

DECO3200: Interactive Product Design

PORTFOLIO

AUGUMENTING URBAN EXPERIENCES

EHUA3419
EDMOND HUA

The Design Brief

Strand A: Augmenting Urban Experiences

The Design Brief - Augmenting Urban Experiences This design project is future thinking as it is focused towards designing new interactions or applications to engage citizens on issues that are relevant to them within an urban environment. You are required to conceptualise, design and prototype a digital technology or application that provides citizens or communities relevant information about the location in which they are situated.



Problem

Environmental impact is a broadly used and expansive term that covers a range of areas. Understanding and visualising one's own impact on the environment, especially within a specified locality, is a challenging issue that is rarely addressed. While there is extensive socially commentary about environmental impact and concern, people often find it difficult to gauge the reality of this impact due to a lack of accurate data visualisation.

Under the branch of environmental impact we have chosen the prevalent issue of Air pollution. Today in our society with rapid industrialisation and natural disasters there has been an increasing amount of incidents of air pollution being emitted into our atmosphere. From our research we have discovered that although individuals know about the issue around the world in different countries, they were unaware about its ever growing impact in their own community.

Vision

"We seek to visualise air pollution data through daily interaction in order to raise public awareness about air quality in local areas and the greater environment."

Solution

The Breathing Tree is an adaptable display system, designed for urban green spaces or suitable public areas, intended to convey information about air quality within its locality. The Breathing Tree's main purpose is to raise public awareness about air quality.



Meet the team

Project Passion Fruit: In regards to workload and role allocation each member was given a specific task in relation to their strengths in which they had to follow through and complete.

Ian - Lead Product Designer

Ian was our Lead Product Designer his main role was to bring the concept into reality through physical practices. Playing to his strengths in engineering Ian made the physical prototype through soldering and linking the device to a centralised arduino board.

Maya - Video Lead

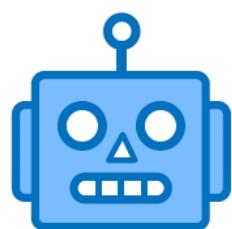
Maya's role was working in conjunction with Hamish in coming up with the visual designs and mockups of the project. Aligning her abilities with animation and video making her main task was in the creation of our product video.

Hamish - Documentation / Brand Assets

Hamish role in our team was in designing the visual branding and strategy of how we approached the project. His strengths was posed in his scholarly ability, so he was tasked in creating the end documentation of our report as well as assisting in Maya in the video.

Edmond - Lead Interaction Designer

My role in the project mainly revolved around strategy of the actual product and the creation of the extended user experience. My role was mainly chosen due to my personal strengths in visual interface design and my considerations of interactions of our prototype.



IAN

Lead Product Designer



HAMISH

Documentation,
Brand Assets



EDMOND

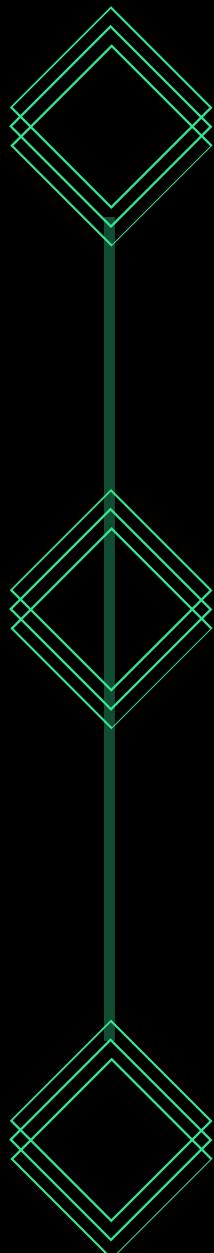
Lead Interaction
designer



MAYA

Video Lead

Design Process



Research

To start off we first deconstructed the problem brief of Augmenting Urban Environment, brainstorming potential areas in which everyone in our team was comfortable in pursuing. Where we then reached the problem area of Environmental Impact, from there we conducted background research on the area. Reading through scholarly articles and readings about present day environmental impacts.

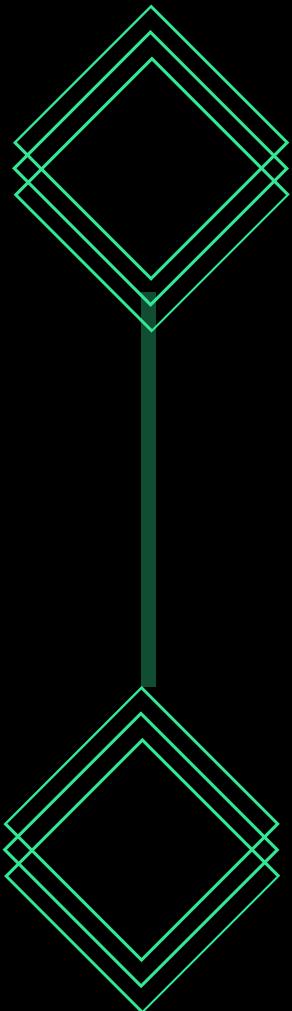
Ideation

Contrasting based on the research we would conduct user research in the form of an online questionnaire. The questionnaire would pose questions in regards to environmental impact awareness and about interacting with urban interactive installation. Based off our feedback it really helped shape and inform our future ideation of our initial concepts. Next three members would then focus on one different problem branch under environmental impact, to conceptualise an idea on. The three concepts we came up with were: Digital, Breathing Tree and the Issue Wall.

Low Fi Prototyping / Evaluation

Furthermore, the next step was bringing the concepts to life through low fi prototyping. Each member would prototype their concept at a base level, using paper as a tool to create it. From there we would then evaluate our concept for further insights and general improvements, asking individuals to walk through the prototype. Users were asked to Think Aloud through the process as well as asked questions and then made to do a questionnaire.

Design Process



Mid Fi Prototyping / Evaluation

Based on our user research we conducted a decision matrix where we evaluated and judged upon which ideas we should create for our Mid Fidelity stage. Opting to remove Digital based on its fit with the brief and user feedback. After this we followed onwards with the Issue wal and Breathing Tree prototyping it again and using the same evaluative process.

High Fi Prototyping

Finally before the High Fidelity prototyping we decided to pick our winning concept in which we would be creating. Using the previously used evaluation process of decision matrix we decided our final concept would be the Breathing Tree. For the prototyping there would be two key components the physical prototype of the tree and the extended experience of the tablet user interface.

My contributions

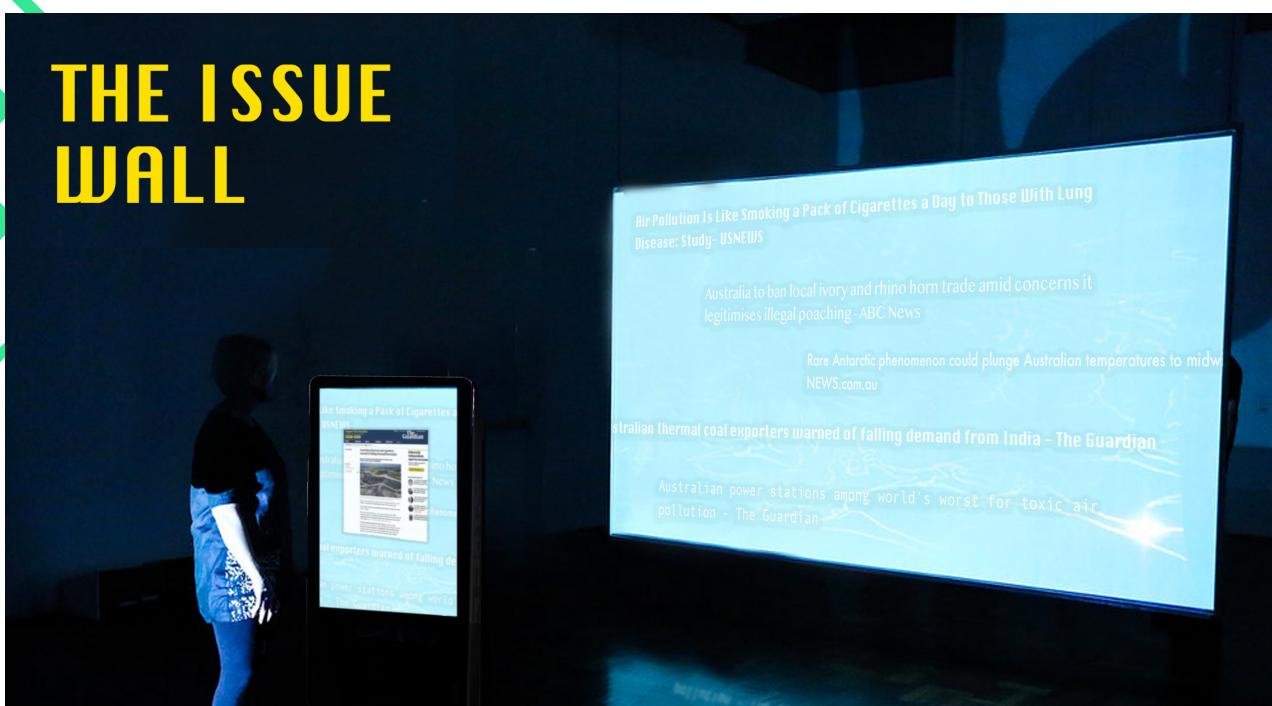
In relation to my key responsibilities throughout the whole project, I believe I contributed systematically to all aspects of it. As it was an overall group effort I believe everyone contributed their own equal works in the specific areas they were tasked on focusing on. As we as a group placed a high importance in the delegation of content and the works.

In terms of my contribution to the specifics, for the first part of the project I was tasked with concept creation of one of the initial ideas. Where I placed emphasis on the creation of 'The Issue Wall'.

The Issue Wall is an interactive projection based artwork. With the digitalisation of the majority of today's knowledge, the wall aims to be a modern take on a centralised network of information. Utilising the medium of web articles to encapsulate pressing environmental issues.

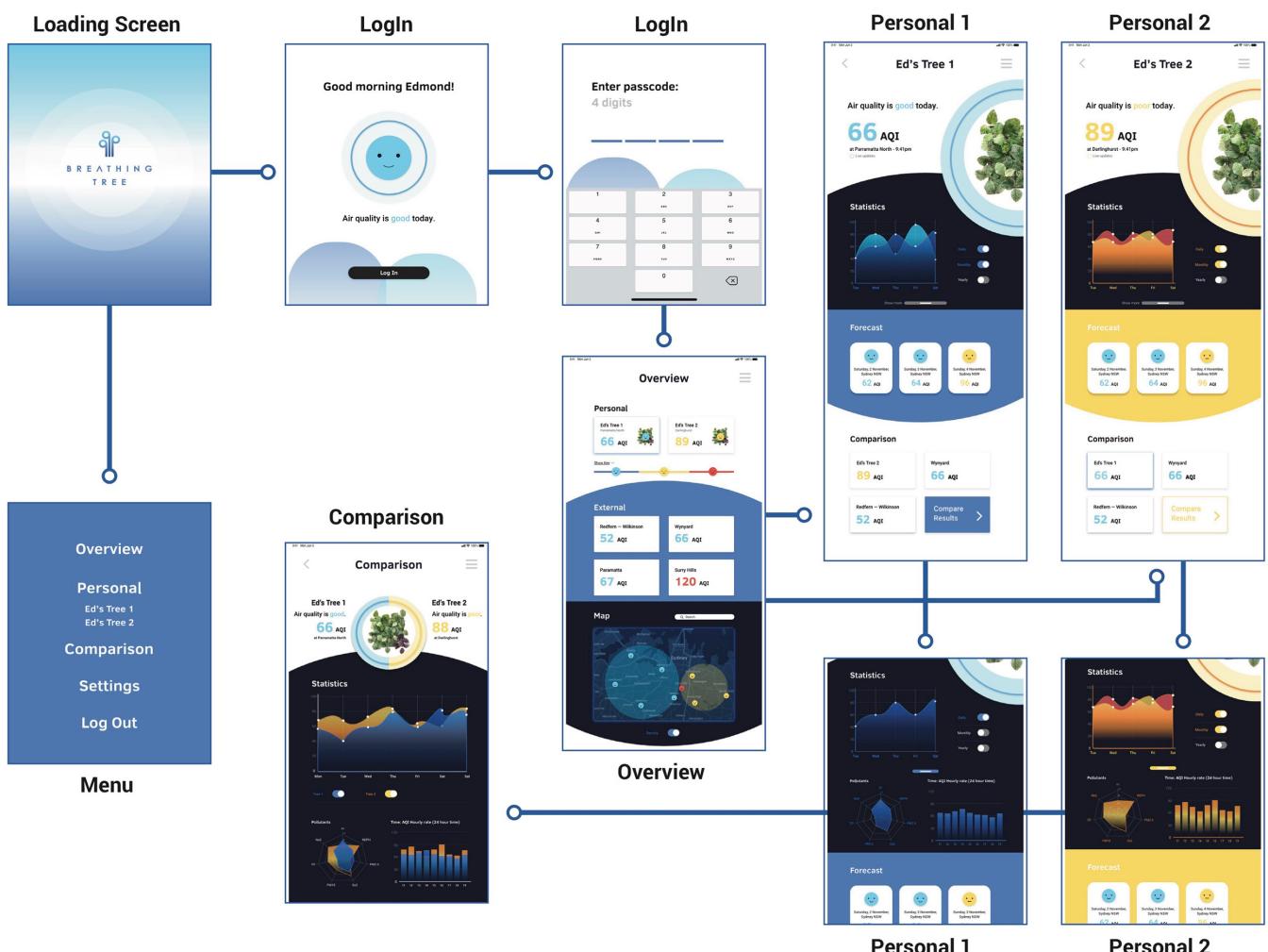
For this concept I went through the holistic approach from research to low fidelity prototyping where I then evaluated the concept with Think Alouds, Questionnaires and Interviews. For the Questionnaires I helped create them for the other two concepts to keep it consistent.

Moving on to the next phase of Mid Fidelity prototyping, I created a tablet UI on Adobe XD and a flowing background video for the Issue Wall. From there I undertook another round of user evaluations, and then finally deciding on the final concept based on a decision matrix I created.



My contributions

Furthermore in the High Fidelity stage of the prototype my role mainly revolved around the creation of the final interface. I also strongly contributed to the overall strategy and coming up with the end design and visual conceptualisation of the final prototype layout. For the interface I mainly used Adobe XD and created a click through prototype in which individuals could use. The interface was created to be an extended experience for the user, so they actually understand what the lighting on the breathing tree meant and the actual data involved of AQI. (Air Quality Index)



Challenges

Throughout the course of the entire project I believe we faced some minor to major challenges. But at the end of the day everyone contributed their own equal part in completing the project as well as collaboratively exploring the different approaches. A key problem that we encountered was mainly because of a lack of communication. This issue branched itself around how approached the project which caused our general progress to halt at times and would raise issues in our discussions. As gradually over time our group gradually came to understand the importance of it and actively replied to messages to keep everyone informed on their progress.

Another problem that arose lead from communication was in our time management, because we lacked the point of contact in communication it led us to fall behind. This halt created lots of last minute work surrounding our project work that may have downgraded to extent our end work quality. As we progressed onwards in our project to the later stages our group got accustomed to each other's work ethics and accustomed their personal work to each other, helping one another out if needed.

Moving onwards another problem was mainly in relation to our project itself, the time issues were also challenge for this. Our project was going to be a very simple prototype at first but as we gradually progressed we realised that it lacked core interaction features. These features would be really essential to our end prototype so after constantly brainstorming we reached a group consensus through communication on our final prototype.



Final Reflection

- How well did you work in your team?
- What could you have done differently?
- Will your team continue to work on the prototype further?

I believe I performed fairly well in my team I attended all team meetings and was always ready to help out a member in need. In terms of workload I think everything was allocated fairly, every individual hand specific roles in which they followed through with. At the end of the day I did complete all the tasks that were required of me to the best of my ability. As a team I was satisfied with our end performance and can proudly say that I'm happy with the prototype we have created. Reflecting back on the key challenges that were mentioned before, would mainly be things I would've done differently; communication, time management and technical feasibility. If all of these areas would have been effectively removed I believe we as a group would have had a smoother and more successful project. I believe it's a learning experience and to stop this from happening again at the beginning of the project we should try to understand what each individual commitments and availabilities are so that it doesn't clash with the project in the future. I think that our team will attempt to further improve on our prototype in the coming weeks. In process to perfect it for the upcoming Grad Show, where we improve its functionality and general displays.

