scared when the gravity is not proper.	35
1	7	1	0	7: Water(Icon)	I love drinking water! It could make me not angry.	40
1	8	1	0	8: DanceOr Music (Icon)	Music can make me excited!	50

AR Camera-On

Example: When the alien is angry, the scanner shows one result from [subID] of type [7] : “I love drinking water! It could make me not angry.” and then on this Alien’s profile page, it displays the Water(Icon) on the field of [Angry to Love].

1	basic information		
2	home planet		
3	environment Prefer		
4	Stories		
5	emotion overview	sad	
6	emotion overview	scared	
7	emotion overview	angry	
8	emotion overview	bored	

Mini-Games

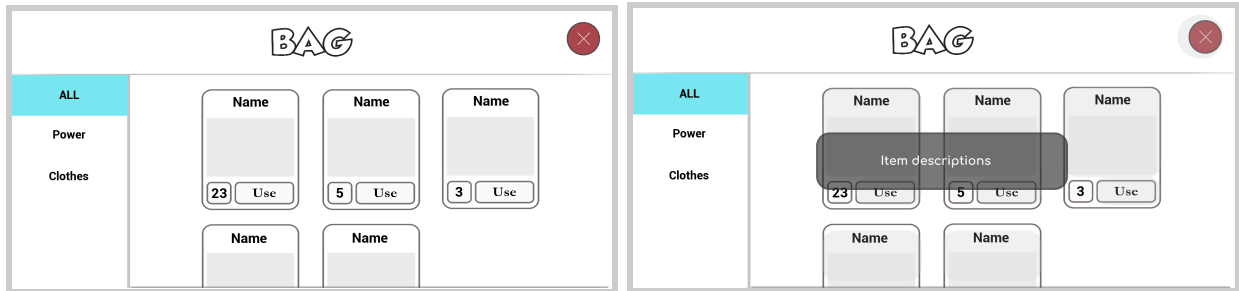
In this mode, the scanner will focus on helping players finish the game easier. For example, it will immediately point out the right answer and will be described in each game in detail. Each scan consumes 1 scanner. In each game, there is a specific description for its actual effect.

Food

Note: feed Aliens when rescuing them. You can get it from the store or during exploration (POI) freely. The table of all items:

id	Name	Description
4	Magic Apple	Universal food, everyone likes it.
5	Ice Cream	A type of sweet frozen food popular in Aliens.
6	Kelp	A type of brown seaweed can cheer Aliens up.
7	Turkey	Made by a large bird which can make some aliens happy.
8	Salad	A mixture of raw vegetables which can make some aliens calm down.
9	Water	Unique on the earth which can make some aliens laugh.

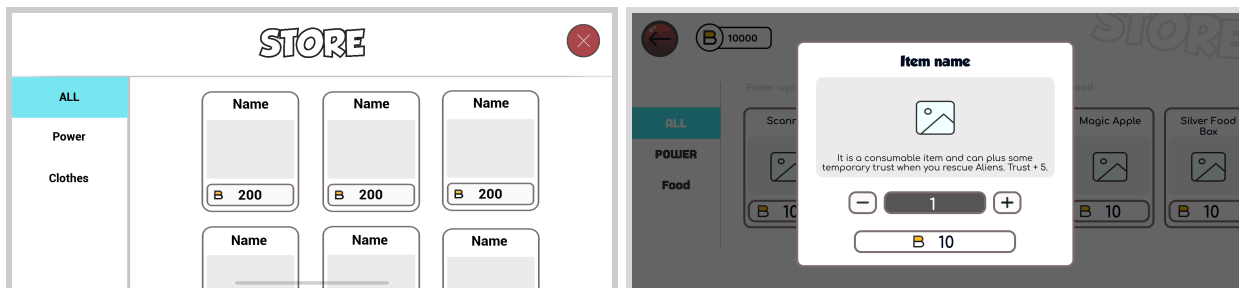
Bag



Description: A place which contains all players' items and can browse by types. No place limitations, but has a stack limit with 999. When viewing items in the backpack, information and tips will show up when pressed.

Notes for UI: When players press on the item, its information will hover on the UI. When players stop pressing, it will disappear. Click the [Use] Button will navigate players to the exploration map. [Type label] can help players filter the items.

Store



Description: A place to buy items using coins. Things that can be bought are power ups, food, and this store is expandable in the future, you can see we are planning to put clothes in this place. We will think about it more when we design the customization system.

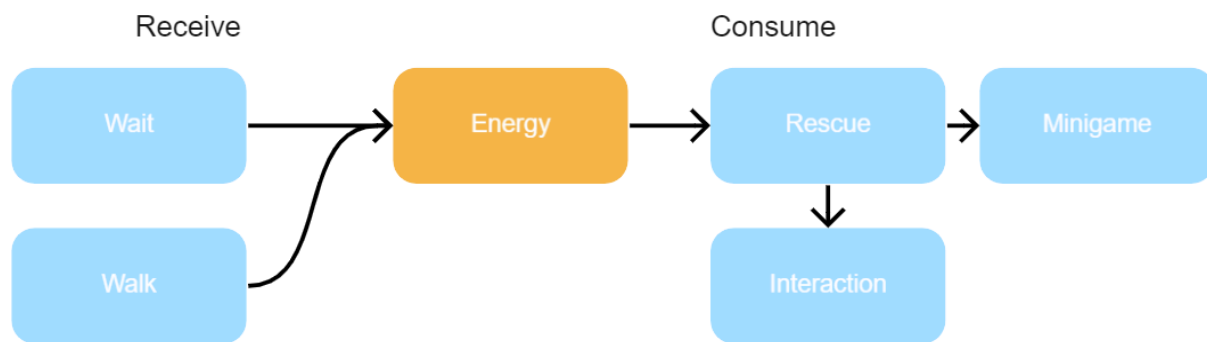
Notes for UI: Each item groups with Name, Picture, Price. Click them will pop up the general purchase frame.

id	type	itemID	Name	Description	Price
1	1	1	Scanner	A Magic tool, it knows everything you don't know.	10
2	1	2	Mysterious Orb	It is a consumable item and can plus some temporary trust when you rescue Aliens. Trust + 5.	10

3	1	3	No. 115	This element is unique and hard to get. Plus 10 points temporary trust.	10
4	2	4	Magic Apple	A universal food, everyone likes it. Any emotion plus 10.	10
5	2	5	Ice Cream	A type of sweet frozen food popular in Aliens.	10
6	2	6	Kelp	A type of brown seaweed can cheer Aliens up.	10
7	2	7	turkey	Made by a large bird which can make some aliens happy.	10
8	2	8	salad	A mixture of raw vegetables which can make some aliens calm down.	10
9	2	9	Water	Unique on the earth which can make some aliens laugh.	10

Energy

Energy has become the most common element of the game since zenya's casual games spread across the world. Its main purpose is to control the length of the playing time and increase the frequency players reopen the game. The reasons to adopt this concept are similar: control players' playing time and facilitate them to walk more. Therefore, the feature of energy is: consumable in the core gameplay and obtainable according to pedometer amounts.

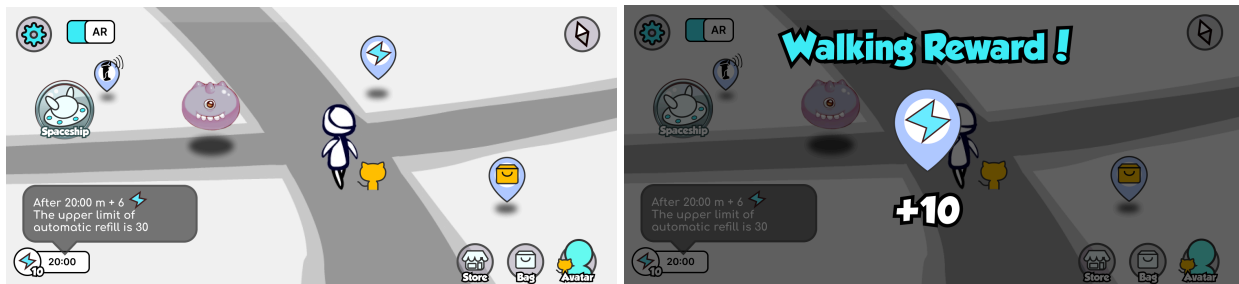


Energy Variables: Every new player has the same basic number of energy points, and this is also their refillable limitation. When Energy is full(30), time refill is stopped. Can be expanded if we incorporate LV & EXP in the future.



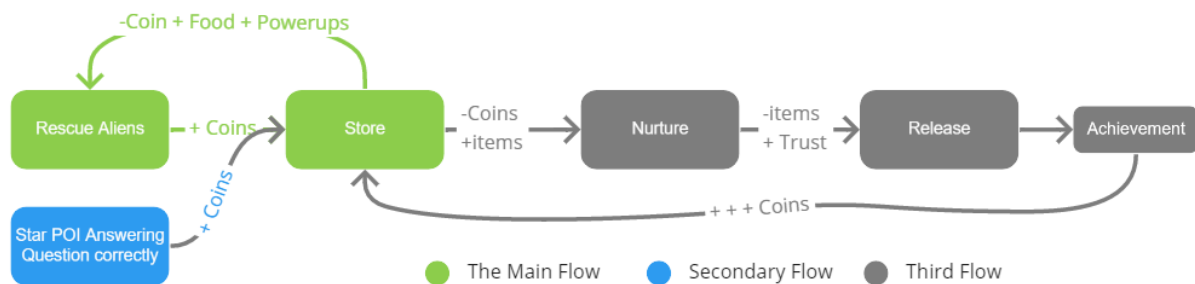
Energy points	30	Interact with Pol	-1
1 hour refill	6	Initiate AR Camera-On with Alien	-3

Daily refreshed energy mission: Every day, when you walk a certain number of steps, it will display an Energy Pol around you. when you are nearby, you can click it and get the reward. The steps accumulated will refresh daily.



Daily refreshed energy mission	
100 steps	+10
200 steps	+10
500 steps	+10
1000 steps	+10
1500 steps	+10
2000 steps	+10
3000 steps	+10

Economy System



Descriptions:

There are two ways to earn coins. One is that players will get coins when they rescue Aliens successfully. The other one is they can get coins from interacting with POI (coin type) by answering questions correctly.

Players use coins to buy items in the Store and consume these items in Rescuing or Nurturing. In the rescue part, items can increase trust or get some hints to make the rescuing process easier. When nurturing Aliens, they make the Alien grow faster, reducing the amount of time.

As players explore the game deeper and deeper, coin POIs can be discovered throughout the map. When the Alien grows up and has enough trust for release, the player gets a great bonus from their achievement. And this flow gives players a chance to set up their long term goal of this game.

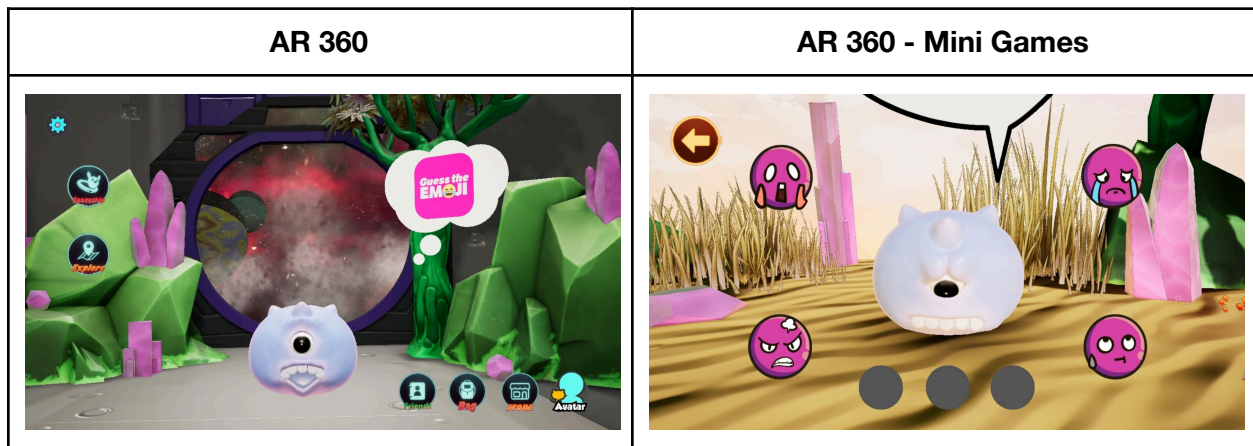
Ways Get Coins	Frequency	Amount
Rescue Aliens	most	less
Coin POI for Answering questions	less	least
Coin POI for walking in AR Explore	most	least
Release	least	most

Stage 2: Nurture

Stage 2 focuses on playing mini-games to gain an alien's trust and helping it evolve.

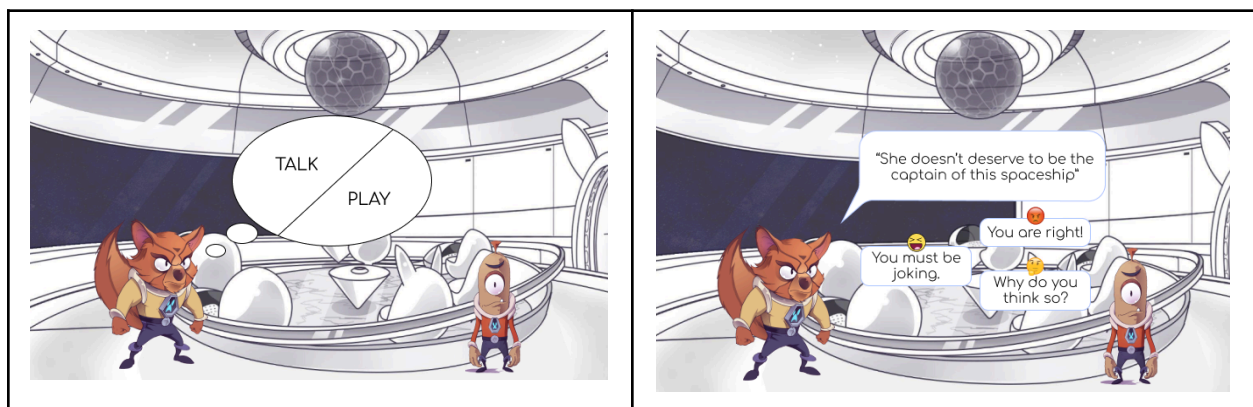
AR Modes

This stage uses two AR modes: exploration on the real world map (AR Explore) and complementary experiences to reality (AR Camera-On):



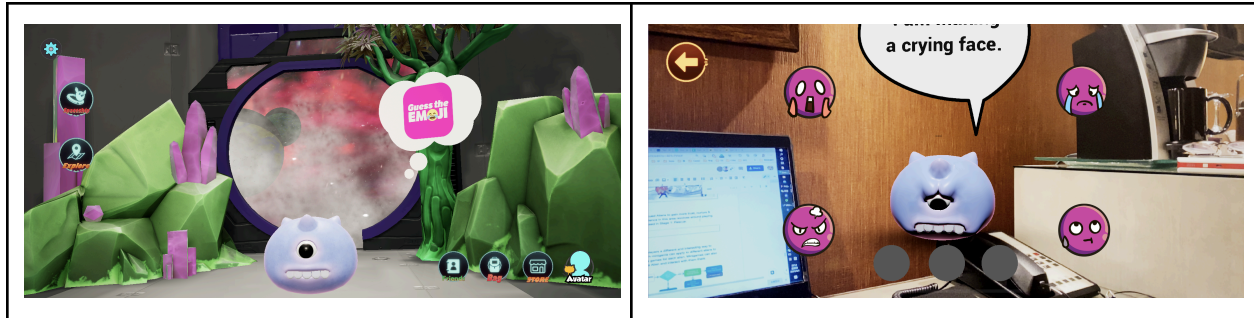
Spaceship - Bridge

Bridge is an AR 360 environment that allows the player to interact with Alpha Squad characters as part of transmedia experience. These interactions provide additional story points and character backgrounds. Players receive advice about rescued aliens, to get a better understanding of how to gain their trust.



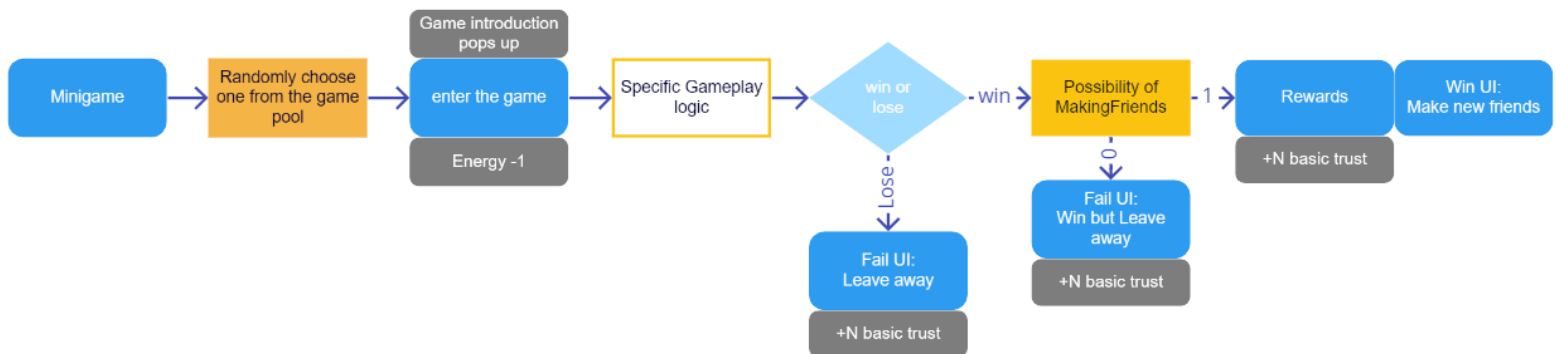
Spaceship - Sanctuary

In the sanctuary, players can interact with the rescued Aliens to gain more trust, nurture & release them to their home planet. The core experience in this area revolves around playing mini-games, in addition to the basic interactions used in Stage 1: Rescue.



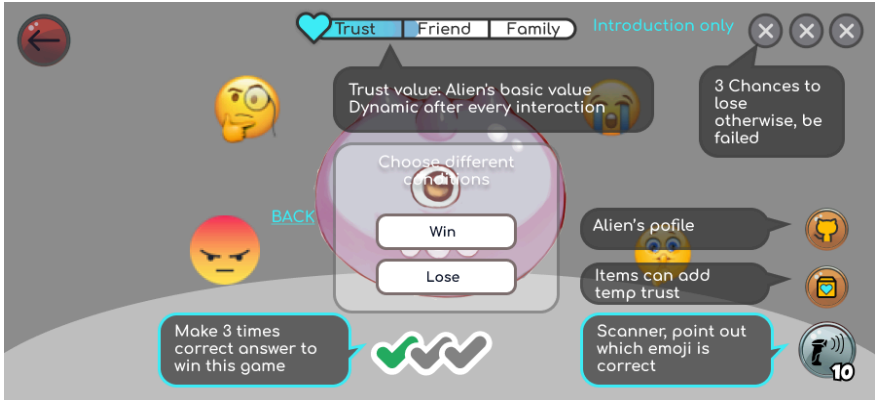
Mini-games

This is the core activity of Nurture stage. We want to give players many different opportunities to interact with aliens, develop empathy and enjoy unique storylines. The mini-games can be repeatable (played for every alien) and unique (1 or 2 games designed specifically for the alien).

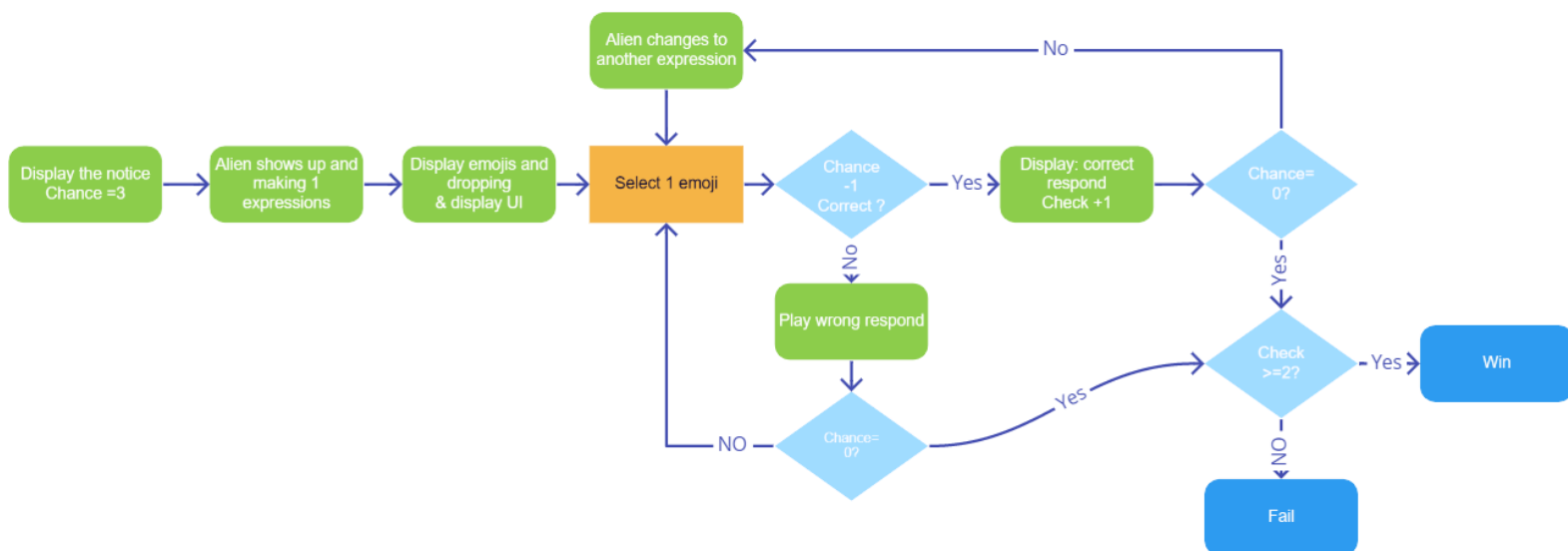


Emoji Game

Description	In this game players need to choose one of the falling emojis which matches the Alien's current expression. Alien will change expressions after you answer correctly, and also a check mark will light up. If you click the wrong emoji, you will get 1 cross.
Win	3 Crosses to Win
Lose	3 Crosses to Lose
Scanner	Point out which emoji is correct


Introduction	"Can you recognize my expressions?", we will add the voice-over for it.
Rewards	Coins // Data-> Alien
Image	 <p>The screenshot shows a game interface with a grey background. At the top, there's a 'Trust' meter with a heart icon, followed by 'Friend' and 'Family' tabs. A blue button labeled 'Introduction only' is in the top right. Below the meter, a text box says 'Trust value: Alien's basic value. Dynamic after every interaction.' To the right, a speech bubble says '3 Chances to lose otherwise, be failed'. In the center, a purple box with a magnifying glass over an alien face says 'Choose different conditions' with 'Win' and 'Lose' buttons. To the left, a 'BACK' button is next to an angry alien emoji. At the bottom left, a text box says 'Make 3 times correct answer to win this game' with three green checkmarks. At the bottom right, a text box says 'Scanner, point out which emoji is correct' with a scanner icon and the number '10'. Other elements include 'Alien's profile' and 'Items can add temp trust'.</p>

Gameplay Flow

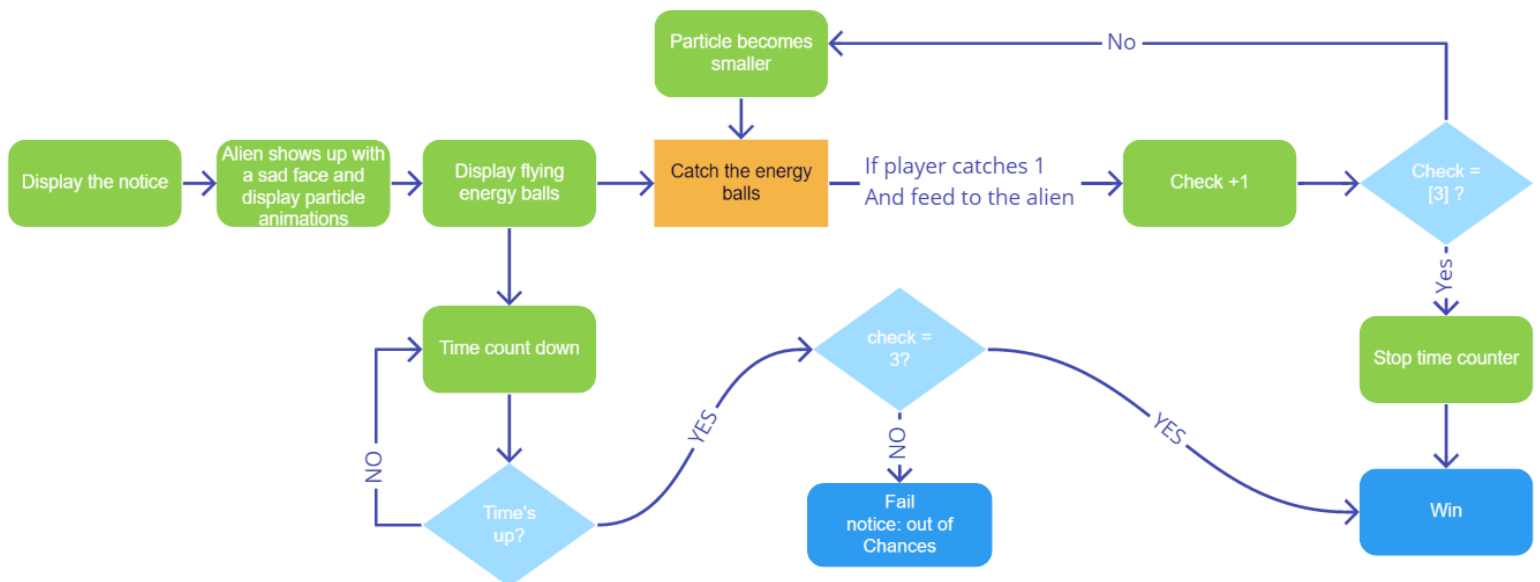


Energy Catch Game

Description	Aliens can't withstand the energy ball on the earth, so they get trapped when a few energy balls are flying around. In this game, you need to catch 3 energy balls to rescue this alien from being trapped in time. The energy particle field will be smaller if you catch 1 energy ball and also a check mark will light up. If the time is up, you will lose.
Win	Collect 3 or more energy spheres and send them to the Alien

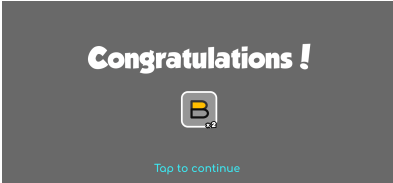
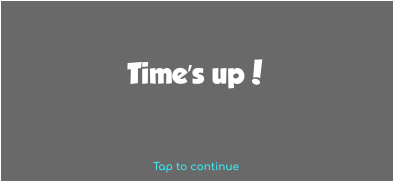



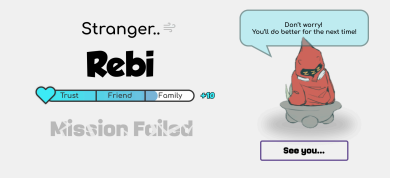
Lose	Time's up / 30 seconds
Scanner	Frozen 1 Energy Ball so players can catch it easier
Introduction	"Oh, I am trapped by the strange energy, Help me!" we will add the voice-over for it.
Rewards	Coins // Data-> Alien
Image	

Gameplay Flow



Feedback & Results

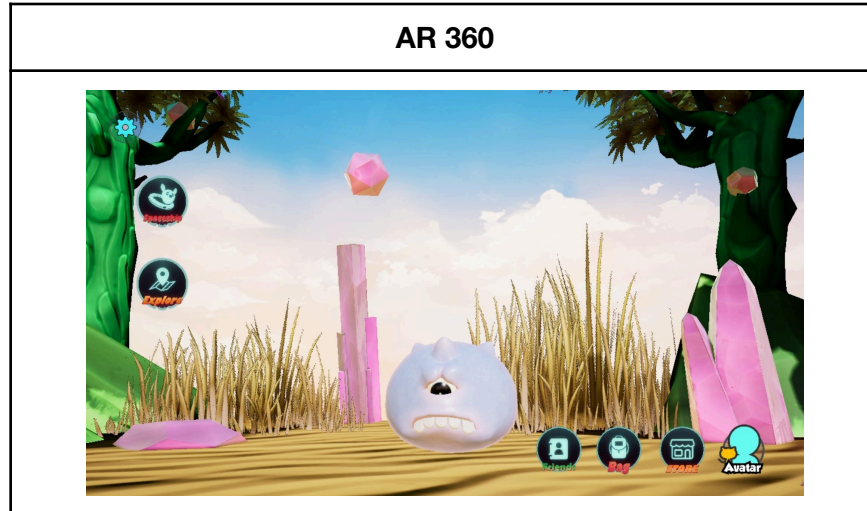
At the end of minigames, Alpha Squad characters provide feedback as the interaction part. If successful, will display the rewards first then a positive reinforcement. If failed, the player will receive why they failed: no more time or chances, or not enough trust.

Success	Failure	
		
		

Stage 3: Release

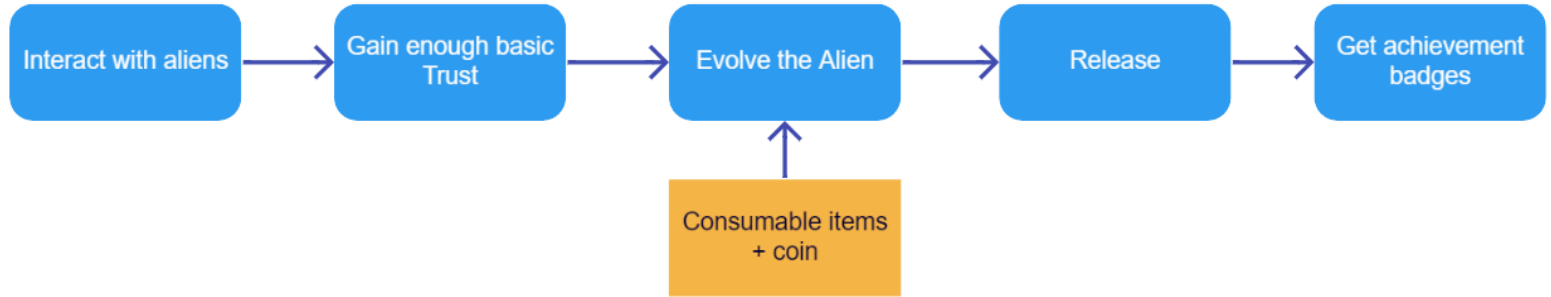
AR Modes

This stage uses two AR modes: exploration on the real world map (AR Explore) and complementary experiences to reality (AR Camera-On):



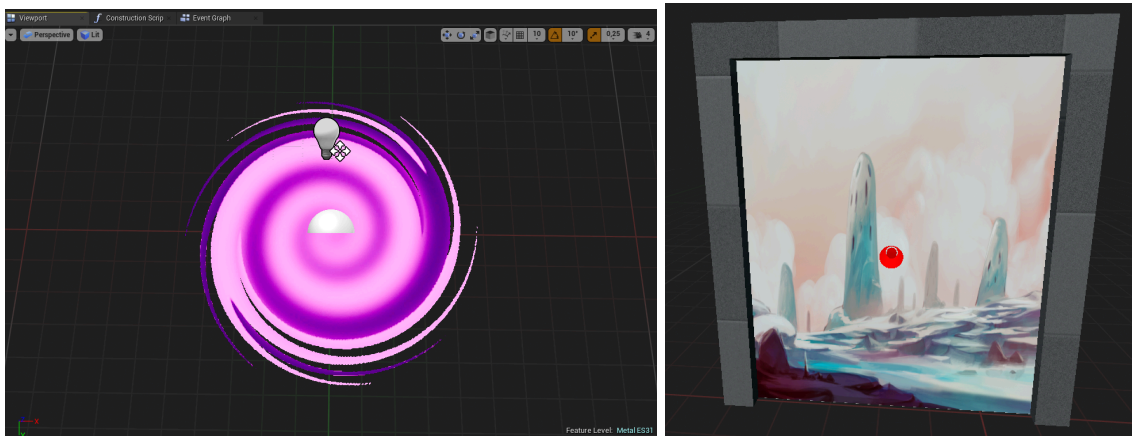
Release Initiation

In the sanctuary mini-games and interactions with Aliens increase their trust and emotion variables. When the value reaches a certain level, the Alien can be evolved and released back to its home planet. With the new look of the Alien, the portal to the Alien's home planet is activated. The alien returns back to the home planet and the player can follow it to visit a newly opened AR 360 Environment.



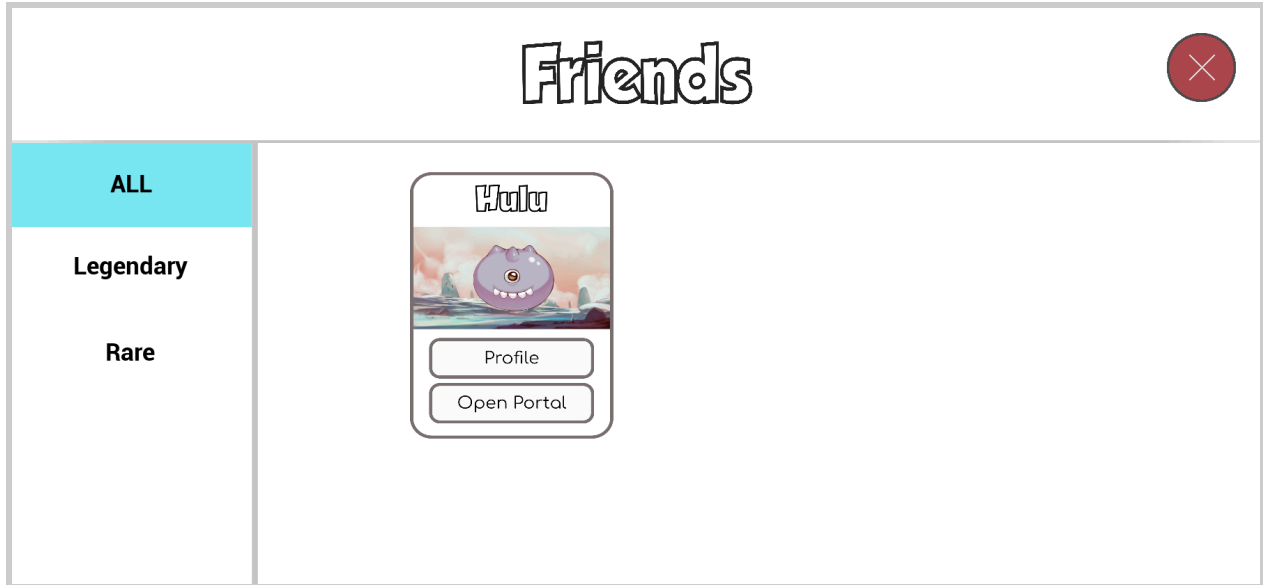
Portal

Portal is the object spawned in the shape of a rotating blackhole. It can be spawned in AR Camera-On mode to view the Alien home world & in AR 360 to release the alien and enter its home planet. The portal prompt appears on top of the alien when enough trust and emotion variables are gained. If the requirements are not fulfilled, the portal will open, but the alien will refuse to go inside, which will lead to a significant decrease in trust and emotion variables.



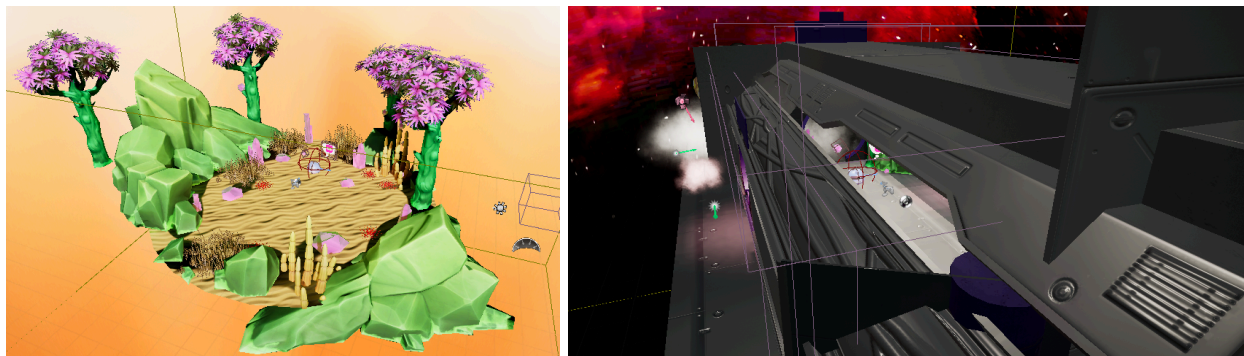
Friend List

All of the encountered aliens are displayed on the Friends panel with different categories based on rarity. The information includes Name, Portrait, home planet, profile and portal buttons. When you click the [Profile], the player will see an additional pop up with information displayed on the viewport. When you click the [Open Portal], the portal will move the player to the Home Planet level. The button is unavailable until the Alien is released back to the home planet.



Home Planet

When the alien is released, the Alien's home planet can be accessed by opening a portal in the friend list. Home planets are defined as pre-modelled AR 360 areas created in Unreal Engine in a separate level instance. The Aliens can originate from the same or new planets. During the release stage, the player can visit their favorite aliens any time and continue building on the existing relationships by playing mini-games and interacting.



Story

The story takes place in the Alpha Squad universe. The aliens are scattered around the earth due to a transportation accident and the player has to rescue them before it's too late. Each alien has repeatable and unique stories. They react differently to the player's actions based on their personality. Unique storylines are implemented through mini-games or basic interactions; and provide deeper insight into an alien's mental state.

Introduction

When the player starts the game, the starting sequence plays out to contextualize gameplay. The player has to understand from the get-go that the game is built around emotions, empathy and non violent gameplay.

Repeatable Storylines

The general flow of the game remains the same for all aliens. The player has to discover an alien on the map, initiate interaction and perform basic activities. Each alien has different reactions and mini-stories for each activity, while the actions themselves remain the same. Unique basic interactions could be added once the scope of the game increases, which will require a change in UI to add scrollability.

Unique Storylines

Unique storylines are presented through the mini-games. The player has an option to play either the same mini-games that repeat from alien to alien; and to play a unique mini-game with the rescued alien that provides a deeper back story and builds an emotional bond.

Level & Quest Design Tools

Unreal Engine: Game engine

GitLab: Version control

Coala Plugin: Exploration & GPS

Other plugins: Google ARCore, Apple ARKit, Google ARCore Services & Mobile Location Services

Asset List

Aliens

Each Alien has some animations, in the test phase we can use word description to represent them if we don't have enough time.

- Emotion:
 - Emotion content story animations*4
 - Emotion Facial expression animations*8(Sad/Happy; 2- Scared/Laughter; 3-Angry/Love; 4-Bored/Excitement)
- In Rescue: Appears / Wrong choice respond & Correct choice respond
- On UI: Win/ lose
- Other Interaction: Being hugged/ Playing animation
- Minigame related animation: Various depending on games.

Emoji Game

- Backgrounds: if in the 360 screen mode, can design several backgrounds to use randomly.
- Emojis: 8 different emojis: Sad/Happy; Scared/Laughter; Angry/Love; Bored/Excitement
- Alien Animations:
 - Idle / Wrong respond / correct respond// See if it can reuse the Interaction part
 - 8 expressions, According to the emojis
- In Game UI

EnergyCatch Game

- Backgrounds: if in the 360 screen mode, can design several backgrounds to use randomly.
- Alien Animations:
 - Trapped by energy & sad & feeling so hard
 - Collide by the Energy Ball
 - Wrong respond & correct respond
- Energy Balls: Flying / caught
- Particle: energy field effect displaying / smaller / energy field disappeared
- Net: Waving / Captured
- In Game UI

Appendix List

Appendix A: [Data.xlsx - Google Sheets](#)

- Including the data structure and sample data we designed to assist the development

Appendix B: [Figma Prototypes](#)

- Including the clickable UI flow and ideas of minigame design.

Appendix C: [Glossary](#)

Appendix D: [Client Miro](#)