A MORE ENJOYABLE SCHOOL CROSSING EXPERIENCE

By Pedestrian Plus

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Problem Space

Design Focus:

The development of connectivity to enhance the school pedestrian experience and their safety, obtained through better engagement and awareness.

Our Target Audience

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Primary School Kids

Young High School Students

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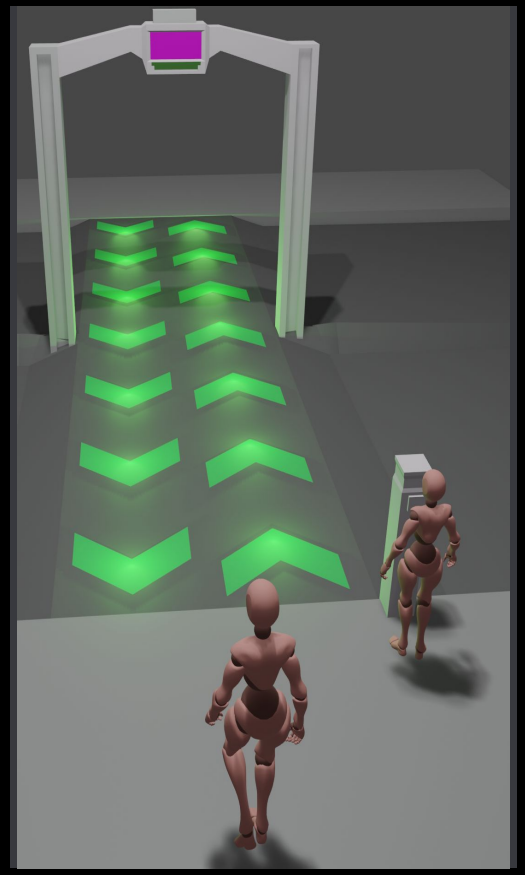
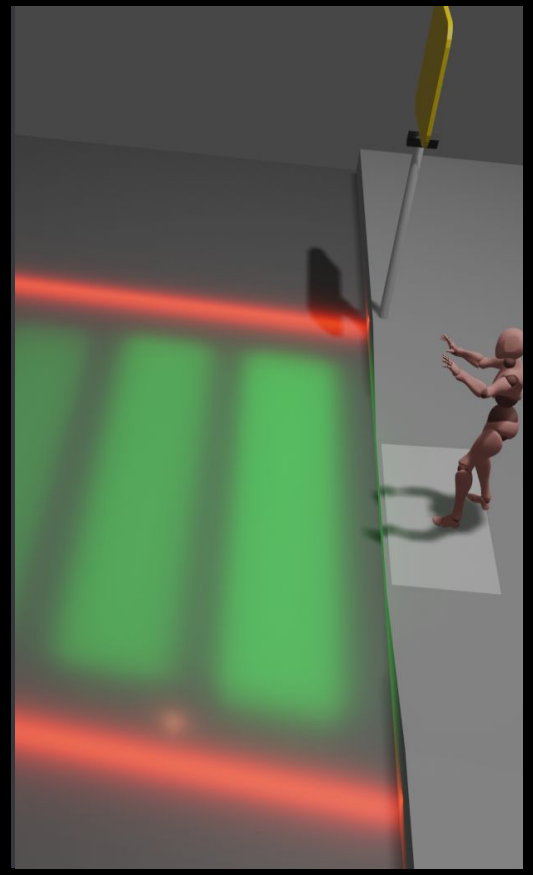
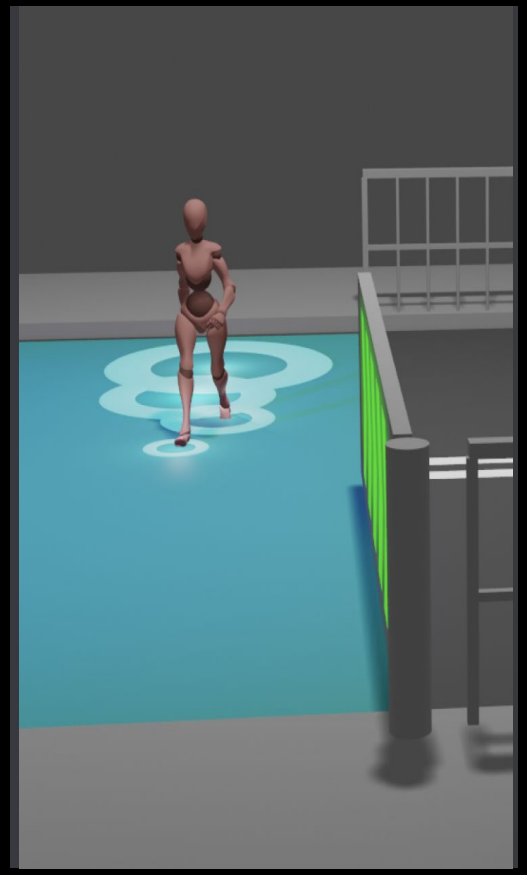
Four Concepts



FLOW



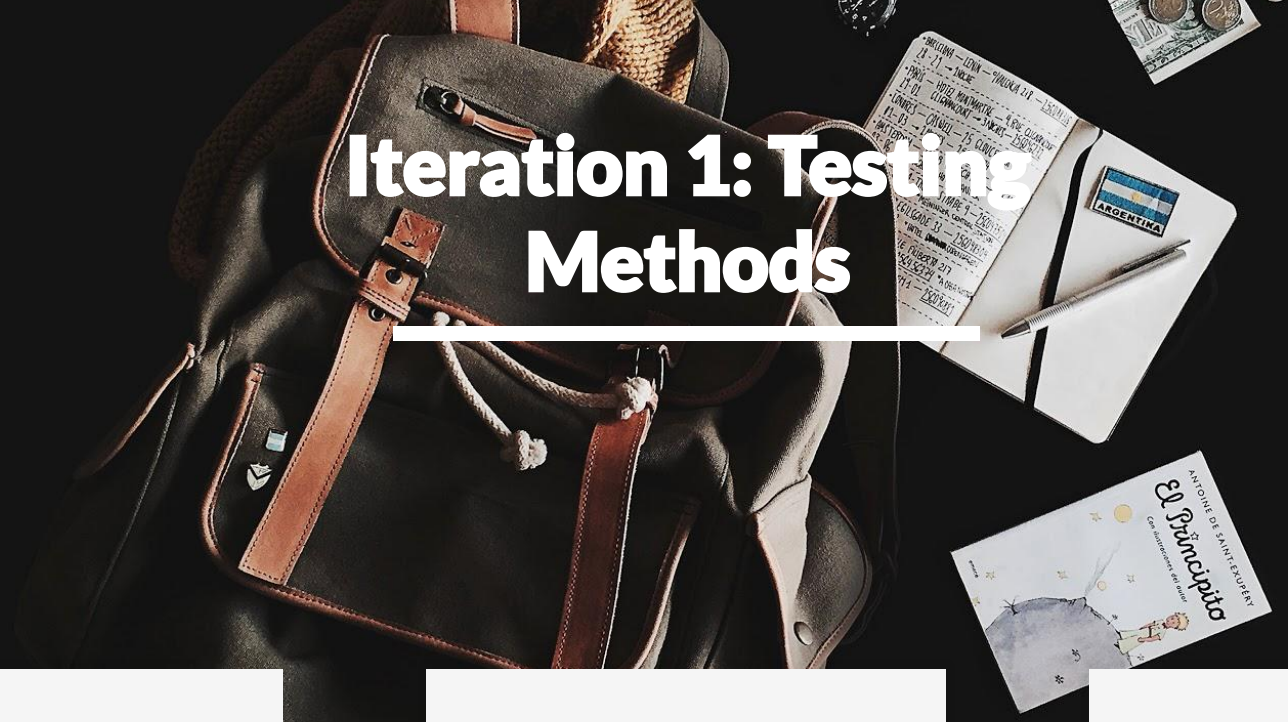
MAGIC CROSSING



PENGATE

THE DUCK

Iteration 1: Testing Methods



Tutor Feedback

Receiving external feedback is able to help address bias and further improve our concepts.

Ergonomic Test

Better understand different aspects of human performance & eliminate undesirable elements.

SWOT Analysis

Summarises our findings and ensures a broader coverage of the potentials and issues of the concepts.

Engagement

Intuitive Design

Power to Pedestrians

3 Insights From Iteration 1

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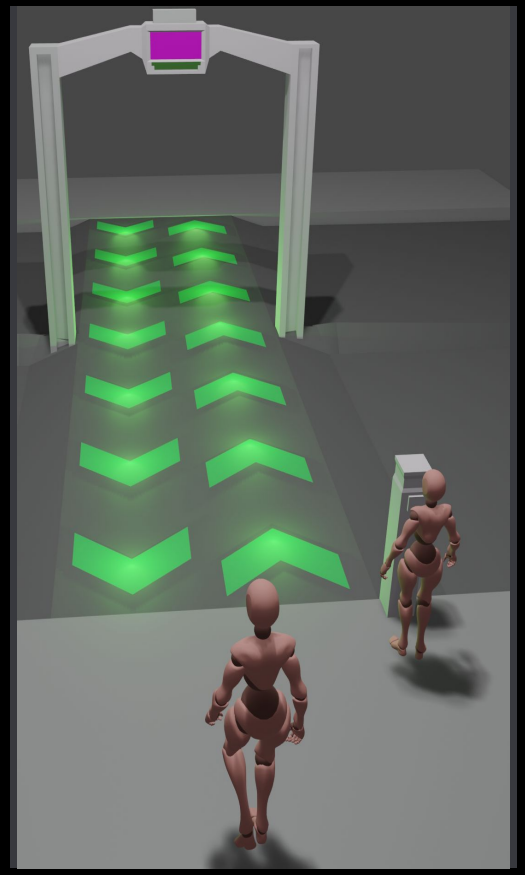
Three Concepts



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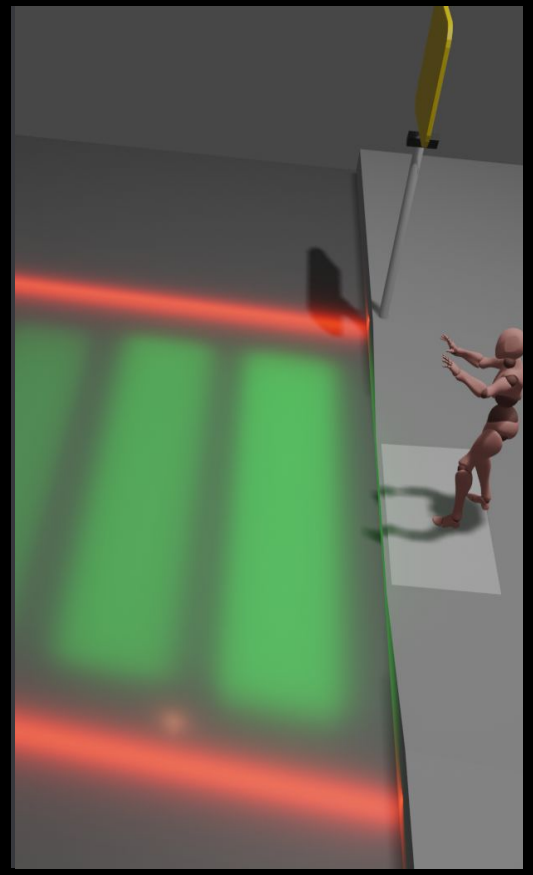

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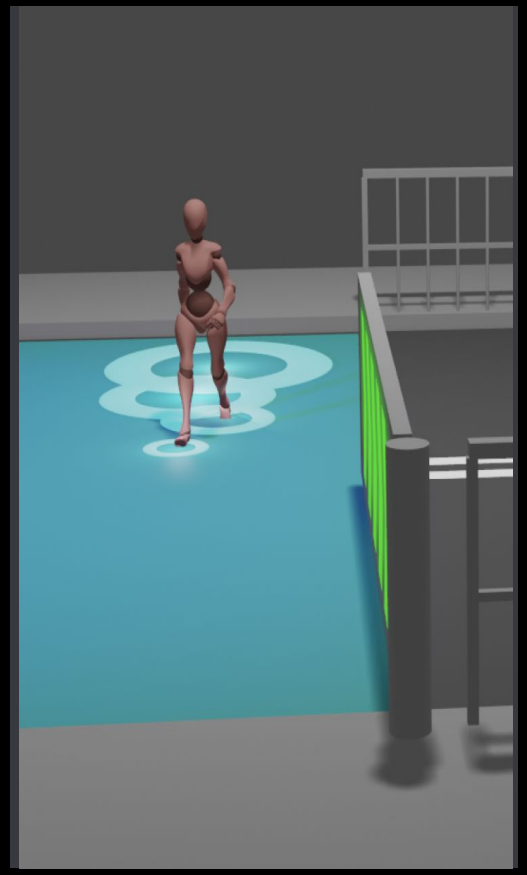

PENGATE

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Focus Groups

(TESTING OF FLOW)

This was done with 6 school children, 1 parent and 1 teacher.

- Help to assess user needs and concerns
- It is an easy time-efficient method of gathering a lot of data

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Focus Groups

RESULTS

LACK OF EXCITEMENT

“Unamused! I always think, eurgh, a crossing!“ - Child 4

“I do occasionally feel a bit bored when I walk, which is probably why I do look at my phone.” - Parent

UNWILLINGNESS TO WAIT

“Lets be real we just want to get across.” - Child 2

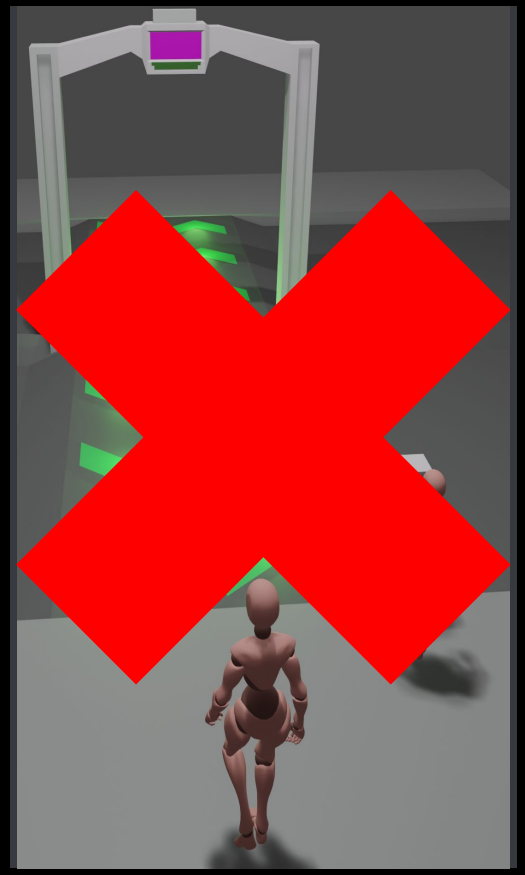
“I’m not a big fan of waiting for a long time so that I ca cross.” - Teacher

LACK OF AWARENESS

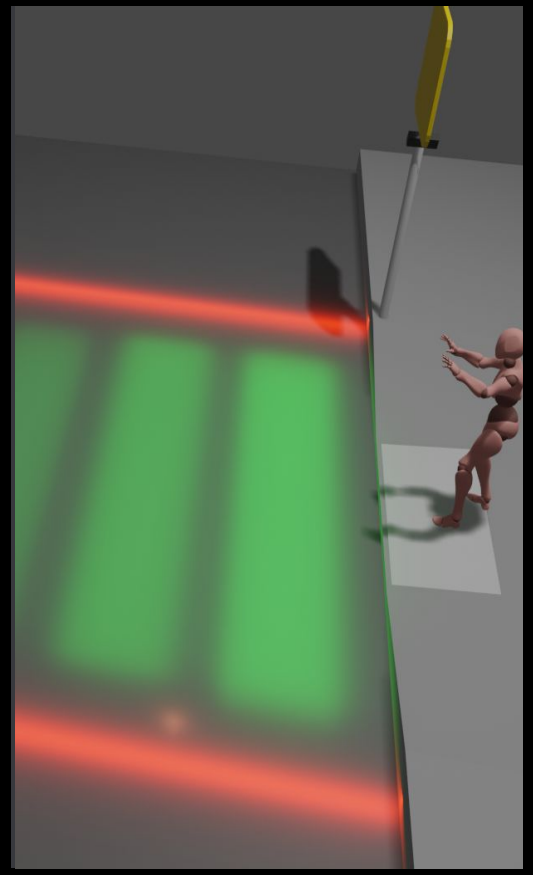
“I just don’t see the point to using the zebra crossing when I can just do it myself, you know?” - Child 3

“The zebra crossing near my school really needs an improvement..., it feels hidden away.” - Child 1

Two Concepts



FLOW



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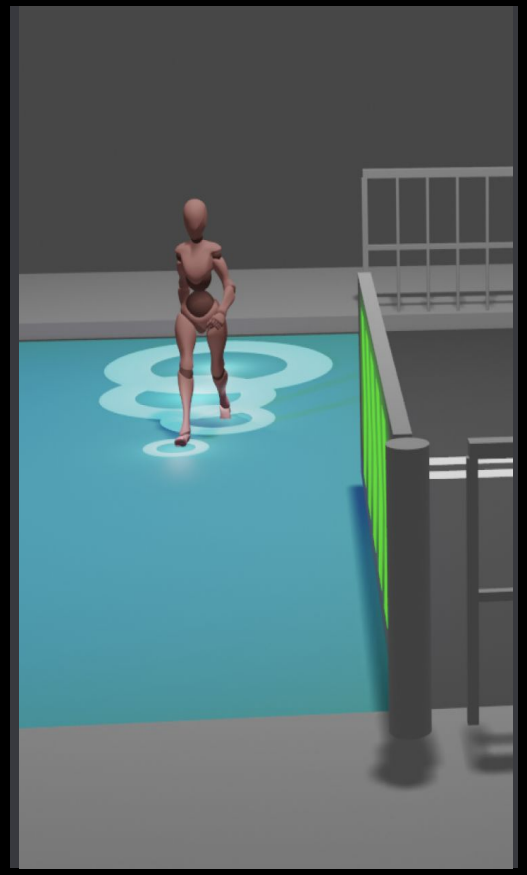
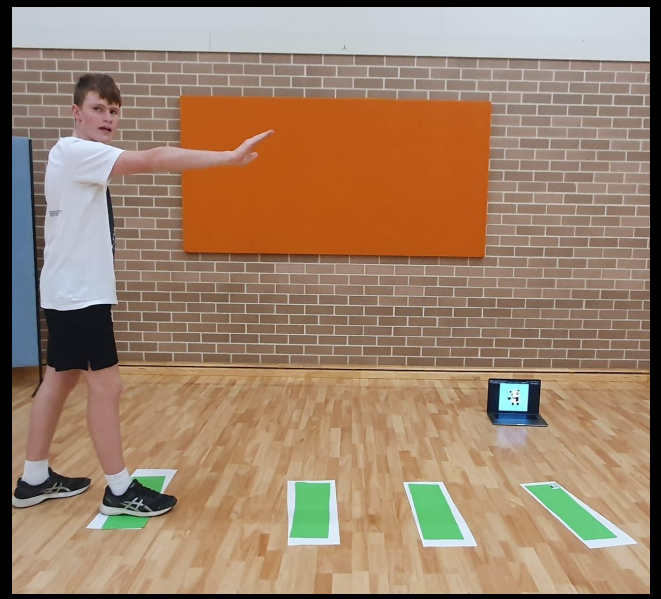


PENGATE

THE DUCK

Concept Changes For Testing

MAGIC CROSSING



Redesigned digital board

Redesign LED path slightly

Removed Weight Sensors & Timer

PENGATE

Got rid of interactive floor due to feasibility issues

Iteration 2 & 3: Testing Methods

Usability Testing

Involving users to better understand how they interact with our concepts through prototypes, and gain tacit knowledge.

Observations

Allows for real-time analysing and understanding of what our product would be like in its' real environment with the target users.

Post-test group interviews

Conducting interviews after testing is able to help us 'gauge users opinions about concepts.

Iteration 2:

Magic Crossing Findings

1. "I want extra safety features for the design"

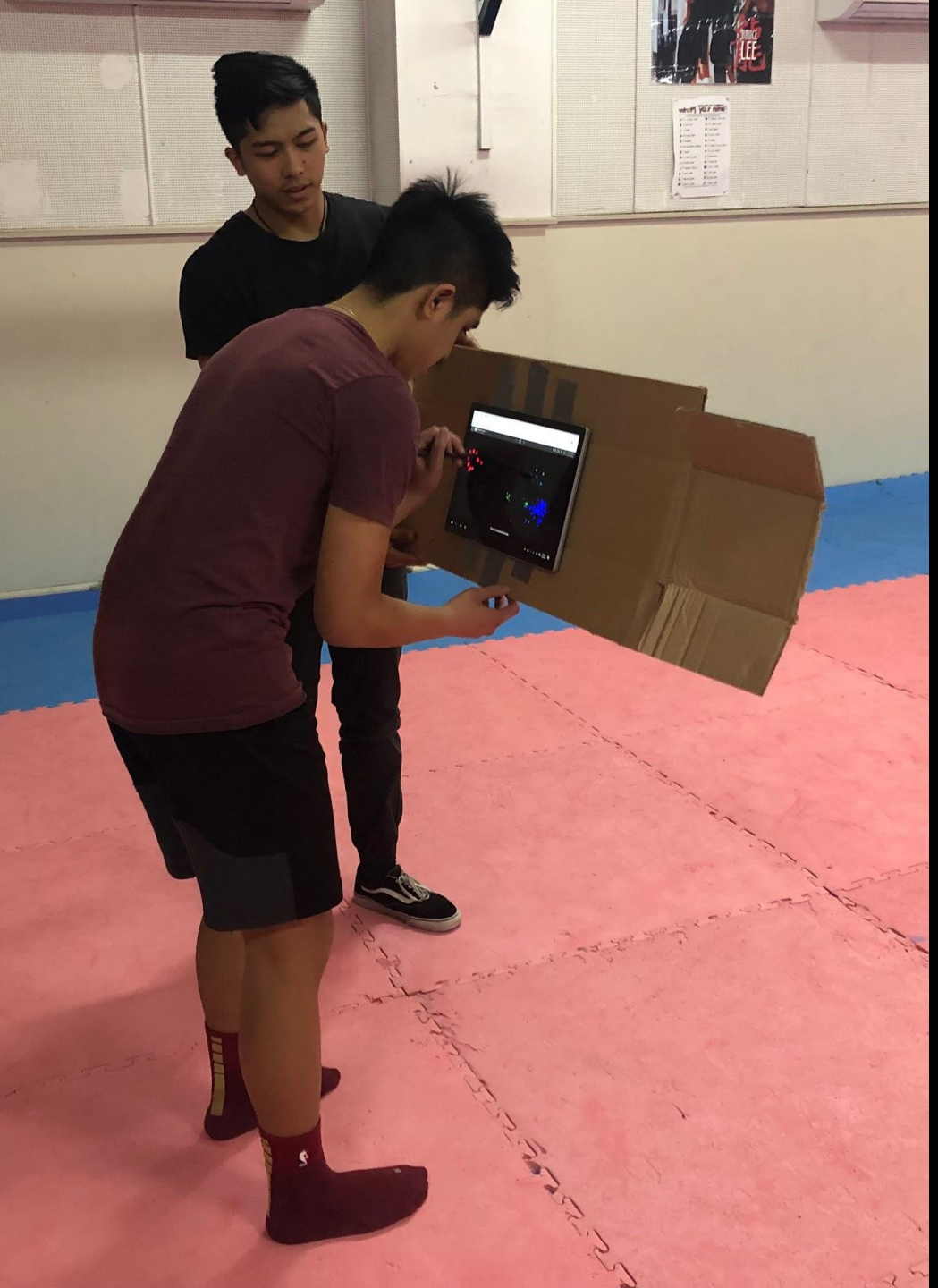
2. "I want something more practical"

3. "I require better and more dynamic visibility of the animation"

4. "I want a design where more than one person can interact with it"

5. "I want a more personalised experience"

6. "I want more diverse interactions and instruction"



Iteration 2:

Pengate Findings

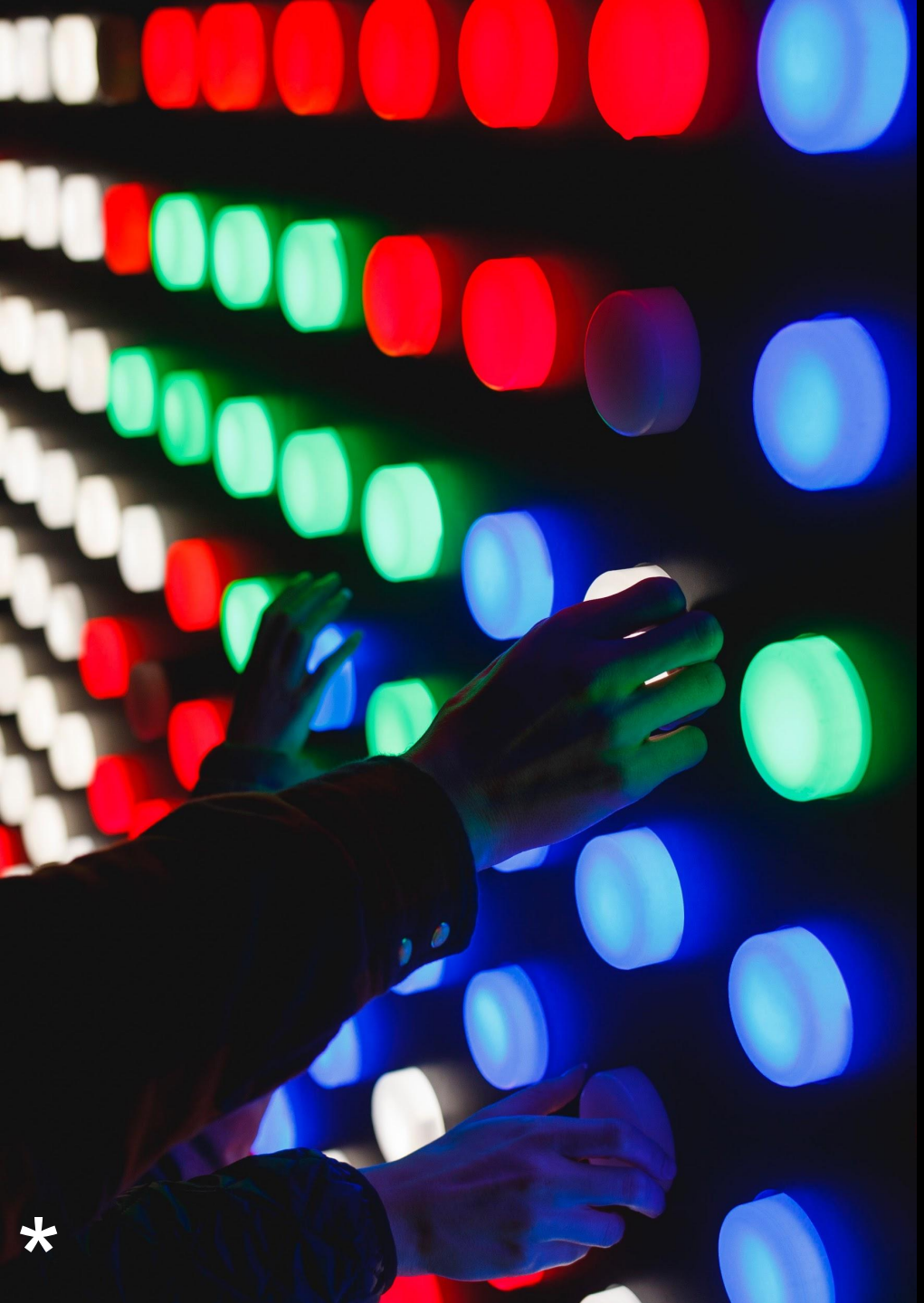
1. “I didn’t know what to do or when it would end”

2. “Because the gate blocks me, I would try to find a way around it”

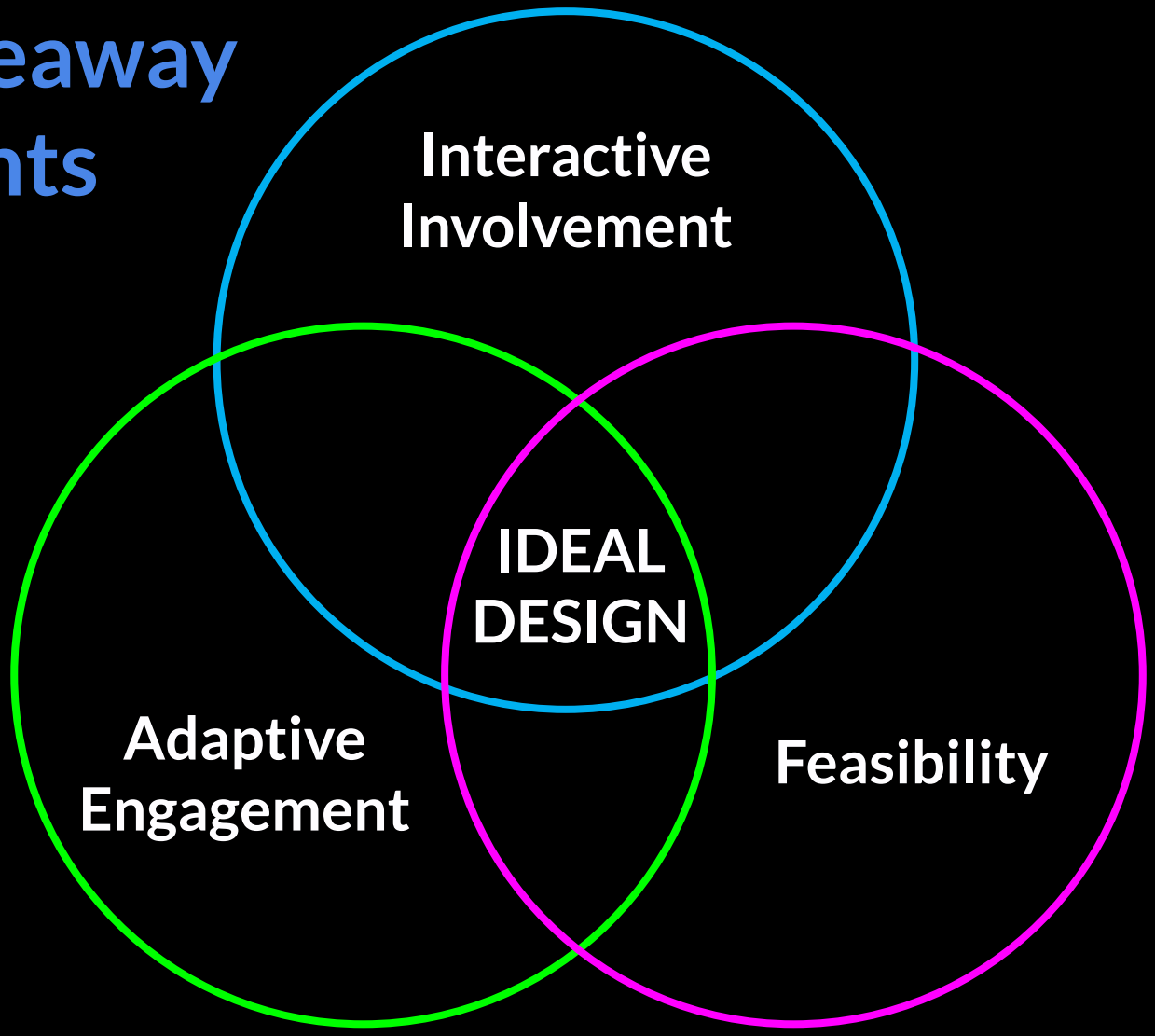
3. “The gate can be dangerous”

4. “I’d rather not draw anything and just cross the crossing”

5. “I would rather jaywalk when I am in a rush then wait at a gate”



Iteration 2:
Overall Takeaway Points



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Concept Changes For Testing

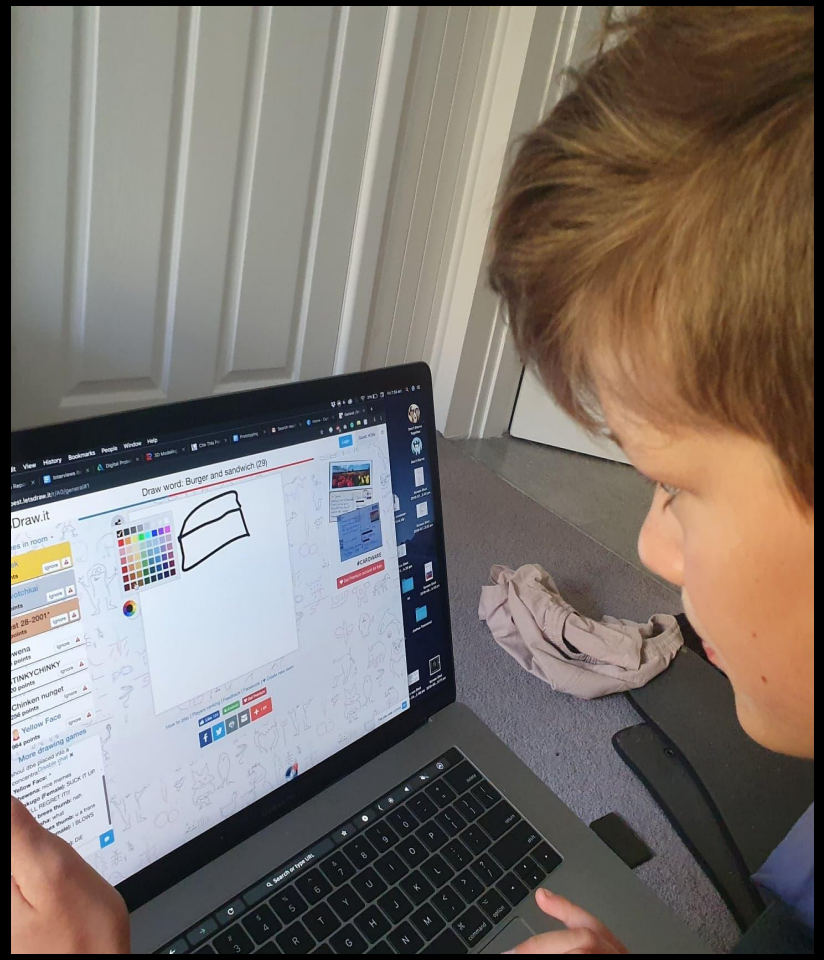
MAGIC CROSSING

Removed gesture motion activation

Redesign digital board

Redesign LED strips

PENGATE



Redesigned to a kiosk style screen for a pictionary game screen

Got rid of the gates

Iteration 3:

Magic Findings

1. "I desire an adaptive interaction to keep me connected."

2. "I desire spontaneous interaction to keep me engaged"

3. "I require a clearer feedback for a more effortless experience"

4. "I need a good indicator to better inform my actions"

5. "I want a more subtle design for a pleasant experience"

6. "I want a more personalised range of animations"

Iteration 3:

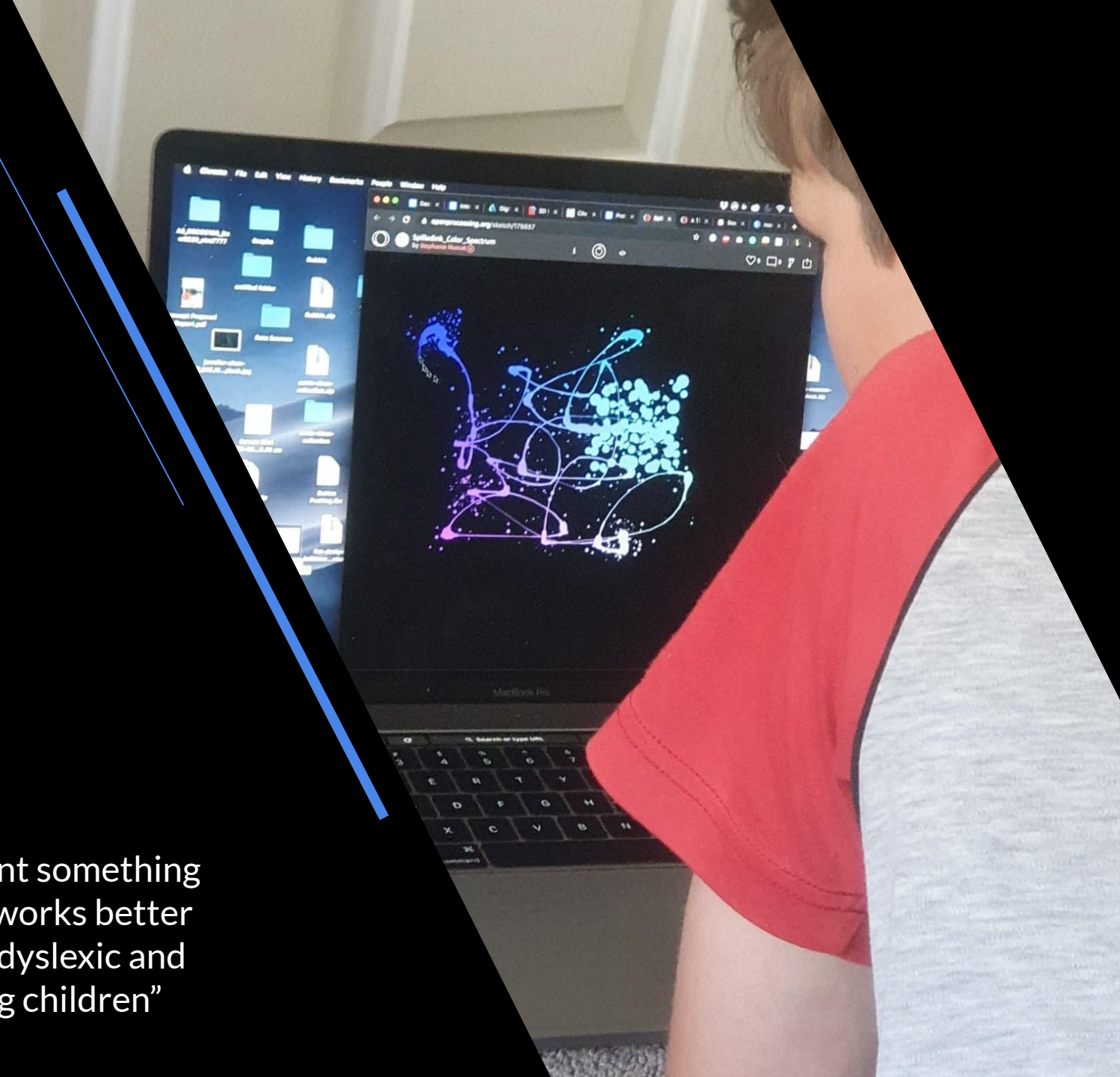
Pengate

1. “I want an interesting & lasting design that I can continually enjoy playing”

2. “I want a more accessible design for more people”

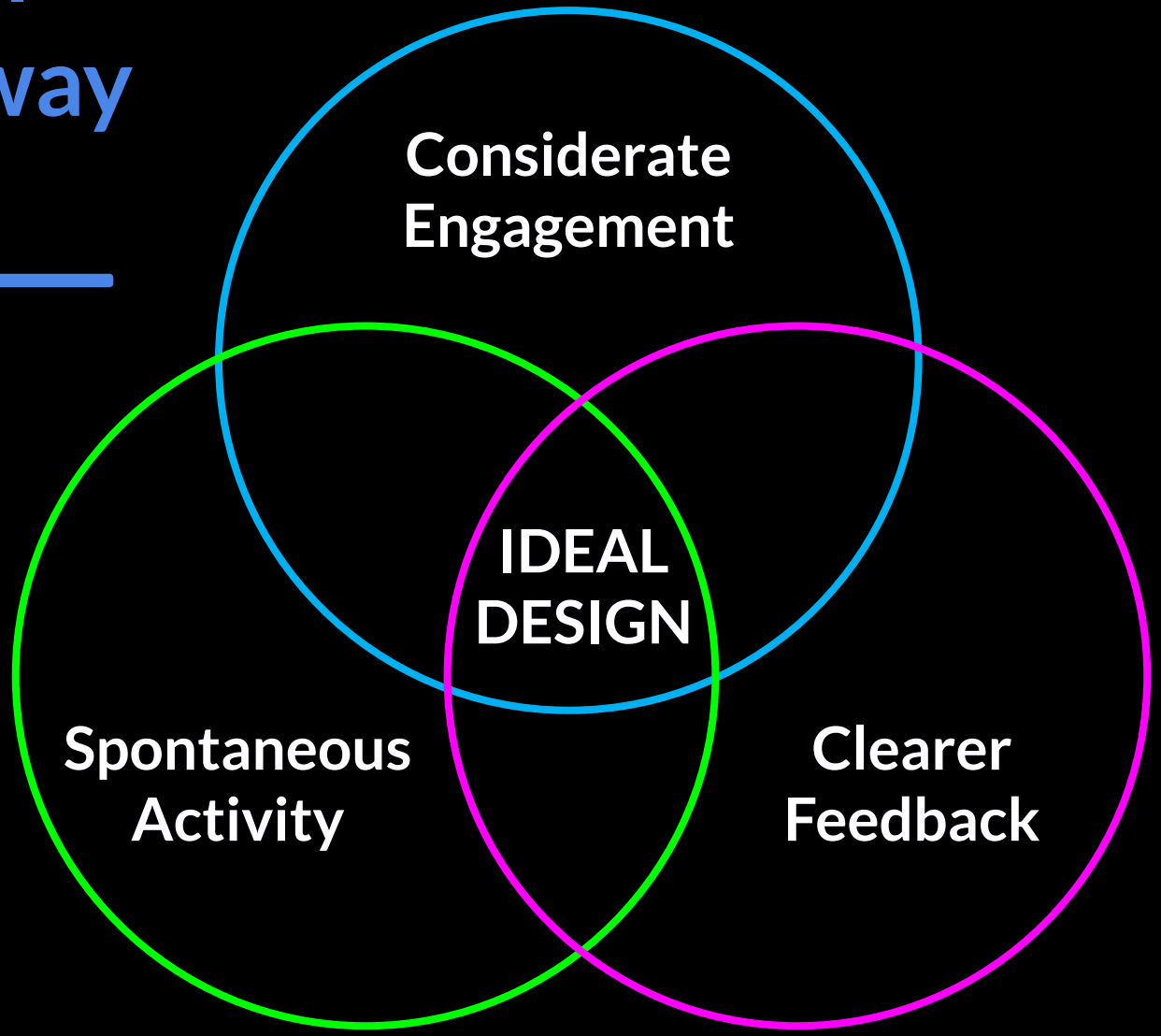
3. “I want more people to be able to play it and enjoy it at once”

4. “I want something that works better with dyslexic and young children”



Iteration 3:

Overall Takeaway Points



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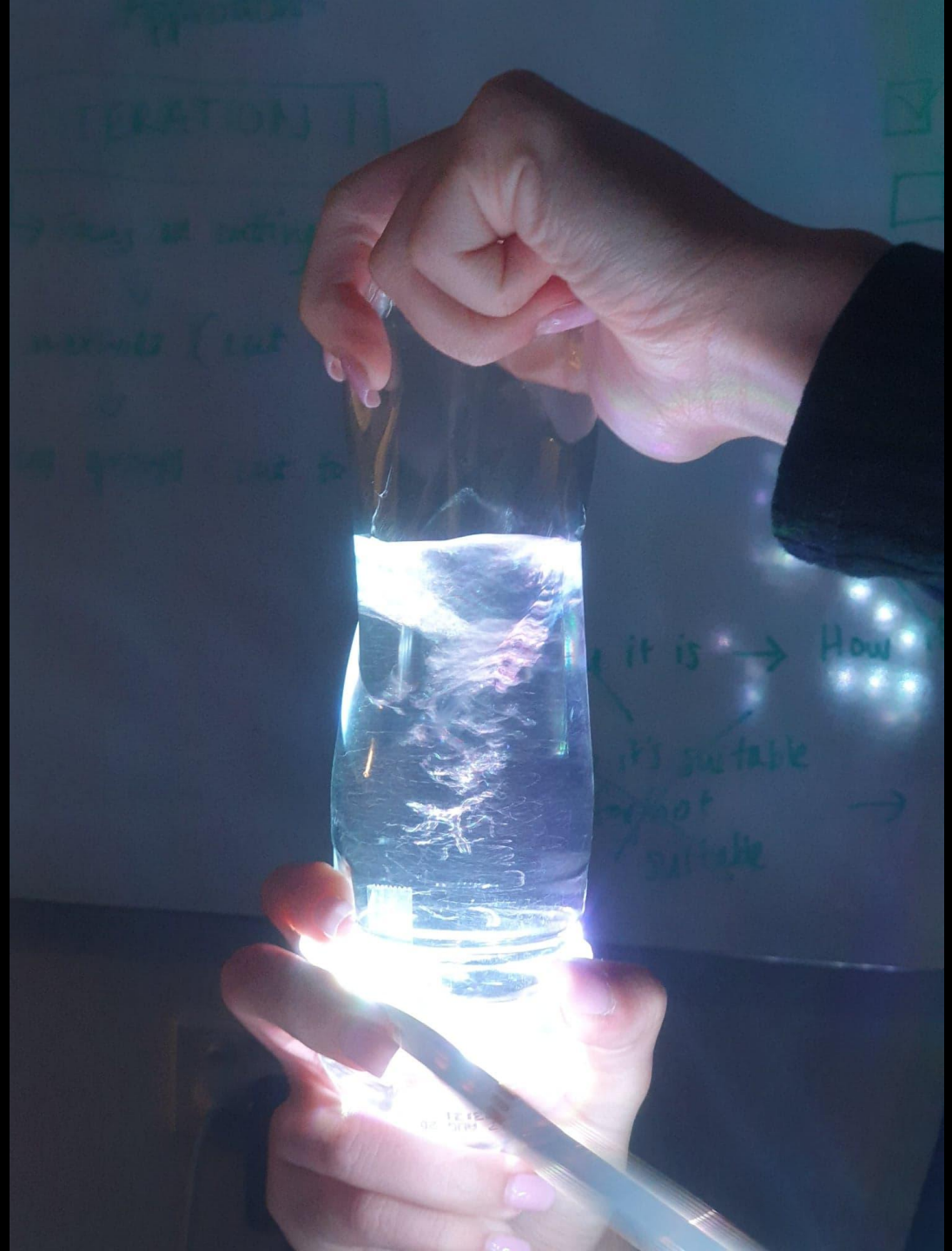
FINAL CONCEPT

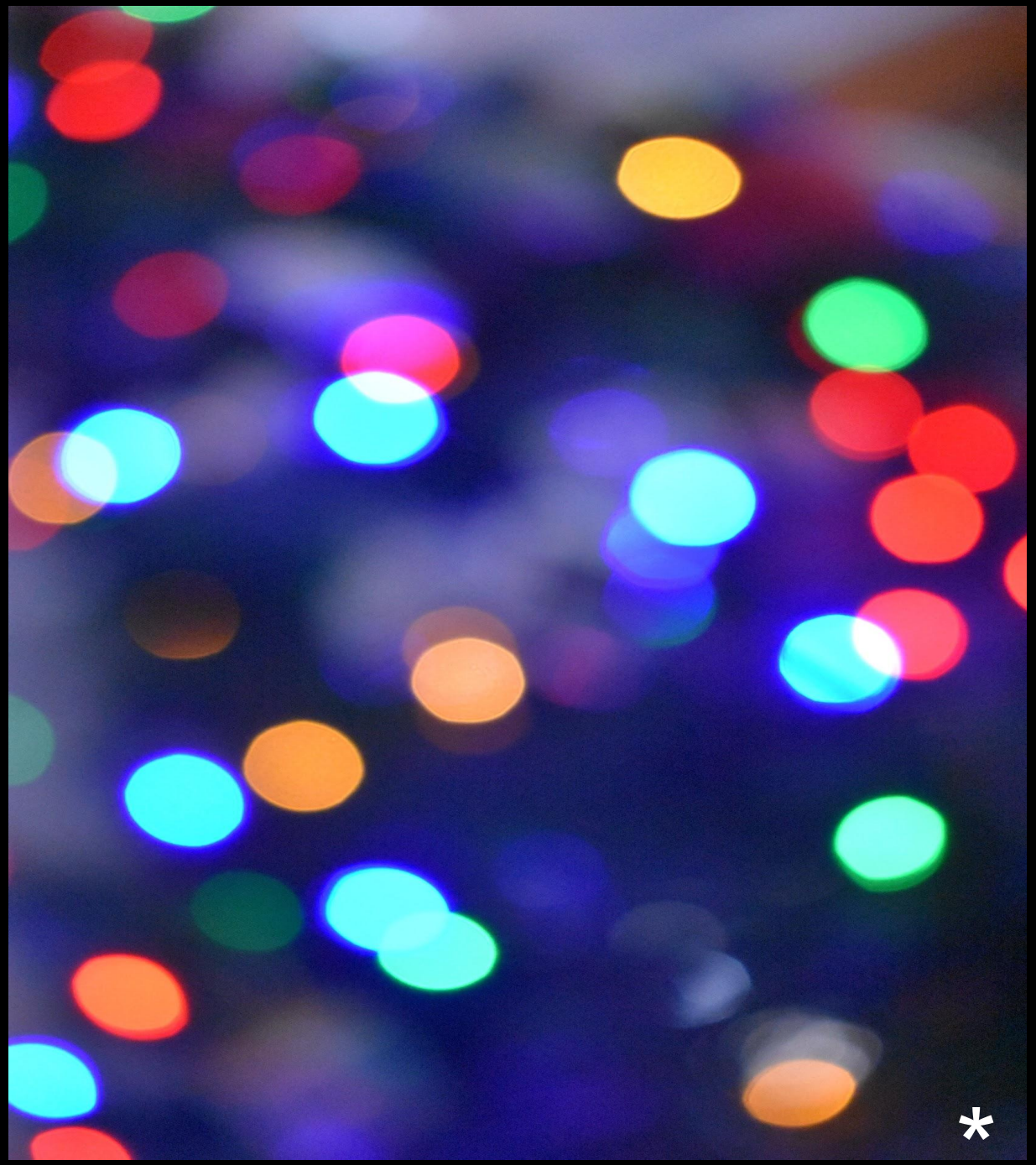


What is it?

- Compliment a standard zebra crossing in a school zone, through an increased desire to use the crossing.
- It is a cylindrical tube that uses a natural element, water, with light instalments for a calming and subtle design.

Why this concept?

- The concept is more natural, taking inspiration from water features to be less intrusive.
- Is more subtle than screens, but retains the interactivity and engagement of an animation.
- This concept is extremely feasible to create compared to the previous two concepts.
- We are personally excited to create it!



How it works.

Approaching The Crossing

Motion sensors are set at designated intervals before reaching the crossing, each sensor triggers the next animation of the lights and the water.

Cylinder Full Of Water

The cylinder becomes filled with water and is lit from below by led lights. As the cylinder becomes fuller a motor spins within creating a whirlpool effect.

Lit-up Top On Tube

The top of the cylinder lights up, flashing orange to warn cars that someone is in the vicinity of the crossing.

Getting Ready To Cross

The whirlpool fills to the brim and begins to overflow the lights and sound effects urge the user across.

Crossing The Road

As pedestrians cross the road, the tube's motion sensor will cause the lights to animatedly spin across the tube, while a victorious sound effect will play out.

How does Whirlpool tackle our disconnective problem?

Creative Collaboration

Reactive interaction

Exciting & clear immediate feedback

Natural design aesthetics

Potential issues:

Potential For Motion Sensors to Detect unnecessary objects

May Be Hard to Model Motion Sensors to Present Realistically

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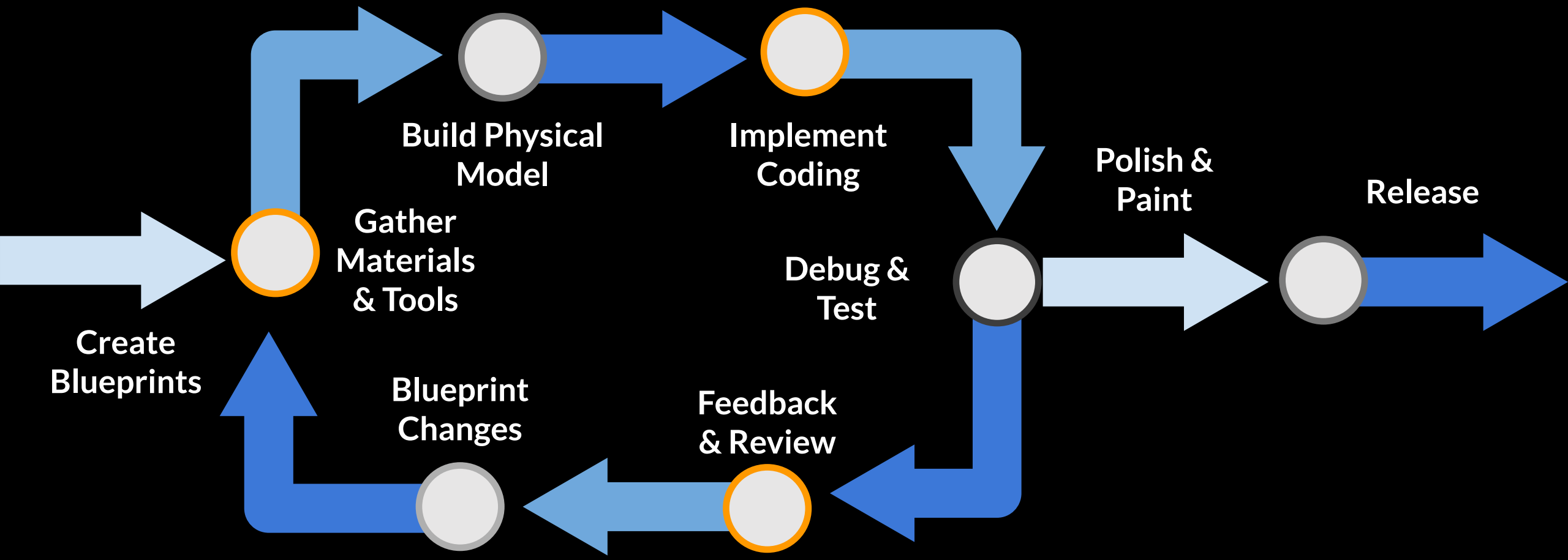
Implementation Plan



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