

BOOK ONE - MAJOR PROJECT PROTOTYPE



CONTENTS

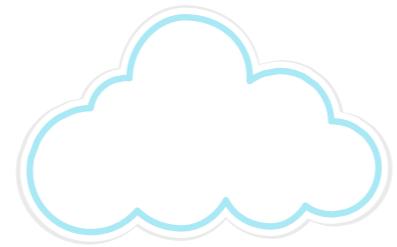
1. DEFINE

2. RESEARCH

3. DESIGN

4. PROTOTYPE

5. EVALUATE



1. DEFINE

THE PROJECT

Aimed towards everyone,
forever young at heart,
it follows the footsteps of giants,
from fields and lands apart.

To bring imagination to life,
with a touch or a tap,
to add reality to stories
through the use of an app.

From ARCore to Unity
we will change what you can see,
from a normal printed book,
to another reality.

To add magic to reading,
for every child, woman and man.

You may think,
Oh No! You couldn't do that!

Well...in Yonder, yes you can.

DEFINING REQUIREMENTS

‘Welcome to Yonder’ is an Augmented Reality (AR) storybook that fuses digital and physical media to create a truly immersive children’s experience.

At the start of this project, we were asked to propose our project idea for this module. With the help of class workshops, we were able to develop our ideas more, gaining further insight into the potential requirements and outputs for the project.

After conducting a collaborative affinity mapping session with the other members of IXD Belfast, the different requirements, functions and potential expectations of this project came about.

Using this affinity map, I then mapped out the main requirements of ‘Welcome to Yonder’, including technology, usability issues and potential user experience.

1. Designing for kids

The book and app need to be specifically designed for children, ensuring maximum readability, usability and overall user experience. This includes gesture control, supportive UI elements, story structure and language development.

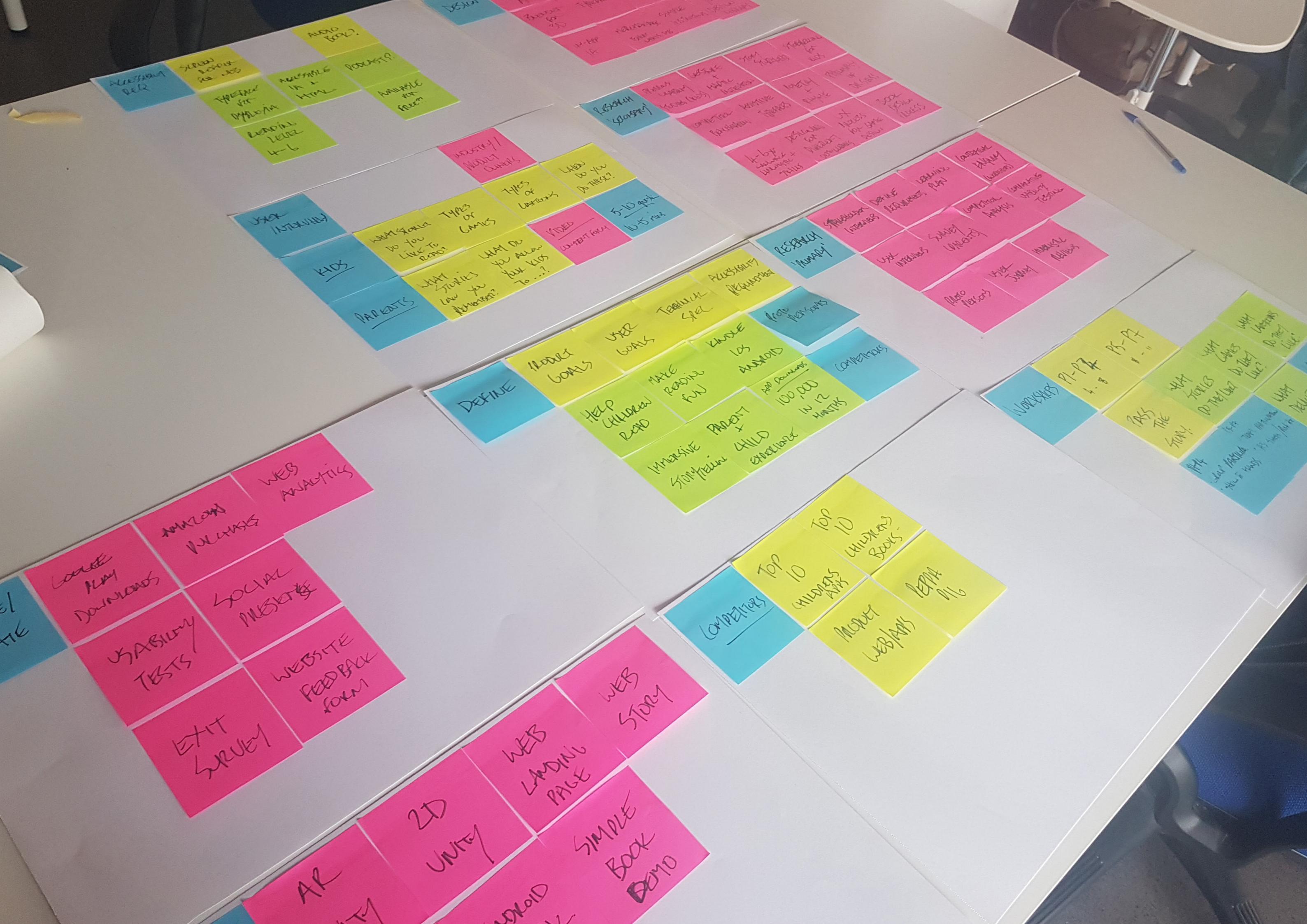
2. Interactive content

The app requires the use of AR technology and supported frameworks for cross-device compatibility. Initially designed to support Android OS, the platform will be build with Unity 3D and Google ARCore. This content will need to be easily accessible and suitable for young children.

3. Commercial awareness

The book has the potential to expand the ‘Yonderverse’, with additional stories, interactive content and merchandise. To support maximum coverage, the book will need to be available on multiple devices, including phone, tablet, desktop and print.





TARGET AUDIENCE

The initial suggested target audience for this project was young children from aged 3 - 5 years old.

From the research conducted, it is now more suitable to create this interactive book for children aged 5 - 7 years old.

The key consumer of this product will be 5 - 7 year old children, with their parents being key customers.

This means that the book and content should not only support a child's usage, but it also must be deemed suitable for parents for both independent and supervised use. The book should support the reading ability of the age group, while simultaneously supporting their language and literacy development.

To ensure maximum coverage of this product, the book and AR application should support a number of devices, including desktop and mobile; while also not distracting from the primary content of the story itself.

76%

kids prefer reading books for pleasure

10%

people in the UK have some degree of dyslexia

50%

parents don't read to their children

BUSINESS CASE

The market for children's books is massive, generating over £300 million in UK book sales in 2018. The children's mobile app market generated over \$2 billion dollars globally.

As more and more children's content is being designed, this content is now being delivered across platforms including print, digital and audio. The tangible nature of a printed book however supports a safer and calmer learning environment for language and literacy development.

As such, the primary element of this product is the printed children's book. The AR interactive content is designed to support the book, but not distract from it, but also should support a non-book interactive experience.

The printed book will be available on Amazon and all good bookstores, along with the availability of the digital version. The digital version may restrict AR gameplay, but the book would allow for a normal reading experience even without the augmented reality element.

Children's book trends - www.scholastic.com

- Magical creatures will take children to new worlds
- Books featuring hands-on activities will engage children of all ages and interests

The printed book should be made available through Amazon book stores and all good bookstores, requiring registration and licensing via a publication house, such as Harper Collins or Puffin.

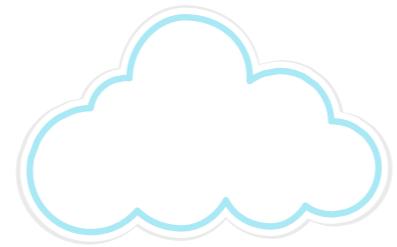
A digital version of the book would also be available via both the 'Welcome to Yonder' website and Amazon. The digital version may restrict AR gameplay, but the book would allow for a normal reading experience even without the augmented reality element.

Pricing for the book, based on proposed quality of finish and additional interactive content, would be priced between £9.99 and £11.99.

The AR app would be available to download for free, with the potential for additional 'Yonderverse' apps being available to download for £0.59 - £0.99p.



2. RESEARCH



ONLINE SURVEY

ONLINE SURVEY QUESTIONS

For the online survey, I wanted to understand the two distinct areas of this project, storytelling and technology. The survey was posted on various social media channels and built using Google Forms.

1. What age are you?

0-18	19-25	26-35	36-45
46-55	56+		

2. What were your favourite types of stories when you were younger?

Comical and funny	Adventure	Historical
Science fiction	Fiction	Non-fiction
Horror/Scary	Rhymes	Fairy Tales
Fantasy	Comic Books	Real-life

3. What do you think stories should teach us?

- Positive morals and values
- How to treat others
- Understanding emotions and feelings
- About culture and society
- Lessons about life
- Stories don't have to teach us anything

4. What stories or authors were your favourites growing up?

5. What do you think about Virtual Reality (VR) and Augmented Reality (AR) technology?

- I think it will make storytelling even better
- VR and AR technology is suitable for children
- VR and AR will be great for education purposes
- I'm afraid VR and AR might have negative consequences
- I'm not really sure what VR and AR technology is

ONLINE SURVEY QUESTIONS

6. From what age do you think young children should be interacting with digital devices?

- Under 3 yrs
- 3 - 4 yrs
- 5 - 6 yrs
- 7 - 8 yrs
- 9 yrs +

7. Do you have children?

- Yes
- No

7a. What types of stories do your children love to read?

- | | | |
|-------------------|-------------|-------------|
| Comical and funny | Adventure | Historical |
| Science fiction | Fiction | Non-fiction |
| Horror/Scary | Rhymes | Fairy Tales |
| Fantasy | Comic Books | Real-life |

7b. What stories or authors are their favourites?

7c. How often would you have read to your children?

- Every night
- 4 - 5 times per week
- 2 - 3 times per week
- Once a week
- Only when the children are struggling to read on their own

7d. How long per day would you let young children use digital devices?

- Less than an hour
- 1 - 2 hours
- 2 - 3 hours
- As long as they have their homework/chores complete

8. If you were buying a children's book, how much would you spend on average?

- £0.00 - £4.99
- £5.00 - £9.99
- £10.00 - £14.99
- £15.00 - £19.99

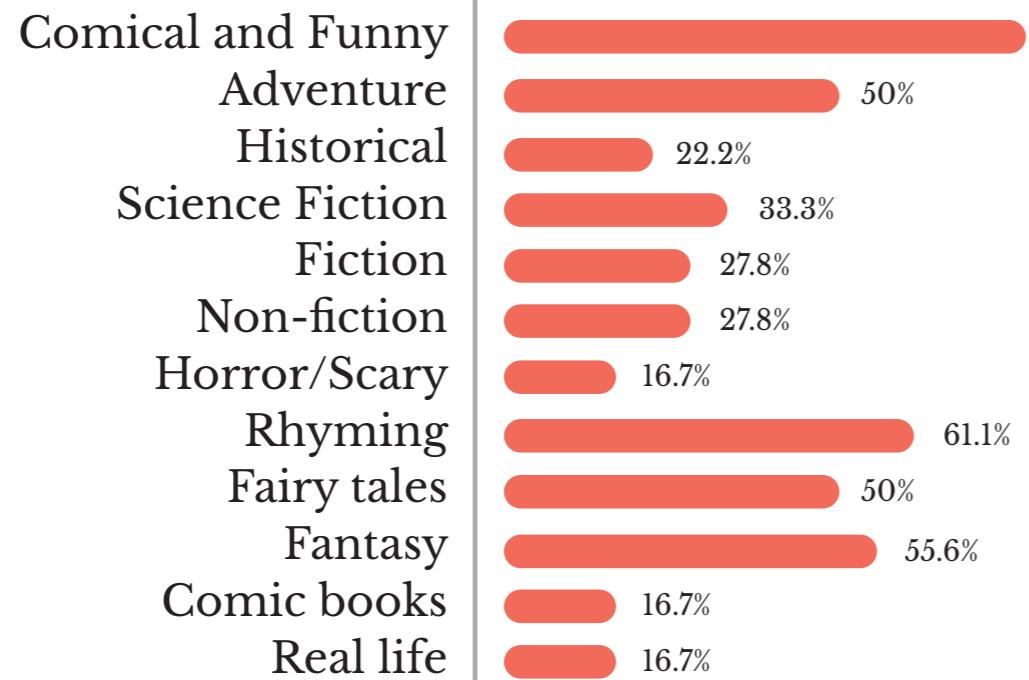
SURVEY RESULTS

Kids and storytelling

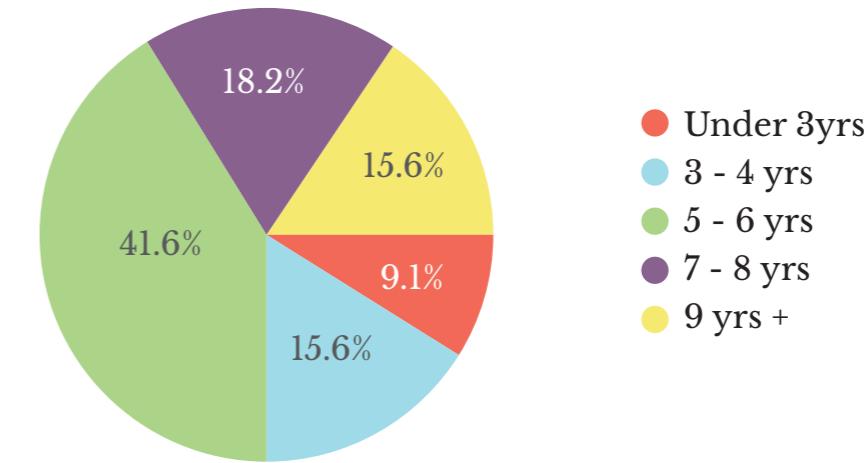
Key insights were gathered from the survey regarding the types of stories parents read their kids, with comical (77.8%) and rhyming (61.1%) stories being the stories kids love reading the most.

Over 40% of respondents believe that 5 - 6 yrs old is a suitable age for kids to be interacting with digital devices, with 83.3% believing that less than 2 hours per day is suitable for device usage.

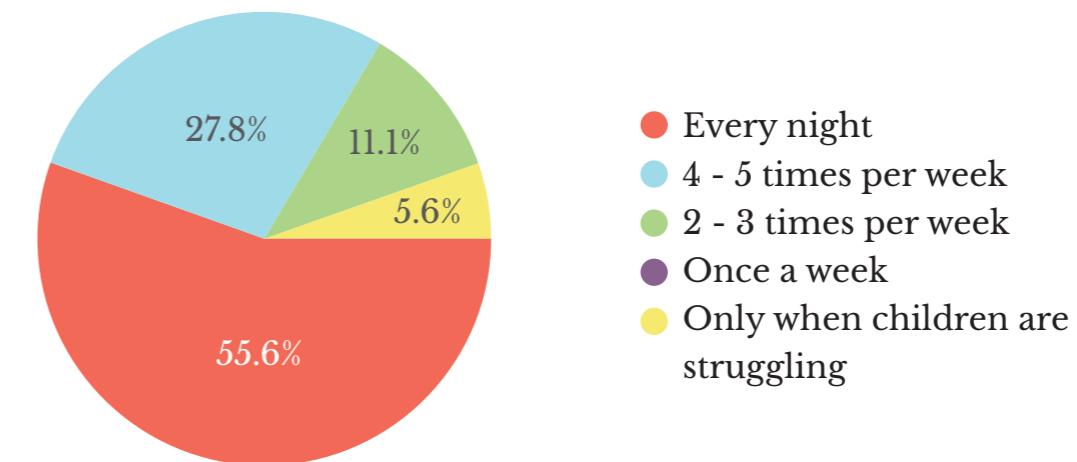
What types of stories do your children love to read?



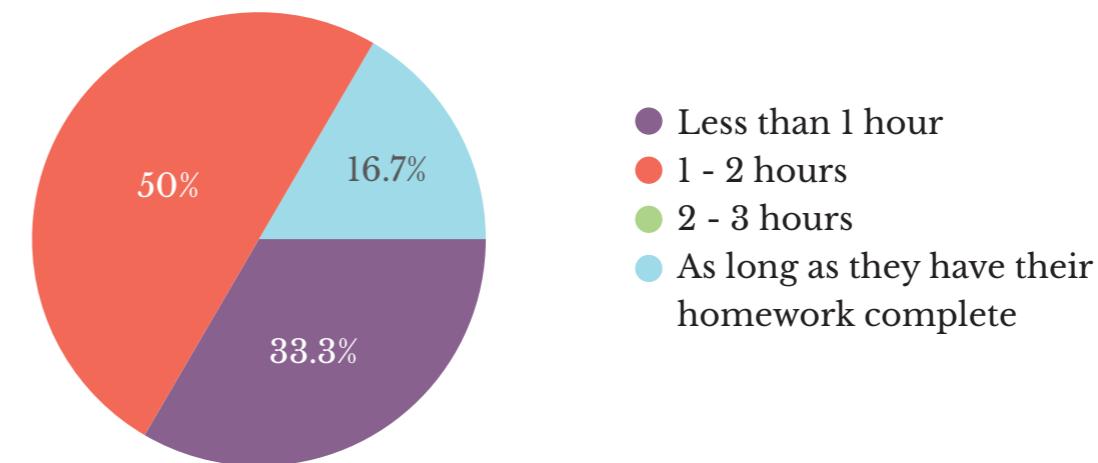
From what age do you think young children should be interacting with digital devices?

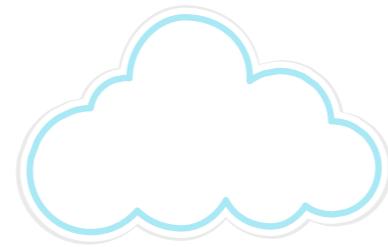


How often would you have read to your children?



How long per day would you let young children use digital devices?





STORYTELLING WORKSHOPS

WORKSHOP INTRODUCTION

In order to fully understand the creativity and imagination in children, storytelling workshops were conducted at Abbots Cross Primary School. The workshops included over 300 pupils from Primary 1 to Primary 7.

After an initial meeting and project introduction with an external coordinator and teacher at Abbots Cross, suitable questions, workshop timing, presentation style and content was discussed.

From this meeting the structure of two workshops were set-up to cater for two distinct age groups. These included a mixture of questions regarding technology usage and interests in stories, games and cartoons.

Primary 1 - 4

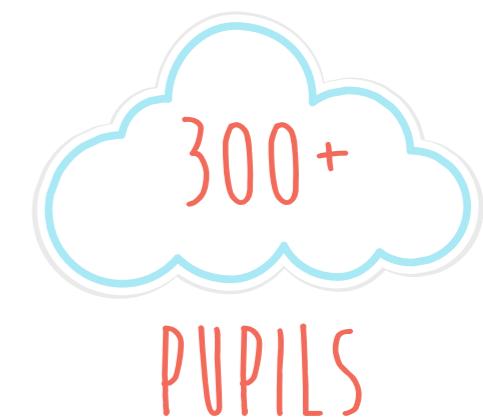
3 Technology questions
2 Interest questions
Pass the story

Primary 5 - 7

3 Technology questions
3 Interest questions
Creative storyboarding



WORKSHOPS



PUPILS

Pass the story

For the Primary 1 to Primary 4 classes, we played ‘pass the story’, with each pupil putting up their hand to add the next stage or part of the adventure. This allowed for the children to focus more on the content of the story rather than the communication it through writing. The style of workshop also encouraged active participation by the whole class in the storytelling process.

Creative storyboarding

The Primary 5 - Primary 7 classes provided a platform for a more individual expression of creativity. Pupils were each provided sticky notes and A3 pages, and encouraged to work as part of a team, creating a collaborative adventure. This process encouraged both writing and drawing for communicating ideas.

WORKSHOP ANALYSIS

The workshops provided an opportunity to ask children what types of content they enjoy. This included various story and gaming genres, as well as device usage. For the age group of 4 - 7 years old, the following analysis was produced from 109 pupils.

Technology usage

71% 90% 56%

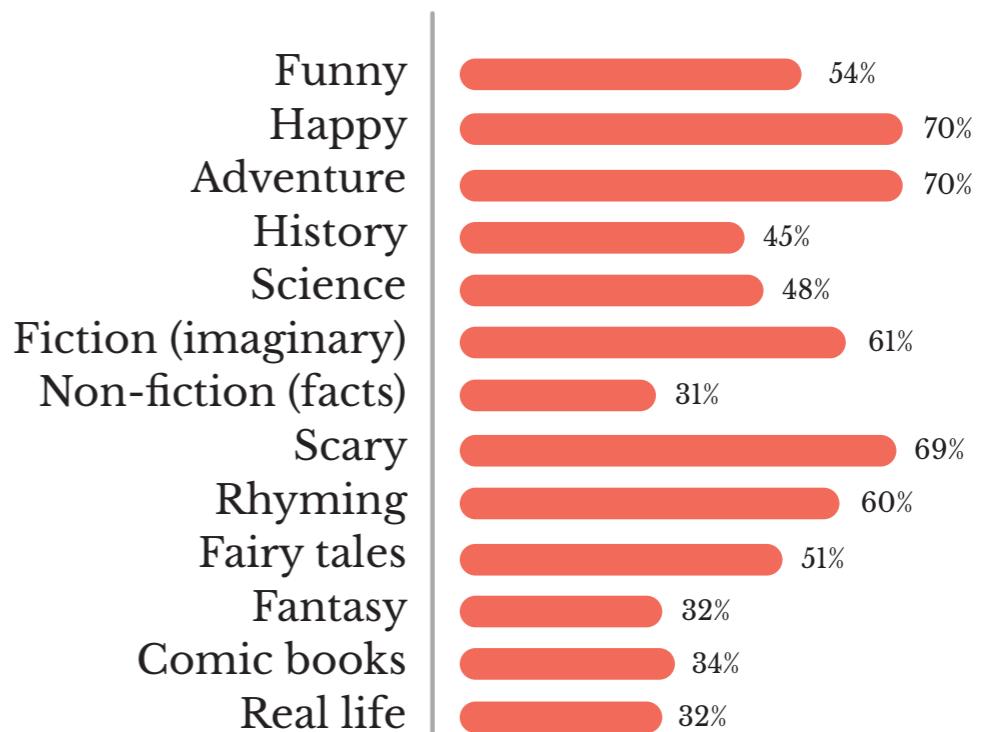
Mobile Tablet Desktop

Type of usage

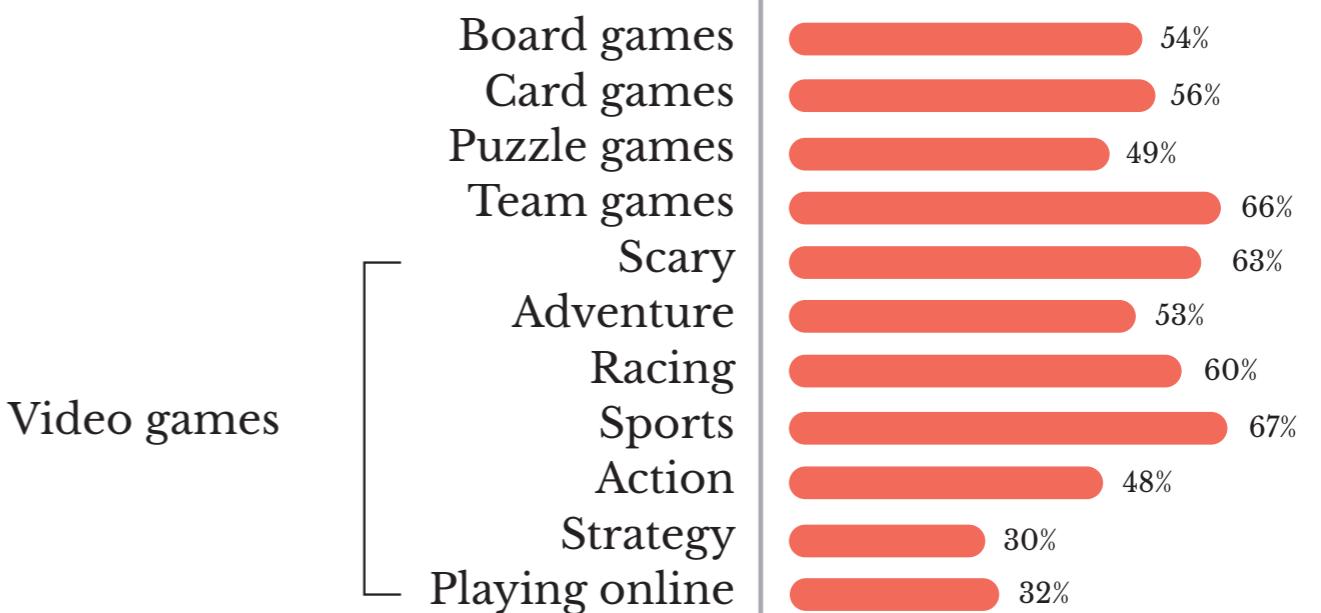
72% 70% 47%

Gaming Video Books

Favourite types of stories



Favourite types of games



Well they seen
a male of
dom

Fishpig and
erry hopped on

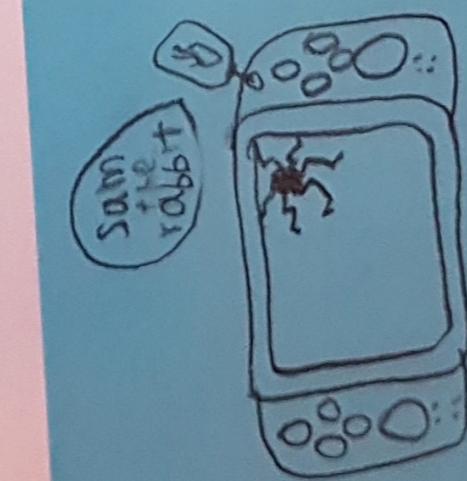
they met a
dog called
haha

they saw the way
out of the male

dan the
as is 74

but it is lost he
needs to find food
for the kittens

The Kittens
need food and
the parents need
food but they
all need food
and they have no
food

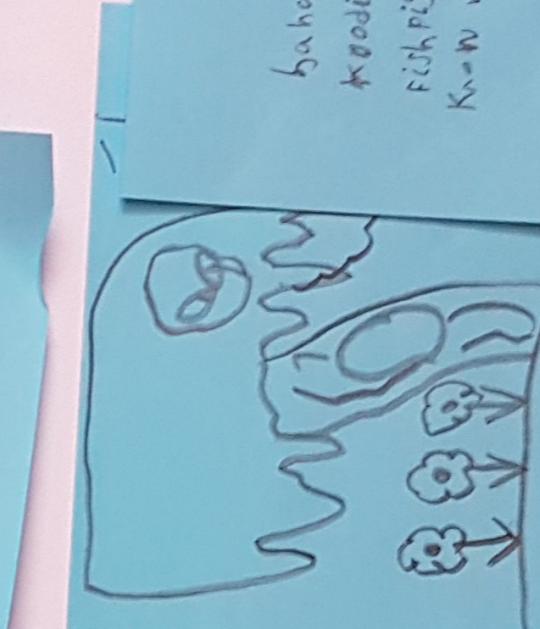


The Kittens
need a baba.



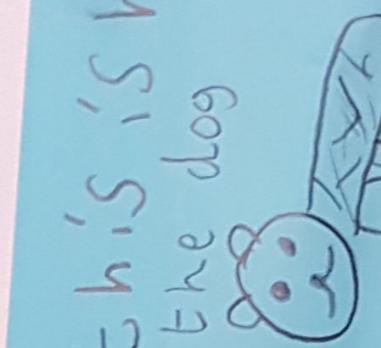
they found
sig

confused devil
emoji

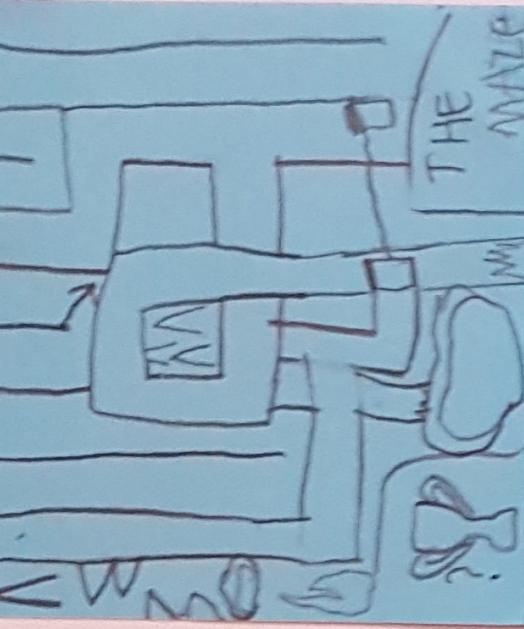


haha needed help
Koeding kind has home
fishpig and erry didn't
know what to do?

This is haha They were
looking for
Sam the co



they met a cat could
do on the way surely



the cat had a wife
and three kittens

They saw
a man
sllying spic

there lots of
fier spics and
very very red
sticks

WORKSHOP SUMMARY

Working with the staff and kids at Abbots Cross Primary School was such a fantastic experience. It allowed for a real engagement with target audience, observing the outputs of creativity and imagination throughout various age ranges.

Key insight 1 - Primary 1 - 2 (4 - 7 years old)

Children became fixated on a particular event or situation, sometimes taking the narrative backwards as the story progressed. This age group showed particular interest in traditional animal characters, fairytales and magical treasure; with themes of sharing, friendship and adventure.

Key insight 2 - Primary 3 - 4 (6 - 9 years old)

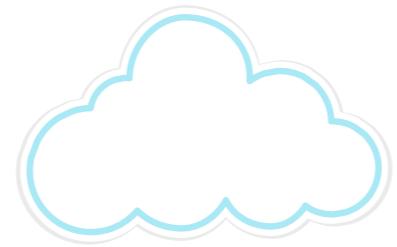
Creativity was flowed with this age group, with ranging themes of environment, fantasy and action. Merging real-world influence with traditional animals, this group created a blend of characters and situations; creating a more structured story while expanding the Yonder universe.

Key insight 3 - Primary 5 - 6 (8 - 11 years old)

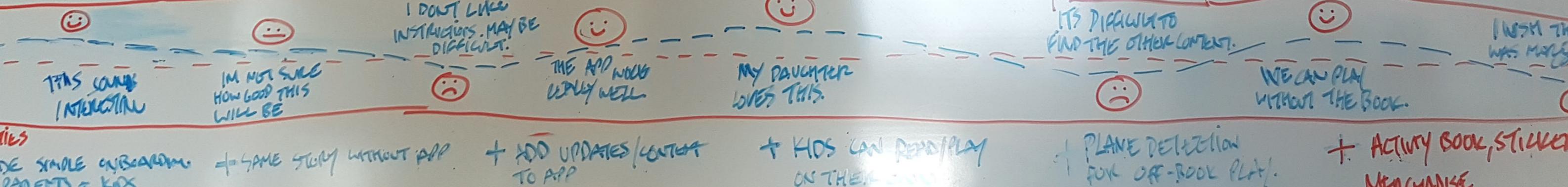
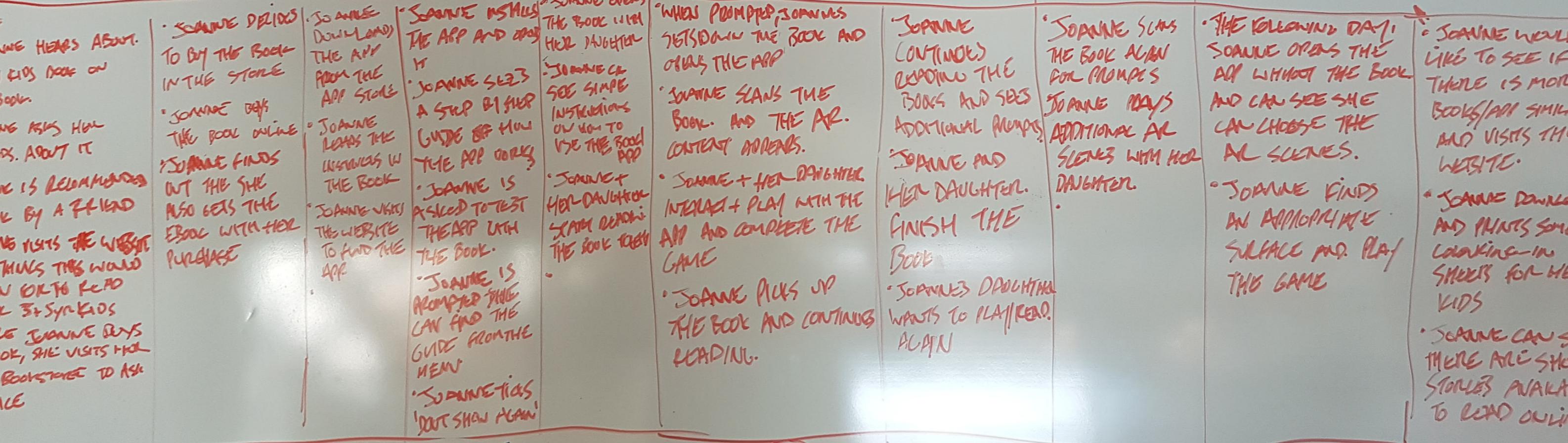
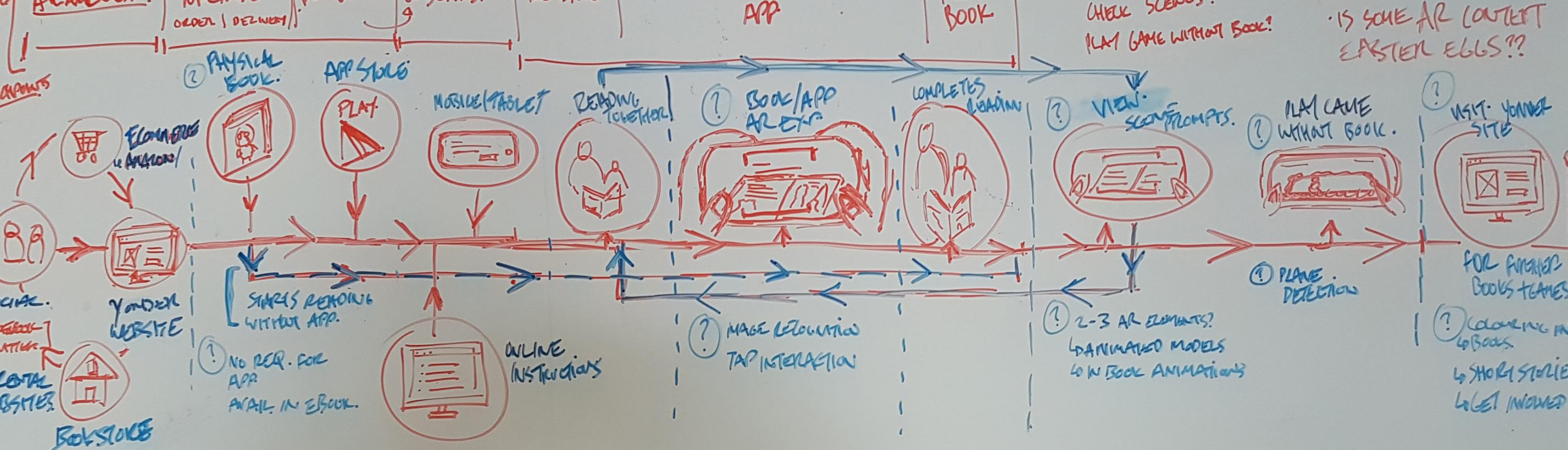
This age group was probably the most interesting to work with, having both the creativity and capability of communicating their ideas. Showing more influence from media, gaming and TV, stories become more complex with themes of fear, courage and war; while engaging in a wide range of activites.

Key insight 4 - Primary 7 (10 - 12 years old)

With the Primary 7 age group, I observed a mixture of creativity levels, some with a more collaborative approach to the creation of the story, while others remained with a creative block throughout the workshop. Creative imagination can be seen in some stories, while others show a direct influence from TV and gaming.



USER JOURNEY





PARENTAL JOURNEY EXPERIENCE MAP

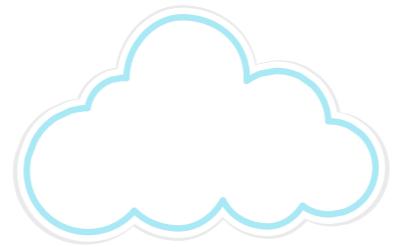


Name:
Joanne Gormley

Age: Status:
35 Married

Occupation: Care Assistant

Phases	Awareness		Onboarding		Reading and interaction			Non-book	
Stages	1. Promotion	2. Book Purchase	3. App Download	4. Onboarding	5. Begin Reading	6. AR Experience	7. Finish Reading	8. AR Experience	
Touchpoints	<p>The diagram illustrates the customer journey across eight stages:</p> <ul style="list-style-type: none"> 1. Promotion: Social media, Friends and family. 2. Book Purchase: Online purchase, Yonder website, eBook download, App store. 3. App Download: Non-AR experience (Yonder website). 4. Onboarding: AR app onboarding (App store). 5. Begin Reading: Non-AR experience (Opening the book). 6. AR Experience: Play AR game, Audio support, 3D objects, Interactive game. 7. Finish Reading: Closing the book. 8. AR Experience: Play non-book AR content. <p>Touchpoints include: Social media (Facebook icon), Friends and family (person icon), Online purchase (credit card icon), Yonder website (cloud icon), eBook download (book icon), App store (play store icon), AR app onboarding (play store icon), Opening the book (book icon), Play AR game (phone icon), Audio support (speaker icon), 3D objects (cube icon), Interactive game (game controller icon), Closing the book (book icon), Play non-book AR content (phone icon).</p>								
Actions	<p>Joanne hears about a new children's book through a Facebook group</p> <p>Joanne is recommended the book by a close friend</p> <p>Joanne searches online for Welcome to Yonder and finds a link to the website, along with links to various online retailers</p>	<p>Before Joanne purchases the book, she visits the local bookstore to see if they have it in stock</p> <p>Joanne can't find the book at her bookstore and decides to purchase the book online.</p> <p>Joanne discovers she also gets a free eBook download with the purchase</p>	<p>Joanne opens the book and follows the simple instructions to download the AR app</p> <p>Joanne visits the Welcome to Yonder website to find the link to the app</p> <p>Joanne downloads the Welcome to Yonder app from the app store.</p>	<p>Joanne installs the app on her tablet device and taps the icon on her home screen</p> <p>On opening, Joanne follows the step-by-step guide to using the book and AR app together</p> <p>Joanne is prompted to test out the app with the book. Once completed, Joanne is prompted to begin reading and enjoy</p>	<p>Joanne opens the book and begins reading with her daughter</p> <p>While reading, Joanne notices she is prompted visually in the book when AR content is available</p> <p>Joanne notices different visual prompts for different content including audio, visual and interactive</p>	<p>Joanne arrives in the middle of the book and is prompted to activate the AR game experience</p> <p>Joanne scans the image in the book and the AR experience begins</p> <p>Joanne and her daughter complete the game and continue to read the book</p>	<p>With the game completed, Joanne and her daughter finish reading</p> <p>Joanne and her daughter scan through the book to find more AR content</p> <p>Scanning various different images with AR indicators, Joanne and her daughter experience the book in a whole new way</p>	<p>Joanne opens the app and can see the various content that can be activated without the book</p> <p>Joanne finds an appropriate surface and activates the AR content including characters and games</p>	
Opportunities	<p>Testimonials of use</p> <p>Offer printed/eBook together</p>	<p>Availability on eCommerce stores such as Amazon</p> <p>Sell directly through website (Paypal)</p>	<p>Free app available on both Android and iOS</p> <p>eBook available as PDF, ePUB from Amazon and Welcome to Yonder website</p>	<p>Provide simple onboarding for parents and children</p>	<p>Typography for reading support</p> <p>Audio support for child-friendly reading</p>	<p>Subtle AR indicators</p> <p>Gesture-based interactions</p> <p>Image recognition content throughout book</p>	<p>Free updates and new content via app update</p> <p>Plane detection for non-book AR</p>	<p>Additional content including activity books, stickers and merchandise</p> <p>All updates to single Yonder AR app for future books and content</p>	



USER PERSONAS



USER PERSONA - PARENT ONE



ABOUT

Name:
Steven Pinker

Age:
37

Status:
Single Parent

Occupation:
Lead Software Engineer

CHILDREN



GOALS

- Finding books that can help develop her language and literacy skills
- Provide suitable content for healthy personal growth
- Ensure that content is fun, enjoyable and educational

“

I'm always looking for something we can enjoy together, but also something that she is able to read on her own.

”

MOTIVATIONS

- Get Kathryn interested in science and technology
- A book that is also available on a tablet device
- Sometimes when I'm busy with work at home, i'd like something to keep my daughter entertained

TECHNOLOGY USE

Phone	Cloud icon	Cloud icon	Cloud icon	Cloud icon
Tablet	Cloud icon	Cloud icon	Cloud icon	Cloud icon
Laptop	Cloud icon	Cloud icon	Cloud icon	Cloud icon
Desktop	Cloud icon	Cloud icon	Cloud icon	Cloud icon

PAIN POINTS

- I have dyslexia and have difficulty reading some books.
- Constantly checking for appropriate content
- Work long hours and don't spend as much time as i'd like with my daughter

WISHLIST

- Variety of content
- Supports different reading abilities
- Value for money



USER PERSONA - PARENT TWO



ABOUT

Name:

Joanne Gormley

Age:

35

Status:

Married

Occupation:

Care Assistant

CHILDREN



Daniel
(3yr)



Beth
(9yr)



Ben
(5yr)

GOALS

- Provide a safe environment for learning and development
- Provide suitable literature for my kids
- Encourage my kids to socialise and make new friends
- Spend more enjoyable time with my kids

“

I love when my kids all read together, so a story that can interest all ages would be great.

”

MOTIVATIONS

- Content suitable for the whole family
- Recommendations from friends and family
- Something to keep the kids busy for an hour
- Easy access to new content

TECHNOLOGY USE

Phone



Tablet



Laptop



Desktop



PAIN POINTS

- Too much content out there. Don't know what to trust
- Not being able to spend enough time with my kids
- Work shifts and sometimes miss bedtime reading
- My kids have so many different interests

WISHLIST

- Expanded content including cartoons and toys
- Works on tablet and phone
- App independent from book



USER PERSONA - CHILD ONE



ABOUT

Name: Ben
Age: 5
Status: Just started Primary 1
Occupation: Wants to be a race car driver

SIBLINGS



Daniel
(3yr)



Beth
(5yr)

GOALS

- Getting to play with all his toys
- Going to school and playing with his friends
- Wants to do well in school so he can become a race car driver
- Watching cartoons after school

“

Can I have a book that's also a cartoon, or something that makes reading fun. Reading is boring.

”

MOTIVATIONS

- Prefers watching cartoons to reading and drawing
- Enjoys activities that are fun and active
- Likes games where everyone can take part

TECHNOLOGY USE

Phone	
Tablet	
Laptop	
Desktop	

PAIN POINTS

- Having to do homework
- When he is not allowed to watch cartoons
- When he has to read but doesn't want to
- Vegetables

WISHLIST

- Make reading fun
- A book about cars
- A game he can play with his friends



USER PERSONA - CHILD TWO



ABOUT

Name: Megan
Age: 6
Status: Just started Primary 3
Occupation: Wants to be a dancer

SIBLINGS

 Dylan
(18 months)

GOALS

- Do well in school and get all her exams
- Playing outside and keeping active
- Become a world famous dancer
- If she can't be a dancer, she would be a scientist

MOTIVATIONS

- Enjoys games where she can keep active
- Getting all her homework done so she can play dance studio
- Loves spending time with her friends
- Likes to find activities where she can be creative

PAIN POINTS

- Has dyslexia and finds it difficult to read sometimes
- Doesn't like it when she can't go out and see her friends
- There is not enough books about dancing
- When she is not allowed to play dance studio

“

I like reading, but it is sometimes hard. My mummy helps me read, but I would like to do it myself.

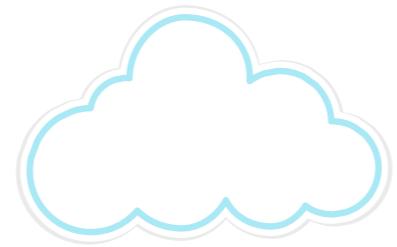
”

TECHNOLOGY USE

Phone	   
Tablet	   
Laptop	   
Desktop	   

WISHLIST

- Games you can play outside
- Books that are fun and easy to read
- Dancing characters



USER STORIES

USER STORIES



“ As a parent, I want to find content that is suitable and appropriate for my daughter, so I can help support her language and literacy development. ”



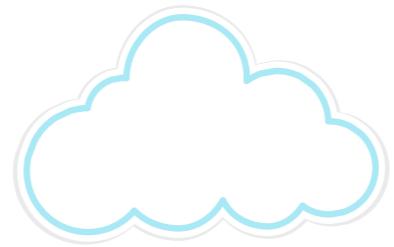
“ As a kid, I want to find books that support my dyslexia and are also fun to read, so I can enjoy reading, and read more often. ”



“ As a mother of three, I want to find something safe for all my kids can enjoy, so that I can stop worrying about inappropriate content. ”



“ As a kid, I want to find a book that makes reading fun, and one where you can watch cartoons and play games. ”



3. DESIGN

BRANDING - LOGO DESIGN

The brand for 'Welcome to Yonder' needed to portray a sense of the whimsical and non-sensical nature of the story. The logo design developed from that, creating a sense of wonder and imagination.

The clouds

The cloud motif has been designed to with its primary audience in mind, providing a visual similar to a paper cut-out.

The typography

Using the typeface 'Moonflower', the whimsical nature of the brand has been reflected while adding a delicate visual to the book title.

The eyes

The illustrated eyes within the logo-type help add a sense of imagination to the design. The logo itself becomes its own illustrated character, bringing personality to the brand.



Logo design ideas



Final logo design

BRANDING - COLOUR SCHEME

The proposed colour scheme for the overall ‘Welcome to Yonder’ brand is based on the colours of the rainbow. A series of pastel colours, the scheme is welcoming and friendly, while also suggesting the magical nature of the ‘Yonderville’.



RGB: 236, 99, 81
CMYK: 0, 73, 65, 0
HEX: #ec6250



RGB: 171, 219, 233
CMYK: 37, 0, 9, 0
HEX: #abdbe9



RGB: 184, 211, 143
CMYK: 35, 2, 55, 0
HEX: #b7d28e



RGB: 255, 232, 125
CMYK: 2, 6, 61, 0
HEX: #fee87d



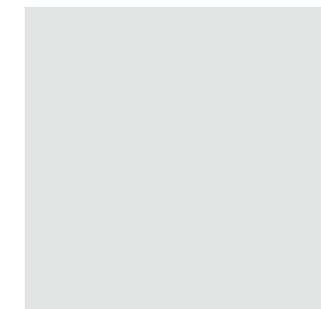
RGB: 231, 129, 90
CMYK: 6, 59, 65, 0
HEX: #e6815a



RGB: 145, 95, 139
CMYK: 50, 69, 21, 4
HEX: #915e8b



RGB: 207, 149, 194
CMYK: 20, 50, 0, 0
HEX: #ce95c2



RGB: 236, 234, 234
CMYK: 10, 7, 8, 0
HEX: #e9e9e9

TYPOGRAPHY

For this project various different typography styles were researched, including those specifically for dyslexia. One of the key issues with choosing a font for this project was that it had to fit the overall design and experience of the 'Yonderverse'.

Open Dyslexia

One of the key issues with choosing **Open Dyslexia** is that due to the visual nature of the typeface, it has the potential to clash with the illustration and overall experience of the book.

Sans-serif

Popular on the web **Sans-serif** fonts support reading for people with dyslexia but visually they do not compliment the traditional nature of the book.

Title - Printed

Font family: Moonflower
Font size: 72px
Font colour: C=0 M=72 Y=64 K=0

THE QUICK BROWN FOX JUMPS
OVER THE LAZY DOG.

Body - Printed

Font family: Libre Baskerville
Font size: 20px
Font colour: C=0 M=0 Y=0 K=100

The quick brown fox jumps over the lazy dog.

Text - In-app

Font family: Raleway Bold
Font size: 24px
Font colour: C=63 M=53 Y=51 K=50

The quick brown fox jumps over the lazy dog.

LEVEL DESIGN

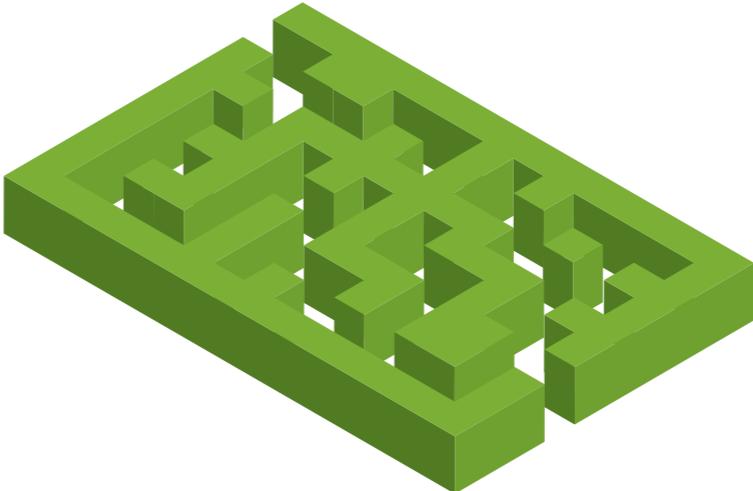
To add Augmented Reality into the project, the book will contain two interactive game scene at different stages of the story. The user will scan the related image in the book and the interactive game will appear as part of the story.

The Maze

The maze-based introduces the user to the interactive game elements of the book. The 3D character, Fishpig, will have to find and collect a pieces of treasure before they can leave the maze. The maze have two levels for increased playability and will be rendered with suitable textures.

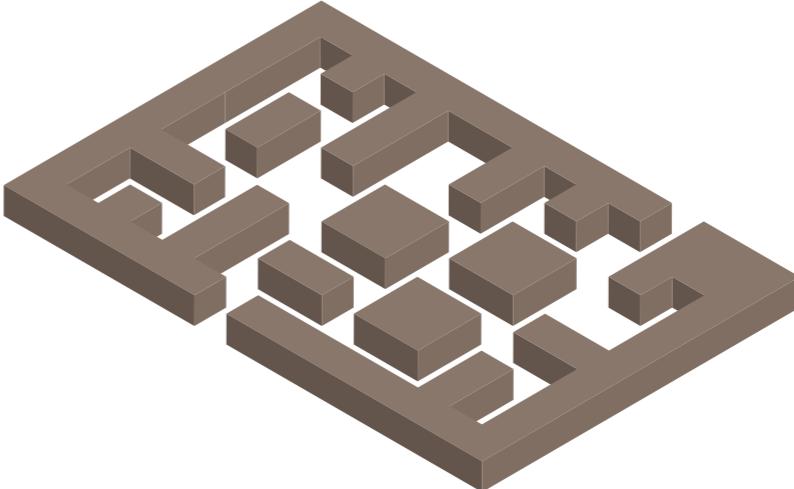
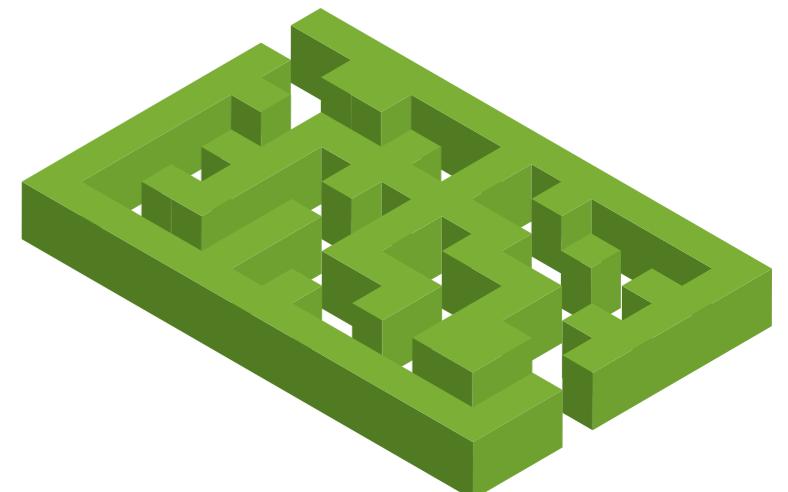
The Cave

The cave-based level takes place during the later stages of the story, with Fishpig have to catch floating blugs in order to finish the level. This level will add tiered levels for the character to jump onto to complete its goal.



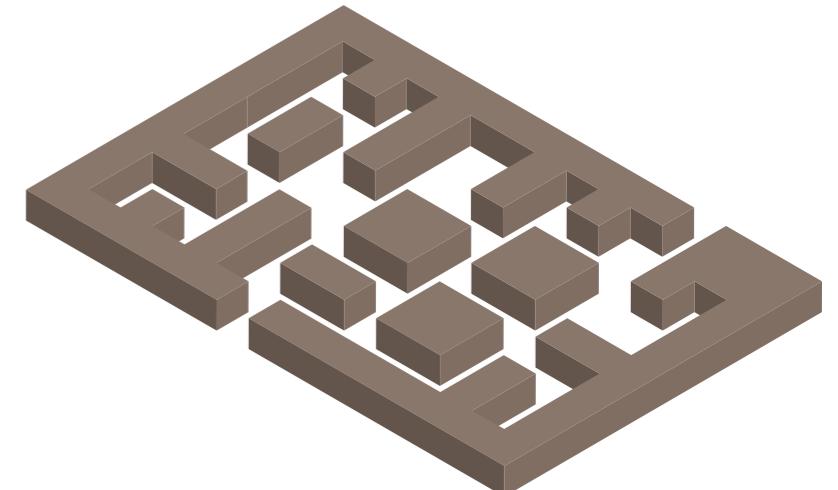
The Maze - Level 1

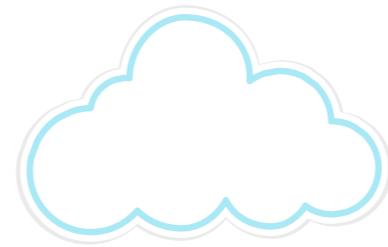
The Maze - Level 2



The Cave - Level 1

The Cave - Level 2





CREATING THE STORY

IDEAS FOR THE STORY

A key part of this project was conducting storytelling workshops with primary school children. A fantastic and engaging experience, this lead to amazing ideas for places, characters and plot lines.

Working with school children aged 4 - 11, the main goal of the storytelling workshop was to see how children of different ages could use their imagination and create a brand new story.

With an introduction to the land of Yonder and some of the characters that lived there, the pupils then developed their own ideas, characters and locations, bound only by their imagination.

Over the course of 4 weeks, workshops were completed with all the school classes, with over 300 children adding their input into the Yonder universe.

Gathering all these ideas lead to key themes, plot lines, characters and locations to make the world of Yonder come to life.

Key themes included:

Environmental damage

Helping others

Working together

Friendship

Bravery

Altruism

The main realisation from conducting the workshops was the level of influence that real-world events, places and objects had in developing within the story. From sources such as TV, cinema and gaming, pupils introduced amongst other things zoo animals, childrens TV shows, such as peppa pig, YouTubers, computer game characters and Star Wars themes.

CREATING THE STORY ARC

Stories have been passed down for generations, but the basic structure of storytelling has remained the same for thousands of years. From ancient mythology to modern cinema, how we have told stories has remained part of our cultural evolution.

A Hero's Journey

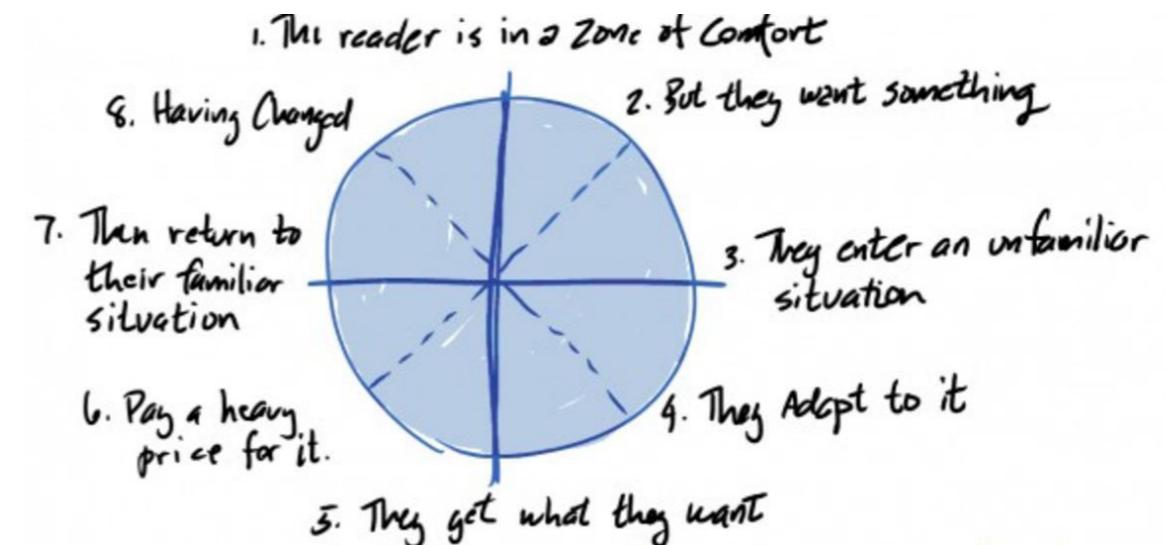
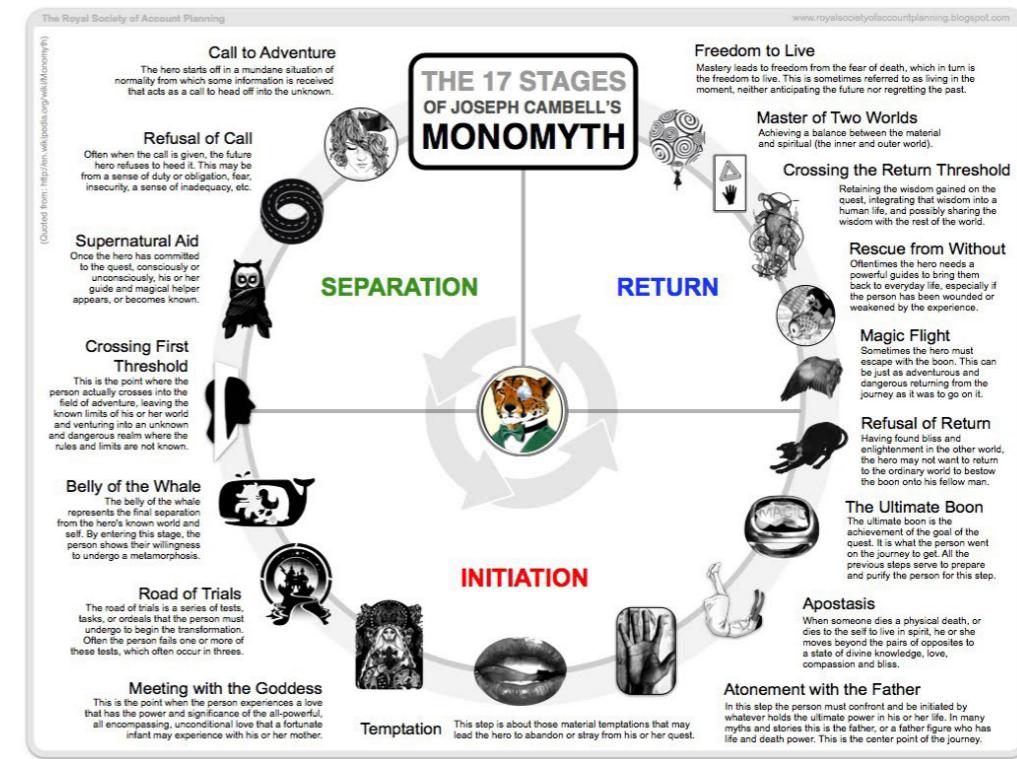
Joseph Campbell describes a hero's journey as a 'monomyth', describing the hero's journey through 17 stages, from 'Call to Adventure' to 'Freedom to Live'.

Into the Woods

John Yorke delves in the structure of stories, outlining the stages of Campbell's work and how this can be reworked into a traditional five-stage act

Dan Harmon

Dan Harmon takes the structure of the 'monomyth' and breaks it down into 8 clear stages of a story arc structure.



IMPLEMENTING THE STORY ARC

Using Dan Harmons' story arc template, the key characters, stories, plot lines and themes from the workshops were then combined into a singular narrative.

1. The reader is in a zone of comfort

Fishpig awakens to find himself in the land of Yonder, with no memory of who he is and how he got there. The magic house explains a few things but encourages Fishpig to look elsewhere.

2. But they want something

Fishpig searches Yonder to find the answers he needs and meets Terry the Unicorn. Terry explains that Yonder is under attack from The Gloom and that he must help his friends, but someone else might be able to help him find his answers.

Arriving at Terry's home, they realise it is too late and The Gloom has already destroyed the village. They discover that the answers they seek may be in Mystery Mountain.

3. The enter an unfamiliar situation

On their journey to Mystery Mountain, Fishpig and Terry are attacked by The Gloom and seek refuge in a magic maze. A giant snake explains to them they must find the treasure in order to escape the maze.

After much searching, they find the treasure and escape the maze. Seeing a giant giraffe's in the distance, they walk over and discover it has its head in the clouds. The Gloom begins to get closer and so they climb up the giraffe to safety.

The giraffe explains to them what is causing The Gloom and where they have to go to stop it, and offers them shelter for the night.

IMPLEMENTING THE STORY ARC

4. They adapt to it

After resting in the candy floss clouds, Fishpig and Terry are seized by pirate cats and Captain Granny on their floating knitted pirate ship. The pirates explain they are looking for all the magical treasure in a hope to stop The Gloom from taking over Yonder.

Fishpig and Terry hand over their treasure from the maze and agree to travel across Yonder to stop The Gloom. While travelling Fishpig sees the different lands of Yonder and how weird and wonderful the place is.

The ship comes under attack from an army of pugs on flying rugs, throwing water balloons down to soak the cats. During the battle Fishpig saves Terry from getting soaked, but gets carried off into the distance by a rogue flying rug.

5. They get what they want

Fishpig awakes the next day to find the rug crashed in a tree and walks towards a clearing in the forest. He sees a sign for Mystery Mountain and it doesn't appear far.

Arriving at Mystery Mountain, Fishpig enters a cave and quickly becomes scared. After catching some glowing bugs, he finds himself entering a large library within the mountain, looked after by bookworms and the threaded sock monster.

The sock monster explains he can help Fishpig find out who he is, or he can help save his new friends. Fishpig chooses to save his new friends and begins walking through a magic door.

IMPLEMENTING THE STORY ARC

6. Pay a heavy price for it

Fishpig arrives at the camp Terry, Captain Granny and others have set up, not far from the factory, with The Gloom rising in the distance. He realises he has a piece of paper with him, with a drawing of a big red circle on it, and explains to everyone what had happened, and how the drawing might help them stop The Gloom.

The team attack the factory, with Fishpig and Terry sneaking in through a side door while the others distracted the Robot Krabs guarding watch.

They find the control room and search for the red circle, with Robot Krabs being alerted to their presence. Before they are overrun, Fishpig presses the button and stops The Gloom and all the Robot Krabs all at once.

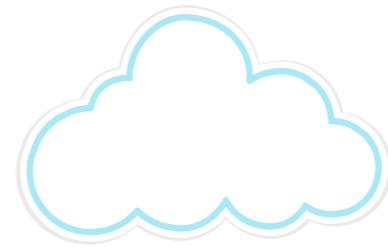
7. They return to their familiar situation

Fishpig and Terry travel with Captain Granny back from to the village to Flimdo. Terry feels sad for Fishpig and he didn't get to find out who he was.

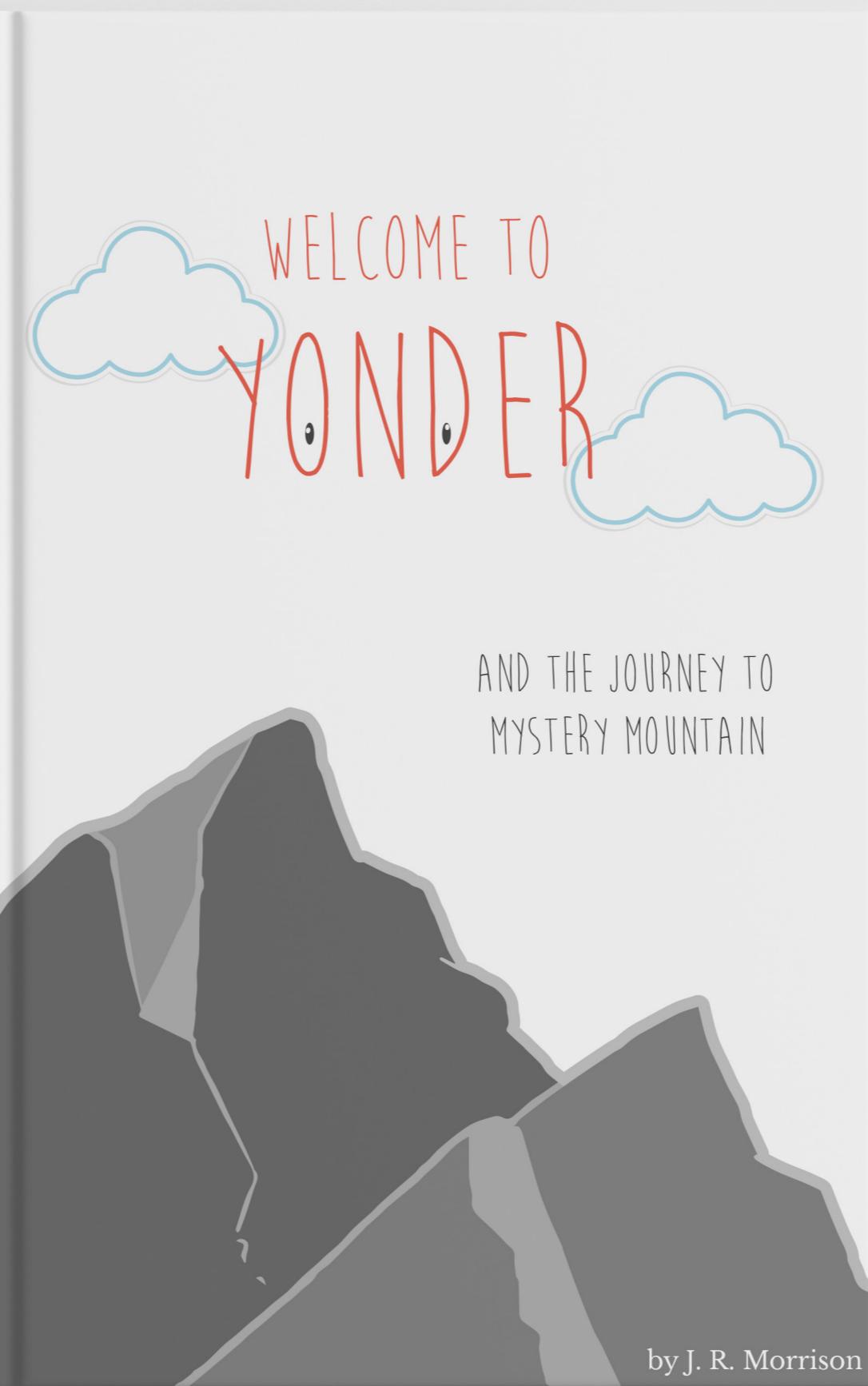
Fishpig explains to Terry that is was okay, and they he finally knows who and why he was in Yonder, to be Terry's friend. He names himself Fishpig and they all laugh together.

8. Having changed

Resting up in Flimdo, with everything getting back to normal, Fishpig is staying with Terry, who is currently fixing up his jetpack. Fishpig tells Terry that there is a rainbow outside, and Terry quickly grabs his rainbow hunting equipment and asks Fishpig if he is ready for another adventure. Of course Fishpig is.



4. PROTOTYPE



Over the green hills and far, far away.
Passed the wandering white clouds,
and grey mountain tops.

There's a place called Yonder.

You should visit some day.

With weird and wonderful creatures,
some big and some small.

It's a place of adventure,
come on, one and all.

There is always
something to do,
and always
someone to see.

Oh the fun and adventure
it will be...

With swinging snoodles,
and hopping macaroos,
to the brave chichickens
and giant blue flimdoos.

‘Are you sleeping, or are you awake?’

The voice bellowed out,
in a curious state.

The creature awoke, all in a flurry
“I’m awake I think”.
The creature seem worried.

“But who are you,
and where am I,
and where are you,
and who am I?”

“My name is Maurice,
and I am everywhere”

“Well this house at least,
but please don’t be scared”

The creature ran outside,
timid as a mouse,
to see a giant mushroom tree,
as big as a house.

“I’m a magic tree,
that you can see
wandering across Yonder,
like a magic bnb.”

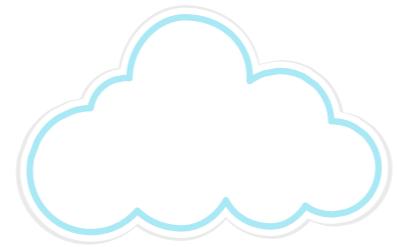
“I travel at night,
and glow in the dark.
It’s got something to do
with this magical bark.”

“Do you know were I should go,
if you do, could you say”

“Sadly I don’t know that answer”,
replied Maurice,
“but I’m sure you’ll find your way”.

“As for you i’m afraid, I haven’t a clue
But perhaps someone else,
could help with that who”.

As the creature left, it thanked its hosts kind,
Asking one more thing,
that was stuck on its mind.



YONDER AR

UI PROTOTYPE

The initial design of the Yonder AR user interface provides an onboarding process, as well as both in-book and non-book AR content activation.

Onboarding

When users first open the application, a standard onboarding process takes place to introduce the different features and functionality of the app to the user.

Reading support

Using AR image recognition, users can activate reading support. On scan, the application begins to read the page out loud to the user, supporting both language and literacy development.

Non-book support

The AR content within the application, such as 3D objects and interactive game can be activated within the requirement of the book using plane detection instead of image recognition.



An interactive prototype is available at:
<https://invis.io/GUPV0TB3T4K>

AR PROTOTYPE

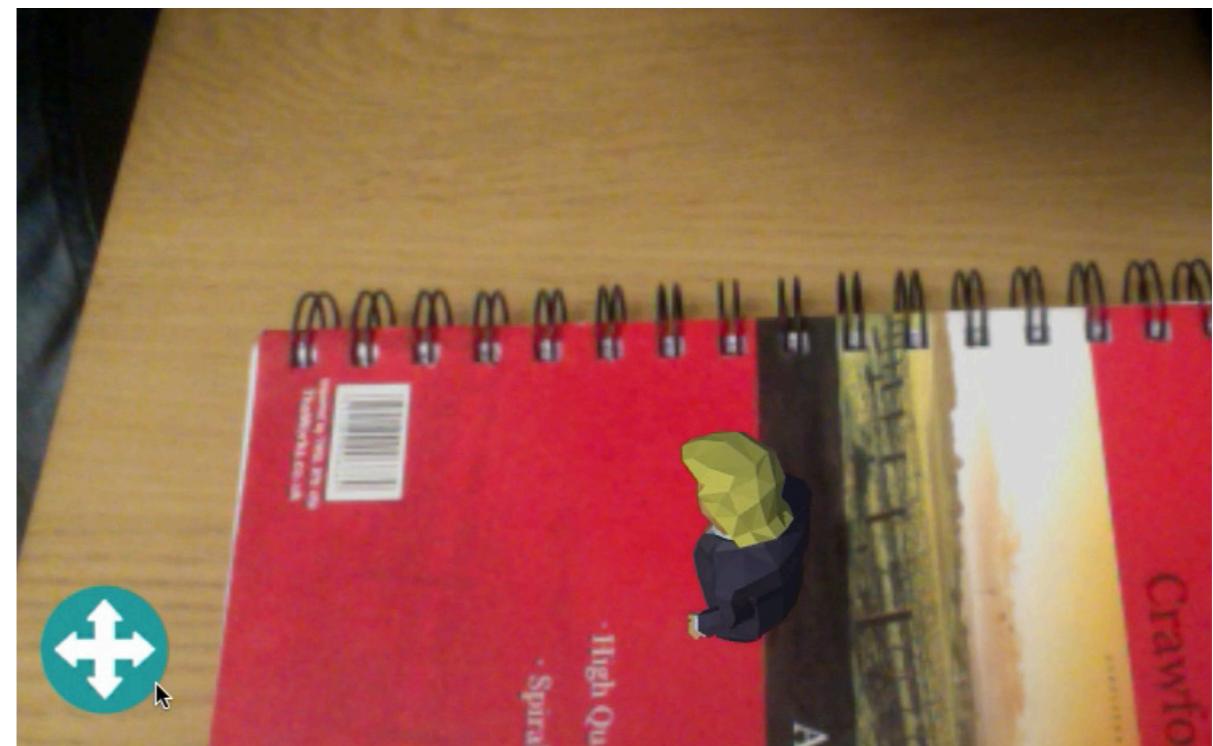
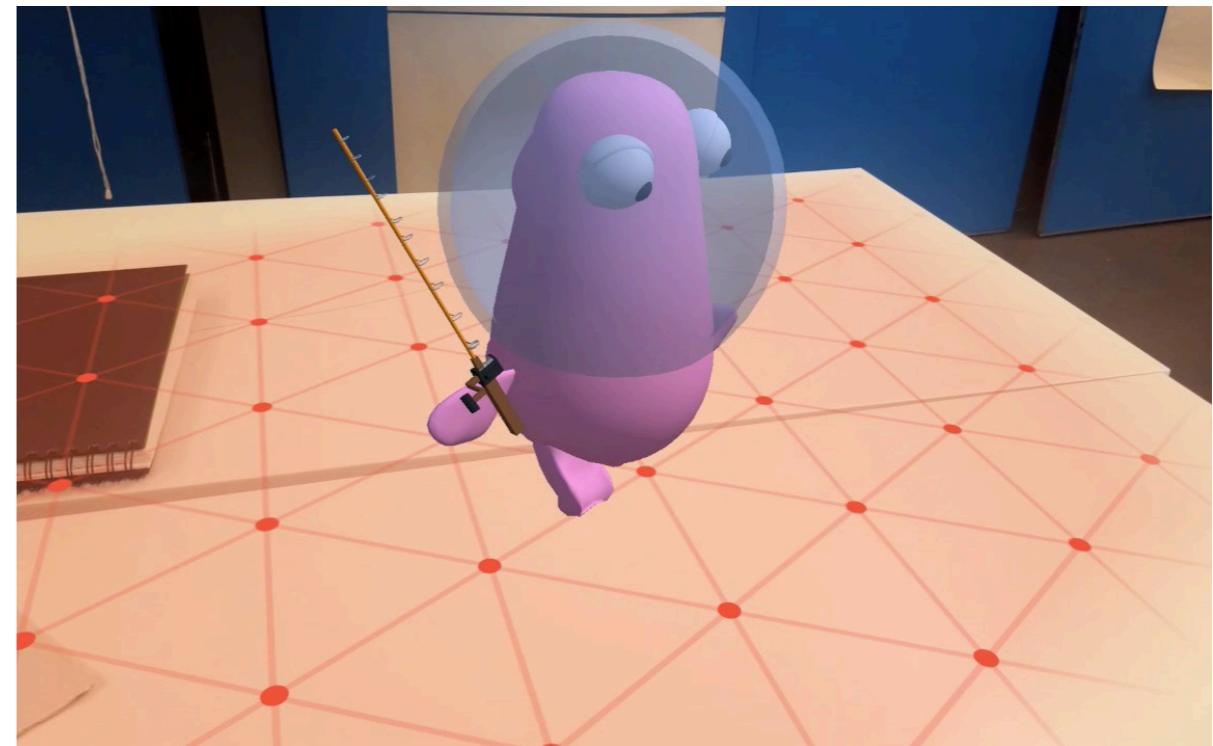
The current AR prototype have limited functionality, with basic plane detection and image recognition. Overall level design still requires added for a fully interactive gaming experience.

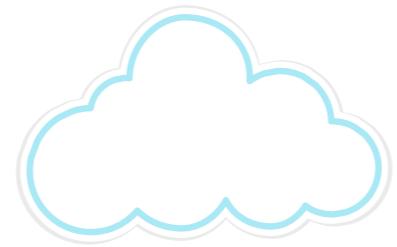
Current functionality

The current prototype build of the AR experience supports plane detection and image recognition. Joystick control has initially been added to the character object, with this being updated to tap-gesture control for the final build.

Proposed functionality

Images will be used from each page of the book to support the image recognition functionality of the product. This will include audio support for reading development, as well as activating the interactive gaming content within the book.





5. EVALUATE

PROTOTYPE EVALUATION

The prototype overall has been enjoyable experience to both design and develop. With the storytelling research gathered from school workshops, this has allowed for a more creative and imaginative story to develop

The story

With the story developing, the key plot lines, characters and locations have been created, along with a structured narrative in which to finish the story. User tests of the main story have been positive, with the rhyming nature of the story supported by both parents and children alike; although suggestions have been made about making the language simpler within the final story.

The illustrations

One of the major issues I have so far on the project has been my skills in illustration. I have still to develop the final illustration style to support both printed, digital and 3D media, as well as providing a complimentary design to the story.

The AR app

The basic functionality of the AR app is still in development, with simple image recognition and plane detection.

User testing analysis provided insight into improved gesture control and clearer image recognition support, but overall parents and children enjoyed the AR elements of the product.

Overall design

Overall, parents enjoyed the branding of the project, along with UI elements within the app. The illustration style has yet to be tested with parents and children.

NEXT STEPS

The next steps for the project will take place over the coming months. With additional work being completed on illustration and writing style, the AR application will continue to be developed within the Unity platform.

