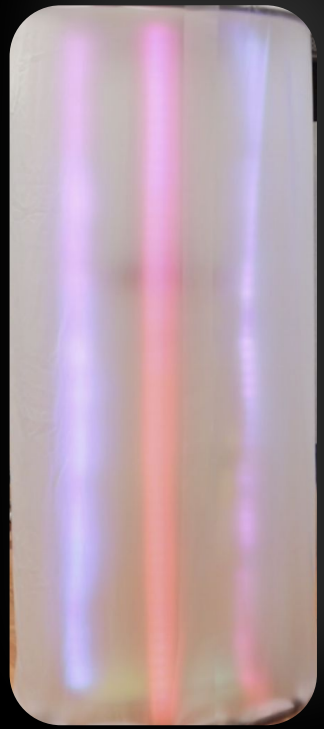
Portfolio

amyl3258

Introduction

Lumos is an interactive light installation designed to be placed in parks and attract urban dwellers at night-time. From our research, we found that urban dwellers don't use parks at night-time, due to feeling unsafe from the lack of lighting and lack of surrounding people.

Our product allows users to interact with a knob which allows them to change the colour gradients on our installation. When testing a low-fidelity version of this product, users stated that they would be curious to know what this product is if they noticed it at night-time, and that they would choose to go up and interact with it even if that means they have to take a longer route. When demonstrating our current hi-fidelity prototype, users were enticed to interact with and explore Lumos. The feedback we received reassured us that our concept is impactful, that users understand how it works and want to use it,



Team Roles




A1

- Background Research
- Brainstorming a problem
- Brainstorming concept ideas
- Initial concepts
- Report writing
- Report visuals
- Report design

A2

- Low-fi prototyping
- User testing
- Problem statement
- Approach
- Findings
- Hardware + software requirements
- Implementation plan
- Chosen concept
- Report visuals

A3

- Animation design
- IxD
- Gradient design
- Structural design + build
- Hardware + electricity
- Software design + development
- Report writing
- Report design
- Videoing
- Video editing

My Roles

A1

Background Research

Report writing

I conducted in-depth research into:

1. Our problem: poor mental wellbeing in urban areas
2. Green spaces and how they benefit people's mental wellbeing
3. Current use of green spaces (or lack thereof)

I then wrote the project brief and summarised our research (with academic references).

A2

User testing

Report writing

I helped to develop each prototype, helped with photography and prompted with questions during each test. I also performed three user tests on the Recharge Pod concept.

I wrote the problem statement and approach and also justified the research methods used. I then wrote about how our chosen concept fits our target audience and helped decide hardware + software requirements for A3.

A3

Software design + development

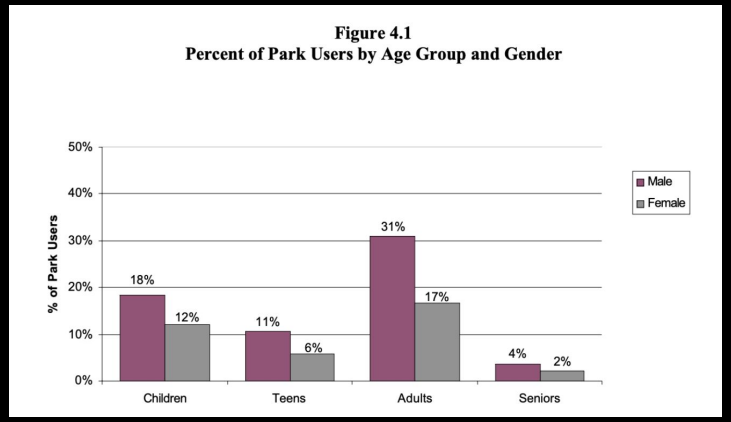
My main role involved the design and development of our final product.

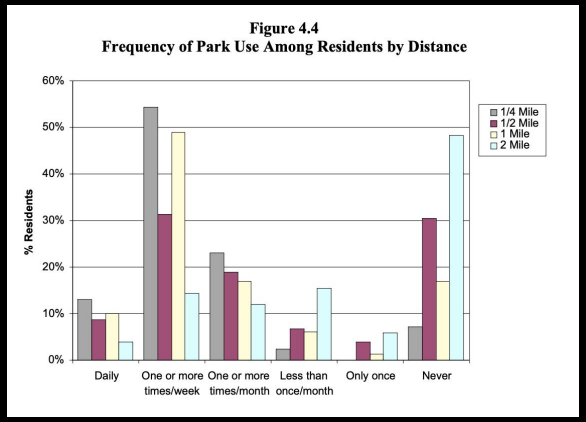
When designing the physical model, I took into consideration software design and electrical complications. When designing the animations and interaction with the system, I took into consideration direct input and output and thought about how to implement this. I also helped to design the gradients.

I then used my background in Python to develop our system using the OLA framework.

My Contributions - A1 + A2

In Assessment 1, I conducted extensive academic research on park use and their benefits in an urban environment. Key findings include:

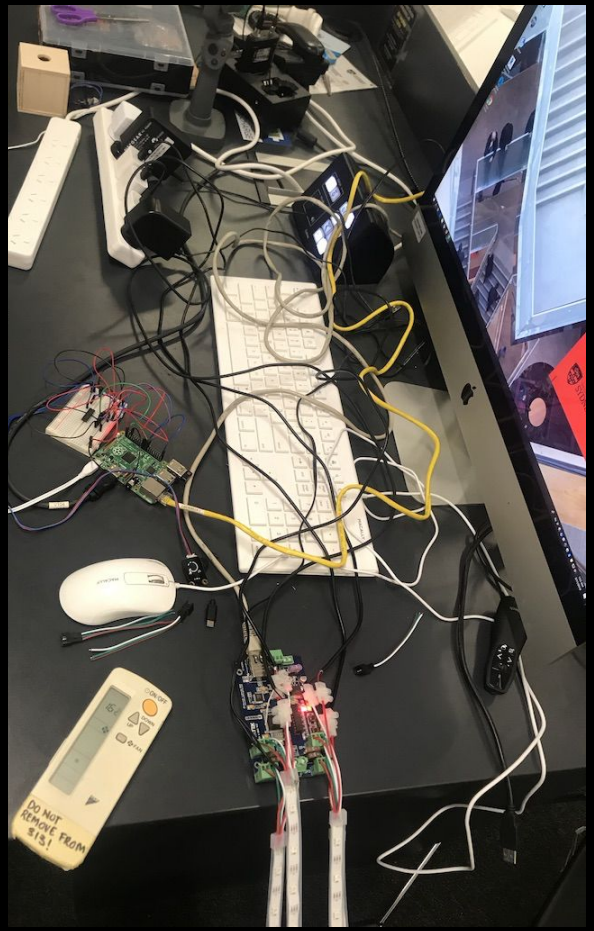


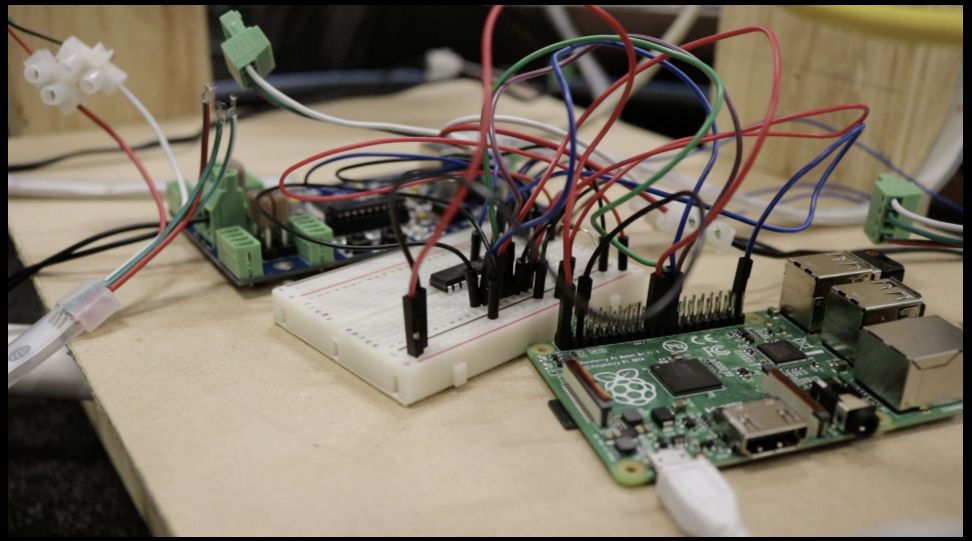


This research informed our knowledge that people under-utilise parks. We were also able to gather who currently uses parks, and for purpose. Through understanding this, we concluded that people were only using parks out of convenience. These insights helped us form concepts which we prototyped and tested in A2. In A2, I focused on justifying our research methods from the Design. Think. Make. Break. Repeat book as well as documenting our Project Brief, Approach and Insights.

My Contributions - A3

I worked on the software for our system. We set up a github repository, which we could each push to, and pull from terminal on Raspbian in order to test our code. I worked specifically on getting the potentiometer to work, writing an algorithm to make gradients on each strip, and writing an algorithm for the light sequence to run.





We also faced several issues regarding power. Our LED strips (5M) could take max 45W. We cut the strips into 2M strips each. Our DMX controller had only 4 ports, which we connected 4 strips to. Our LED strips had to receive 5V of power, and since we planned to connect 3 more strips onto each strip in series, we were going to need 5V 9A transformers in order to receive enough power. Mitch, JX and I dealt with all these electrical issues together, which involved regular trips to Jaycar. In the end, we decided to use only 6 strips for the Demo because we couldn't find the power adapter we needed.

Challenge #1

Conflicting ideas

Sometimes, our group had conflicts when we had to make a decision. I think this was because we were each so passionate about our ideas, and so we struggled to compromise with each other. However, we sometimes struggled to understand what each other meant, which resulted in conflict due to a misunderstanding.

A key example of this was when we were deciding on the animations. We all had an idea in our head of what we wanted the animations to look like, and so we tried to communicate our ideas to the team. I found it hard to communicate my ideas, as it was much easier to visualise. We were able to resolve this by drawing it out, which either showed that we all had the same idea anyway, or enabled us to agree on which idea was best.

Challenge #2

Lack of safe storage space

Our group had complications due to lack of storage space in Wilkinson where we could leave our product. Initially, when we were just dealing with wires and LEDs, we packed up the product at the end of the day and stored it in a locker. Later, once we started dealing with additional strips and began hanging the strips on the frame, we were uneasy about leaving our product unattended. This was because:

a) We had spent a lot of money on the materials and a lot of time on getting all the moving parts to work. We were worried that people would accidentally bump it, trip on a wire, or purposely touch it.
b) Safety risks. A person can die from 3 amps, and we were dealing with 9. This is very risky to our peers if there is no warning sign or no one watching the project.

To resolve these concerns, we watched the project at all times. This involved spending night shifts on-site between the three of us.

Challenge #3

Unuseful team member

Penny stated that she had skills in research, writing, UI, and video editing. However, during assessment 1, she handed over a lot of her assigned research onto Mitch and I, stating that she was “bad at research”. This was extremely demotivating, as we felt as though we had been misled. I also had to rewrite her slides on the report in every assessment because they were poorly written. Further, when we gave her constructive feedback, she didn’t spend enough time editing her work. I felt as though her attitude was slack and this discouraged me when going on to further assessment tasks. In assessment 2, I had to conduct Penny’s user tests, because she was not able to get enough people by the deadline we set. After testing, her data analysis was not completed by the deadline.

We tried to resolve this, and so Mitch had a word with Penny after assessment 2 about her not putting in enough work, however her input and work ethic did not change for assessment 3, which impacted us considerably, as we had one less team member to do the work. (See reflection)

Final Reflection

I was disappointed with how Penny worked with our team. Penny lacked the skills that were required for our Assessment tasks, especially Assessment 3. However, she showed no willingness to learn new things in order to help us out or try to keep in the loop with what we were working on. She also blamed her lack of time spent on this project on Interaction (DECO2200). However, I also took DECO2200, as well as another subject (INFO1113) which were both very demanding subjects. Despite this, I still managed to devote large amounts of time to this project and I contributed to all tasks.

Mitch, JX and I worked through the ups and downs of this project together at Uni; and it was upsetting that Penny wasn't present, because we faced many challenges and she wasn't able to understand what we went through. Because Penny didn't have any skills in software, hardware or fabrication, we assigned her the documentation and video tasks. However, we felt as though these were both rushed and done last-minute, as she only spent time on them after DECO2200 was due, which was 3 days before our deliverables were due. Also, because Penny had been quite absent throughout the times we spent working on this, she was very uninformed when writing the report, and I ended up having to rewrite almost everything.

We are going to make changes to our prototype for the Grad Show. Our plan includes fixing our power issue so that we can add more LED strips, and changing our current user input system, as a result of feedback we received from tutors at the Demo. Finally, we are planning to add a multiplayer aspect, which was part of our original design, but due to time constraints, we weren't able to implement this yet.

I'm extremely proud of what we achieved considering the challenges we faced, and I'm impressed with the work ethic of Mitch, JX and myself. The three of us showed great teamwork and our skills complemented each other very well. We all helped out across every field, regardless of what we set out as our individual roles. In future, it would be helpful for us to do more research on the specific requirements for our project, and speak to a tutor who is knowledgeable about our project. This would help us make decisions about power and setting up hardware, as this slowed down the beginning of our development phase. It would also be helpful to ensure we had the right balance of skills within our team. We did discuss our strengths and weaknesses when forming groups, however doing this in more depth would help us know what to expect from our teammates and work out how to better manage issues.

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