



Final Documentation



Contents

Executive Summary	2
Objective	2
Story	4
Choosing Characters	4
Characteristics of Main Character (alien)	5
Development of Character Name	5
Development of Storyline	6
General Storyline for Other Planets	6
Special Planet Features	10
Interactions	12
Mini-games	12
Interactive Elements	13
Potential Additional Interactions	14
Reusable Interactions	15
Art	16
Art Design	16
User Interface (UI)	17
User Experience	21
The Epic	21
Userflows	22
Sound	24
Narration	24
Background Music	24
Marketing	25
Branding	25
Monetization	25
App-store Description	26
Technical Details	27
Development	27
Software Details	27
Testing	28
Conclusion	30
Appendices	31





Executive Summary

On September 9th, the design jam project from the Centre for Digital Media began. It was a 48 hour project, where the cohort were divided into eight teams and built eight different museum installations to create an entire museum experience. This museum was about the solar system and universe, and targeted towards children from ages 6 to 12. However, teachers, parents, and grandparents would also visit the museum with their kids.

Our team quickly decided to build an installation that teaches children about special features of the solar system's eight planets in a fun way. During the ideation process of how we could deliver information in a fun and kid friendly way, one idea came to our mind. Planets are round, and ice cream is round. Thus, using leap motion technology, we decided to make eight planets look like an ice cream scoops and when children put the ice cream inside the cone, information about that particular planet would be displayed. The museum jam was a success; however, we noticed that people were only interested in playing with the leap motion, and were not paying attention to the information that was delivered through audio. With this in mind, we decided to create a motion graphic that taught children about the special features of the planets in a cartoony manner. When people put the planet on the ice cream cone, a motion graphic about that particular planet was displayed.

This motion graphic idea allowed us to rethink about the possibilities of this project. We saw a potential for this installation to be a children's interactive book, where people could take this outside of the museum to their home, or other places, and learn about planets without realising it. In addition, it was difficult to build a product with the original leap motion idea, as not every potential users possesses leap motion technology, which would severely limit our market reach.





Objective

To build a mobile app based storybook with interactive elements to engage children and educate them about the solar system.



Yejin Kwon
Project Manager



Churong (Rena) Guan
Art Director



Clayton Hebenik
UI/Graphic Designer



Jong Jik (JJ) Kim
Technical Art Director



Luke Li
Lead Developer



Sandeep Saha
Lead Developer





Story

Astro and Max: Save the Solar System is the original story we developed through research and user testing. Our team has gone through many brainstorming stages, starting from choosing what our main character and a pet that will be accompanying our main character will be to the actual storyline.

Choosing Characters

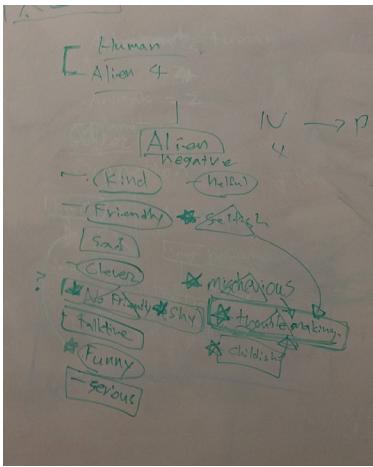
An alien was chosen as the main character because it was easy to make it a more gender neutral character and gave us greater creative freedom for experimenting with characteristics and features.

We also put significant thought and time into deciding on the pet that is accompanying the main character. There were several options such as a dog, cat, and rabbit. However, we decided to go with the monkey as it was the first human like animal that travelled to space. If Max's background story were developed one option to explain his existence on an alien world might be that he was lost in space in early earth space flight experiments and wound up on the alien's planet. An alien was chosen as the main character because it was easy to make it a more gender neutral character and gave us greater creative freedom for experimenting with characteristics and features.

We also put significant thought and time into deciding on the pet that is accompanying the main character. There were several options such as a dog, cat, and rabbit. However, we decided to go with the monkey as it was the first human like animal that travelled to space. If Max's background story were developed one option to explain his existence on an alien world might be that he was lost in space in early earth space flight experiments and wound up on the alien's planet.



Story



Characteristics of Main Character (alien)

As shown in the picture, we listed out all possible characteristics that an alien could have. Then, positive characteristics were marked with circle, negative characteristics were marked with triangle, and neutral characteristics were marked with rectangle. Then, star was drawn to mark the possible characteristics of the main character, alien. The final characteristics we decided on for the main character were: funny, selfish, mischievous, trouble-making, childlike. Not all of these made it into the final version of the story design, but most informed the character design in some way.

Development of Character Name

Originally, we planned on including a feature in our interactive storybook where the users could give a name to the main character to make it more relatable. However, to create an opportunity to build a brand around the characters and create multiple storybooks with them, we decided to give the character a name.

Our team decided to use the gender neutral name for our alien character, as we wanted to build a strong connection between the character and children. Children are very fast in developing their gender identity, and we thought if we gave a definite gender to the character, it may influence children's connectivity with the character.

Thus, our team searched gender neutral name related to space a space theme. Choices we came up with were Max, Aron, Helo, Aero/Aro, Helo and Helix. All of our team members agreed that Max is a great name for the monkey.. For the alien, there were many great names, and thus our team prepared a quick online survey to ask people's preference on the name. During the survey procedure, we noticed that most people did not really prefer any of the 5 options. However, there was a great suggestion of the name Astro, which most people liked, and all of our team members agreed with. Therefore we named the main character Astro.





Story

Development of Storyline

To come up with a storyline, our team did a lot of background research on children's books. We visited the Mount Pleasant location of the Vancouver Public Library, and interviewed the librarian on what kind of books are popular among children from age 6 to 8.

Currently, our team has developed a full storyline for the story introduction and visiting Neptune, and a general storyline for the other seven planets. For the introduction and Neptune, we have tested with several parents and teachers in Early Childhood Education. Repeated comments we received were to make the words as simple as possible, because children may get confused with complex words and they are impatient when trying to read difficult words. After going through three iterations, we simplified the vocabulary and reduced the amount of words in our story, and represented it in a more visual manner.





Story

General Storyline for Other Planets

Uranus

"Uranus, Uranus! Have you seen a huge missile flying near here?", asked Astro.
"I did but the missile flew so close it tilted me upside down, can you flip me back around so I can see the sun, then I will tell you where the missile has run", said Uranus.

Saturn

Saturn looked very concerned and Astro was worried.

"Hi Saturn. What's wrong? You look very sad and worried", asked Astro.

"Hi Astro. My rings went missing. I don't know where it went", said Saturn.

"Oh no! I will go look for it!", said Alien.

Astro started searching for a ring, and finally, he saw a star playing with the ring!
"Hi star! That ring belongs to Saturn! Saturn is very sad right now because his ring went missing. Please return that ring to Saturn", said Astro.

"Hi Astro. I'm sorry. It just looked so pretty, so I justed wanted to touch it once. I will return it to Saturn right now!", the star apologized. Then, Astro and Star went to return to ring to Saturn.

"Thank you Astro and Star! And Astro! I heard that you were looking for a missile! I saw it going towards Jupiter! He might know more about it!", said Saturn.
Saying thank you, Astro flew towards Jupiter.

Jupiter

When Astro and his cute monkey arrived at Jupiter, they saw 67 moons crying.

"Hi moons. Why are you crying?" asked Astro.

"Jupiter needs to spin really fast, but he is not spinning! He is sleeping!", said one of the moon.

"Yes! Jupiter is supposed to be the fastest spinning planet in our solar system, but he is not waking up from his sleep!", said another moon.





Story

General Storyline for Other Planets (cont.)

(Some kind of activity)

Finally! Jupiter woke up! The moons were so thankful to Astro and said, "Thank you for helping us Astro! I saw a huge massive red and white object flying towards Mars! May be this is what you are looking for! Mars is the red planet right next to Jupiter"

Astro and Max quickly headed to Mars.

Mars

When Astro and Max reached near Mars, they saw Mars looking very depressed. Astro asked, "What's wrong Mars? You look so depressed."

"I am too clean". Mars replied.

"What? You are sad because you are too clean?" Astro was confused.

"Yes.. I used to have lots of dust storm. But for some reason, I don't have any now", replied Mars.

"Oh don't worry Mars. Making dust storm is my speciality!" Astro replied with full of confidence. Astro started jumping on the mars and running around and finally, created dust storm!

Happy Mars thanked Astro, and told him that he saw a missile moving towards the Earth. Quickly getting onto the spaceship, Astro and monkey flied to the Earth.

Earth

"Hi Earth! I heard that a giant missile flew near here! Have you seen it?" asked Astro.

"Oh hi there Astro. Yes, yes I have seen it! But you know what? I am the only planet that has liquid water in the surface. Also, I have tons and tons of humans living on me! I have ocean, land, trees, and also, tons and tons of animals!" Earth continued on and on.





Story

General Storyline for Other Planets (cont.)

"Wait, wait Earth! I need to find the missile right now! If I don't, it will crash into one of the planets, and the entire universe will be destroyed!! Please tell me where it went!"

"Whhaaat?? The universe will be destroyed?? Oh no oh no! It went towards Venus! Oh no, I can't die like this!!" and on and on, Earth continued.

Leaving behind the Earth who didn't stop talking, Astro has to go to Venus, because the time was running out!

Venus

Reaching Venus, Astro asked, "Hi Venus, have you seen an enormous missile flying near here? I need to find it!"

"Hi Astro. I am so hot right now. I can't think. I am the hottest planet. Please help me!!" Venus asked for help.

(Astro helps Venus cool down a little by delivering ice from Pluto)

"Thank you Astro. I think I saw it flying towards Mercury! Mercury should be able to help you!" Said Venus.

Astro and Max quickly left to Mercury. There wasn't much time left!

Mercury

Mercury was the smallest planet out of all eight planet Astro saw. It looked quite lonely since there was no moon accompanying him. Astro thought he wanted to become his friend, but right now, he didn't have much time left.

"Mercury, mercury! Have you seen a gigantic missile flying near here? I have no time left. I need to find it!"

"Hi Astro. Its right over there!" Mercury pointed to the far left end of the space.





Story

General Storyline for Other Planets (cont.)

Conclusion

"Oh I finally found it!! But what am I supposed to do?" Astro and Max was so frightened.

"I know what you have to do! Grab the missile with your spaceship, and throw it towards the Sun! Sun will take care of it!" said Mercury.

Listening to Mercury, Astro flew near the missile, and tried to grab it with the spaceship's leg. Missile was so strong and speedy that it drag the spaceship. But, finally, the alien got the control of the missile, and threw it towards the Sun! Due to the Sun's heat, the missile exploded leaving a roaring sound! Missile is destroyed now!

"Thank you so much Mercury! Without you, I wouldn't have been able to deal with that enormous missile!" said Astro.

Now, the universe recovered its peacefulness, and Mercury, Astro, and of course, Max, became good friends.

Special Planet Features

The following tables illustrate types of planet features our team would like to teach throughout the interactive storybook.





Story

	Mercury	Venus	Earth	Mars
Primary	Smallest Planet	Hottest Planet	Only planet that supports life	
Secondary	Closest to the sun	Similar size to earth, Spins opposite direction relative to other planets	Only planet with liquid water	Almost no atmosphere, Fourth from the sun
Extra	One day is longer than its year	Average temp = 462°C		Probably had liquid water a long time ago, There is an asteroid belt between earth and mars

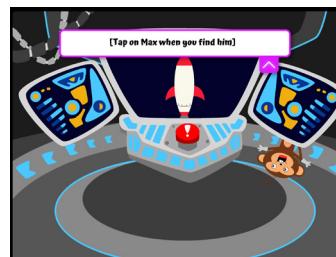
	Jupiter	Saturn	Uranus	Neptune	Solar System
Primary	Gas giant (no solid surface)	Has rings	Tilted on its side	Coldest Planet	Order of planets
Secondary	Has a giant storm, Largest planet	18 moons		Strongest Wind, Furthest From the Sun	There are multiple solar systems
Extra		Average temp = 462°C	First planet discovered using a telescope	Largest moon is called Titon, Average temp = -214°	There are planets around most stars



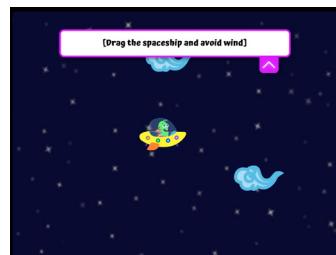
Interactions

Mini-games

The introduction and Neptune episode from Astro and Max: Save the Solar System contains three mini-games in total. They are the hide and seek game, wind game, and dress up game.



For the hide and seek game, users are asked to find the monkey and tap on it. In the end, Max is on the dangerous red button, nudging players to touch the button. In this way, users will be able to feel more connected with the story, being the part of the trouble making process.



For the wind game, the objective is to teach users that Neptune has the strongest wind in our solar system. Users are asked to help Astro and Max to navigate through the strong wind.



Lastly, for the dress up game, the objective is to teach children that Neptune is the coldest planet in the solar system, as it is the furthest planet from the sun. When users first tap on either the hat, scarf, or glove icon, those items will slide in and put onto Neptune. After, the icon will change to arrow button, and the players can tap on it to choose their preferred design of hat, scarf, and glove.



Interactions

Interactive Elements

Following are the interactive elements for each shots:

Scene #	Interactions	Purpose
1	speaker button play button	To turn on or off the narration To start the story
2	Tap on ball	Teach player about tapping based interactions in the book
3	Tap Astro to make it jump on the bed	Fun
4	Tap on the picture frame on the wall, and it shakes	Fun
5	No interaction	N/A
6	Tap rocket, and it shakes Tap spaceship and it glows Tap on front large windows and it glows Tap Astro and Max, and they turn back	Fun
7	Tap on the red button, and shows word "Keep Away!" on the screen Tap on small buttons on the monitor and it glows Tap Astro & Max, they turn around with happy face	Fun
8	Hide and Seek Game - tap monkey and disappear	To help users feel more connected to the game and be included in the trouble making process
9	Tap rocket and fly off	Fun
10	Tap background and whole screen shakes	Fun
11	Tap windows, and it glows Tap fire and it grows bigger	Fun
12	Tap on the spaceship and it shakes even more	Fun
13	Tap all the planets and it displays the name of that planet Tap Neptune, goes to next page Tap indicators (meters) on the control panel, and they spin	Teach each planet's name and order To lead to Neptune's episode Fun
14	Tap on Neptune, Triton, Uranus and it shows their name	To teach name of the planets and the name of Neptune's moon Triton, as well as the fact that Triton is the largest moon in Neptune.
15	Wind game - drag the spaceship to navigate through the wind	To teach that Neptune has strongest wind in our solar system
16	Tap Neptune, and shows temperature of Neptune and Earth	To teach Neptune's temperature in comparison with the Earth
17	Tap Neptune and it shivers Tap moon and it shakes	To teach that Neptune is the cold planet Fun
18	No interaction	N/A
19	Dress up game - tap left or right of top, middle, and bottom part of neptune and it changes clothes	To teach that Neptune is a very cold planet
20	Tap moon and it shakes Tap hand and points	Fun To guide Astro and Max to Uranus
21	Tap hand and it shakes	Fun





Interactions

Potential Additional Interactions

Scene #	Interactions	Purpose
2	Tap Alien and Monkey to show text bubble, and reach dialog	Introduce the name and voice of Characters
3	Tap monkey to make monkey also Jump Tap the Window to close the window Drag Pillow around to throw it away	Show the personality of the Characters
4 & 5	Tap Monkey and Alien to trigger voiceover for "Sorry" dialog Tap Mother to trigger voiceover for "get out" dialog	Enforced the personality of character
7	Tap on Chain, it shakes Tap on screen, shows the image of the planets	Extra Education Information
9	Tap Main Screen, Show the Neptune pictures Tap Left Screen, Shows how cold is Neptune Tap Right Screen, show How long it takes to go to Neptune	Enhanced Story
10	Tap Button on the control panel, It Glows in red	Fun
12	Tap on the spaceship and it shakes even more	Fun
13	Tap on Handle to push the handle Tap photo to shake it Tap Button on control panel to make it glow	Engaging
14	Tap spaceship, it shakes	Fun
16	Tap spaceship to shake it	Consistency
18	Tap moon's hand to move hands Tap spaceship to shake it Tape Neptune to shake it	Consistent





Interactions

Reusable Interactions

Scene #	Reusable Interactions
1	speaker button Play button
4	Tap on the picture frame on the wall, and it shakes
6	Tap rocket, and it shakes Tap spaceship and it glows Tap on front large windows and it glows Tap Astro and Max, and they turn back
7	Tap on small buttons on the monitor and it glows Tap Astro & Max, they turn around with happy face
9	Tap rocket and fly off Reuse by making other elements take off or move when tapped
10	Tap background and whole screen shakes
11	Tap windows, and it glows Tap fire and it grows bigger
13	Tap all the planets and it displays the name of that planet Tap indicators (meters) on the control panel, and they spin
14	Navigate the Spaceship Reuse by navigating the Spaceship through other obstacles in space
16	Tap Neptune, and shows temperature of Neptune and Earth Reuse by showing other information on other planets
17	Tap Neptune and it shivers Tap Planets and it shakes
21	Tap on shaking hand and it points





Art

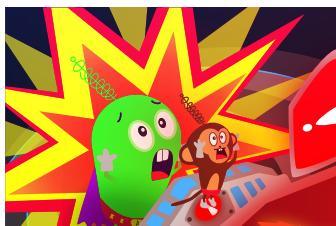
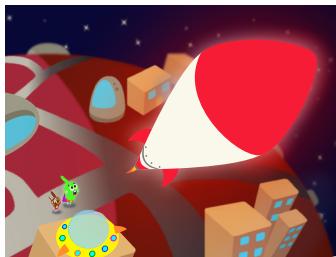
Art Design



In terms of art style, neon colours and cartoony styles without outline was chosen through user testing with children. To maintain the cartoony and childish feel, we've used round edges when illustrating the storybook. To maintain consistency in art production process, the Art Department was divided into three sub teams: design, vector, and colour. When the design team completes hand drawing the assets, vector team creates vector using illustrator. After, the colour team receives it and applies colour onto the vector. After, those assets are all compiled together to create a shot, and glow and depth are added.



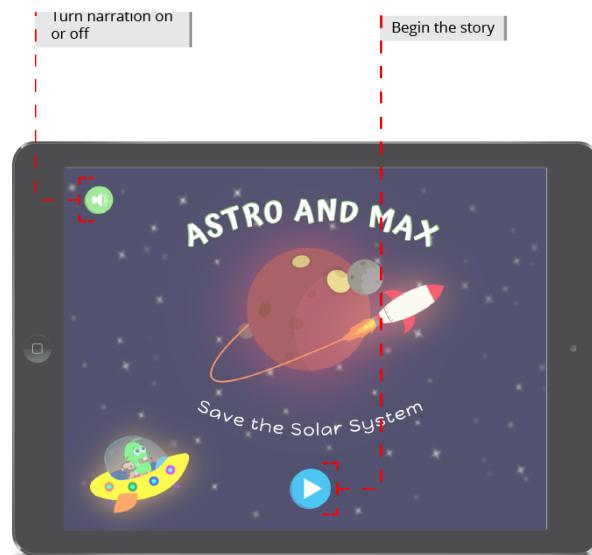
Currently, there are five different characters: Astro (Alien), Max (Monkey), Mother Alien, Neptune, and Moons. In addition, there are two main objects: spaceship and rocket. Lastly, there are four main backgrounds: bedroom, exterior house, control station, and spaceship interior. Further information about art style can be found in Art Style Guide.





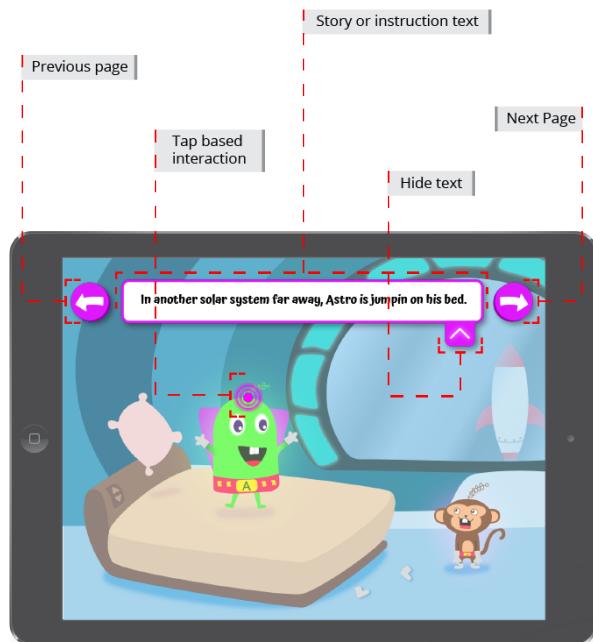
Art

User Interface (UI)



The home screen has an extremely minimal interface to reduce confusion. In the top left is a button turn the narration on or off (visual feedback indicates the status), and in the bottom middle is a play button, which begins the story. Even if inexperienced users are unsure what these buttons mean, they should be able to learn very quickly because of the limited options.

The story screens contain two major interface elements, the navigation buttons, and the narration text box. An additional minor button, allows the user to hide the narration text box if they'd like to view more of the screen.





Art

User Interface (UI)

Colour:

The colour choices for the UI are based primarily around remaining within the theme of the existing colour space, and standing out from colour scene that will be behind.



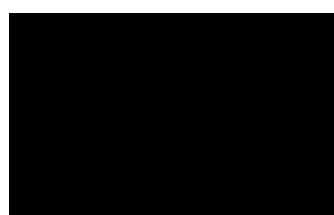
Web	#DF19FF
CMYK	38.81.0.0
RGB	165.82.160

Used for navigation buttons that appear on every page. High contrast with other colours in the story so it always stands out.



Web	#FFFFFF
CMYK	0.0.0.0
RGB	255.255.255

Used for navigation icons colour and for story/instruction text background colour. Contrasts with almost all colours in the background.



Web	#000000
CMYK	75.68.67.90
RGB	0.0.0

Used for story/instruction text. High contrast with white so that text is readable.

Button Style:

We used a round buttons with a one third bevelled edge to create the illusion of a three dimensional object that looks like button that could clearly be pressed. For icons we tried to use cartoony graphics with a bit of a "hand-drawn" feel to connect more to the overall fun and exciting feeling of the story.





Art

User Interface (UI)

Position:

The story book navigation and narrative text was placed at the top for two primary reasons:

1. To avoid obstructing the main action on the page
2. To avoid children accidentally pressing buttons at the wrong time if they are holding the ipad along the bottom of the screen

The Prev/Next buttons were placed on the sides to avoid accidentally tapping the wrong one and make it clear that pressing one would be forward or backwards between pages. We experimented with various other placement for the navigational arrows, but settled on keeping them with the narrative text for consistency, and because these the height of these elements obstructs about 13% of the screen real estate and we wanted to limit that obstruction to one area as much as possible so that it would be easier to accommodate in the visual design.

Button Details:



Max size:	105x105px
Min size:	50x50px
Relative size:	10% screen width x 14% screen height

We used arrows to indicate previous / next so that the meaning would be immediately clear even if a child is reading the book alone and is not a skilled reader.



Max size:	57x47px
Min size:	40x33px
Relative size:	9% screen width x 10% screen height





Art

User Interface (UI)



Max size: 100x100px
Min-size: 40x40px
Relative size: 9% screen width x 13% screen height

We used a speaker with sound waves to indicate that the sound is on, and without sound waves to indicate off. We tested the speaker icon against a microphone and decided on a speaker because in the future we envision the button controlling both narration and sound effects, and our user test results indicated a microphone signified only voice and not sound in general.



Max size: 100x100px
Min-size: 40x40px
Relative size: 9% screen width x 9% screen height

Icons indicate which category of clothing the buttons control



Max size: 80x80px
Min-size: 40x40px
Relative size: 8% screen width x 10% screen height

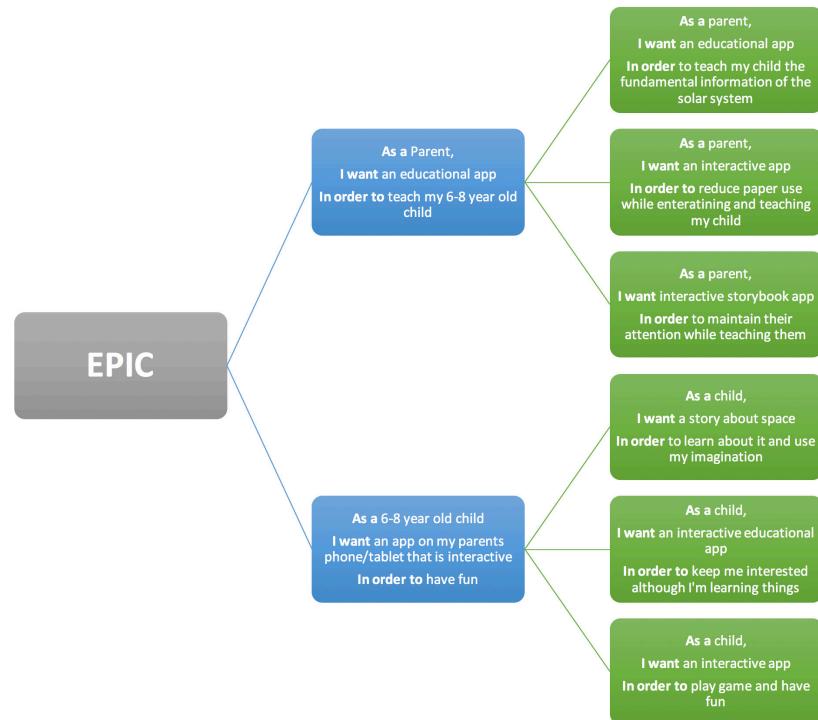




User Experience

The Epic

A collection of potential user stories for the application:



User Flows

We discussed and tested to arrive on what the best flow for users navigating through the interactive story book would be. We used decision trees to communicate what the flow would look like with a description of each scene the user will view, and key interactions that they may encounter.

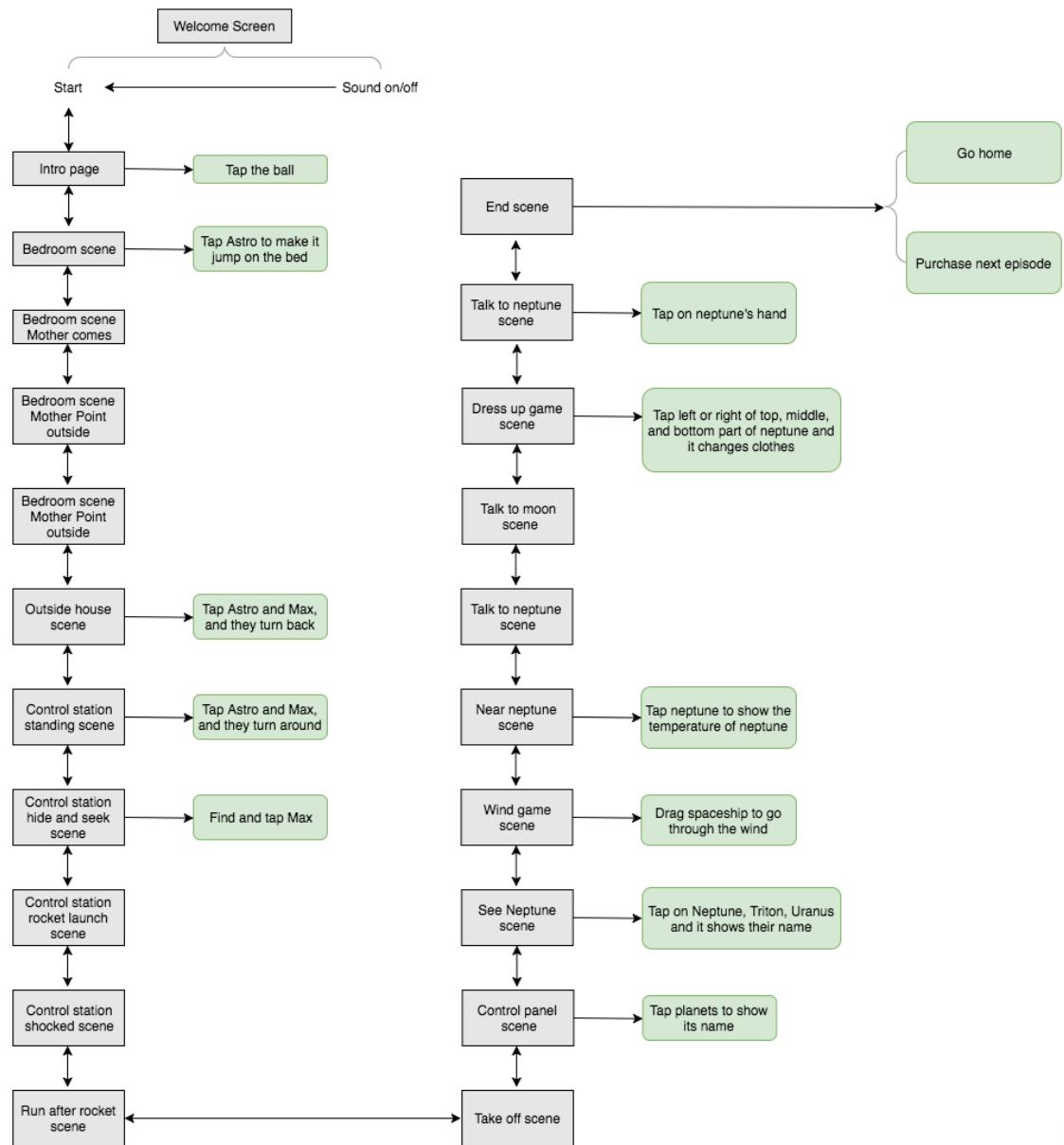




User Experience

User Flows

Overall storybook flow:

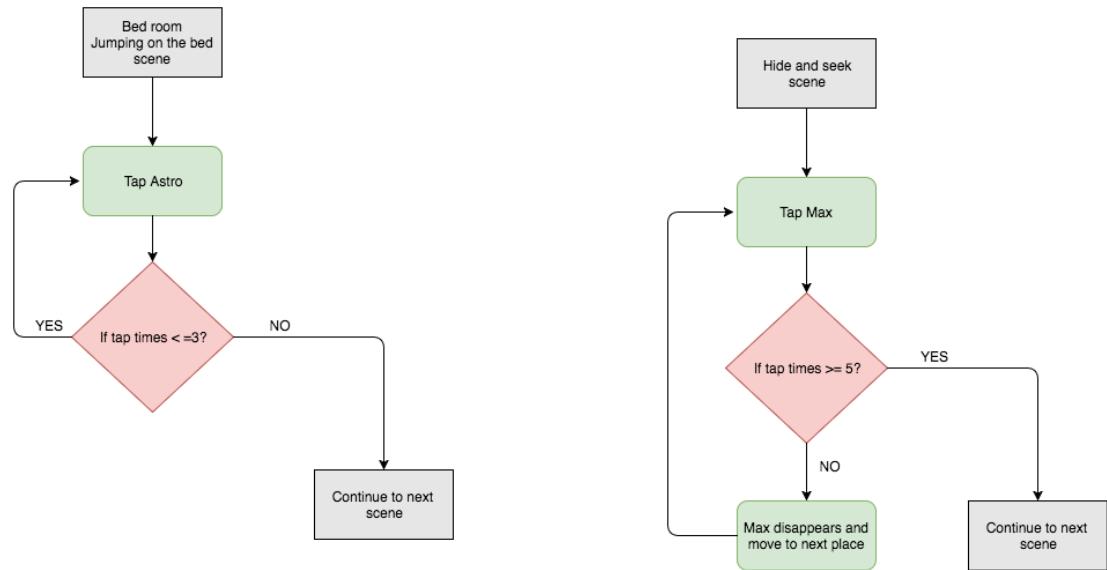




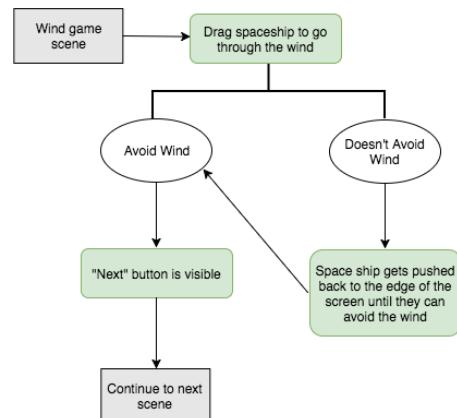
User Experience

User Flows

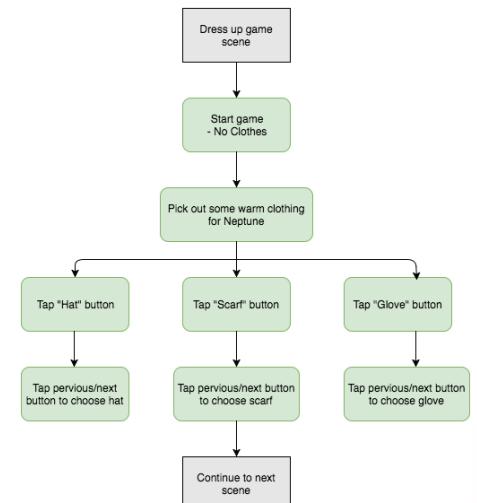
Jumping on the bed mini-game flow: Hide and seek mini-game flow:



Wind mini-game flow:



Dress-up mini-game flow:

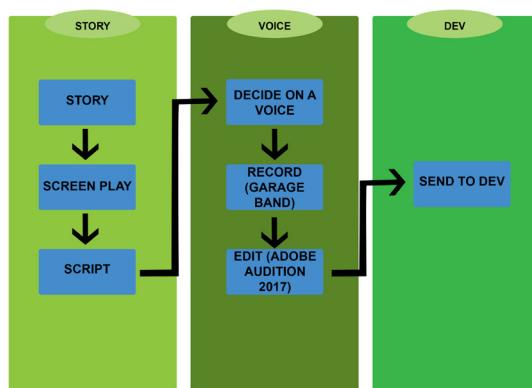




Sound

Narration

Narration voiceover production pipeline:



Voice acting credits:

Character	Actor
Narrator	Clayton Hebenik
Astro	Sandeep Saha
Max	Yejin Kwon
Mother	Rena Guan
Neptune	Clayton Hebenik
Triton	Clayton Hebenik

Voice was first recorded in the soundroom located at Centre for Digital

Media. The software used for recording was Garage Band. After, it was exported as an mp3 file, and was edited using the Adobe Audition version 2017, using Macbook Pro (Retina, 15-inch, Mid 2015).

When the voice was first recorded, each character was in a single file. After, using Adobe Audition, unnecessary sounds were muted, and was separated into multiple files depending on the shot.

Background Music

Background music is from Online Royalty Free Music Resources. It's a soft and mellow ukulele music which fit for a cute children's story. The music is free to use as long as it be credited. The link is below: <http://www.bensound.com/royalty-free-music/track/cute>





Marketing

Branding

Our team has created a production company logo as well as Astro and Max logo. This will allow us to brand both our production company as well as the interactive stories featuring our characters, Astro and Max.



In the future an entire world could be based around the Astro and Max brand with multiple stories about their misadventures and learning experiences. More details about branding are available in the Branding Identity and Guidelines document.

Monetization

Our product will follow freemium model. Initially, the introduction and first episode (Neptune) will be free to download. After grabbing the customer's attention through the use of interaction, educational information, and mini-games, the other seven episodes will be available for purchase¹. The introduction of the story, and Neptune will be free for everyone. However, in order to proceed to next episode, customers will have to purchase it. There will be a total of seven episodes available to purchase: Uranus, Saturn, Jupiter, Mars, Earth, Venus, and Mercury. Each episode will be CA \$2.59. The price was based on our research; we found that the average price for the children's application is around \$3.86. Thus, we chose a slightly lower price as it will be episodic, and episodes will be released and available for purchase separately. As an incentive to purchase more than one episode, if the customer purchases all seven episodes at the same time, they will receive one episode for free.

¹ Some examples of games and stories that use a freemium model are *Walking Dead* by Telltale Games, and an interactive storybook, *The Witch With No Name* (Appendix C)





Marketing

App-store Description



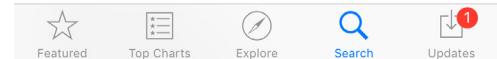
iPhone



Description

Astro and Max: Save the Solar System is an educational Interactive Storybook that engages children and educates them about the solar system.

Help Astro and Max find the rocket before it blows up the galaxy!
[...more](#)



Description

Astro and Max: Save the Solar System is an educational interactive storybook that engages children and educates them about the solar system.

Help Astro and Max find the rocket before it blows up the galaxy!

Explore our solar system! Meet and interact with all 8 planets!

Find out the special features of planets in our solar system! How many moons does Neptune have? How cold is Neptune? How hot is Venus? Explore the mysterious universe and become a superhero!

The mischievous alien, Astro, accidentally presses a dangerous red button that launches a rocket! Astro and Max will need to find it and stop it before it blows up the galaxy! Astro will need to get help from 8 planets in our solar system to stop it! Through this journey, kids will learn about special features of each planet with Astro!

KEY FEATURES:

- *Kids aged between 6 and 8
- *Track the rocket
- *Talk to each planets and ask for help!





Technical Details

Development

Our interactive storybook was created using Adobe Animate CC (Flash). We chose to work with this for the following reasons:

Pros:

1. Because it is an interactive storybook which contains a lot of animations, Flash makes it easier to handle and make animations.
2. Flash can prototype each shot quickly and easily.
3. Flash can easily export the executable file to different platforms.
4. Despite the fact that Flash consumes a lot of processing power and may make a complicated application lag, the application is small.
5. Flash has a library to handle all the touchscreen input.
6. Flash can easily work with Adobe Illustrator which we used to create the art assets for the interactive storybook.

Cons:

1. It's hard to expand it furthermore, like adding more interactions and animation in one shot.
2. It gets laggy when the application gets too complex.
3. It's hard for multiple developers to cooperate with each other since there is only one file, and it is compact.

Integration of the Art Assets:

1. Create a movie clip to hold each shot inside a frame.
2. Take all the art asset of each shot from the art department, then import the art asset into the movie clip that was just created.
3. Renaming some movie clips that auto generated with the format of S hotXX_ObjectName to avoid the duplicate name and the conflicts in a program.
4. Transfer things that intractable to movie clips, and give proper name to it.
5. Arrange the order of layers to maximize workflow.
6. Save the shot so that another developer can add interaction script and animations in that shot.

Software Details:

Adobe Animate 2015.2

Actionscript 3

Adobe Illustrator 2017 21.0.0



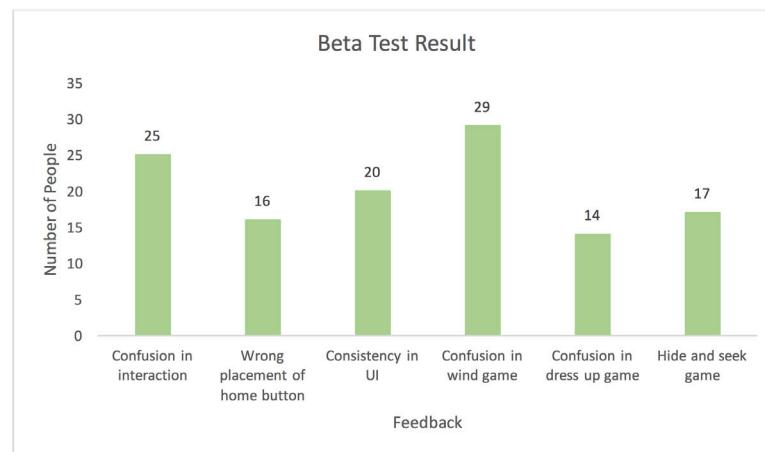


Testing

Beta Test

Beta Testing took place on November 29, 2016 at the Centre for Digital Media. The purpose of the beta test was to test if the users are able to go through the entire story by themselves and learn as they go. Faculty, staff, visitors, and our cohort were present to test the application and provided feedbacks. In total, our team had 44 testers, and received a lot of valuable feedback.

These are the data from the beta test:



After the beta test, our team has decided to make changes on the major feedback items we received. Further interview about the confusion of the interaction allowed us to understand that users did not know which objects they were able to interact with. An indicator of the interactive objects were present during the time of the beta test, however, it was not clearly visible, resulting in a behaviour where users were tapping everywhere on the screen to figure it out themselves. Thus, our team has decided to make our signifiers more visible to guide users on the interaction.





Testing

Beta Test

Consistency in UI was also a major feedback we received from our testers. This is related to the home button because in the tutorial screen, the next button is placed on the bottom right corner. However, after the tutorial screen, all the next button is placed on the top right corner, while the home button is in the bottom right. To maintain the consistency of the UI, we redesigned the tutorial screen and moved the next button to the top right corner, consistent with the next button on the other screens.

Our beta test data indicated that more than half of the user testers were confused by the wind game. Further interview about the wind game conveyed that the shot before the wind game was what was making them confused as the wind was not moving, and didn't feel that it was dangerous. In addition, they were lost as they did not know they had to click on the next button to start the game. We animated the winds on the shot before the game to fix this, and inserted an automatic transition so that players are led directly into the game page. In addition, instructions about controllers were added.

Regarding the dress up game, confusion came from where users believed that they were suppose to warm Neptune up by giving it the clothes. However, in the game, Neptune was already dressed up, and users were just choosing different styles of hat, scarf, and glove. We changed this section by introducing Neptune without any clothes on, and users will have to dress up Neptune to make it warmer.

During beta test, there were many feedbacks on areas of improvement. However, there were also many positive feedbacks as well. For example, users really enjoyed the storyline and wished to see the next episode. In addition, there were many feedbacks on how they really liked the art styles and thought it was very cute and suitable for kids.





Conclusion

There are few features that our team left out due to the time constraints. These are: slide out menu throughout the storybook, autosave function, consistent interaction design throughout the story, sound effects, and also, moving onto the other planets.

The slide out menu will give access to the user to turn on or off the sound without going back to the home screen and adjust other settings (such as volume). In addition, it will give option to the users to skip through some of the planets and move straight to the episode they wish to visit.

The autosave function will allow users to start from where they previously left off. This function will reduce the frustration of the user, not having to always start from the beginning.

Currently, our app does not have consistent interaction throughout the story. In the beginning, there are many interactive objects; however, as the story proceeds, the amount of interactivity decreases. Thus, it is necessary to increase the amount of interaction near the end of the Neptune episode to match the interactivity.

Our app consist of background music and voiceover. While improvement in the quality of the voiceover is necessary, the sound effects will bring higher quality to our product. While taking care of above four tasks, it is also necessary to start to consider about more polished storylines for other planets as well as mini-games and their interactions. The next episode will be Uranus, as stated on the end of the Neptune episode.





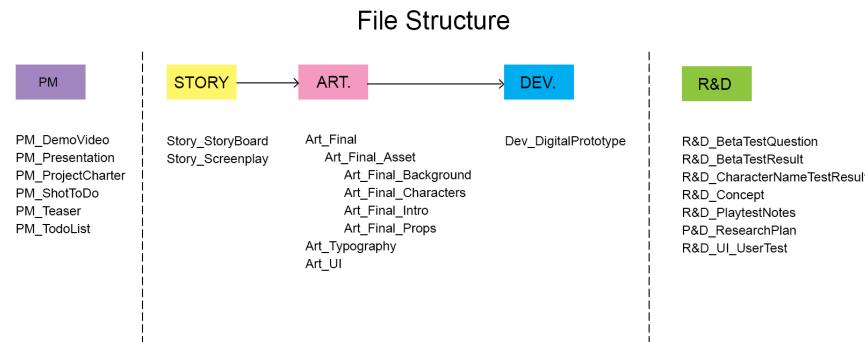
Appendices

Appendix A

Naming Convention

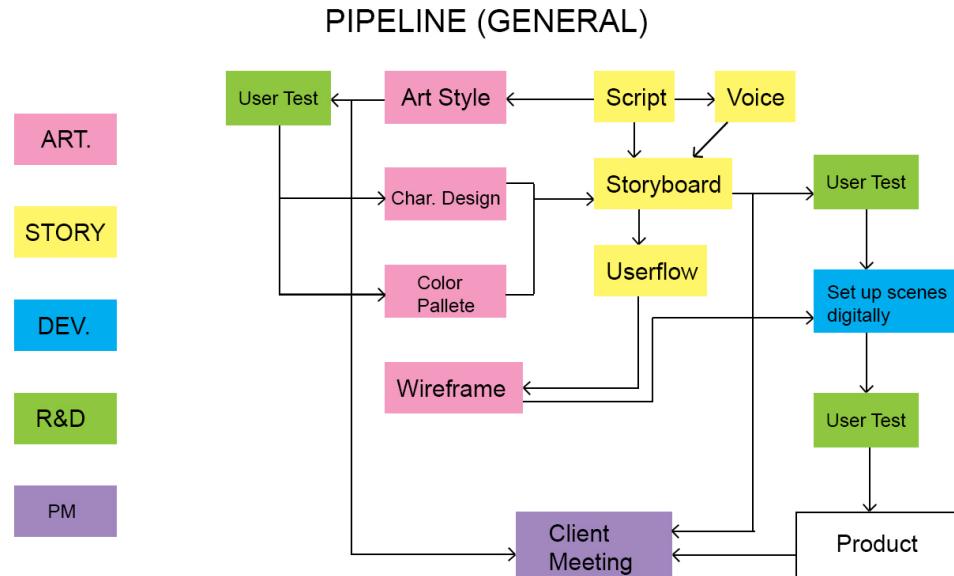
Department_Description_version #_name

File Structure



Appendix B

Production Pipeline





Appendices

Appendix C

Examples of freemium apps in the App-Store

