

COSMIC COMMUNICATION

CONCEPT DOCUMENT V4

Team Members:

Jared Deal

Maria Garcia

Sara-Beth Jeffrey

Kristopher Merceron

Daniela Morales

Thomas Smalling

Cosmic Communication Concept Document

Version 4.0

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Instructional Context

The target learner population is non-verbal children that range between the ages of 4-9 or grade levels Pre-kindergarten through second grade. Other ages and grade levels may also benefit from this game depending on their academic level. The instructional setting includes a completely online mobile application via tablet or smartphone. Learners can access and complete the game as a supplement to their face to face speech and language therapy sessions. The basic idea is to provide targeted learners with a mobile application to help enhance their communication ability. The primary learning outcome is to increase the learners' ability to use an AAC device (Augmentative and Alternative Communication) as their primary way of communicating.

High Concept

Cosmic Communication: A game for nonverbal students to find their voice.

Key Features

Customizable avatar (Skin, hair, eyes, clothes, and accessories)

- Different colors/styles
- As the player completes different levels, more options can be acquired

Practice

- Players can return to the training scenario at any time
- As they go through more worlds, the training scenarios will include past challenges for players to revisit and practice

Three Hints

- The player will receive three hints that they can use in a level
- Alien would be the one to give the hint
- The hints will provide the player with a clue to help them discover the answer

Feedback

- If a player chooses the wrong picture card, the alien will deliver feedback explaining why
- If a player chooses the correct picture card, the alien will deliver further information qualifying the correct response

Sharing

- Players can share their results/accomplishments via social media (e.g., Facebook, Instagram, Twitter), email, or text message

Game Aesthetics

- Upbeat instrumental music will play in the home screen and carry over to the Avatar creation screen
- Relaxing ambient music will play as the player explores the world
- Instrumental music will slightly intensify when the player is faced with a task

- When a player moves to the next world or achieves a goal, triumphant music will play
- The worlds will have a variety of color schemes that set them apart

Pedagogical Foundations

Cosmic Communication pedagogical foundation incorporates the players to interact and communicate with characters in a similar manner to the desired communication skills needed to be formed in their daily lives. The game design incorporates the pedagogical foundation of Schank's learning theory referred to as "Learning by Doing". His theory states, "the primary goal of this theory is to foster skill development and the learning of factual information in the context of how it will be used (Reigeluth, 2009)."

This model has seven steps highlighted to implement the model.

1. Goal- learn the communication skills
2. Mission- goal of the game
3. Present Cover Story- storyline
4. Roles- player will create an avatar that will explore different levels to work towards mastery in improving their communication skills
5. Scenario of Operations- training vocabulary, exploration of worlds, practice vocabulary and phrases
6. Provide Resources - augmented/assistive communication tool
7. Provide Feedback/Assessment- proficiency of the players ability to communicate in different settings and transfer skills to augmented/assistive device for use in daily communication

The values of this theory are using skills instead of factual knowledge, presented in a relevant, meaningful and interesting way to the student. By using this theory in our communication game, we are integrating the values of the Learn by Doing theory. The content knowledge is learned in the context of relevant tasks closely related to how the students will use it outside the learning environment. Therefore, in our alien worlds, having to communicate, will transfer to real-world communication (Reigeluth, 2009).

The Cosmic Communication player is an "achiever and explorer" who is engaged in the discovery and expression of their character's environment and communication skills to complete missions. While playing, the player/learner will be assessed on their ability to communicate via an augmented/alternative communicative device like the ones they will have access to in their daily environment. As the player explores the different environments, they will gain words and phrases to use at school, home, and in the community. By using the Learn by Doing model, the players will practice real-life communication skills

Story

In this section, we will describe the characters of the game, including their archetype, gender, appearance, background, etc. We will also describe the different settings the game will

encompass, starting with their training on Earth and ending with a final battle. Finally, we will describe the plot of the story, including the key components that comprise the story arc.

Characters



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Hero (Protagonist)

The Hero Earthling (Name can be customizable to the user's preference) is the protagonist in the story. The Hero will receive notification from Nova the guide of each mission

- Name: Hero or different depending on customizations made by the player
- Type (class, race, archetype): Hero/Warrior
- Gender/Age: Male or Female/7 years old
- Physical Appearance and Mannerisms: The Hero is a small and short child character who is always dressed in a spacesuit. The Hero moves fast-paced with a sense of urgency.
- Background and History: From planet Earth
- Personality Characteristics: The Hero is a kind, confident, determined, and positive character.
- Vocal Characteristics: bubbly, excited and clear
- Relevance to Story: Protagonist



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Cosmo

Cosmos narrates the cutscenes and the progression of the main character throughout the game.

- Name: Cosmo
- Type (class, race, archetype): Narrator
- Gender/Age: Male/Unknown
- Physical Appearance and Mannerisms: very presentable appearance, nerdy, wears glasses (only his face appears on screen)

- Background and History: Cosmo was Nova's mentor when she was the Hero.
- Personality Characteristics: Clever, alert, speedy, techie
- Vocal Characteristics: nasally voice
- Relevance to Story: Will inform the player of important information such as the story before the start of the mission.



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Nova

Nova is a Cosmic Being who guides the Hero through their journeys.

- Name: Nova
- Type (class, race, archetype): Mentor
- Gender/Age: Female/ 7 years old
- Physical Appearance and Mannerisms: Short hair, round face, big green eyes, skinny and tall. She moves fast-paced with urgency.
- Background and History: Nova was a prior hero when Galaxy Master took over the planets previously. She thought he vanished, but he came back and started his master plan again.
- Personality Characteristics: Friendly, positive, social butterfly
- Vocal Characteristics: clear and cheery
- Relevance to Story: Mentor to the Hero



From "Space Villain by KhanhCPham on Newgrounds," by K. C. Pham, 2011 (<https://www.newgrounds.com/art/view/khanhcpham/space-villain>). Copyright 2011 by Kahn C. Pham. CC BY-NC 3.0.

Galaxy Master (Antagonist)

A shadowy character whose appearance and shape changes as the main character advances through the levels.

- Name: Galaxy Master
- Type (class, race, archetype): The Villain/Enemy

- Gender/Age: Male/age unknown
- Physical Appearance and Mannerisms: Tall and solid build. Has an arch in his back. He always wears a purple cape and purple gloves. He has horns and a digital green evil face. Walks and moves slowly in an intimidating way, almost robotic-like.
- Background and History: The Galaxy Master was never allowed to have what he wanted as a child, so he made it his goal to get everything and anything he wanted when he grew up. The reasoning behind taking over all the worlds.
- Personality Characteristics: Cruel, bitter, wretched, demanding, controlling
- Vocal Characteristics: Croaky and ruff. He sounds as if he has a sore throat or has been a long-time smoker.
- Relevance to Story: Antagonist, hostile character.



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Swampy (Minion)

A minion for the Galaxy Master who enacts his master plans throughout the levels.

- Name: Swampy
- Type (class, race, archetype): The villain's minion
- Gender/Age: Male/Unknown Age
- Physical Appearance & Mannerisms: Small and squatty, with a cute, but mopey demeanor.
- Personality Traits: Compliant, unable to think for himself, and always does what he is told.
- Vocal characteristics: He does not have a voice, just moans and croaks.
- Relevance to Story: Supporting character for the Galaxy Master.

Supporting Characters

Birdy, Aqua, Furry, Ally, Claw, and Star are supporting characters in the story. They serve as a support panel for the Hero in order to help vanquish the Shadow, causing harm to their worlds. They will appear at the beginning of the mission and the end of the entire mission.

Birdy

Aqua

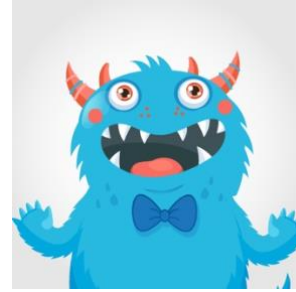
Furry



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Ally



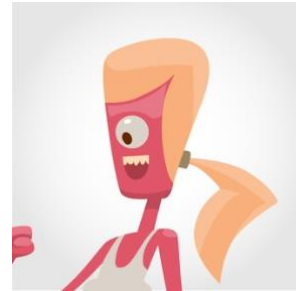
Licensed from Adobe Stock

Claw



Licensed from Adobe Stock

Star



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Settings

Different aliens are visiting planet Earth due to a creature attacking their home planets. Our Hero will need to visit each world and help the aliens restore their planet to their former condition. Below, each planet is presented in their damaged and fixed states, along with representative aliens from each world.

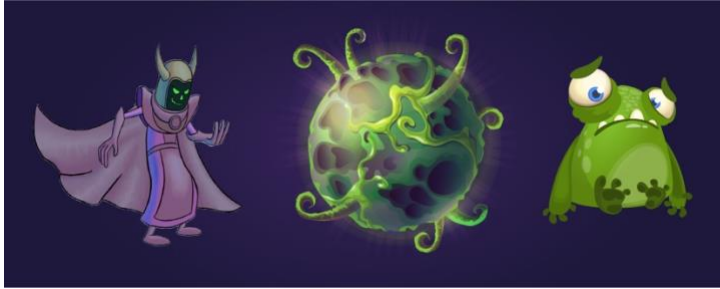
Earth - Origin

Planet Earth is the home to the Hero, their ordinary world. There are streets with cars, children at school, and adults working in tall fancy buildings. Suddenly, aliens from different planets are coming from the sky and parking their ships on top of roofs and walking in the middle of the street looking for help to return to their planets.

Earth – Destination

After helping the aliens fix their planet's, the Hero will return to Earth and their normal life and settings.

Planet Draxon – Hostile World



Licensed from Adobe Stock

The enemy world is a swampy green world, where the monsters take different forms. Our Hero will not visit this world; instead, there will be scenes throughout the game talking about this world.

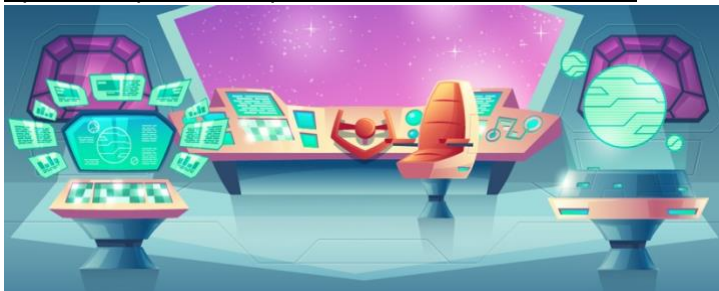
International Space Academy / Training Simulator



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The International Space Academy is the destination for training. Here the Hero will have their first encounter with the planet environments. They will get a preview of what their mission will be like and how they can overcome the different obstacles. The player will also gain some strength to survive in space and help the aliens return to their home.

Spaceship / Galaxy Overview – Safe Haven



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The Spaceship can be considered the Hero's "safe haven," they will return here after each level, or even during a level to recharge their energy and relax their minds. In this setting, they can see an overview of the Galaxy and choose which planet adventure they want to go to next. The Hero will have full access to the ship's control panel, where they can also choose to go back to training in the International Space Academy or change their spacesuit in the Closet.

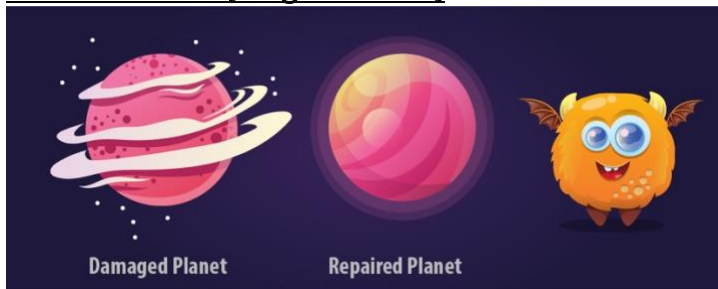


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Closet

The Closet is where the Hero can choose their preferred space suit to enter the Galaxy. They can access it through the portals found at the Space Academy and the Spaceship. Here the player can view their avatar below a spotlight, with a 3D view to get a better glimpse of the outfit. Players will be able to choose from the electronic options panel and try on their suits before making a selection. The panel will continue to grow as they reveal new planets.

Planet Draotis [Single Words]



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Planet Draotis is a world full of flying aliens, similar in appearance to birds. These aliens have built their cities among the clouds and have simple communication methods. Our Hero will learn how to communicate with these simple aliens. In this world, our Hero is working to save the planet from poisonous clouds released by the Galaxy Master.

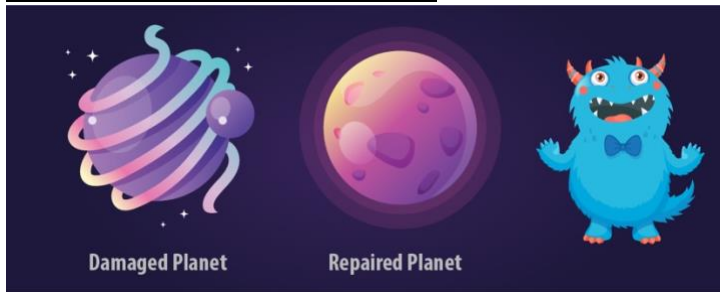
Planet Indoria [Needs/Wants]



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Planet Indoria is a water-based world, where the aliens have fish-like appearances. The cities are entirely underwater, and the Hero must learn to communicate simple needs and wants with the aliens. In this world, our Hero is working to free the ocean currents. The Galaxy Master's machine has disrupted the flow of the water.

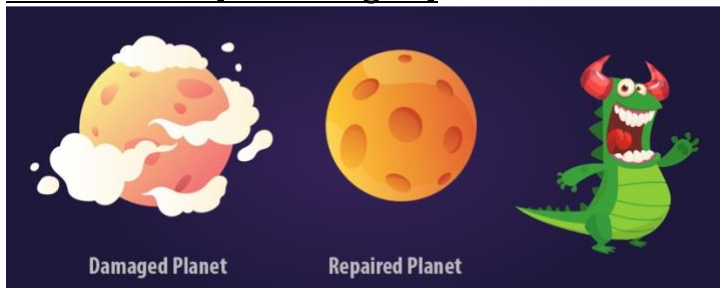
Planet Xenus [Short Phrases]



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Planet Xenus is a colder world with aliens that resemble large bear creatures. There are a lot of forests and rivers in this world. The Hero will need to communicate with short phrases on this planet. The cities are in harmony with nature, and everything was in perfect balance. However, the Galaxy Master has placed a small planet in orbit that the Hero must help free the world.

Planet Oabos [Full Thoughts]



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Planet Oabos is a desert oasis with reptilian aliens. The world is hot and dry, with lots of spiked planets and sharp objects. To find reprieve from the heat, these aliens have built their cities underground. Our Hero will spot this species requires them to clear with their communication and explain everything with full thoughts. The Hero must work to free this world from a dust storm brought from the Galaxy Master.

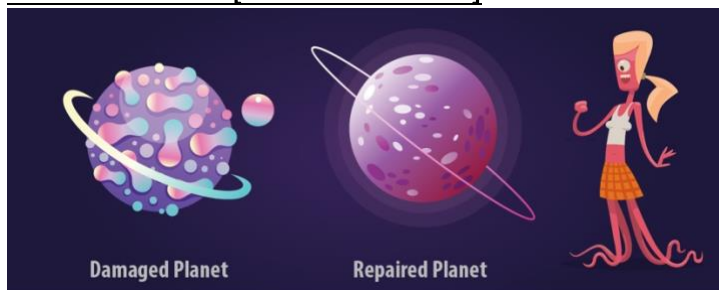
Planet Folia [New Social Situations]



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Planet Folia is a jungle world full of cat-like creatures. This world is dark and mysterious, with a lot of old temples dedicated to cat-like aliens. These aliens will challenge the Hero in new social situations throughout the world. The Hero must work to free this world from an invasive plant species introduced by the Galaxy Master.

Planet Zenuna [Self-Awareness]



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Planet Zenuna is a world full of highly evolved aliens who communicate on a higher level than most aliens. Their world is bright, colorful, and full of fantastic architectural elements. These aliens are tall and slender and have an aura of regency surrounding them. The Hero must work to free this world from a harmful oil the Galaxy Master has placed there.

Plot

Act 1: Beginning

The Hook-

The evil Galaxy Master, an alien from the enemy planet Draxon, hovers over the Galaxy scheming to threaten the existence of every planet. The Galaxy Master lets out a sinister laugh as he repeats to himself, “I will rid the Galaxy of all communication! The Galaxy will be all mine! HA HA HA...!”

Galaxy Master



From "Space Villain by KhanhCPham on Newgrounds," by K. C. Pham, 2011 (<https://www.newgrounds.com/art/view/khanhcpham/space-villain>). Copyright 2011 by Khahn C. Pham. CC BY-NC 3.0.

The scene ends (blacks out).

The next scene focus is on Earth, specifically on the International Space Academy, which is located on a secret island in the middle of the ocean. A transmission comes into the Academy from the *Cosmic Association of Universe Freedom* (CAUF). This transmission alerts the cadets' leader that the Galaxy Master is threatening all beings in the Galaxy. The message pleads for help from the Heroes to help save the other planets from the doom of the interplanetary threat. The Academy Cadets' transmissions begin to flood the communication department with reports of aliens from the furthest galaxies. They are entering the *Earth's Space Sphere* requesting asylum as their planets have been destroyed.



"Earth's Space Sphere"

From "Space colony art from the 1970s," by R. Guidice, (n.d.) (<https://settlement.arc.nasa.gov/70sArtHiRes/70sArt/art.html>). Public domain.

The Ordinary World-

Focus goes back to the International Space Academy, the head of the Utopian Space Society, where chosen Earthlings who were born with a gift of communication, the ability to establish peaceful diplomatic relationships, and inter-galaxy peace within the universe. The cadets at the Academy learn to lead the universe in these same ideals and are responsible for building bonds among the other planets and galaxies that exist through communication.



“Utopian Space Society”

The Academy members are concerned about the reports from other planets about the villain who refers to himself as The Galaxy Master. They know that his power could destroy the Galaxy, one planet at a time. With the vast size of the universe, the cadets must come up with a plan to spoil his plans. The knowledge the Academy has on the Galaxy Master is that he gains strength through the destruction of each planet. Each planet has a different method of communicating, but the aliens devised a machine that could translate their communications while the alien is on their home planet. After the first strike from the Galaxy Master, the communication systems have stopped working. The aliens will need to find a different means to communicate with their allies. The Heroes from the Academy offer to assist the other planets in sharing their language with the visitors and with the planetary organizations.

Act II: Middle

The Inciting Incident

More and more planets are becoming victim to the Galaxy Master’s evil scheme. A distress signal has reached the International Space Academy seeking help from the Heroes to help save the planets from the clutches of the Galaxy Master and his destruction. A specialized team of Heroes is assembled and set out to all the planets within the Galaxy to protect the citizens and restore peace and order to the Galaxy.

Building Conflict & Interest

The Heroes are gaining momentum and are bringing back peace and order on each planet by defeating the Galaxy Master’s evil schemes through their high skill of communication. The Earthlings are defeating threats on each planet within the Galaxy: Draotis, Indoria, Xenus, Oabos, Folia, and Zenuna. As the Earthlings enter each planet, they must use specific communication skills to defeat the threat. Because each planet contains a different threat from the Galaxy Master, the Hero must choose and use specific skills to defeat each threat. Once the threat has been successfully defeated, the Hero will advance to the next planet.

Planet Draotis

- The first level brings our Hero to the heaven-like planet Draotis. Through the use of their aviation spacesuits, the Hero must learn simple words and phrases. Filled with bird-like creatures that have created masterful cities in the sky, Draotis is threatened by poisonous clouds brought on by the evil Galaxy Master. To save the planet and rid it of these toxic

clouds, the Hero must learn to use simple communicative skills to defeat the Galaxy Master. The intense beauty and serenity of Draotis gives our Hero the want and desire to save this utopian planet.

Planet Indoria

- The second level brings our Hero to the enchanted water-based planet, Indoria. Through the use of their high-tech waterproof spacesuit, the Hero learns to communicate simple needs and wants with the fish-like inhabitants, and works to free the ocean currents, which is being disrupted by the Galaxy Master. Once the player has defeated the Galaxy Master and has saved planet Indoria, they draw a sense of relief that another planet has been saved from the clutches of the Galaxy Master.

Planet Xenus

- The third level brings our Hero to the frozen tundra, Xenus. Through the use of their high-tech thermal spacesuit, the Hero learns to communicate short phrases with the bear-like creatures that inhabit Xenus. As a planet that is known for its harmony with nature, the planet Xenus has been thrown off its harmonious balance through an evil scheme brought on by the Galaxy Master. The Hero must learn to communicate and work with the creatures to help bring balance back to the planet. For the first time, and through level three, the player can build an emotional connection with the characters through the communication skills they have learned.

Planet Oabos

- The fourth level brings our Hero to the desert oasis, Oabos. Through the use of their high-tech sand suits, the Hero must learn to communicate full thoughts with the underground inhabitants. The Galaxy Master has bestowed a powerful sandstorm over the planet, forcing the creatures of Oabos to seek shelter underground. It is up to our Hero to learn the skills needed to defeat the Galaxy Master and the treacherous sandstorm.

Planet Folia

- The fifth level brings our Hero to the mythical jungle realm of Folia. Through the use of their high-tech jungle spacesuits, the Hero must learn new social situations throughout the planet and successfully communicate with the cat-like inhabitants. Due to an invasive creature that threatens the inhabitants, the Hero must use their new skills to defeat the strange creature and bring peace back to the planet.

Planet Zenuna

- The sixth level brings our Hero to the highly intelligent planet of Zenuna. Through the use of their high-tech, state-of-the-art intelligence spacesuit, the Hero must use all the communicative skills they have learned to communicate and interact with the inhabitants of Zenuna. Due to a harmful oil that threatens Zenuna, the Hero must use their communicative skills to figure out a solution to getting rid of the harmful oil brought on by the Galaxy Master. By level six, the player is fully invested, having built a strong emotional connection with the characters and planets. This connection drives the player to want to defeat the Galaxy Master for the final challenge.

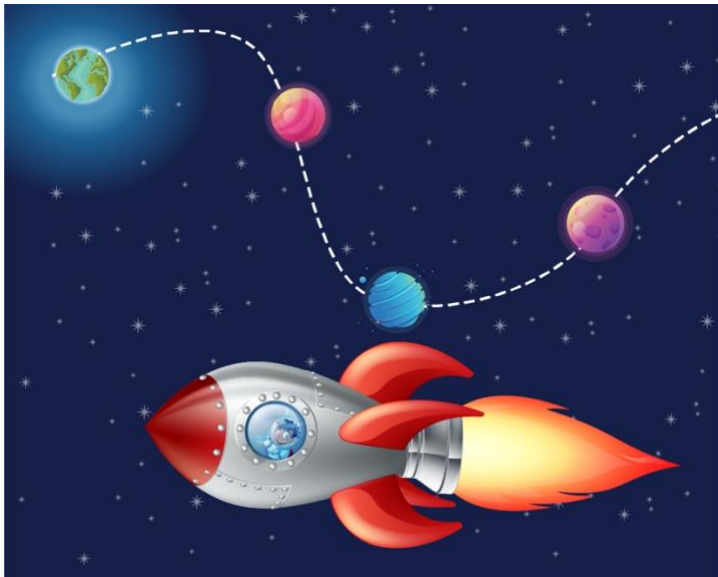
Act III: End

The Inevitable Climax

This climax is the pivotal moment that will showcase all the training the Heroes have learned. The Galaxy Master is losing control due to the accomplishments of the Earthling Cadets. In his attempt to defeat the Heroes, the Galaxy Master and Heroes enter a heated battle that will test all their skills. However, how can the evil Galaxy Master be defeated? What is the one thing he hates? Communication. As a powerful defense tool, the Heroes will use all the communication skills they can to defeat the Galaxy Master and bring back peace and order to the Galaxy.

The ending...

During the arduous battle between the Galaxy Master and the Heroes, the evil overlord was defeated, bringing back peace and order to the Galaxy. The Hero used their high level of communication to defeat the Galaxy Master once and for all, allowing all aliens the ability to return to their home planets safely. The game-ending is a video sequence showcasing the Hero's journey through the different galaxies. Each Galaxy will have a video scene where they thank the Heroes for saving their world.



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Game Play

In this section, we will be describing the primary and secondary mechanics that compose the game. This includes the interactions and relationships between the player and the characters in the game, as well as all the elements that enhance gameplay and draw the player to the story.

Primary Mechanics

Training Simulator

Stimulus

- Nova (the guide) models how to appropriately respond to each scenario.

Response

- The Hero will participate in practice scenarios in which he is wholly guided on where to touch the screen.

Consequences

- The Hero can begin the first level after training.

Hero/Alien interaction

Stimulus

- The alien initiates interaction with the Hero.
- Nova provides a hint when needed.

Response

- The Hero will touch the screen to identify the word presented and respond to the alien.

Consequences

- If the Hero responds incorrectly, they will receive immediate feedback.
 - On the first and second incorrect attempts, the alien will shake their head.
 - On the third incorrect attempt, Nova will intervene and give the Hero a hint by changing the approach of the activity.
- If the response is appropriate, the Hero will earn a coin and move to the next prompt.
- If the Hero responds correctly three times in a row, they will get three extra coins.
- When the Hero responds to all the words correctly, they will move to the next scenario.

Levels / Mastery Activity / Boss

Stimulus

- The Hero is presented with the final activity for that world.

Response

- The Hero will touch the screen to identify the specific prompts presented.

Consequences

- The Hero will have three chances to respond to all the prompts correctly.
- If the Hero responds incorrectly, they will lose a chance.
- If the Hero responds incorrectly three times, they will be transported to the beginning of the current world to re-attempt all the prompts.
- If the response is appropriate, the Hero will earn a coin and move to the next prompt.
- If the Hero responds correctly three times in a row, they will get three extra coins.
- When the Hero responds all the words correctly, they will complete the level successfully, earn a badge, and go to the new world.

Mastery of Learning Objectives

The learner will demonstrate mastery of the key skills for each planet. This mastery is demonstrated through their successful interactions in each communication scenario. Coins and badges are used to incentivize the player to strengthen their skills. The final mastery activity demonstrates the learner's ability to successfully communicate using the target skills for each level.

Moving Between Worlds

Stimulus

- Nova presents the next planet on the map that needs help.
- A quick intro movie plays on screen, then the map of the universe appears.
- Prompts will pop up on the screen for players to accurately respond to.

Response

- The Hero clicks a button to start the next adventure.
- Response feedback is provided in visual, auditory, and tactile forms.

Consequences

- Hero moves to the next world.

Secondary Mechanics

Earning Badges

As the player completes each world, they will be awarded unique badges for successful completion of the world. These badges can only be earned once during the game.

Unique badges from each world (Cadet profile):

- **Space Badge:** received upon successful completion of the training simulator
- **Gravity Badge:** received upon successful completion of Planet Draotis
- **Aqua Badge:** received upon successful completion of Planet Indoria
- **Ice Badge:** received upon successful completion of Planet Xenus
- **Desert Badge:** received upon successful completion of Planet Oabus
- **Jungle Badge:** received upon successful completion of Planet Folia
- **Galaxy Badge:** received upon successful completion of Planet Zenuna AND defeating The Galaxy Master

Turning in Coins

Players may earn coins for successfully communicating with aliens and working through different interactions. These coins will also appear in other areas of the game as incentivization tools for the player. Furthermore, the player can return to previously completed planets to earn additional coins through repeating interactions. Coins are used in the closet area for the following items.

Closet Area:

- **Space Suit** (The Space Suit is essential for the Hero to survive on each planet, the Astronaut Suit's color/pattern is customizable. All other suits cannot be changed, but they can be purchased by the Hero with their coins.)
 - **Astronaut Suit: Free** (White suit with blue lining; available at the beginning of the game)

- **Star Suit: 10 coins** (White suit with a star pattern; available after successfully completing Planet Draotis)
 - **Sun Suit: 10 coins** (White suit with a sun pattern; available after successfully completing Planet Indoria)
 - **Meteor Suit: 10 coins** (Black suit with a meteor pattern; available after successfully completing Planet Xenus)
 - **Moon Suit: 20 coins** (Black suit with a moon pattern; available after successfully completing Planet Oabus)
 - **Planetary Suit: 20 coins** (White suit with different planets; available after successfully completing Planet Folia)
 - **Galaxy Suit: 30 coins** (White suit with a galaxy pattern; available after successfully completing Planet Zenuna)
 - **Supernova Suit: 30 coins** (Black suit with a multicolored pattern; available after successfully completing Planet Zenuna)
- **Accessories**
 - **Helmet 5 coins each** (The helmet is another essential accessory for the player to help survive on each planet, however the player can use their coins to “purchase” new and exciting accessories for their helmet. The helmet is unique to each player and can be customized to their liking throughout the game.)
 - Cat Ears
 - Dog Ears
 - Bunny Ears
 - Mohawk
 - Unicorn Horn
 - Horns
 - Crown
 - Tiara
 - Bows
 - Flowers
 - **Space Suit 5 coins each** (Accessories can be added to the space suit and colors are customizable)
 - Bat Wings
 - Angel Wings
 - Butterfly Wings
 - Short Cape
 - Long Cape
 - Arm Bands
 - Wrist Bands
 - Belts
 - Fox Tail

Fun & Engaging

In paper prototyping, the story engaged audience members in the targeted age group. The story elements were presented to the test subjects in a condensed manner. The stage was set with a short discussion about how to communicate without using words. After this discussion, the test subjects were inducted into the Cosmic Communicators as astronauts. They were also shown the paper prototype of the Cosmic Communicator and the guide Nova. At this point, they were introduced to the Galaxy Master and his minion Swampy. Both characters were provided as paper prototypes to help them visualize the characters. Once the characters were set, the planet of Draotis was introduced to the subjects. It was explained the Galaxy Master is polluting the planet and causing the once beautiful world to look dark and bleak.

The subjects played several rounds of the first planet and demonstrated the ability to play the game without issues. Furthermore, the subjects expressed genuine intrigue to the story and how they would save the planet. This intrigue demonstrates a willingness of the players to want to help save other planets and aliens. Using the concept of finding their inner voice resonated with the users, as they were curious about the alien language and how they might sound.

The elements of play (stimulus, response and consequences) are applied throughout the game. The stimulus and response elements are present on each planet and within each interaction the players will encounter. Furthermore, the element of fun and intrigue is intertwined throughout the story. The various tools that are included in the game encourage the player to spend more time playing. It keeps them engaged while having fun at the same time, trying to constantly earn more coins and badges to adapt their avatar to their preferences. Because it is fun, the player will spend more time on the tasks in order to complete them, inevitably learning at the same time. Consequences are also part of the game but minimized to encourage learning and avoid high levels of frustration.

Game Goals

In the following section, we define the game goals and the different ways of establishing these. Due to the variety of our target population, the goals for the game can be tailored to their needs with specific instructions mentioned in this section. The overall purpose of this is to make the interactions more fun and entertaining for the player, while maintaining the adequate learning process.

Overall Game Goal

Help non-verbal students develop communication skills using images.

Who sets the goals: This could be a speech pathologist, special education teacher, classroom teacher, or parent? They could also be set by a collaboration of any or all these people as part of the child's Individual Education Program.

Game Goal Settings

- Select the “**Goal Progress**” button under the name of the child’s account that you would like to set a goal for.
- Click on “**Set Goal**” and choose the number of questions/words/phrases that you would like your child to complete and the percentage needed for mastery
 - Goals can be set to require the child to redo the whole planet activity or restart the single activity
 - Number of attempts can also be customized between 2-4 before initiating a restart of the activity or level
- Once your child has completed their goal, you will receive an email saying that your child has accomplished the goal and that you can send them a reward. This should show the goal amount and display the child’s name.

Monitoring Goals: Select the “**view progress**” button under the name of the child’s account

- **The Goal Dashboard:**
 - **Student View** will provide information when the learner is playing the game
 - These goals will include:
 - The number of tasks needed to be complete to move to the next section (target goals: words, phrases, character interactions, etc. Set by the game and the educator)
 - Type of task that will show the learner has mastered the goal.
 - Quick access via a widget in the form of a bar. This will show the learner the amount of progress made toward the goal and the amount left on the bar before the task is complete.
 - The learner will receive in-game mail after a goal has been set
 - After you have provided the reward, you’ll be prompted to set another goal for your child and your child will receive an in-game mailer with the reward.
 - **Educator/Parent View:** Will provide information when the learner is playing the game
 - How many goals were assigned and by who?
 - The number of goals attempted by the player.
 - The number of goals was completed, along with measurable information of the data collected.
 - When you create a goal, you will have the option to set the number of questions to complete
 - To view their progress during this time, just come back to the Goal Page to see how things are going.
 - After you have provided the reward, you’ll be prompted to set another goal for your child, and your child will receive an in-game mailer with the reward.

Game Tools

In this section, we will describe the tools the players can use during the game to support and enhance their gameplay. Due to our target demographic, the tools will work as an incentive and as a prize. These will not be affected in any way if the player is not successful; once they have earned them, they can use them without repercussions. With this approach, we will encourage the player to keep collecting the items and not feel frustrated or stressed about losing them.

Closet

The Closet is “the Hub” for all the space suits the player will need and use during their mission. The player can access the Closet at any point to use their coins to obtain new suits or accessories.



Coins

Coins (image above) can be earned to purchase different items. These items will allow the player to customize their avatar in order to interact with the aliens according to the planet that they will be playing.

Earning Coins: These are earned by successfully communicating with the aliens.

- Each correct answer gives the player one coin.
- When the player responds correctly three times in a row, they earn three extra coins.
- Players can earn additional coins by repeating or re-playing planets they have already saved.

Using Coins: Coins are used in the closet area, exchanging them for the following items:

- Star Suit: 10 coins
- Sun Suit: 10 coins
- Meteor Suit: 10 coins
- Moon Suit: 20 coins
- Planetary Suit: 20 coins
- Galaxy Suit: 30 coins
- Supernova Suit: 30 coins
- Helmets: 5 coins each
- Space Suit Accessories: 5 coins each



Badges

The player will earn badges (image above) that will allow them to advance to the next planet. Badges are displayed on the Spaceship, allowing the player to view the badges they have earned, as well as the empty spaces for the badges they still do not have.



Backpack

The player is automatically given a backpack (image above) at the beginning of their mission. The backpack can be accessed at any point to obtain and store coins, their map, and badges.



Map

The player is given a map (image above) at the beginning of their mission that details the landscape of each planet. As the player progresses through each planet, different areas of the map are unlocked. The player can access the map at any point to determine their location.



Helmet

The helmet (image above) is an essential accessory for the player to help survive on each planet; however, the player can use their coins to “purchase” new and exciting accessories for their helmet, or to purchase a new helmet altogether. The helmet is unique to each player and can be customized to their liking throughout the game.

Game Rules

In this section, we will outline the operational and constitutive rules needed for the player to accomplish the specified goals and navigate the game. These will help the player understand the mechanics and overall interaction with the game and different components.

Operational Rules

1. The player must successfully complete the Training Simulator before gameplay begins.
2. The player must successfully complete each interaction with the aliens, with no skipping interactions.
3. At the final boss/activity for each planet, if the player responds incorrectly three times, they will be transported to the beginning of the current planet to re-attempt all the interactions.

Constitutive Rules

1. The player can only visit opened planets, achieved by completing individual planets.
2. The player may return to Earth to repeat the Training Simulator.
3. Players may return to a previously played planet to earn additional coins.
4. The player can only earn bonus coins after three consecutive successful interactions.
5. Badges for successful completion of the world can only be earned once.
6. Special spacesuits only unlock after the successful completion of a world.

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Appendix

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