

INOV10001: B11T | DST | Designing for Nature

B11T | DST DESIGN FOR NATURE | 2020/2021

Here are the links to our Miro Whiteboard: <https://miro.com/app/board/o9JlVgGua4=>

Our Mural Whiteboard:

<https://app.mural.co/t/year34507/m/year34507/1612204622046/ce22b73ecb11796f66e553511b609b7bc7810517>

And the original SWAY Report Document: <https://sway.office.com/6qcFWNbZSossElaW>

Week 13 – Week 16 | Explore

Exploration is most effective with a coordinated team. Completing a selection of team-work tools, we were able to come to a unified understanding of each member's work ethic, goals, and skillset, with both the Manual of Me and Team Contract being the best tools for us. It was a good way to prevent future misunderstandings, and it helped us understand the motivation and thought process of other members, helping our team environment to feel more welcoming and human.

The image displays a collage of design process artifacts. At the top is a project brief with sections for 'The Context', 'The Challenge', 'The Audience', and 'Key considerations', each containing various notes and sticky notes. Below this is a '2 SUMMARISE' section with the prompt: 'As a team, summarise... What are the four most important aspects of this brief for your team?'. At the bottom are four colored boxes representing key takeaways: 'shift in mentality - becoming genuinely interested and engaged with nature', 'it should be an improvement to life not a burden', 'accessibility', and 'long-term impact'.

Thereafter, we began our 'explore' stage. Initial brainstorms identified that there are different ways to incorporate nature within the home; ways of "Bringing the Outside In" (Hubbub, 2020). It was interesting to see how far we were able to diverge from this brief, as our team investigated ideas

that were practical, psychological, futuristic, and even emotional to understand how nature can be integrated into our day-to-day lives with more purpose.

Discovering the notion of Nature-Based Solutions (NBS), we each focused on the “Living Labs” concept to identify several takeaways about stakeholder engagement, designing with nature at the core and how these two ideas combined can create an advantageous solution for all (Lupp et al, 2021). It helped to reinforce the merits of our design and systems thinking process, while uncovering additional insights that we can use within our project. Performing this analysis individually allowed us to embellish our individual perspectives on the project. We have embraced our differences in opinion as a team because this could benefit our ideation later in the process.



Expanding these ideas, each team-member chose a topic to research further. Cameron focused on the multiple benefits of nature; Anika identified the scope of stakeholders that we need to be engaged with; Tiberiu looked systematically at the implementation of vertical farms and new economic thinking; and Kornkamol identified the consequences, both positive and negative, of our human interactions with nature. Creating individual research boards from these findings, we were each able to present and discuss the most important outcomes. It helped us to sift through the vast amount of information and create an area of intent for future investigations. We decided that, as a group, we were going to find out “How can we encourage interaction with nature and harness its benefits at home?”

Cameron

Smart Cities

Nature's Benefits

/r/houseplants

Smart Cities

Nature's Benefits

/r/plants

/r/askreddit

Smart Cities

Nature's Benefits

/r/askreddit

I saw that most people exiting B&Q were carrying houseplants

(Note: The above is a simplified representation of the dense mind map content. The actual image contains numerous smaller text boxes and images related to smart cities, nature's benefits, and houseplants.)

Prim

Human interaction with nature, interaction as a currency

Resource1 - Human environment interactions in population and ecosystem health

Resource2 - The ecology of human nature interaction

Resource1 - Human environment interactions in population and ecosystem health

Resource2 - The ecology of human nature interaction

ConnectionLink - How are the results of interaction with nature?

Resource1 - Human environment interactions in population and ecosystem health

Resource2 - The ecology of human nature interaction

ConnectionLink - How are the results of interaction with nature?

Pictures

- resources
- pictures & media
- examples
- key ideas
- connections to other ideas

(Note: The above is a simplified representation of the dense mind map content. The actual image contains numerous smaller text boxes and images related to human interaction with nature, resources, and connection links.)

Anika - Stakeholders: who are they and how can they be motivated? + Design principles

Stakeholders: who are they and how can they be motivated? + Design principles

Possible motivators for different stakeholders

Designing interactions by Sir Morayrja

Are you designing something new?

Get feedback

Summary

Tiberiu

Thought scenarios: Problem finding & mental framing

Project sources & links

- 1) Government of Romania, A United Urban Economy Strategy for 2016, Land Use, Urbanism, Construction & Infrastructure Development
- 2) European Commission, Urban Strategy
- 3) Ministry of Urbanism and Construction, Urbanism Strategy for 2016-2021
- 4) Ministry of Urbanism and Construction, Urbanism Strategy for 2016-2021
- 5) Ministry of Urbanism and Construction, Urbanism Strategy for 2016-2021
- 6) Ministry of Urbanism and Construction, Urbanism Strategy for 2016-2021
- 7) Ministry of Urbanism and Construction, Urbanism Strategy for 2016-2021
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- 9) Ministry of Urbanism and Construction, Urbanism Strategy for 2016-2021
- 10) Ministry of Urbanism and Construction, Urbanism Strategy for 2016-2021

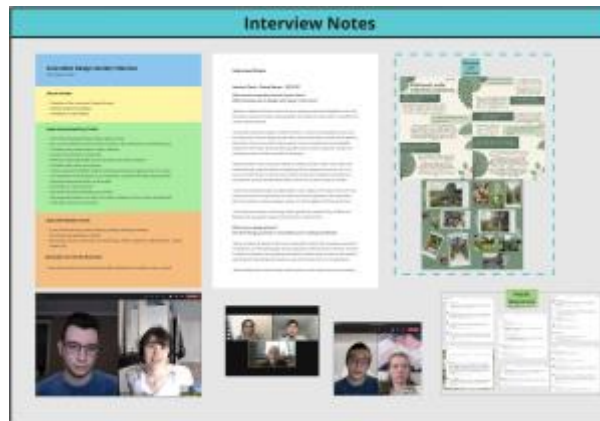
Intent Statement:
 'How can we encourage interaction with nature and harness its benefits at home?'

Following on from Anika’s research on stakeholder groups, we each sought to have interviews with members of the community from Bristol and beyond. We delegated four-to-five stakeholder groups per person, where we ambitiously aimed to complete two emails for each group and secure at least five interviews as a group. Completing an interview template beforehand, alongside a rough field guide for interview opportunities, helped us to take a unified approach when contacting stakeholders and we were able to reach out on multiple platforms with this. It was not as effective as we would have liked since we were only able to reach four stakeholders in this way. It has meant that we have turned back to family and friends for further insights.



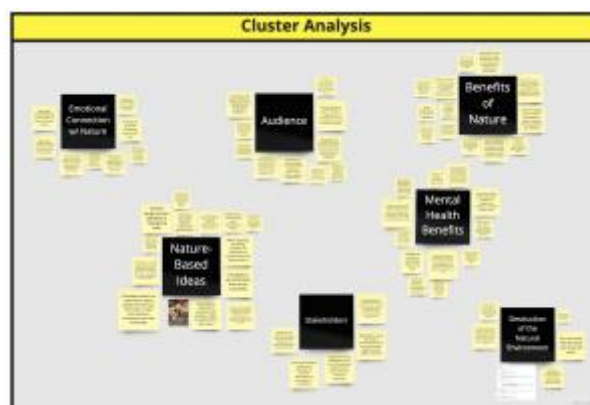
Field Guide
<p>Basic Questions:</p> <ol style="list-style-type: none"> 1. How do you provide value to your customers/consumers? 2. What motivates your customers to buy your product/service? 3. What motivates you to provide this value? 4. What do you think about our brief? Low-Income Families 5. What are challenges you faced? <p>Further Questions:</p> <ol style="list-style-type: none"> 1. 2.
Interview Email
<p>Dear X,</p> <p>I hope that you are well. I am reaching out to you today on behalf of myself and my team, a group of students from the University of Bristol, as we would love to talk to you about the benefits of nature. It will help us to work towards our goal of understanding the benefits of nature and bringing those into the homes of low-income inner-city communities, following a brief from the environment organisation Hubbub.</p> <p>As you are a [stakeholder type], we thought that you may have some unique and valuable insights that could help us work towards our solution. If you would be willing to share your thoughts on our topic and tell us more about [subjective - i.e. your customers], we would love to arrange a short conversation with you online. We are happy to accommodate any platform, such as Zoom or Google Meet, and any time that works for you.</p> <p>Kind regards, X</p>

Before each interview, we were able to meet as a team to collate questions and designate tasks for each member. Having someone dedicated to taking notes and the other focusing on asking appropriate questions meant that we could remain concentrated throughout the interviews and make the most of our time. It helped us to understand each stakeholder more effectively. Beyond this structure, we were also able to gain insightful information from family and friends. It was difficult for us to remain with this framework for those more casual, colloquial discussions, though we each sought to gain the most from each interview by capturing it on audio and performing an analysis afterwards. Extracting the insights from these interviews in post-it notes on our whiteboard, we were able to see a myriad of new findings we could use to inform our direction in the synthesis stage.



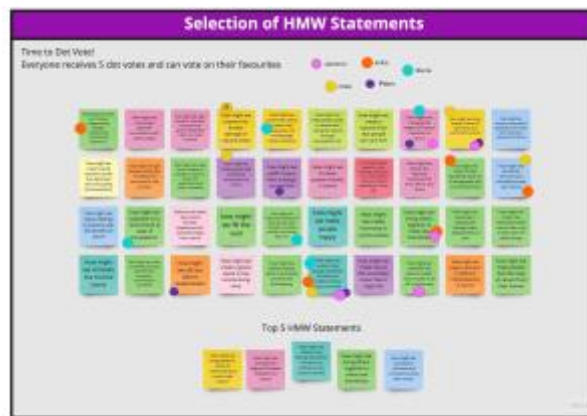
Ultimately, we learned a lot from our exploration. Identifying our natural roles at the first stage helped us make an efficient response to the brief by taking advantage of everyone's skills. Cameron helped the team to remain organized by managing the project, setting agendas, and editing the whiteboard to ensure its coherence. Anika secured multiple interviews and was also able to contribute in notetaking and questioning. Tiberiu never failed to bring in vast amounts of research and Kornkamol helped us to understand a new, creative outlook on the brief. Communication was sometimes difficult, especially when our next step was not clear, but we tried to listen to each other and be open, which resolved disagreements. It created a healthy work environment which kept us inspired.

Week 17 – Week 19 | Synthesis & Insights

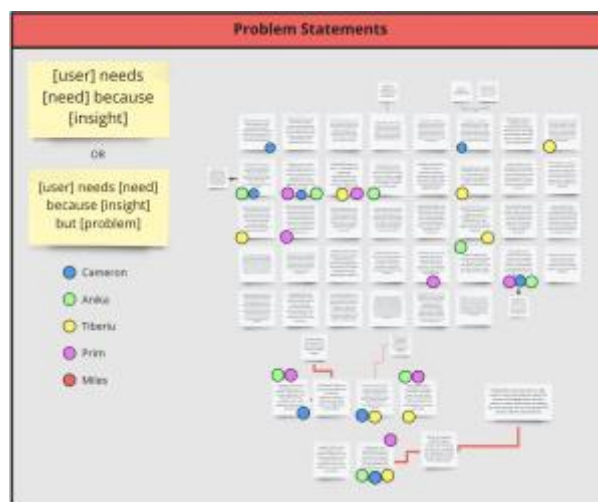


Continuing from the exploration process, we took to synthesise our findings by clustering our insights into themes. We each focused on prominent findings, one of which was humanity's

emotional connection with nature and the mental health benefits that it can provide to us in our day-to-day lives. This brought together a culmination of primary and secondary sources, combining the insight of individuals with academic analyses. This allowed us to gain a unified understanding of our research space and identify areas to focus on as a team.



It was then time to use these insights and make them into actionable “How Might We?” statements. Analysing the details of our insights, we each focused on the clusters to produce tangible statements. We looked beyond the face-value of our findings to identify how people “hire” (Christensen, 2016) nature to fulfil something missing in their lives. For example, we found that some people see nature as something they can become attached to and care for and thought: how might we give people something to care for? Narrowing these statements down to our top five was key in shaping the direction of our project further, concentrating our focus on how we can solve specific stakeholder needs.



Making connections across our whiteboard, we each brought together statements with insights to create a selection of “Problem Statements” that were evidence-based and easily traced back to their original sources. It was interesting to see the connections between insights from different stakeholders; we were able to understand the weight of different issues and use this to guide our focus into the ideation phase. Eliminating statements through a process of dot voting, we settled on a final problem statement that focused on the issue that people feel they “do not have time to help nature.” It took our thoughts into a more challenging direction, since this insight has meant that we must now make a significant effort to sell nature to these stakeholders in an easy, accessible way.

People who 'don't have time to help nature' need something that eases the process of bringing nature into the home to reduce the burden of helping the environment and encourage them to connect with the natural world.

Synthesis has helped our team to develop our insights and support our assumptions from the exploration phase. It has provided us with a scope for our ideation, so that we can ensure that our ideas link back to our stakeholder insights and solve their problems. It was important for us to follow the design thinking methodologies to structure our approach and bring our thinking back to analyse the original findings. Guiding our thinking into new understandings, the design and systems thinking process has helped us to acknowledge our needs, as humans, and how these are fulfilled with nature as our external environment.

Week 20 – Week 21 | Ideation, Prototyping & Testing

Considering that we are a part of nature ourselves, as human beings, it was incredible to discover that our stakeholders “do not have time to help nature.” It was an inevitable finding, with the busy world that we live in, engulfing our day-to-day lives with swathes of information from screens. It is almost comparable to saying that we do not have time to look after ourselves. Concentration on the growth of information and wealth has led us to disregard the environment that makes us human. This discovery was a significant turning point for our focus, so we used this insight to inform our “Problem Statement” and shape the designs of our ideation stage.

Before embarking on a series of ideation tasks, we each took the time to learn how to facilitate at least one constructive process. Some of the tasks we found most helpful were opposite thinking, the mash-up method and six-three-five brain writing as these helped us to construct abstract concepts with rich details. Working in this way allowed us to think freely, where we thought outside of the box with many ideas and were able to use the intangible ideas to inform our concepts at a later stage. Following an evaluation of our ideas using the how-now-wow matrix, we had an epiphany as a group. People are more willing to buy into nature when it is designed as something else. We were discovering existing products that provided the services we identified such as helping people to grow herbs in their homes with little-to-no effort and plant-pots that show their emotions to notify the owner it needs watering and help keep the plant healthy. Products like these were technologically advanced, built-up to look like a brand-new innovation, appealing to hobbyists and tech-enthusiasts but not the wider consumer-base. Nature was mixed-in with technology in a way that meant its core values were removed, as the inclusion of a chaotic technological environment disrupts the serenity of a natural environment brought into the home. As a result, we were able to see what consumers wanted in a different light.

Built it. Break it. Fix it.

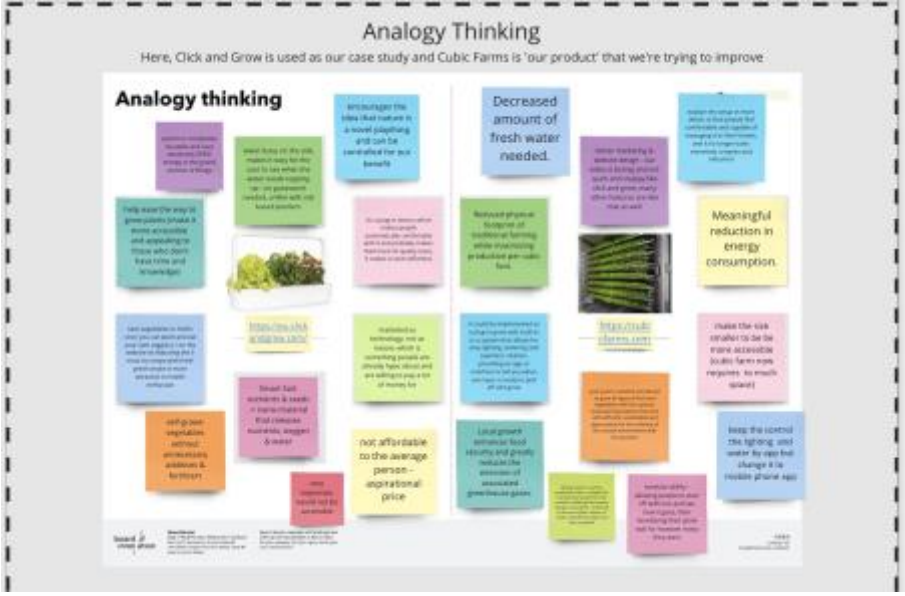
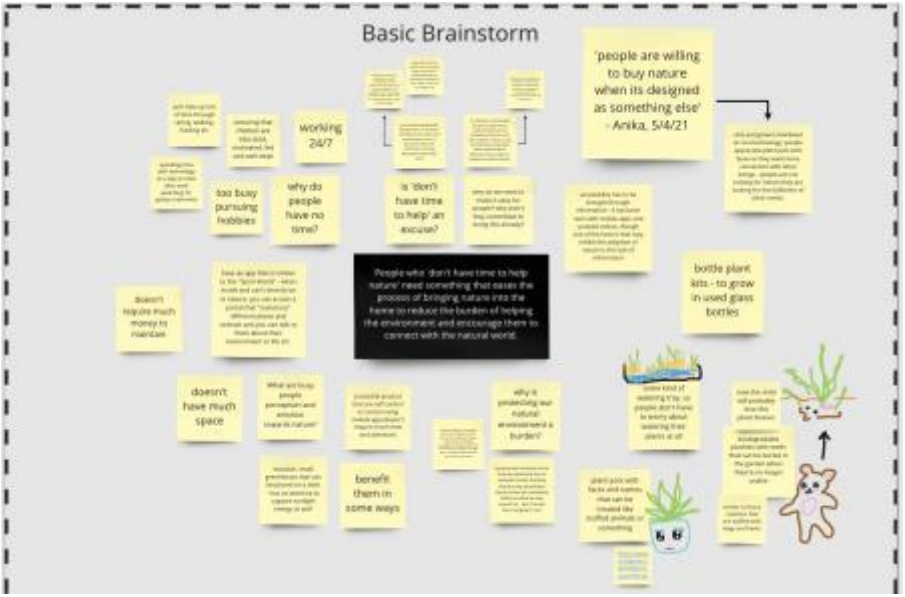


6-3-5 Brainwriting

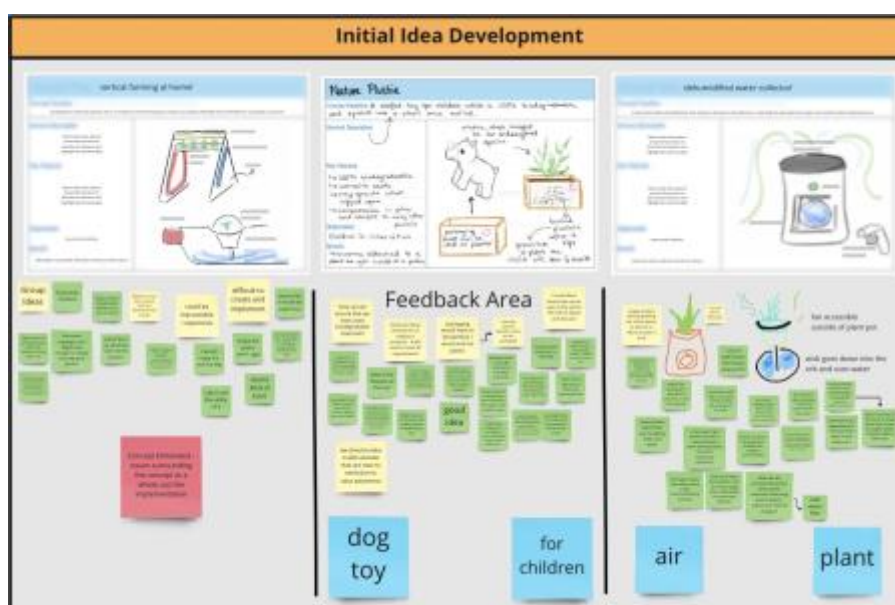
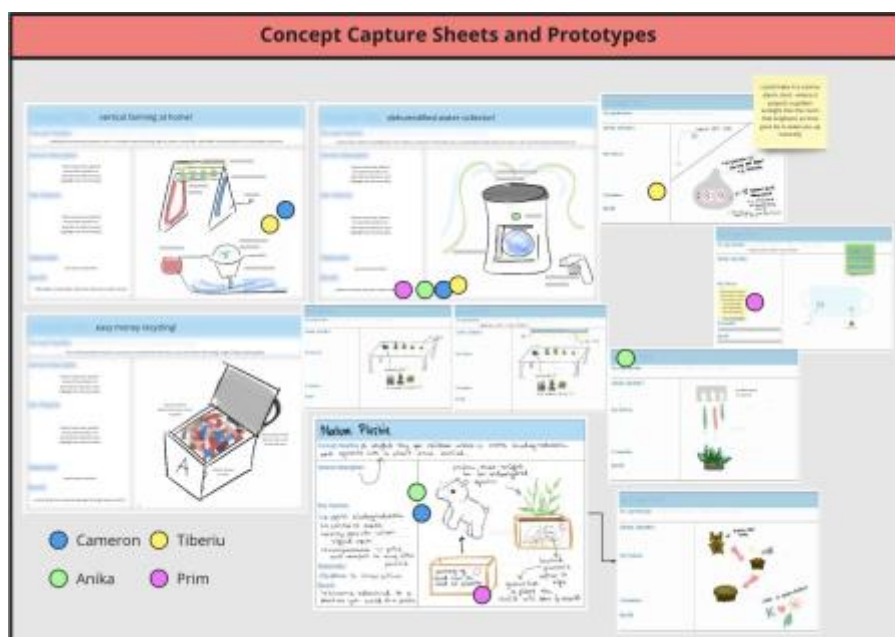
IDEA #1	IDEA #2	IDEA #3	IDEA #1	IDEA #2	IDEA #3	IDEA #1	IDEA #2	IDEA #3
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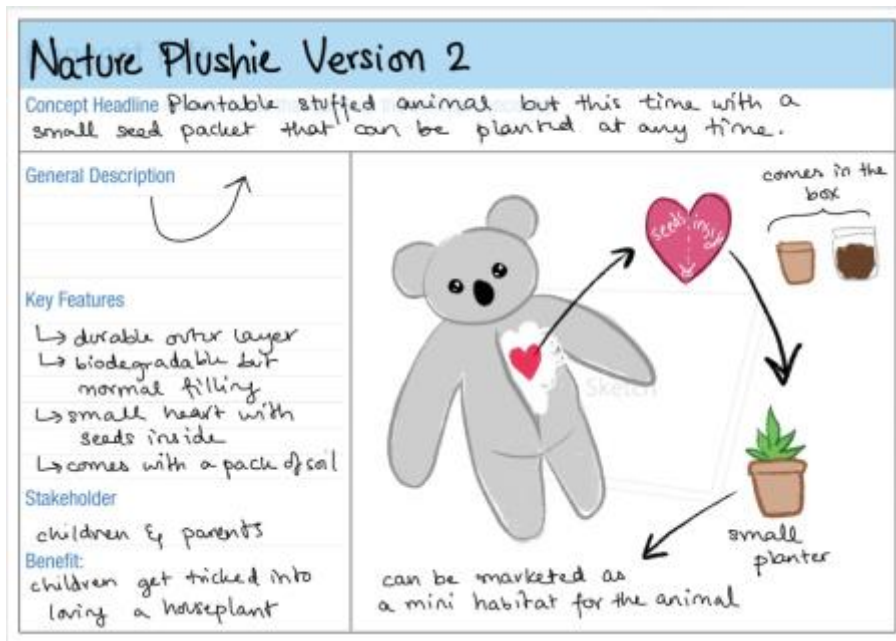
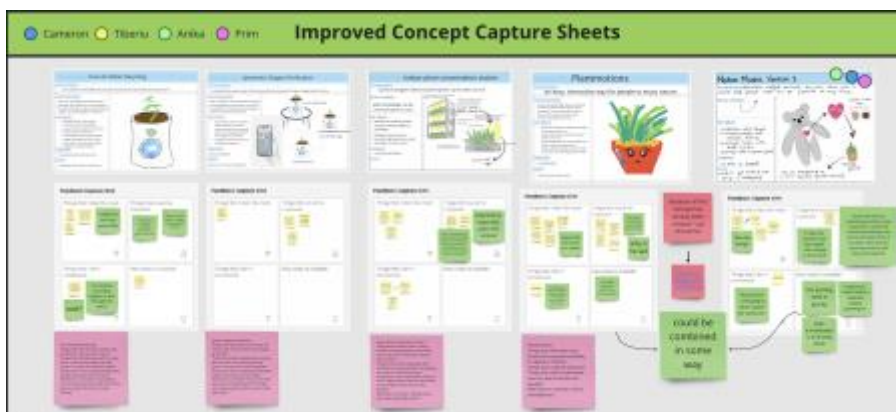
Mash-up Method





Capturing our concepts onto the “Concept Capture Sheets,” where each of us choose two-to-three ideas to sketch out and prototype, helped us to visualise each concept and start to understand the dynamics of the idea, so that we could evaluate whether they could be implemented for our brief of “low-income inner-city communities.” Voting on our concepts with three dots each, we settled on a selection of three prototypes to take to the next stage. It was then that we re-engaged with our stakeholders, speaking with family and friends to obtain honest feedback about the prototypes. Then, with the feedback in mind, we were able to iterate on each idea and develop our “Air Purifier” and “Natural Plushie” concepts. Both concepts allow stakeholders to bring outdoor features indoors the outside in with several added benefits; the “Air Purifier” focused on increased oxygenation and the recycling of wastewater, while the “Natural Plushie” focused on connecting children with nature at a young age, with a toy designed to be hassle-free and educational. After further discussions and improvements, we created another round of prototypes with the sheets. Once we had obtained feedback on these new iterations, we were able to make an informed decision on our final concept.





In the final stages of our testing, we chose the “Natural Plushie” concept as our solution to the brief. It is an educational idea that will help to engage children from low-income communities with the natural world, focusing on both the flora and the fauna. Children can use this toy in whatever ways they would like, while parents can be stress-free knowing that the product is clean and sustainable. Once they have finished playing with the animal, whether it be due to accidental destruction or as they grow out of it, the children will be able to reconnect with their childhood toy by adding water to a seed packet deep within the toy. Growing in the ashes of the degrading plushie, a plant will

begin to grow and provide the child with a new responsibility, and they could then engage with the product in new ways.



Week 23 – Week 24 | Bringing It All Together

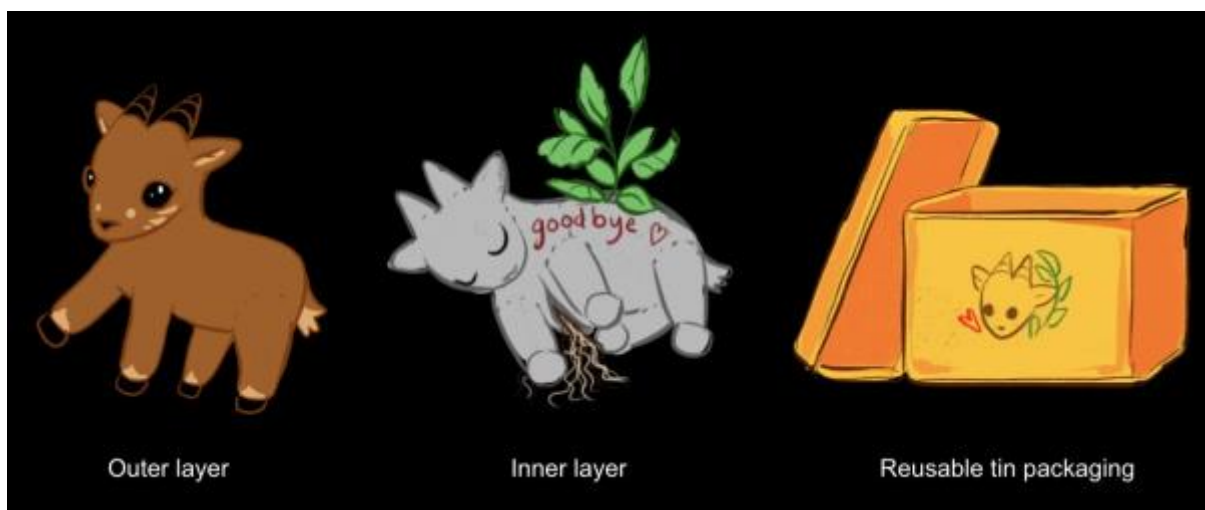
Living with the coronavirus pandemic has brought many changes to the way we exist. It has meant that people live with uncertainty, are in precarious financial situations (Carruthers, 2020) and have spent many months deprived from social interaction. Thus, people have turned to nature through daily walks to green spaces or have brought into the home through plants. However, low-income inner-city communities are deprived of this interaction, with many households failing to utilise the recommended levels of access to public green space in the United Kingdom (Barbosa et al, 2007). Following the brief from Hubbub, we sought a solution for “Bringing the Outside In” (Hubbub, 2020) and explored an abundance of options to do so. Creating an accessible, affordable concept has been difficult, as the more sustainable, technological options explored have all been costly to implement at scale. It has meant that, while we broadened our scope initially in the exploration phase, we have been guided by the rationality of our process to create a feasible response for our stakeholders.



Conducting interviews from a variety of stakeholder groups meant that we were sufficiently guided by other perspectives. Speaking to members of the Bristol community, such as Interior Oasis founder Steve Bacon helped us understand the value that nature can bring to customers looking to uplift their personal space. Focusing selling on the benefits of nature through customisable terrariums and houseplants, Bacon markets his products to higher-income consumers, but his fundamental ideology – that we are looking for something to care for – is the same for all. Innovators like Phoebe Andrew helped us to remain close to the brief, helping us to understand how nature itself is a system that we are all connected to; therefore, we must look at our problem with systems thinking. However, it was the insight brought from family and friends that ultimately shaped our “Problem Statement,” as we found these were much closer to the target stakeholder group. It was difficult for us, since we were unable to truly match the brief with its “low-income, inner-city community” stakeholder target due to the ethical issues that we would have faced by reaching out to people with these requirements. Finding that our peers “do not have time to help nature” became an instrumental turning-point as it seemed to resonate universally, and thus it formed the basis of our problem. It follows the idea that people feel as if they can have no impact on nature and climate change in their day-to-day lives and their actions will not be able to change that (OFGEM, 2020). It is a problem because this pessimistic paradigm will ultimately be destructive to the natural world as we know it. Sustainability is not a privilege; it is something that needs to be campaigned for and implemented by all for the future of our planet. Otherwise, the baseline of our societies will shift, and new generations will not remember the beautiful nature that they need to protect (Soga and Gaston, 2018). Creating the connection between our stakeholders and the natural world could instill these feelings of gratitude, appreciation, and responsibility to protect our environment for future generations.



Ideation was formed around the necessity to evoke a connection between the environment and our stakeholders. It took many forms as we structured our thinking around frameworks like opposite thinking, the mash-up method and six-three-five brain writing to ensure that we created actionable concepts for the prototyping stage. It was important for us to take these concepts and then, after iteration, translate them into sketch prototypes and “Concept Capture Sheets” on our whiteboard. Conducting three stages of feedback in an “iteration loop” (Eelbeck, 2020) with our stakeholders, we were able to make an informed vote on the elimination of different concepts. The “Air Purifier,” “Plantmotions” and “Conservation Station” ideas were not progressed to the next stage. While stakeholders found advantages for each of these, highlighting that technology could increase one’s engagement with nature, the “Air Purifier” and “Conservation Station” would be too costly to implement and the “Plantmotions” Idea already exists (Mu Design, 2021). We, therefore, focused on taking our “Natural Plushie” prototype to its final iteration, with the help of some positive feedback and hopes that it could encourage children to become ambassadors for nature. Children may become more connected with nature and adopt responsibilities by taking care of a plant later-on into their childhood, and the parents will not need to worry about having time to help nature as their children can do that for them.

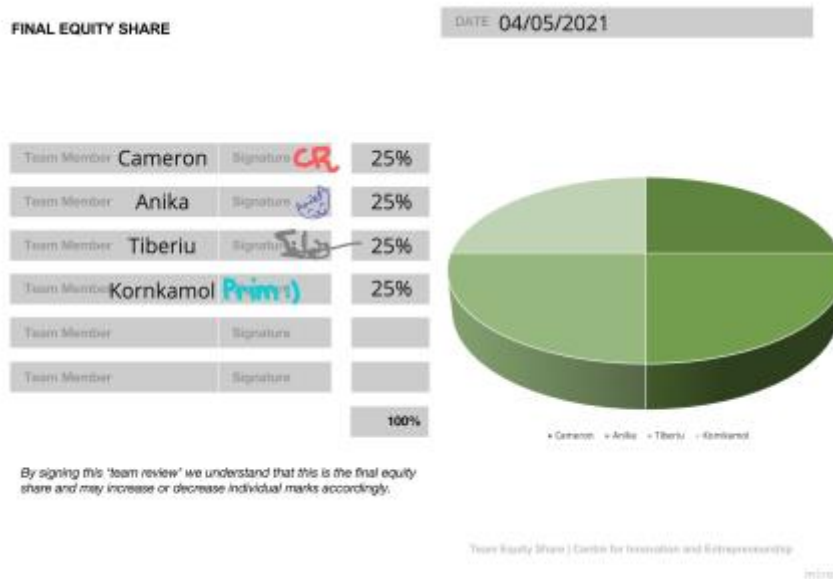


Creating the foundation for healthy dynamics, our communication as a team helped us to work remotely with the most efficacy. Following the process throughout, we made use of frameworks from the very beginning and ensured to keep our teamwork in check by using “Equity Share” calculations and regular performance discussions. Avoiding the mistakes that we each made in the

previous term was crucial; we never held meetings without a sufficient agenda, all our activities were recorded on our Miro whiteboard, and there were no organisational issues – everyone had tasks to complete throughout. It was important for us to empower every team member to contribute and freely to express their ideas in the creative process, so that we could achieve the “abductive sensemaking process” (Kolko, 2010) and achieve informed solutions. In the next project, we will strive to exert the most effort in our exploration stage and not be hindered by the knockbacks of a low response rate. Ensuring that we have enough information to gain a reliable image of stakeholders is crucial to the success of any innovation project; we must work with our new teams to traverse around any barriers and create strong foundations to a new solution.

Overall, given our circumstances during this pandemic, we are confident that we have completed this brief with a reasonable prototype. It has been difficult, considering that we were unable to reach our target stakeholders online. However, it is inevitable that if we had gained those target insights, our project would have taken a different direction and we would not have reached the same solution. Through several insights from our peers, from Bristol community members and fellow innovators, we believe that the “Natural Plushie” concept is an adequate solution to our problem and follows the intent of the brief.

Equity Share Documentation



TEAM REVIEW 2

DATE 18/3/21

Team Member	Cameron	Signature 	24%
Team Member	Tiberiu	Signature 	24%
Team Member	Anika	Signature 	24%
Team Member	Kornkamol	Signature 	24%
Team Member	Miles	Signature 	4%
Team Member		Signature 	
			100%



By signing this 'team review' we understand that this will be used when considering the final equity share.

TEAM REVIEW 1

DATE 26/2/2021

Team Member	Cameron	Signature 	23.75%
Team Member	Tiberiu	Signature 	23.75%
Team Member	Anika	Signature 	23.75%
Team Member	Kornkamol	Signature 	23.75%
Team Member	Miles	Signature 	5%
Team Member		Signature 	
			100%



By signing this 'team review' we understand that this will be used when considering the final equity share.

WEEKLY TRACKING

It is the responsibility of each team to keep the review goal setting and review schedule up to date. Teams may decide how to use this sheet to track. For example, you might simply add a check box to indicate presence of each team member or you may want to track your hours, as a consultant would, and use this sheet to indicate hours spent on the project.

TEAM NAME: Team B11 - DST Equity Tracker											
PROJECT: Bringing the Outside in											
	goal setting	board review 1				board review 2				final	
	WK13	WK14	WK15	WK16	WK17	WK18	WK19	WK20	WK21	WK22	
	PRE	IN CLASS	PRE	IN CLASS	PRE	IN CLASS	PRE	IN CLASS	PRE	IN CLASS	Final submission
Team Member: Mark											
Team Member: Arkie											
Team Member: Linnea											
Team Member: Pom											
Team Member: Wiles											
Team Member:											

Reference List

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