VICTORIA'S

PORTFOLIO - DECO3200

TEAM: PEDESTRIAN PLUS

Enhancing pedestrian experience in cities

Photo from Unsplash

Photo from Unsplash

CONTENTS

pg. 2 — **INTRODUCTION**
Problem Statement // Description of final concept

pg. 3-4 — **TEAM STRUCTURE**
Overview of team // Description of my role on the team

pg. 5-7 — **CONTRIBUTIONS**
My key contributions throughout the design process

pg. 8-10 — **CHALLENGES**
Arising issues in teamwork & how they were addressed

pg. 11 — **FINAL REFLECTION**
How well did I work in the team // Things to do differently // Will the final prototype be continued further?

pg. 12 — **BIBLIOGRAPHY**
Referenced in APA format

pg. 13-23 — **APPENDIX**
Photos // Sketches // Extras

PROBLEM STATEMENT

"Creating a dynamic experience to engage school students to use the school crossings"

Currently, our crossing infrastructures fail to deliver a mainstream solution to engage young pedestrians to exercise safe crossing behaviours, particularly within school zones. This is reflected in their ongoing decision to jaywalk, which underscores a **disconnecting experience** that is more due to necessity rather than for the purpose of enjoyment and choice. It is because of this behavioural and attitudinal trend that results in neglect, which contributes to the **decreasing value** that a crossing is able to provide for the safeguarding of pedestrians.

Hence, the **static assumption and perception** of school crossings were identified to be a major concern in school zone environments **[refer to Appendix 7]**, where the active school environment overemphasised this problem. This has seen road-traffic injuries fast-tracking itself to becoming the **leading cause of death for young Australians,** with a 50% drop in the number of children that walked to school in New South Wales alone **[1]**. Despite this, it is concerning that 'there is a tendency to **favour motorised transport**' rather than prioritising the needs and experiences of pedestrians **[3]**.

Therefore, my design team and I intended to find an alternative way to **support young children** ages 6-14 in exercising safe crossing behaviours, by creating a **dynamic** pedestrian crossing experience that delivers a **visual and curious appeal** to increase crossing usage.

FINAL CONCEPT

Our proposed solution is designed to **complement a standard zebra crossing** in a school zone and increase the children's desire to use the crossing facilities. It is an **interactive instalment** concept called **'Whirlpool',** which is positioned at either ends of a zebra crossing to provide **progressive lures**. This is offered in the form of adaptive visual feedback (water and lights) that is unobtrusive and pleasant to experience for increased safety and engagement. Its purpose is to draw school children towards the zebra crossing whilst simultaneously being a point of recognition, positioning them to easily locate and curiously want to use the crossing infrastructure, rather than crossing prematurely.

The innovation here is delivering a perfect balance of **reactive interaction,** satisfying our target age group's need for immediate gratification, and **creative involvement,** providing a personalised yet publicly shared experience that fosters **intrinsic value** for a long-term meaningful design. This is achieved with the ultrasonic sensor feature, which relies on users' movements based on their proximity to the instalment, to change the light patterns and activate the whirlpool. The power of safe crossing is now finally placed in the hands of young pedestrians in a way where they can self-directly learn and play for a **memorable pedestrian experience.**

Photo from Unsplash

MEET THE OTHER TEAM MEMBERS

JOSHUA TOWNSEND: THE SPOKESPERSON

Supporting programmer, physical build assistant, 3D Modeller, videographer, UX Design

Josh's main role was to help me communicate tasks and plans to the team. Being another lead UX Designer, he is responsible for conducting and gathering our user testing data and collaborating with the content creation for reports and presentations. Josh is also our main spokesperson, communicating our ideas to the public and members outside our design team, as well as lending a hand in communicating our concept through 3D modelling and videography.

JARED CAPILI: THE HANDYMAN

Lead physical builder, videographer, conceptual designer, UX Design

Jared is responsible for leading the building of the physical product, whilst managing risks such as waterproofing. He is an active member of the operations & production team, working with me to deliver the conceptual design into a real-life physical product, and then helping to communicate our concept through videography. Jared also plays a role as a supporting researcher, helping to ground the foundation to our innovations as well as assisting in conducting and gathering user testing data.

HAN PENG: SUPPORTING PILLAR

Physical build assistant, videographer, UX Design

Han's main role included providing general support to the team, which saw him extending his skills in assisting with the physical building of the final prototype, as well as actively being involved in communicating our concept through videography. As a UX designer, Han provided general background research to add to the team's knowledge and direction of our various design iterations and proved to be a huge support and assistant to our lead physical builder, Jared.

JAYCE GAO: SUPPORTING PILLAR

Assistant 3D Modeller, graphic designer, UX Design

Jayce's visual development skills helped to assist the team to conceptually deliver our iterations in a high-quality format, providing support to our main 3D modeller, Josh. He provided various suggestions as an addition to some of the iterations that we came across, providing some challenges to help tighten the concepts. He assisted with a few research, with his main responsibilities in graphic design.

MY ROLE ON THE TEAM

VICTORIA TRAN: THE BACKBONE

Lead programmer, lead researcher & executor, visual & conceptual designer, UX design

My overall main role in Pedestrian Plus was to oversee and direct the project to meet deadlines and quality standards. This included the responsibility to hold the group accountable and to keep the team afloat. As the lead researcher and UX designer, I had the responsibility to interpret data from user testing and to provide a firm foundation for the innovative idea creation stage, guiding my team to design an appropriate product that met the design brief and more importantly is suitable to our target users. I was also the coder for my group's product interaction, and had wiring help from Josh.

As the quality checker, I pushed and challenged my teammates and myself with our roles, and where needed, edited and tightened the research, concepts and designs produced by the team. This saw me putting in more time and effort to deliver extensive and relatable research to back my team's design direction and identified problem space. Overall, I was responsible for the behind-the-scenes foundation of our teamwork.

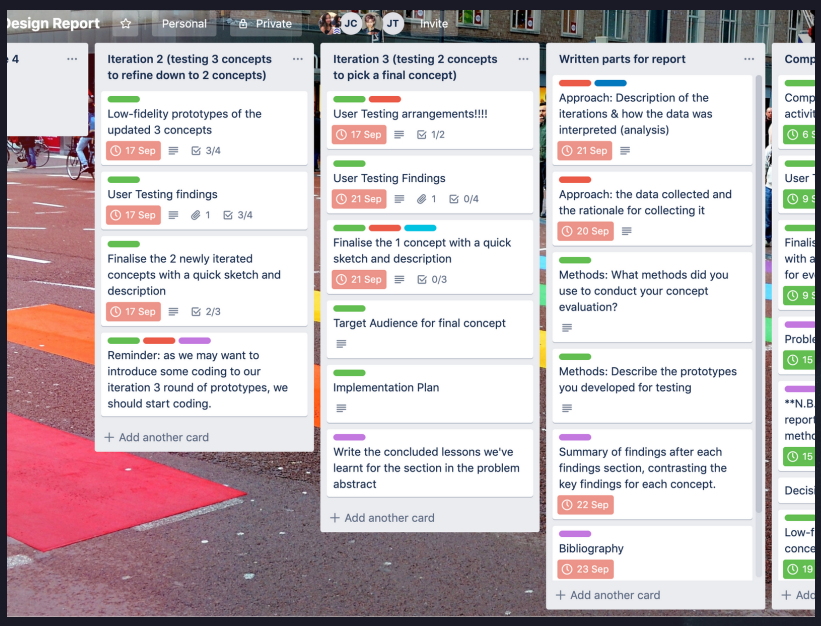


Figure 1 - My schedule to keep the team on track, with colours to represent each team member's roles

Additionally, as I was responsible for the group's work dynamic and flow, I was also held accountable to provide all-round support to my teammates, which included stepping in to complete their tasks at times where the group faced difficult challenges external to the design project. This was extremely tested when my teammate, Josh, decided to co-share the lead responsibility with me but had a few setbacks that positioned me to have to step up to fill in both roles. With this big responsibility, my role in the team also saw me extending myself across various skills and stages of our design process, whilst simultaneously multi-tasking the responsibilities I had as the lead UX designer, researcher and programmer. Josh assisted me in my lead role by communicating my organisational tasks, as he was more versatile in the ability to reach out to the other teammates based on personal relationships.

MY KEY CONTRIBUTIONS

THE PROCESS LEADING UP TO PRODUCING WHIRLPOOL

1 DISCOVERY STAGE - RESEARCHING

Writing & Creating Team's reports

A lot of the contributions to our submitted reports was directed under my leadership, due to my skills and willingness to provide extensive research, combined with my visual design skills in designing our visual reports. Assignment 3 had more onus on Josh's direction, however, a portion of the content and the final edit/design changes of the overall report remained my responsibility. I particularly volunteered to finish and finalise Josh's report direction to lessen the burden, as he and the video team appeared to struggle during the video-making process. Further, I held the responsibility of cross checking the group's process with the design brief and marking criteria.

Throughout the report making process, my key contributions consisted of synthesising everyone's content and making it all tie together as one cohesive report, as well as providing additional support in strengthening everyone's background research by adding in critical analysis.

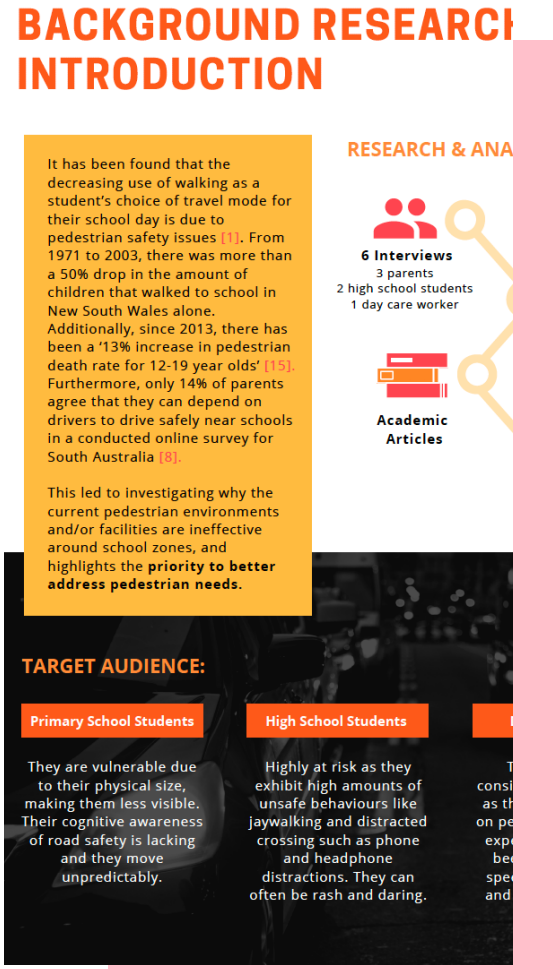


Figure 2.1 - My research & report design for A1

2 DESIGN STAGE - PREPARATION

Organising team's design & development approach

[Refer to Appendix 4 for my draft notes on design preparations]

As I was overseeing that my group met the set criteria, my key contributions here involved planning and enforcing the team's design approach timeline, ensuring quality performance. This saw me collaborating with my team to finalise our chosen user testing methods, as well as presenting some future challenges to address in order to deliver our set tasks in time for the deadlines.

[Refer to Appendix 6 for our implementation plan for Whirlpool]

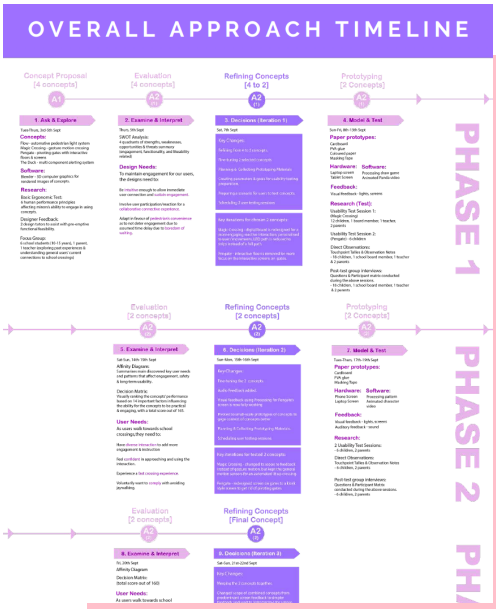


Figure 2.2 - My approach timeline

MY KEY CONTRIBUTIONS

THE PROCESS LEADING UP TO PRODUCING WHIRLPOOL

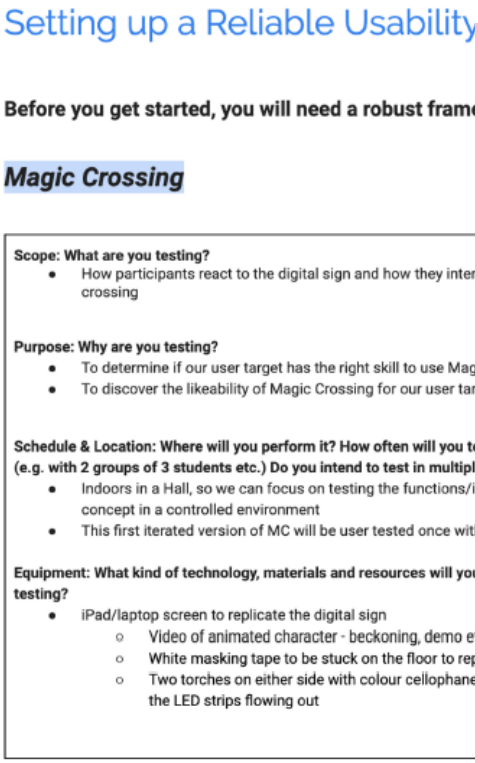
3 USER TESTING STAGE

User Testing pre & post contributions

In our user testing stage (Report 2), my extra contributions in the content creation of the report included synthesising and interpreting our collected data from the user testing sessions that were held by Josh and Jared. From this, I collaborated to summarise our team's overall findings and helped communicate the changes to address for each iteration round of our premature concepts before Whirlpool.

I also contributed in helping Josh (our main user testing conductor) and Jared set up meaningful user testing sessions, by developing user session goals and plans (which included setting up questions for post-test interviews and our focus group, and setting up templates for user observations) in an attempt to help them run their sessions more smoothly.

[Refer to Appendix 2 for synthesising data]



Setting up a Reliable Usability

Before you get started, you will need a robust fram

Magic Crossing

Scope: What are you testing?
- How participants react to the digital sign and how they inter crossing

Purpose: Why are you testing?
- To determine if our user target has the right skill to use Mag
- To discover the likeability of Magic Crossing for our user tar

Schedule & Location: Where will you perform it? How often will you t (e.g. with 2 groups of 3 students etc.) Do you intend to test in multipl
- Indoors in a Hall, so we can focus on testing the functions/i concept in a controlled environment
- This first iterated version of MC will be user tested once wit

Equipment: What kind of technology, materials and resources will yo testing?
- iPad/laptop screen to replicate the digital sign
  - Video of animated character - beckoning, demo e
  - White masking tape to be stuck on the floor to rep
  - Two torches on either side with colour cellophane the LED strips flowing out

Figure 2.3 - My template, setting up testing goals etc.

4 USER TESTING STAGE - LOW FI PROTOTYPES

Creating prototypes & iterations

At the beginning of our team's journey, we all came up with our own concepts to address our problem space and design brief. My contributions here saw my premature concept, Magic Crossing, being developed through iteration rounds 1 - 3 based on user testing and research results. This meant that I was put in charge of the design direction and changes for Magic Crossing throughout Assignment 2, reflecting my contributions in applying user data and findings to this concept to be ready for our various user testing sessions. As a result, I was one of the 2 lead developers in creating the low-fidelity prototypes (Jared was put in charge of the other concept that made it through as well from the user testing sessions). Josh assisted Jared and me in between, before taking it to our users for testing. I was the innovator behind the different approaches in developing our low-fidelity prototypes.

[Refer to Appendix 1 for iterations of Magic]

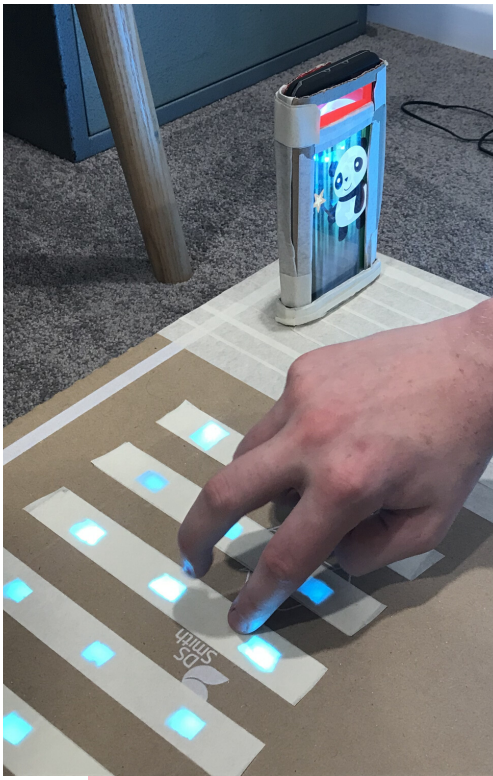


Figure 2.4 - My low fidelity prototype of Magic Crossing.

MY KEY CONTRIBUTIONS

THE PROCESS LEADING UP TO PRODUCING WHIRLPOOL

[Refer to Appendix 3 for visual development of Whirlpool]

5

IMPLEMENT STAGE - FINAL PROTOTYPE

Creating & Blueprinting Whirlpool

Josh and I were the main collaborators here, where my suggested ideation for Magic Crossing, and my emphasis on moving away from digital screens to more natural designs, sparked him to move into the beginning phases of the amazing creation of Whirlpool.

Further, I noticed that the building team seemed stressed and unclear on the foundations of the physical structure of Whirlpool, making it difficult for them to begin construction & material gathering.

Therefore, I stepped in to get the blueprinting of the final concept up and running, which allowed my team to elaborate the blueprint further. Further, I contributed to the final aesthetics of Whirlpool in regards to the dark aesthetic and water upgrade (by dyeing the water and adding some glitter to enhance its appeal and emphasise the Whirlpool a bit more).

[Refer to Appendix 5 for napkin initial blueprint]

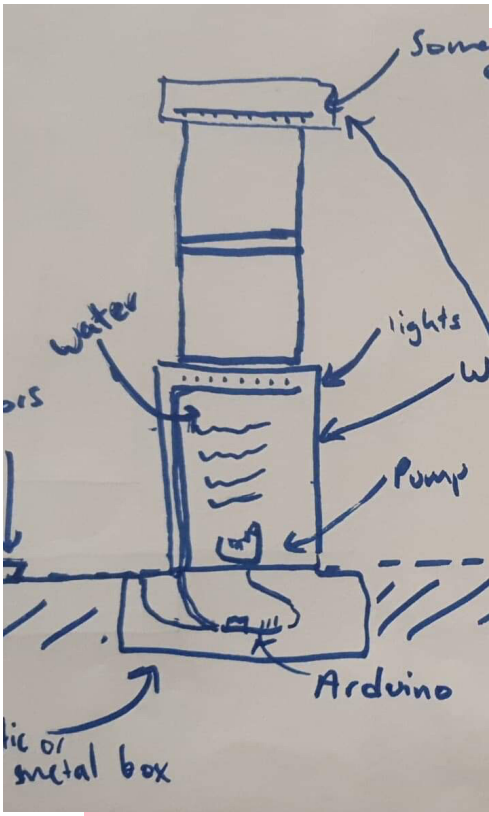


Figure 2.5 - One of the draft blueprints for Whirlpool

6

IMPLEMENT STAGE - FINAL PROTOTYPE

Lead programmer & supporting hardware tech

My contributions here was the coding of individual elements (motion sensors, ultrasonic sensor, LED strips, the water pumps and the relay), and then combining them all together in order to create the interactions for Whirlpool. Josh helped me get the coding working with his contributions as the wiring tech, involving his assistance with voltage, relays and resistors. My contributions also included being the main person to debug the code and error-proofing some of our hardware issues. A good example was my involvement in researching alternative ways to deliver Whirlpool's intended interactions after the motion sensors proved to be too sensitive and undependable. This led to my suggestion of an ultrasonic sensor, which proved to be more dependable, whilst allowing our team to maintain the production of Whirlpool.

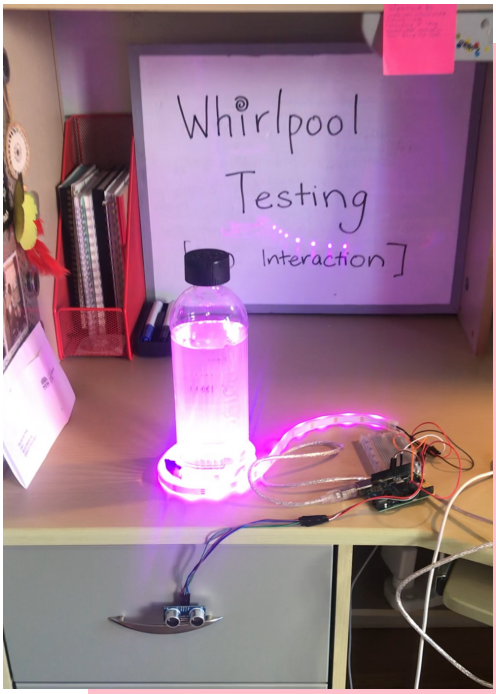


Figure 2.6 - One of my testing phases with the coding

CHALLENGES

ISSUES & HOW THEY WERE ADDRESSED

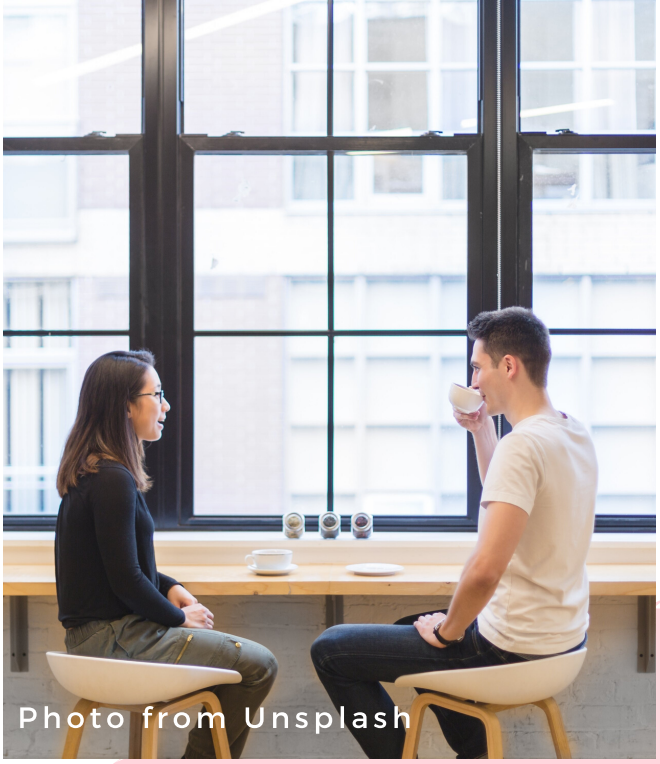


Photo from Unsplash

01

Communicating & Delegating Roles

With a few challenges presented amongst the team in regards to personal issues, this had an impact on overall team delegation and communication, where I fear that some members potentially may have felt a bit left out or unvalued - in particular Jayce. It was challenging as a group to address this and try to utilise Jayce as a member, due to his lack of skills/knowledge as he admittedly told us he had only completed one or two first year subjects.

Additionally, in my perspective, this problem was heightened from the group's lack of clear set roles. At the beginning of the project, we did share what skills we were good at, as well as completing a group charter. Despite this, we failed to come together as a team to confirm and implement these roles, and therefore I feel that we each had a different perception of what our individual roles.

Further, instead of putting more attention to leading the group, my efforts were placed more in contributing to the project on behalf of the group due to my lack of understanding as to what everyone's roles were, and the limited timeframe for the deadlines. As I also came late into this studio, I was a bit hesitant to assume my lead role to verbally communicate and delegate tasks, which was where I relied on Josh to communicate them for me.

To overcome these challenges, I attempted to support Jayce by setting tasks that could showcase his skills in the best way, such as talking to our lead 3D modeller and asking them to share some modelling work with Jayce. Additionally, in most of our tutorial sessions, I would set time aside to individually talk to Jayce as a friend and then update him on the group's progress to make sure he understood and felt included and involved (particularly as he had some language barriers).

In regards to the unclear set roles in our team, I attempted to address this by scheduling out tasks to be done and what was required in each assessment, and then delegating them to my teammates with the assistance from Josh communicating them to people.

Additionally, I supported Josh in communicating the unbalanced group contributions to our tutor, who then sat down with our whole group to address this issue. This led to an extended group talk after David (tutor) left, which effectively saw the group step up in general to pitch in their efforts.

CHALLENGES

ISSUES & HOW THEY WERE ADDRESSED

Photo from Unsplash

02

Team Support - Different Priorities

There were moments where I had to be accountable for decision-making and initiating the work, where I had wanted to put in as much effort as I could, but the team didn't reciprocate the support back. This was shown in the general expressions of wanting to throw in the towel and submitting the bare minimum, which admittedly impacted me and my work as well as causing some subtle conflicts in the group. I did feel unsupported at times, which reflected the ineffectiveness of our teamwork (which included my ineffectiveness to communicate as a team member during these situations). However, I do acknowledge that every team member was confronted with some personal issues external to the project.

To address this, I opened up to 2 members about my feelings on this and approached the situation in an empathetic and delicate way, as I still wanted to respect their individual situations. This resulted in a last-minute increase in team motivation after the whole group sat down to set goals, and we successfully managed to meet these goals as best as possible by working as a team and not single units. Specifically, I'd like to acknowledge Josh who encouraged and supported me to open up to the group as a whole about the lack of team support and optimism regarding the production of our instalment.

03

Working with young users

Due to their minor and developing cognitive considerations, conducting user testing took extra planning to get participants involved as effectively as possible, as well as going through their parents and asking for permission. This posed a few setbacks for Pedestrian Plus, and challenged us in how many user testing sessions we could conduct before our deadline. Another challenge from this target audience included having to take extra measures to interpret and gather good quality data from them.

To address our limited user testing sessions, our team adapted by taking a designer's perspective (through SWOT analysis, external feedback & ergonomics test) into consideration for our first round of iteration, rather than solely focusing on children. We also incorporated parents of our target audience, and school staff members to add to the quality and value of our gathered data. This helped us in facilitating the extra measure to gather good quality data, and helped guide the children in the testing sessions as well.

CHALLENGES

ISSUES & HOW THEY WERE ADDRESSED

04

Physical Product Issues

Upon creating our physical product, our team stumbled across a few challenges that included the formation of our Whirlpool effect. During testing, there were a few issues with the hole size, which required us to have to produce the right circumference to receive just the right amount of water pressure in order to create the Whirlpool. This tested our group in terms of patience and resilience, and challenged us to do a lot of trial and error with tape before we could commit to permanently forming the hole.

Additionally, we were also faced with challenges from the water pump itself, where after much testing, we deliberated that we needed more power from the pump in order to create a stronger and more prominent Whirlpool. The problematic power from the water pump was heightened when we decided to upgrade the skeleton of our product to a beer tower, meaning that the size was much bigger. This new height of our product positioned us to have to address the weak water pump issue, particularly as we were controlling it through an Arduino, which supported a limiting voltage power.

To address the power issue, after much discussion, our team decided to introduce a second pump, which then required the building team to have to drill another hole on the side of the tube. With the limited timeframe we had until our deadline, we decided to overcome the electricity risk of powering a higher voltage water pump through an arduino by using the wizard-of-oz methodology. This allowed us to still utilise our coding for the original weaker pump, and simultaneously provide extra power support through powering a second pump through external electricity. Hence, we were also able to get the water level to rise up higher on the tube than we previously achieved with 1 pump. As for our hole issue, we managed to get close enough to the right measure to produce the right pressure for the whirlpool effect to occur.

FINAL REFLECTION

HOW WELL DID I WORK IN MY TEAM?

I believe I worked as a valuable and active member of my team. I made efforts to communicate and compromise with the team, both as a group and to individual members when necessary, as well as listening to my members and challenging them when necessary to ensure feasibility and quality.. Further, I emotionally supported a few of my members with time outside our project, making sure that they were alright. However, the tight approaching deadline positioned me to see it easier at times to just pick up my team's responsibilities by myself rather than to sit them down and enforce stricter expectations for them to get their parts done. As a result, my communication wavered during these stages as I was too focused on shouldering these responsibilities, that my attention was focused less on trusting and depending on the team to collaborate and help get things done. Overall, my empathy and hard work ethic allowed me to recognise when I needed to collaborate more with the team, helping me bring the team together in the end.

WHAT COULD I HAVE DONE DIFFERENTLY?

Looking back, I would have definitely worked on leaning more on my teammates, which includes sharing to them my perspective as well. Coming into the group late, I became familiar with the fact that Josh seemed like the leader of the group as he was the most outspoken. So when the group dynamic shifted to the group leaning on me for further instructions, I was very hesitant and held back a few of my directing actions out of respect to Josh. This saw no clear group goals being set by either Josh or me, which is needed to allow group members to be able to work autonomously to support one another **[2]**. As a result, each member was pulling the direction of the project to a slightly different destination **[2]**, which I attempted to address through setting mini deadlines and tasks to be done. I would have been more clear on the goal setting, less hesitant in stepping up to the lead role, and I'd have enforced these expectations much more to the group.

Additionally, as I mentioned, I lost my communication skills when I was trying to overcompensate for other members' roles. I could have learnt to manage upwards, which means ensuring that everyone is aware of what I am doing at all times and how well I'm doing them (which includes telling them if i was struggling) **[2]**. This would have seen more diverse collaboration, as well as less stress on my half. Finally, as a side note, I would have spoken to David a bit earlier about how we could go about to incorporate Jayce a bit more. Our team left this a bit too late, and with the deadlines fast approaching, this positioned the team to not as effectively been able to communicate to meet Jayce's needs.

WILL THE TEAM CONTINUE TO WORK ON WHIRLPOOL FURTHER?

I believe that none of my teammates are interested in taking this prototype further. Even though this is not the area in which I'd pursue, I honestly would not mind taking it further (as I'm proud of what we produced) and gaining the experience in doing so (as I'm highly interested in making my own startups, as well as immersing myself deeply into product and app design).

BIBLIOGRAPHY

[1] Andreou, M. (2019). *Planning for Pedestrian Safety around Schools.* Sydney, Australia: UNSW. Retrieved from https://www.be.unsw.edu.au/sites/default/files/upload/pdf/schools_and_engagement/resources/_notes/5A3_27.pdf

[2] Fitzpatrick, B., Collins-Sussman, B., Treseler, M., & Lewis, A. (2012). *Team geek: a software developer's guide to working well with others* (First edition.). Sebastopol, CA: O'Reilly.

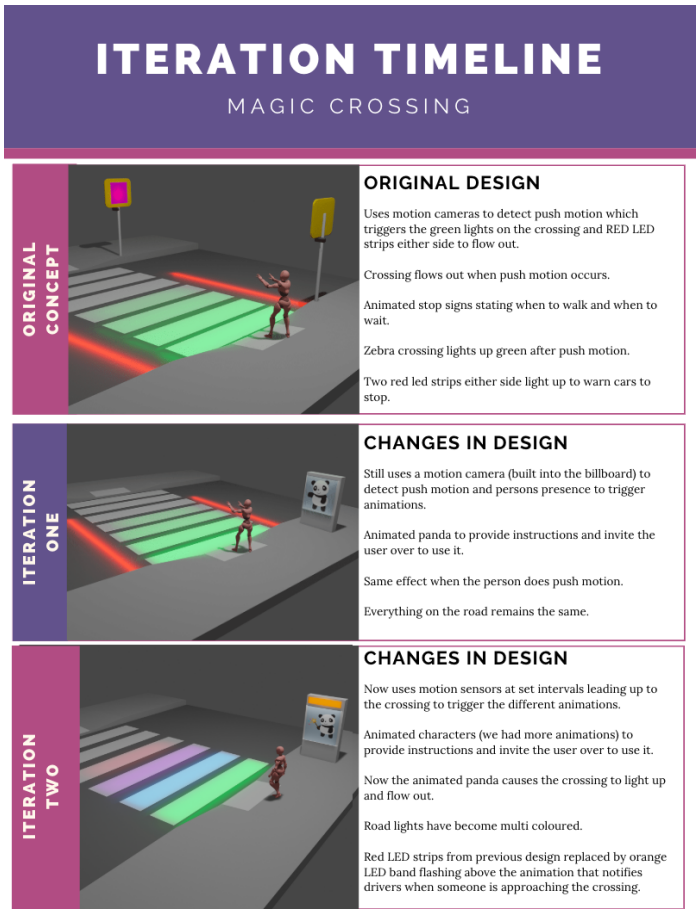
[3] World Health Organisation. (2019). *Make walking safe again: a brief overview of pedestrian safety around the world V.3.* Retrieved from https://www.who.int/roadsafety/decade_of_action/plan/global_plan_decade.pdf

Stock photos:

Retrieved 2019, from https://unsplash.com/

APPENDIX

Appendix 1 - Overview of iteration of chosen concept that led to Whirlpool



FINAL DESIGN

Operates on a normal zebra crossing.

Is a more natural design incorporating water and lights rather than a screen. Keeps the Orange LED strip idea from Magic Crossing at the top.

Uses motion sensors at set intervals to detect the proximity of the user, triggering the water feature in stages to do different things.

As the person goes past interval 1 it the lights begin flashing beckoning them over. Interval 2 the inner plastic cylinder begins to fill with water and creates a whirlpool. Interval 3, triggers as they go to cross, the water overflows and Interval 4, the lights do a spiral effect and make a victory noise; water also resides.

APPENDIX

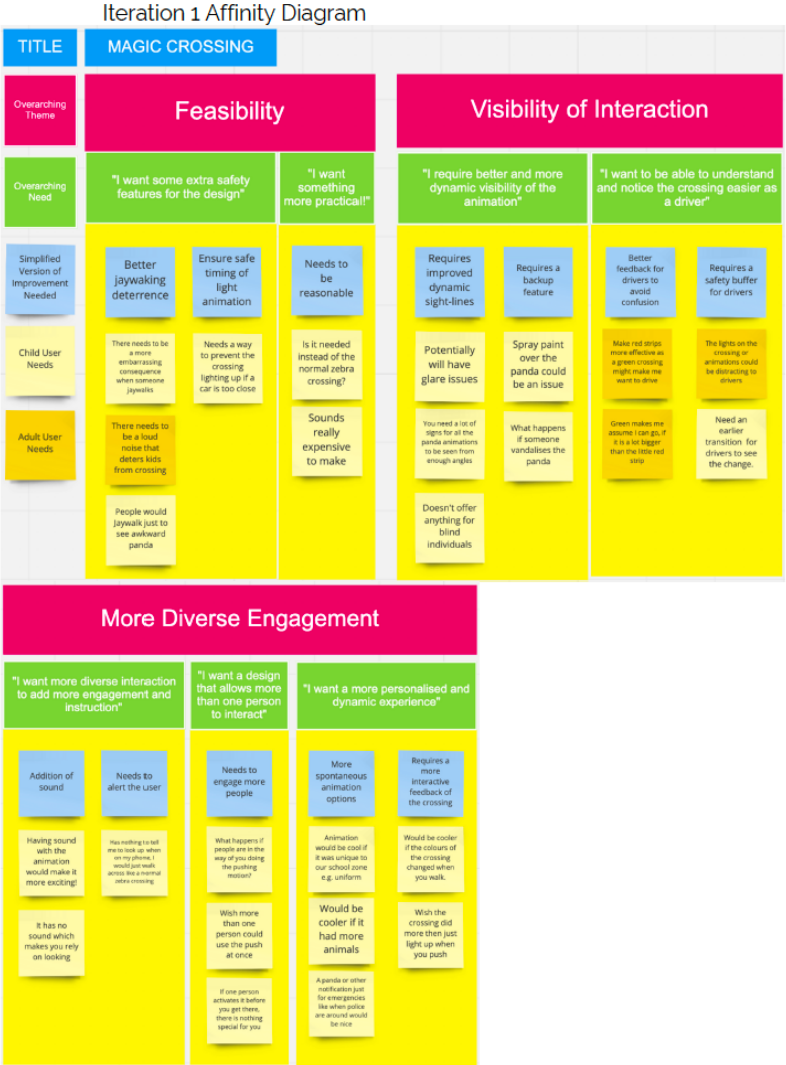
Appendix 2 - Synthesising data using affinity diagrams & decision matrix

Figure 19 - Magic Crossing Decision Matrix

MAGIC CROSSING

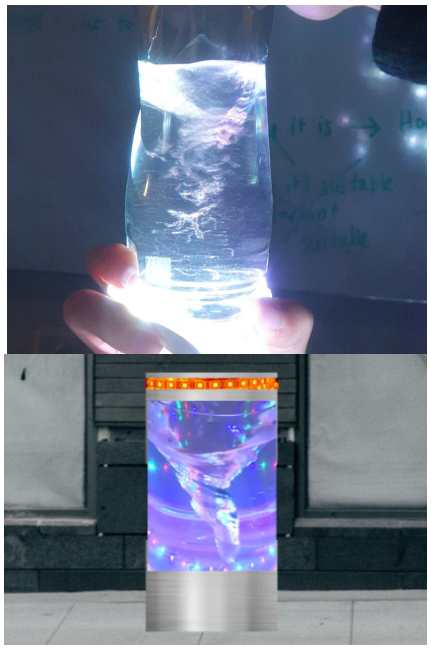
Criteria	Weight	1	2	3	4	5
Feasibility	3					
Functionality	3					
Longevity	3					
Interaction	3					
Memorability	3					
Safety	3					
Engagement	3					
Accessibility	2					
Social Acceptance	2					
Intuitive	2					
Immersive	2					
Multiplayer	2					
Confrontational	1					
Suitability	1					
Total				113/165		

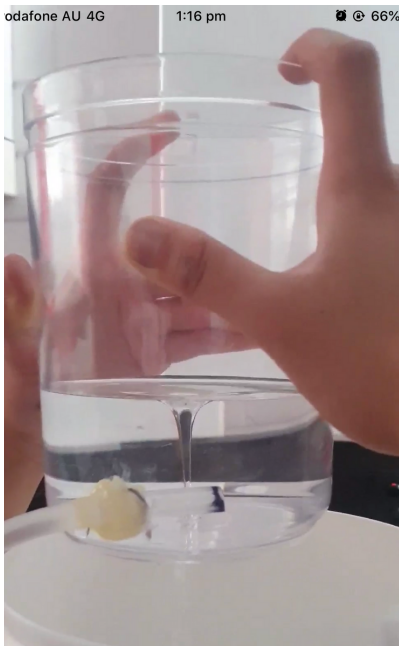
Iteration 1 Affinity Diagram

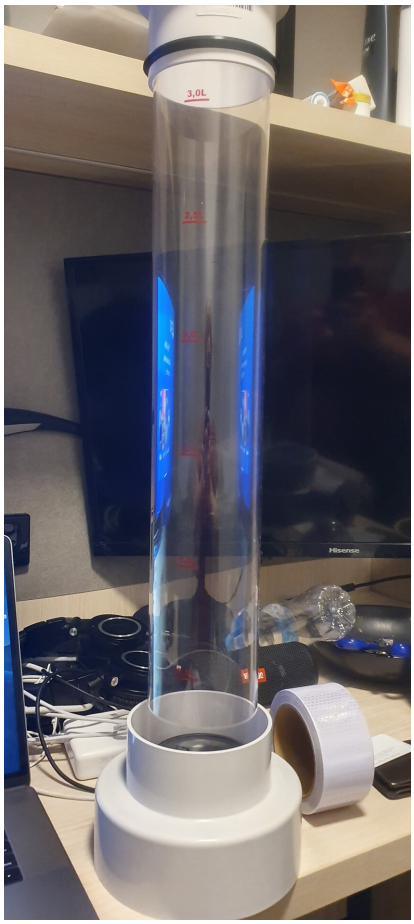


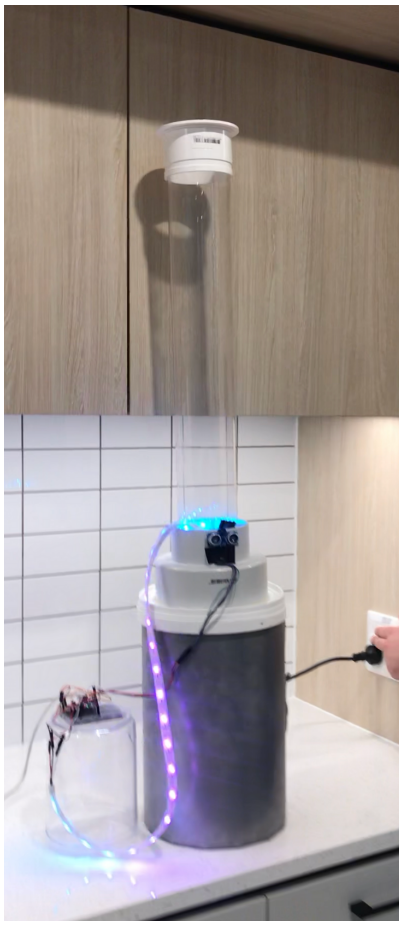
APPENDIX

Appendix 3 - Visual depiction of the development of Whirlpool's final look



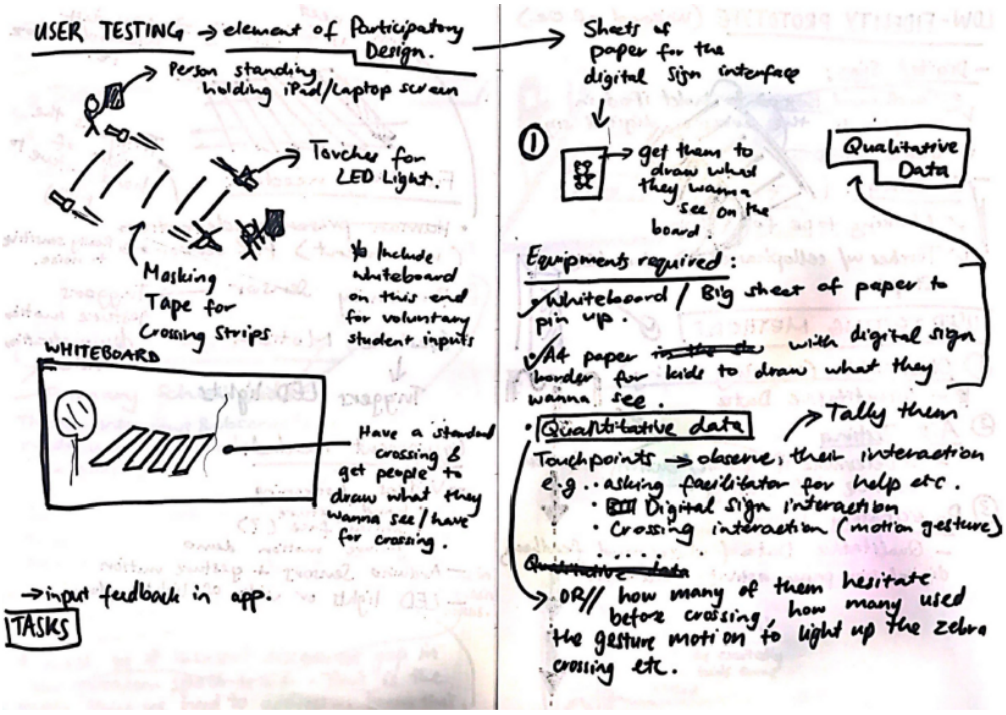


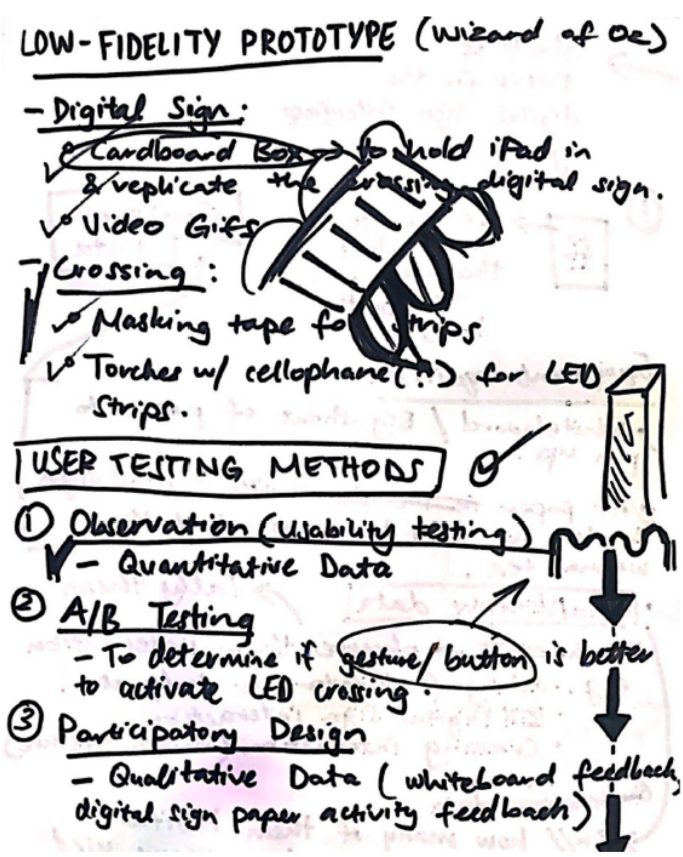


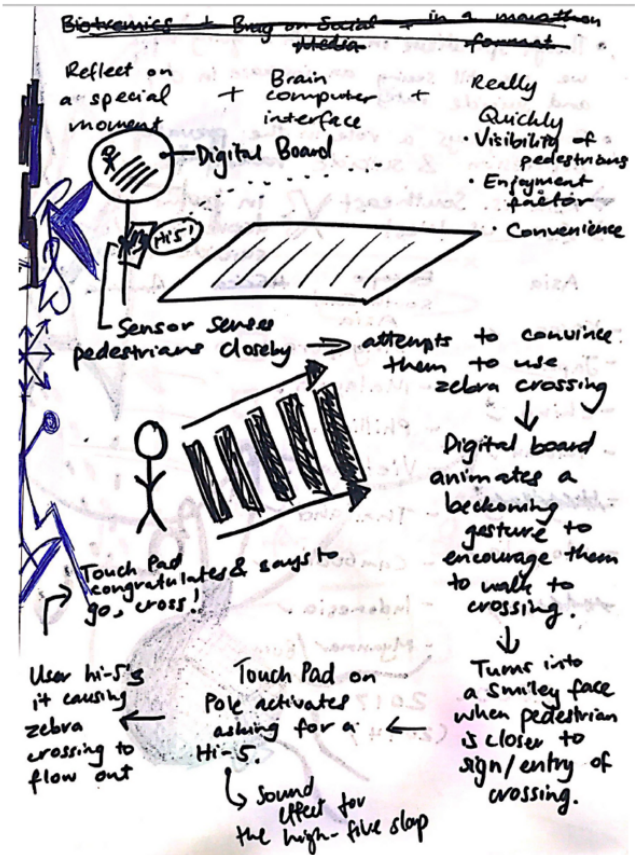


APPENDIX

Appendix 4 - Draft notes/sketches on my design preparations for the team

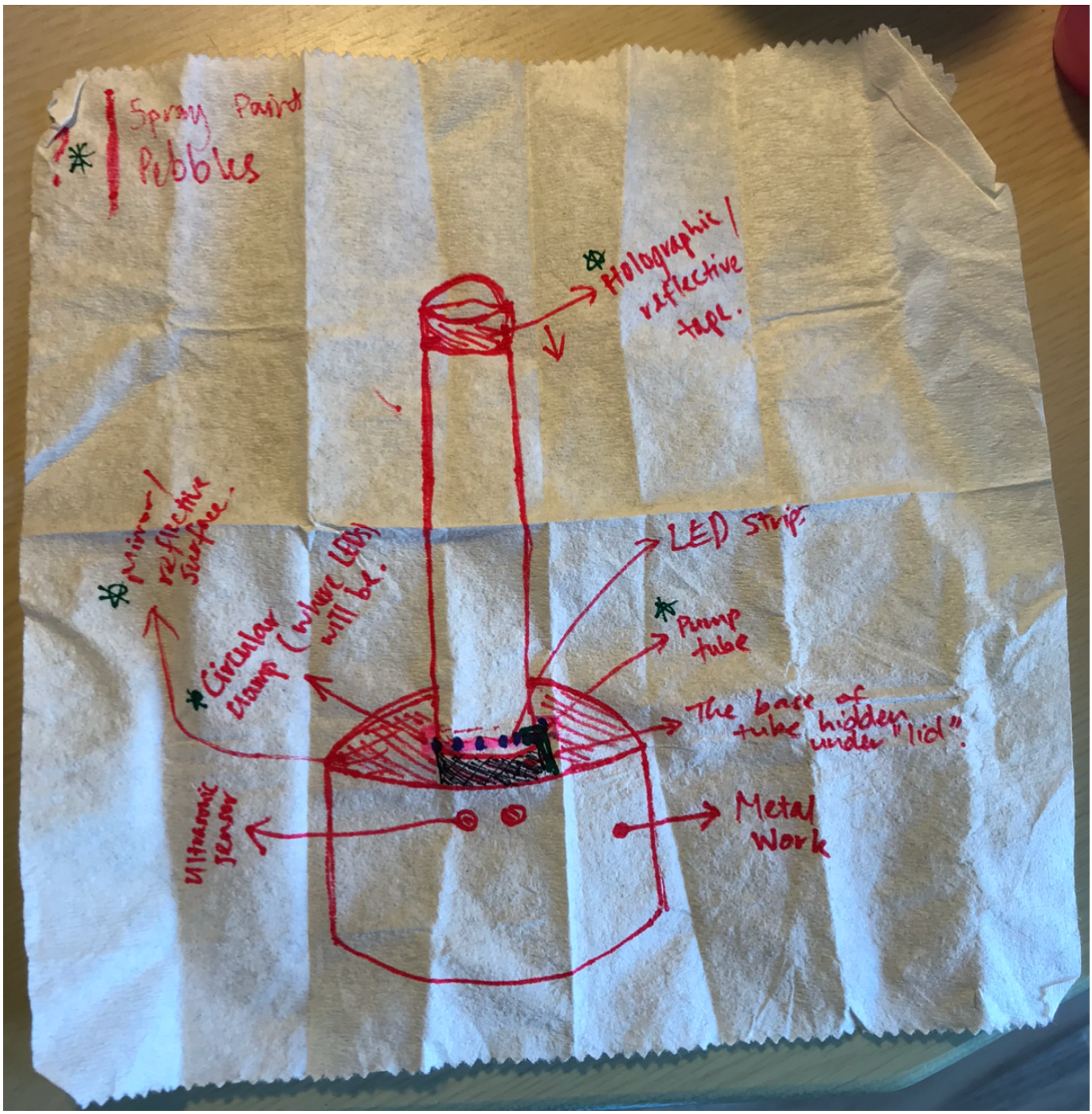






APPENDIX

Appendix 5 - The original blueprint that got us started



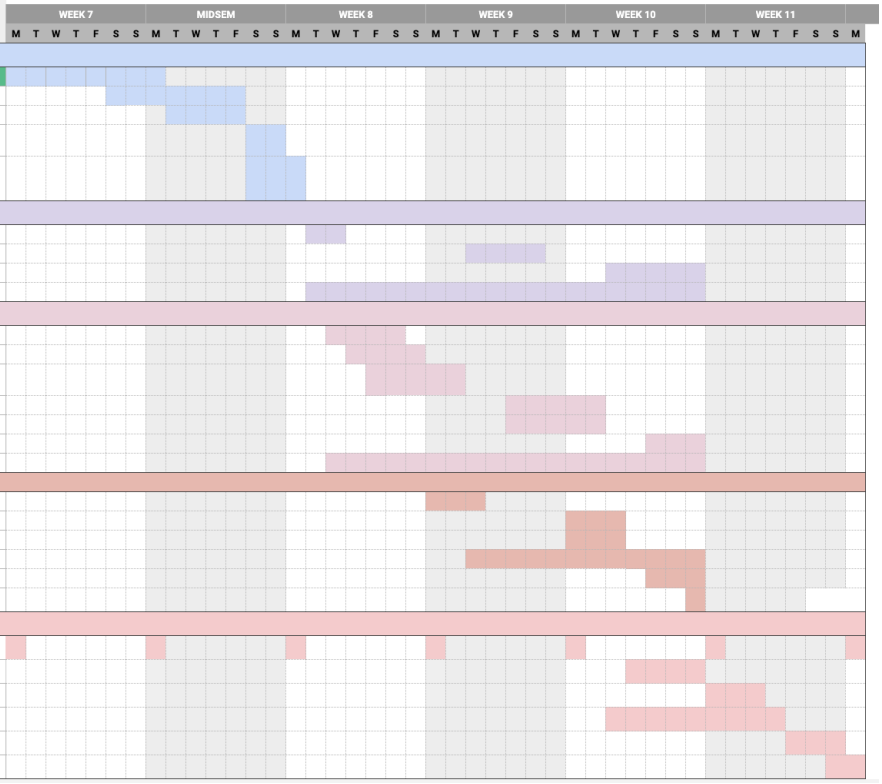
APPENDIX

Appendix 6 - Our implementation plan for the building of Whirlpool

Team Schedule For Assessment 3

PROJECT TITLE	Operation Whirlpool	COMPANY NAME	Pedestrian Plus
PROJECT MANAGER	Victoria Tran	DATE	2019

	TASK TITLE	TEAM MEMBER	START DATE	DUE DATE	DURATION	% OF TASK COMPLETE
1	**PLANNING**					
1.1	Designing iteration		09/16	09/23	8	20%
1.1.1	Creating a blueprint		9/21/19	9/27/19	7	0%
1.2	Budgeting		9/24/19	9/27/19	4	0%
1.3	Gathering physical building materials e.g. Plastic Tube, Metal, etc.		9/28/19	9/29/19	2	0%
1.4	Gathering physical computing materials e.g. Arduino, Motion Sensor		9/28/19	9/30/19	3	0%
2	**BUILDING**					
2.1	Building skeleton		10/1/19	10/2/19	2	0%
2.2	Building frame		10/9/19	10/12/19	4	0%
2.3	Fully functional build		10/17/19	10/20/19	4	0%
2.4	Risk Management		10/1/19	10/20/19	20	0%
3	**CODING**					
3.1	Coding motion sensor		10/2/19	10/5/19	4	0%
3.2	Coding motor for whirlpool		10/3/19	10/6/19	4	0%
3.2	Coding motor to work with motion sensor		10/4/19	10/8/19	5	0%
3.3.1	Coding Internal Lights		10/11/19	10/15/19	5	0%
3.3.2	Coding Top Ring Lights		10/11/19	10/15/19	5	0%
3.3.3	Animating Lighting to Motion Sensor		10/18/19	10/20/19	3	0%
3.4	Debugging		10/2/19	10/20/19	19	0%
4	**TESTING**					
4.1	Test skeleton		10/7/19	10/9/19	3	0%
4.2	Test frame		10/14/19	10/16/19	3	0%
4.3	Check waterproofing		10/14/19	10/16/19	3	0%
4.4	Test Code		10/9/19	10/20/19	12	0%
4.5	Test fully functional build		10/18/19	10/20/19	3	0%
4.6	Evaluation methods		10/20/19	10/20/19	1	0%
5	**REPORT**					
5.1	Reflective reports		9/16/19	10/27/19	42	0%
5.1	Filming	Jared & Jayce	10/17/19	10/20/19	4	0%
5.1	Editing	Jared & Jayce	10/21/19	10/23/19	3	0%
5.2	Visual report		10/16/19	10/24/19	9	0%
5.3	Presentation report		10/25/19	10/27/19	3	0%
5.4	Submission		10/27/19	10/28/19	2	0%



APPENDIX

Appendix 7 - Focus Group Transcript

Goals: to gain opinions on whether or not our users required a more connective crossing experience for a more usable school crossing.

Participants - 6 kids, 1 parent, 1 teacher

How do you find the current school crossings to be? (Do you think there needs to be more, or do you see it as an aesthetic or unpleasing thing to look at?)

- **Child 1 -** For me, at the moment I find them boring. They are just there and we are used to them but that don't have anything to do.
- **Child 2 -** I believe that the zebra crossing near my school really needs an improvement both in looks and how obvious it is to drivers, it feels hidden away.
- **Parent:** I think they are alright. Like there is nothing too eye-catching or memorable about them right now, you know? I just use it when I have to, I don't really think much about it. In terms of if I think there needs to be more to the crossing … I don't really know aha!
- **Teacher -** They lack encouragement to use, especially in peak hour (school begins or finishes) when you are rushed to pick up your kid so parents run across the road or when kids are eager to get away from school, they want to jaywalk and take the shortest path. They need something to encourage them.
- **Child 3** - My current school crossing is a zebra crossing, which I find pretty plain and standard. I actually prefer it over having to wait for a green light to cross but it isn't really captivating to use. So I agree with *Parent* I don't really second-guess to think about the crossing. It's just something I have to do or something that is simply there.

What do you feel when looking at a basic school crossing?

- **Parent -** They definitely need to stand out more. Schools zones need to be clearer, especially the crossings within them.
- **Child 2 -**Sometimes I don't feel that the zebra crossing is that much safer than jaywalking, so when I look at it I just think, why bother?
- **Child 3 -** Unamused! I always think: eurgh, a crossing!
- **Child 4** - I don't really feel anything if I'm honest. I just wait when needed, and then cross when I can. It's a part of my journey that I don't really think about. So when I look at a crossing I just associate that with Oh ok it's time to cross.
- **Parent:** They need to be engaging for kids to stop them from jaywalking. I look at them and think that they need an upgrade. Not sure how you could do it but.
- **Child 5 -** I look at them and just wish they were a bridge or something so we didn't have to wait for cars at all. When it is busy, we have to wait for so many cars.
- **Teacher -** Yea I agree with what everyone is saying. I feel the crossings are really boring and simple to look at. Nothing is really special or really stands out about it. And for most of the times, especially if it is a zebra crossing, I just assess the road myself and cross early. I think it's because I just don't see the point to using the zebra crossing when I can just do it myself, you know? It's probably bad but I do look before I cross.

Appendix 7 - Focus Group Transcript

- **Child 6 -** Actually that is true! When I look at most crossings, I just think what is the point? There is no value? Unless it is on a busy road, then I'll use it to be safe.

Which type of current crossing infrastructures, out of these 4 mainstream ones (Zebra, Timer, Standard crossing, Island Crossing), do you feel more engaged/encouraged to actually use to cross the road and why?

- **Child 1 -** I enjoy the timer ones because it makes it feel less rushed compared to the rest.
- **Teacher -** The island crossing is what we have near the front of the school and it feels the most dangerous, so I think I would want to use a zebra or timer crossing.
- **Child 2 -** Zebra crossing is my favourite cause it is the easiest to use.
- **Child 4 -** I feel encouraged by a zebra crossing, but I don't feel engaged by any.
- Honestly, I don't think any of them make me feel either, you have nothing to do at both and it's just waiting and checking. I guess the island or zebra is the fastest if you only thinking about which is engaging, cause lets be real we just want to get across.
- **Child 6 -** I like the island crossing one and I feel I'd use it more, because it lets me judge for myself when I want to cross, and it gives me a place to stand in the middle of the road if there is a car that is suddenly approaching.
- **Parent:** For me I believe the timer crossing and standard crossing are the safest, so I would encourage my kids to use them the most to cross the road. I think they all lack engagement but.
- **Teacher:** I like the timer because I can actually see how long I have to cross. I'm not a big fan of waiting for a long time so that I can cross and the timer can start to countdown, but I like seeing the feedback.
- **Child 5 -** Zebra crossing for sure! I like being able to just know that I can use it to cross at any time without having to press a button and stand there on the side of the road waiting to go. Plus, the stripes on the road catches my eyes the most out of all the crossings.

Why do you think you didn't choose any of the other options?

- **Child 1 -** (Timer) I like how you know that you have a set time to safely cross, whereas the others don't tell you that information. You just know that you can cross, but it doesn't give you confidence that you can take your time to cross. Like if I'm using a zebra crossing, even though I know it's fine for me to cross, I sometimes feel rushed because i know cars are waiting for me to finish crossing.
- **Teacher -** (Zebra/timer) I would pick the zebra or timer cause unlike the island crossing they are safer and provide kids and drivers better visibility for when to cross. The timer crossing I picked just because it is a better version of the standard crossing
- **Child 2 -** (Zebra) The others involve, like, a lot of waiting as a pedestrian, which I feel like I'm just not wanting to wait so it isn't appealing to me and the island crossing seems

Appendix 7 - Focus Group Transcript

hard too because technically it isn't telling cars to stop to let you cross. It's just giving you space to safely wait when you choose to cross.

- **Child 4 -** (Zebra) I agree with *child 2*. I don't want to wait, I just want to cross and get on with my life. So that's why the others aren't as likeable for me.
- **Child 6 -** (Island) I don't really like normal compared to the island, cause I am used to the island near my school and I don't have to wait when nothing is around.
- **Parent:** (Timer and standard) For me, I'm thinking more about safety for the kids. So a zebra crossing, let's say, is too reliant on making children decide for themselves when to cross. And with dangerous drivers out there, I don't know if I would like those types of crossings.
- **Teacher:** (Timer) The timer just logically makes more sense then the rest for safety and has I guess the most interaction even if it is just you looking at it. I allows you to feel less left just to wait, and more considered compared to the amount of time given to cars.
- **Child 5 - (**Zebra crossing) The others kind of don't seem very eye-catching. They seem very blocky to me? I know the zebra crossing is pretty basic, but I like how the big white stripes are familiar to me and I know that everyone understands you need to stop for us to cross.

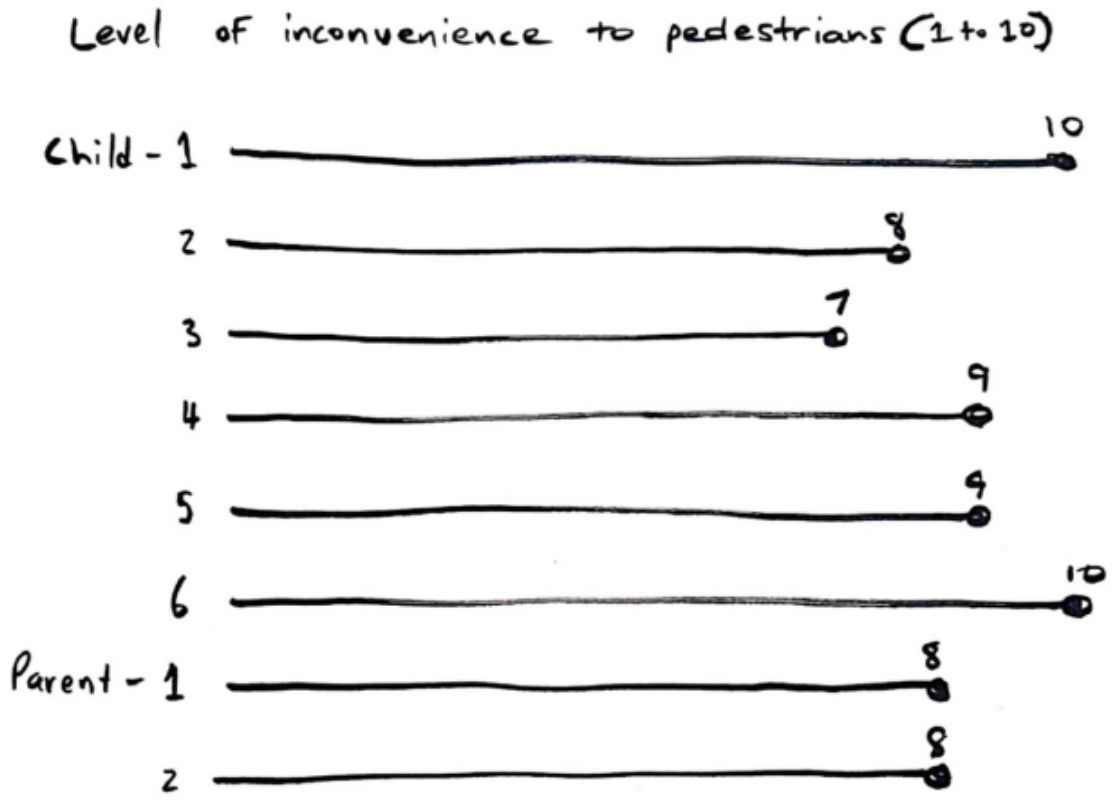
Have you ever exercised signs of distracted walking whilst preparing/starting to cross the road? Why do you think you do this if you do?

- **Child 3 -** I think so. Don't tell my mum haha! But it's just because I kinda know when the crossing is coming up, so I'll just walk with my phone in my hand and I look at it and text my friends. I feel it's because the crossing is pretty standard. So like everyone has been bringing up how the crossings are boring, and I think it's probably why I don't pay attention to crossings too much.
- **Child 6 -** Mmm, I often listen to music if that counts as being distracted? Because I'm probably not able to listen to the cars honking or something ahah! But yeah, the crossing is just there to do one thing, so nothing engaging for me to focus on.
- **Teacher -** I actually was going to say I'm pretty good at walking safely when approaching the crossing. But actually, I'm like *Child 6*I do occasionally listen to music so I can see how it may be distracting. Though for me, it has nothing to do with the crossing. I just listen to music on my commute because of the entertainment behind keeping busy as you do something mundane, such as commuting to work.
- **Parent -** I'm probably guilty of checking my phone here and there when I'm walking to a crossing. It's definitely a habit. I do occasionally feel a bit bored when I walk, which is probably why I do look at my phone. But in saying that, don't do that kids!
- **Child 2 -** Yeah, I often will be looking down at my phone or sometimes Switch. I kind of rely on the standard crossings because of it, though I do look up when I need to cross the road when there is no crossing.

APPENDIX

Appendix 7 - Focus Group Transcript

Can you rate the level of inconvenience to pedestrians that you think the crossings are to you, between a scale of 1 to 10?



***NOTE: Parent 2 = Teacher**

Can you share why you chose the specific ranking?

(there's just nothing to do while you wait as well…)

- **Parent -** I feel both in the car and outside of the car, current traffic lights can be very inconvenient. They don't manage well the traffic or people or cars, often in pick up times you can get stuck at a traffic light for a long time, but the kids are unable to cross in a way too due to the build-up. Not sure how to explain it but I feel they need to be more accommodating to kids, but more for cars when there are no kids around.
- **Teacher -** Personally I feel that the crossing near my school are inconvenient as they are nearly 5 minutes away, not only that but you have to wait at them on top of that just

APPENDIX

Appendix 7 - Focus Group Transcript

Can you share why you chose the specific ranking?

(there's just nothing to do while you wait as well…)

- **Parent -** I feel both in the car and outside of the car, current traffic lights can be very inconvenient. They don't manage well the traffic or people or cars, often in pick up times you can get stuck at a traffic light for a long time, but the kids are unable to cross in a way too due to the build-up. Not sure how to explain it but I feel they need to be more accommodating to kids, but more for cars when there are no kids around.
- **Teacher -** Personally I feel that the crossing near my school are inconvenient as they are nearly 5 minutes away, not only that but you have to wait at them on top of that just to cross the road. Many kids take this as a reason to jaywalk. So I think overall crossings at this time are seen as inconvenient by kids.
- **Child 1 -** I always have to wait before I cross. I understand that we have to be safe, but a lot of the times I'm just thinking that the wait time is too long? And I have things to do, I don't want to be boringly standing at the crossing doing nothing.
- **Child 2 -** Yeah I agree with that. I do always look at my phone when I'm waiting at a crossing that isn't a zebra crossing. It is a waste of time I feel.
- **Child 3 -** The wait time isn't too bad, but it does affect my time and my walking. Even at a zebra crossing, you may think there wouldn't be much waiting as you can usually just cross after checking. But sometimes, you see cars just driving and ignoring the fact that I'm clearly trying to cross. It happens on one of those longer zebra crossings, where the cars see that I'm just at the beginning of the crossing so they decide to just drive as waiting for me is too long for them, maybe. It annoys me because other cars behind them follow and then I end up having to stop in the middle of the zebra crossing to make sure that the next few cars can see me and are stopping so I can finish my crossing.
- **Child 4 -** I feel crossings should be designed more for us really. Why do we have to wait to cross? It's too much of a time-waster because I'm always so bored during those times.
- **Child 5 -** That is true, we always have to wait for the cars. Even though I know the cars also have to wait for us, but they are in a car and they probably are not as bored as us since they have comfortable seats, a radio to listen to and yeah. I don't know.
- **Child 6 -** Honestly they are just super annoying and boring, not really sure what else to say. I feel for me they are inconvenient.