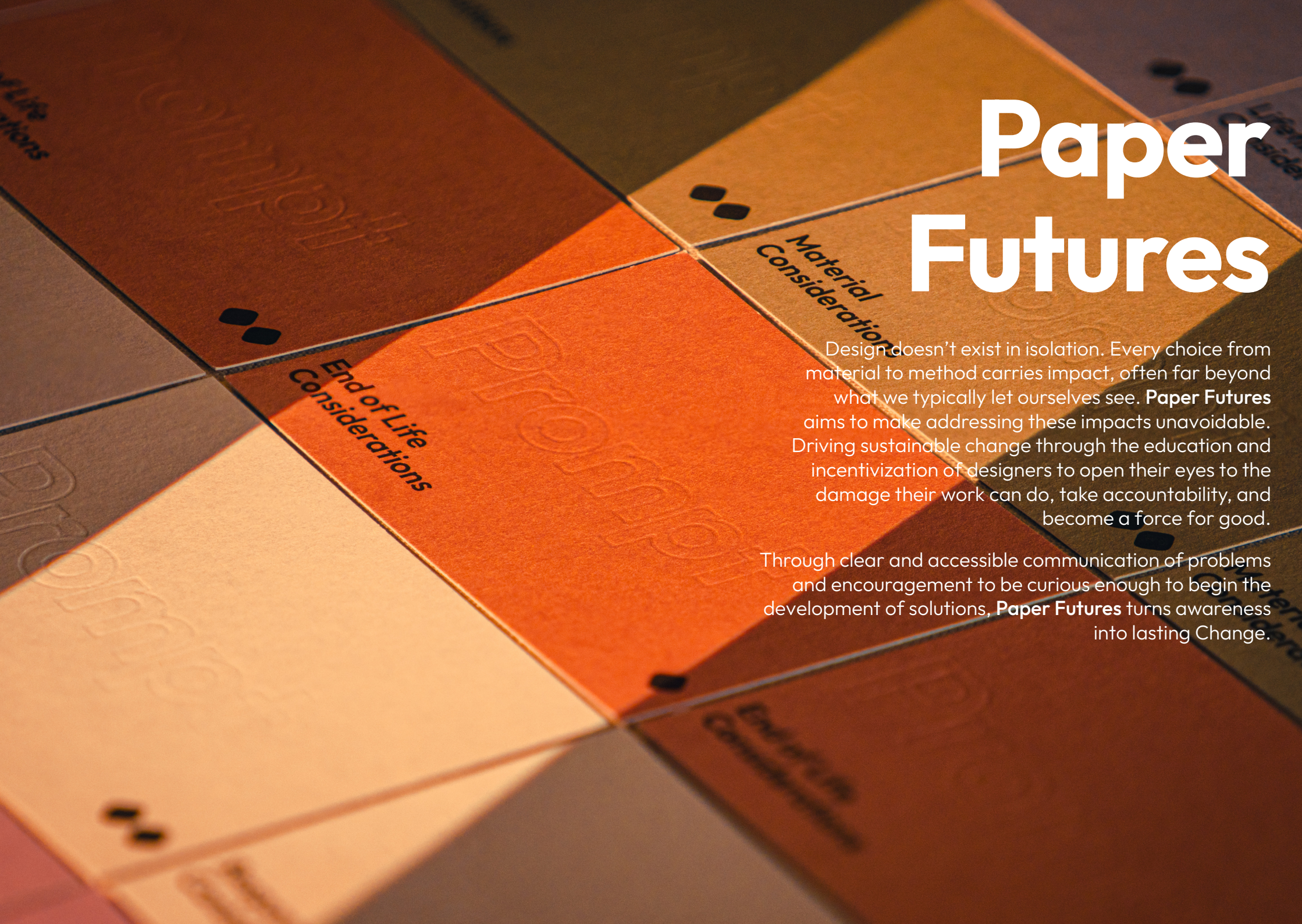


Paper Futures





Paper Futures

Design doesn't exist in isolation. Every choice from material to method carries impact, often far beyond what we typically let ourselves see. **Paper Futures** aims to make addressing these impacts unavoidable. Driving sustainable change through the education and incentivization of designers to open their eyes to the damage their work can do, take accountability, and become a force for good.

Through clear and accessible communication of problems and encouragement to be curious enough to begin the development of solutions, **Paper Futures** turns awareness into lasting Change.

Cheers!

Before we get started, I should probably get some of the pleasantries out of the way and thank the people that helped push this project over the finish line.

So, thank you...

Andrew Cook and **Martin Skelly** for such a stellar effort dealing with the level of conversation in the studio and still getting us to the end.

Ross Harris, for dispersing some of my pessimism every week or two and being my sounding board.

Joe Macleod and **Dr. Irene Mazzei** for taking the time to share their wealth of knowledge of circularity and sustainability

The guys at **Winter & Simpson printers** for getting everything printed so fast on short notice.

Adam Whatley, **Alan Maclean**, and the Higher students at **Peebles High School** for acting as guinea pigs in the earlier development of the project

All the **Friends and Family** that stopped the wheels coming off and pretended to listen to my complaints about self inflicted time constraints and workloads.

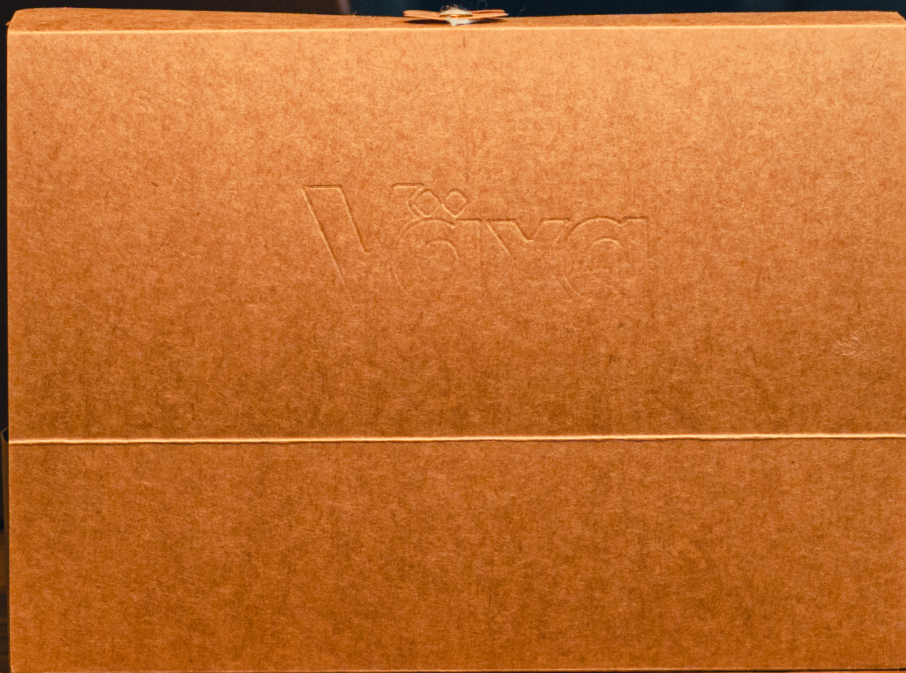
What is it?

Paper futures is a paper-based toolkit with the sole purpose of making sustainable design more accessible to anyone willing to try.

Broken into 3 core stages, the toolkit aims to first **prompt** the user(s) to think open mindedly about solutions to possible design problems while stressing the playful nature of the kit. These preliminary solutions don't need to be realistic or feasible. In many ways, it's better if they're not .

Then, using a series of **Exercises**, the designer(s) will take the wild ideas created in the first stage and bring them back to the realm of possibility. With varying levels of involvement required, this can be as quick or as in-depth a process as you like.

The final stage is **Scoring**. Using a tailored selection of 18 criteria, the user(s) will grade the final design's considerations of these on a scale of 0-3 to produce a final score. This can then be used to benchmark different versions and products against one another: creating a clearer image of how effective the work to lower impact has been.



Who is Rohan?

Rohan is a wannabe minimalist who started life as a designer that rarely left the (sometimes rage inducing) comfort of Autodesk Inventor. He then 'found' himself (in the pub too often and the library too late) in Australia, while exploring the world of 2D graphic and identity design.

Outside of design, he spends his time outdoors. For whatever reason he climbs walls and faces that ladders removed the need to years ago.

If you're lucky, (or let's be honest, unlucky) enough to get a few words out of him, you're likely be berated with ramblings of the issue with greenwash or everything that you're doing wrong for the planet.

But, if for some reason you still want to get in touch with him, you can do so here:

rohanhollingsbee@gmail.com
[@hbee.undergrad](#)



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Realising the physical aspects of the project and developing a brand identity to go along with the toolkit in the lead up to finishing the whole kit.



Raiding the library

Call me old fashioned but throughout the last year I've made a point of trying to read more books, especially books relating to design and/or sustainability. The books in the image are those that stood out or contributed the most valuable insights to my projects... And then there's "Graphic Design Rules"...

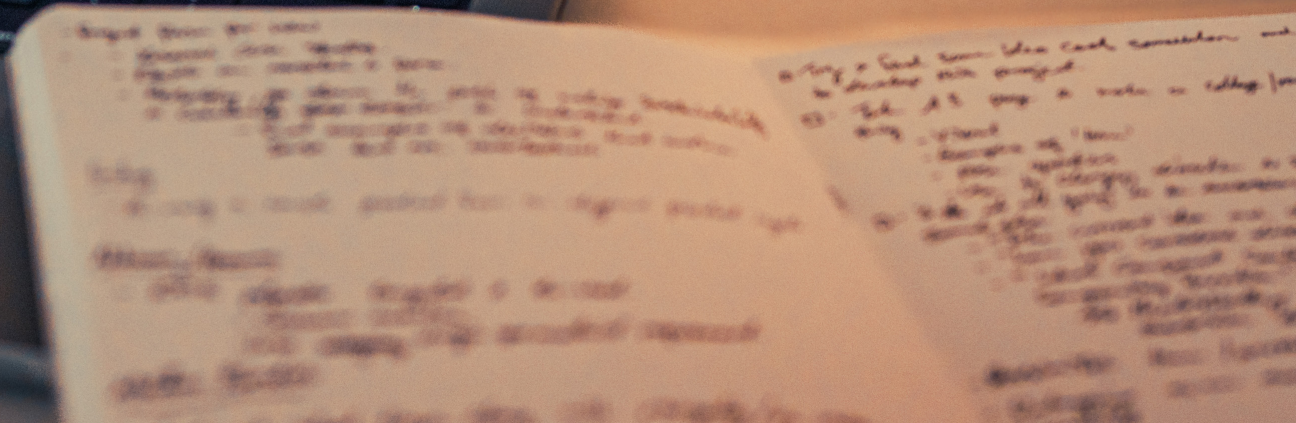
Each of these books takes a totally different approach to their topic and crafts a unique perspective on it. I think the book I got the most from was "Cradle to Cradle". This cautiously optimistic insight into the impact a shift in our manufacture and distribution processes could have, balances the harsher elements of the reality we're facing with descriptions of methods that could have great impact with little cost to the consumer.

"The Uninhabitable Earth" on the other hand, takes a very different approach, essentially just stating how F**ked we all are for the first few pages.

While they all had different things to say, each book contributed to my approach toward this design, so I guess for that reason I'll call them worth reading.



First Steps





Getting started

As a climber, during my experiences in the outdoors I grew increasingly aware of the issue of retiring old climbing gear when it became too old to safely climb on. When the gear reaches that stage there's not much that can be done with it; leaving it to just sit and gather dust, or go to landfill. Some of the softer goods like ropes are repurposed into belts or bags but the rest of the equipment has yet to have a real secondary use.

Initially my goal was to solve this issue by developing a range of products for the outdoors made from repurposed and remanufactured climbing gear. I was considering things like melting down cams, and nuts to make camping knives or hatchets, packable climbing chairs made from old webbing and harnesses, or, lightweight tent pegs cast from retired carabiners.

In theory this all sounded like it could be fun, however, the reality of working with these materials with the facilities at my disposal presented insurmountable challenges.

Almost, Dead End

After a few weeks of exploring ways that the retired climbing gear might be given a second life, and discussing these ideas with lecturers, I came to the conclusion that there were better ways to explore sustainability for my honours project.

In the wake of the Mark 1 presentations, I set my sights on some form of design guidelines to direct willing participants towards a more sustainable outcome.

Not only did this mean I could stay true to my personal mission, it widened the scope of possibilities and target demographic, meaning if done right, wider spread benefits could come as a result of my work.

New Beginning

The first step I took down the path of exploring a series of sustainable design guidelines was focussing specifically on how outdoors gear could be made with lower impacts. This quickly evolved and the focus became the design industry as a whole, meaning a much wider area could be covered and there was much more room for development of the guidelines.

The next step in this evolution was researching what efforts were already being made to reduce impacts in design, both by specific manufacturers, as well as design processes in general.

With this knowledge I decided that some sort of interactive, gamified solution was the path that I should explore.



Now we're cooking

With this new direction established, I set about experimenting with some different ways of provoking more sustainable thinking when it came to the fundamental design process.

Through some early user testing, I established that the most effective way to prompt users to think more about sustainability while designing was to prompt them with the beginnings of an idea, then let them take that and make it their own.

To test this, I scribbled out some rough designs and defined some preliminary product characteristics, before asking some coursemates to use the prompts to steer their redesign of a product. These prompts aimed to lower the product's impact, but without sacrificing any of its performance, ideally doing the opposite and actually improving it.

The results of this workshop reinforced my focus on using prompts as a design tool, and set me on the path to refine these prompts, to ensure they were as effective as possible.



Joe Macleod

Through my research into circular design solutions and end of life processes in various products, I came across Joe Macleod (Design consultant and founder of andEnd, a product consultancy that focusses on the consumer offboarding experience). Immediately he seemed like the perfect source for some pointers on where to take this project.

During our call we discussed how he goes about communicating design challenges and solutions, the importance of a clients perception of value, and the necessity for a design tool to prove itself almost immediately in order to be commercially viable.

The 3 core takeaways I left with after our session were:

A design tool needs to be agile and capable of fitting into anyone's process,

It must aid communication between informed and uninformed users.

It must prove its value and effectiveness quickly to ensure that it isn't disregarded before any real good can be



Development

enter Your design
to make a
natural material.
Seaweed.

Requirements
(use feeding process requirements)

used / Re-used:

Try subtracting some materials

Remove a component.

How is the ~~good~~ product repairable

Can the cost of other materials be absorbed elsewhere?

What 6.0 materials could provide the characteristics you need?

How would you implement bio-Materials?

Is there scope to develop
use a library of
standard components?

Substitute all plastic
card, what happens?

How do you make
that flat rock?

How would a long man
have to climber at the
Pole.

Does your material
reflect the ~~total~~ intended
lifetime of the product?

Re-Assess design criteria,
does it need to fulfill
these requirements

Pl. 1 c

- Enter the
- Imagine stresses
- Put on the prog
- Break it. (Comm
- Possible scenarios)
- How does the comm
- these leaves?
- Consider how this process
- be implicit
- Repeat changes to the process
- Repeat the process for each
- You have a more circular
- Product.

Red Materials

- Break your project down into its component parts.
- Make a list of materials.
- Assign them to each component.
- Develop a list of regenerative materials or recycled / waste.
- Assign some of these materials to random components & take the project to the next stage.
- Challenge this new material

Consider removed.

Waste Not Want Not

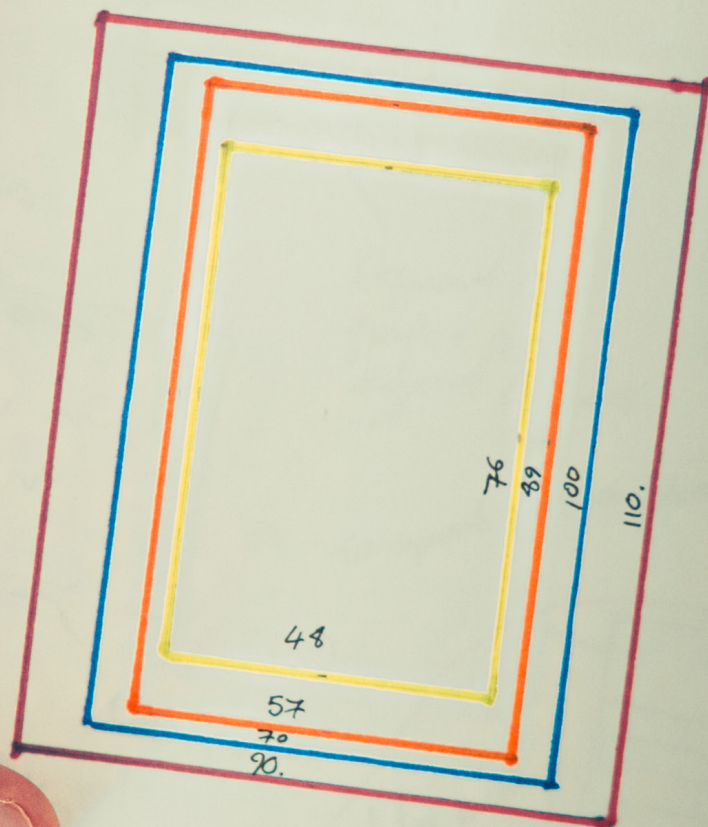
- Source a selection of waste or scrap material. Retain or use products with too.
- Using a Vague design direction develop a Criteria for your Project.
- Once a Criteria has been developed, apply your ability to begin a mindmap of potential development paths.
- Follow your normal design process to produce your result.

Core functions of
to its Component
of each
of the Core
- Secondary Component
the product
functions.
linear material
Project.

Setting scale

With a refreshed sense of purpose and a clearer idea of what needed to be done to achieve an effective end result, I started considering some of the more physical aspects of the project. The content steering the user toward sustainability is important, but without considering how it's communicated to the user renders it almost useless. For that reason, the interactions and process a user has to go through are fundamentally important. i.e. Visual Appeal, Ergonomics, User Experience

The first thing I considered was the physical size of the elements in the toolkit. Having now decided that something paper-based would be the best way of communicating playfulness and creating adaptability, I started by experimenting with different sizes and proportions of cards. Aspects such as how they felt in hand and appeared visually were the primary things I was looking for. Ultimately I decided that A6, 7, would be the best solution for the prompts and exercises, as these sizes leave enough space for content at an easily readable size while still feeling comfortable in-hand.

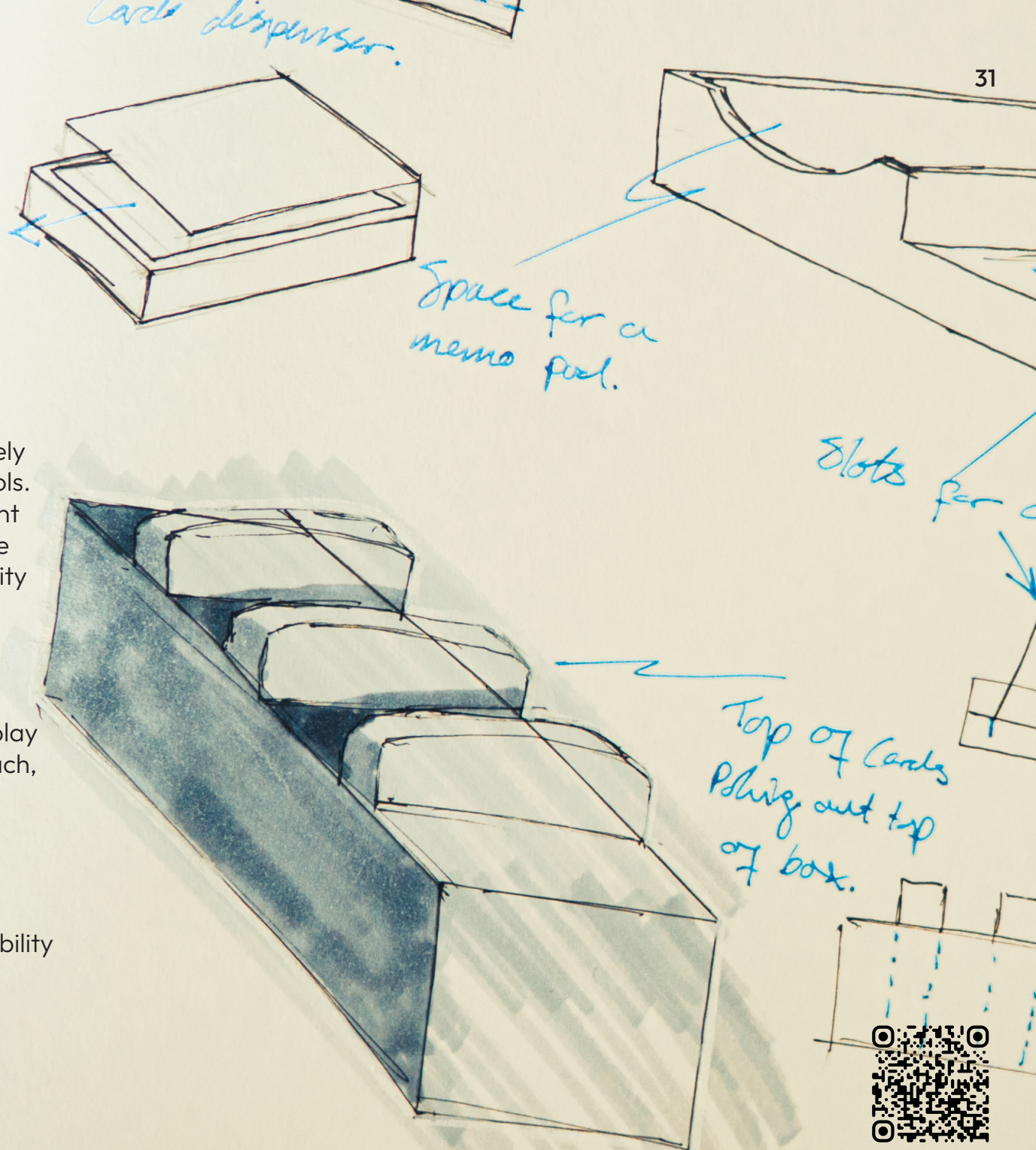


57 x 89
 48 x 76
 70 x 100
 90 x 110

What's in the box?

In the beginning I was focussing on the packaging solely as a means of transporting and storing the design tools. Before exploring the use of different sizes for different elements of the toolkit, I was considering a play on the Cards Against Humanity box. Taking that visual identity and putting a sustainable spin on it. In the end I did something totally different but the idea did influence some of my early packaging designs. Using that CAH inspiration I worked on versions of a box that would separate the toolkit into different categories and display them during use. I also considered a more flat approach, using the packaging as a card dispenser as well as storage solution.

As I will go on to discuss, in the end I decided that focussing on a few small details and interactions, (stressing the simplicity of the product and its adaptability to any users process) was the best course of action.

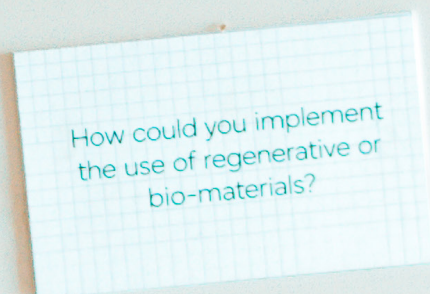
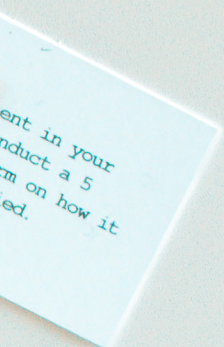
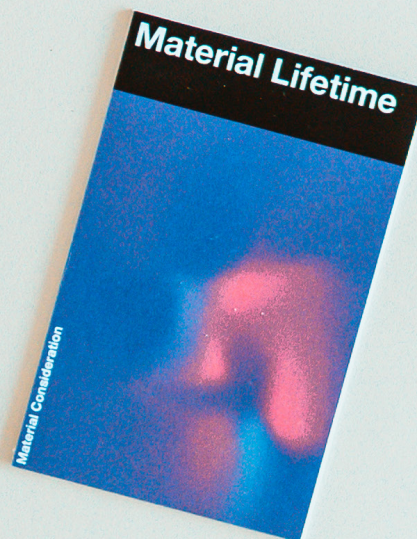
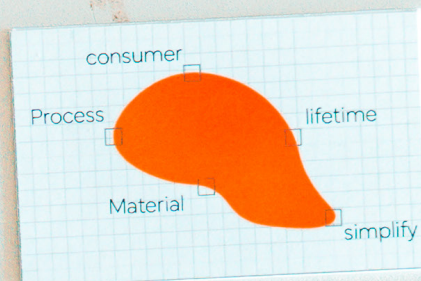


Time for a face

With a clearer idea of the format, process and content the toolkit was going to use, I could start playing with some real visual cards as opposed to notes scribbled on squares of paper. By this stage I knew that the design aid needed to be simple enough visually that it wouldn't impose bias or influence designers, but still visually interesting enough to incentivise them to interact with it.

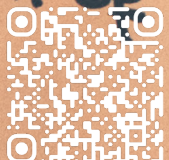
I came up with a few directions with varying amounts of colour, design assets and elements, testing the balance between information communication and incentive to interact. The 3 I liked most are those pictured on the left, which were presented in the Mark 2 presentations.

Mixing the feedback from Ross and Andrew as well as my own opinion I decided that while all of these designs did the job to an extent, they needed to be simplified in order to further reduce their ability to cause bias. That's the insight I kept in mind as I continued crafting the identity of the toolkit.



In order to achieve the array of copy for various categories and formats, I enlisted the help of Dr. Irene Mazzei, published sustainable design expert and Sustainability Lead at Stoane Lighting, as well as Dave Hollingsbee, Co-founder of The Green Light Alliance.

The result is an ‘expertly’ crafted pack of relevant and succinct provocations with the potential to elicit widespread positive change across the design sector.



End one life



Exploring tactility

When pursuing a minimal but effective aesthetic and user experience, experimenting with tactile elements is a good way of increasing engagement with the product. Go too far though and you can end up distracting from the product's core experience. For that reason I took the time to experiment with various different interactions that could be used in the packaging and physical manifestation of the product.

The key thing for me was finding the balance between complexity and patience, effort and reward. i.e.. Finding that sweet spot then integrating it into my project.

For the closure, I found that the string and washer solution struck that balance, intuitive and easy to understand, just the right duration of interaction to make a user feel as though the contents was some kind of reward, and visually simple enough to fit with the minimal aesthetic.

As for the tools themselves, this was the stage that the seedling of debossing was planted...

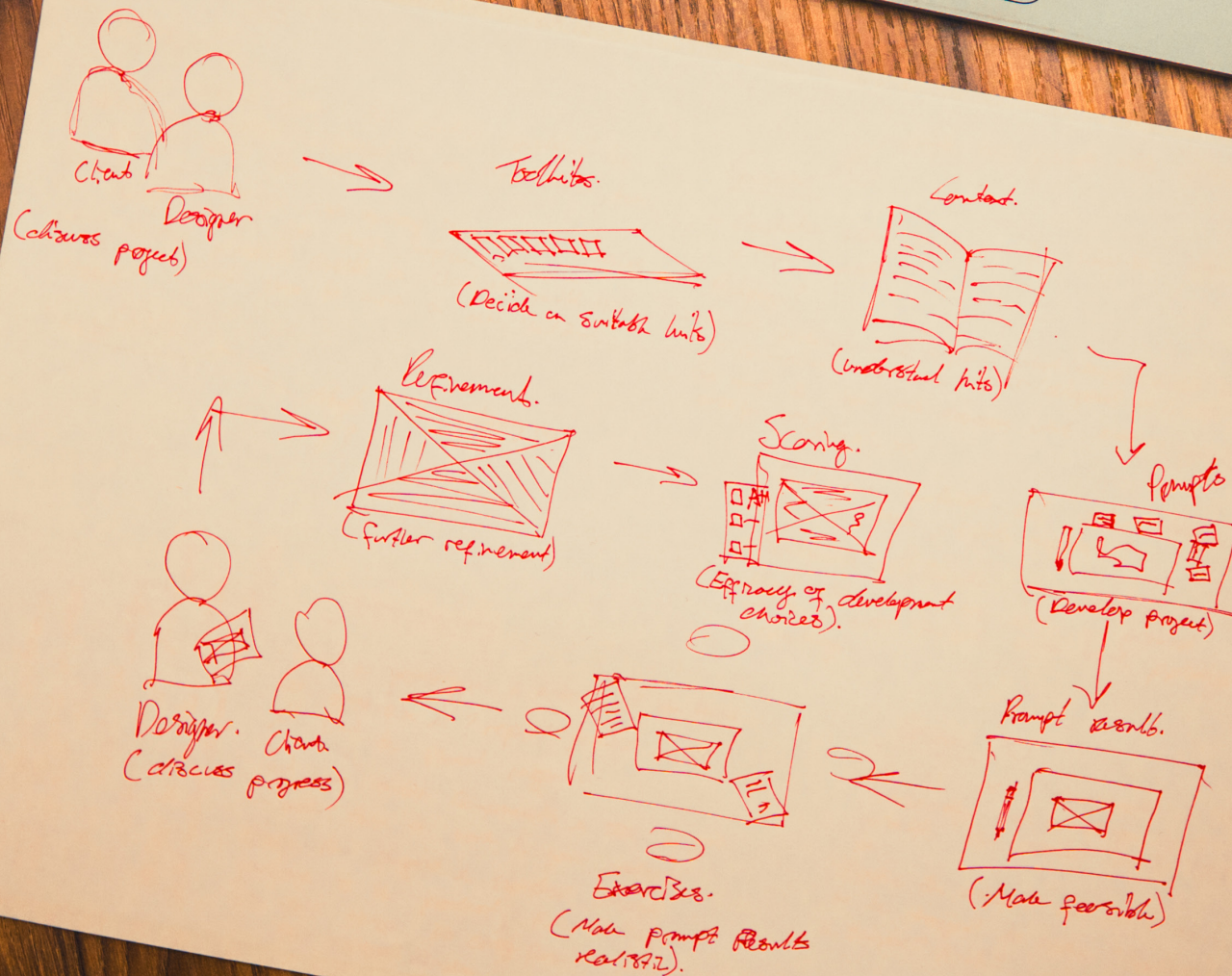


Refining 'process'

A design toolkit relies heavily on its ability to be engaging and intuitive for users. In order to ensure that my product met that criteria, I went through several rounds of process refinement. By putting myself in the mind of a user, creating personas, and running through theoretical processes, I began to uncover the most streamlined version of the toolkit and identified the key stages.

One such stage is scoring. A consideration I hadn't made previously but was raised by Dave H as a necessity "Claiming something means nothing if you can't demonstrate it".

It was that nugget of insight in conjunction with the rounds of process experimentation that led me to come to grips with how I could implement a scoring system to my toolkit and in doing so, provide that crucial metric for benchmarking improvements.



Changing disguise

Using the insights gathered from the previous round of visual exploration and the further refinement of the process in general for the toolkit, I went through another round of graphic experimentation. This time I really focussed on the minimal aspect, keeping colours relatively tame, typefaces simple and copy efficient. Again, I printed these out to take the size development another step further and printed a larger variety so I had some physical cards for use in user trials.

Off the bat, I felt like these designs were going more in the right direction, some were definitely too minimal to the point of just appearing bland but they served their purpose in helping me find the balance.

Printing a larger quantity also served as a learning experience, for this round I printed the fronts and backs separately with the intention of laminating them to make a thicker, stiffer card. Given how long that took and the faff that was printing, cutting, and gluing, I didn't repeat this process later on in the project.



Class is in session

By this stage of the project, I was starting to feel like the content and process was reaching a point where without external input, there wasn't much more I could explore.

So, I took a step back in time and returned to Peebles High School to work with some Higher and Advanced Higher design students and get their thoughts on the toolkit.

Overall it seemed to go down well with the pupils and especially well with Mr Maclean, with the 3 main thoughts from both being:

The language needs to communicate the information in a way that's understandable by all.

The tools will be used in different ways by different people with different processes and needs to make sure it accommodates them all.

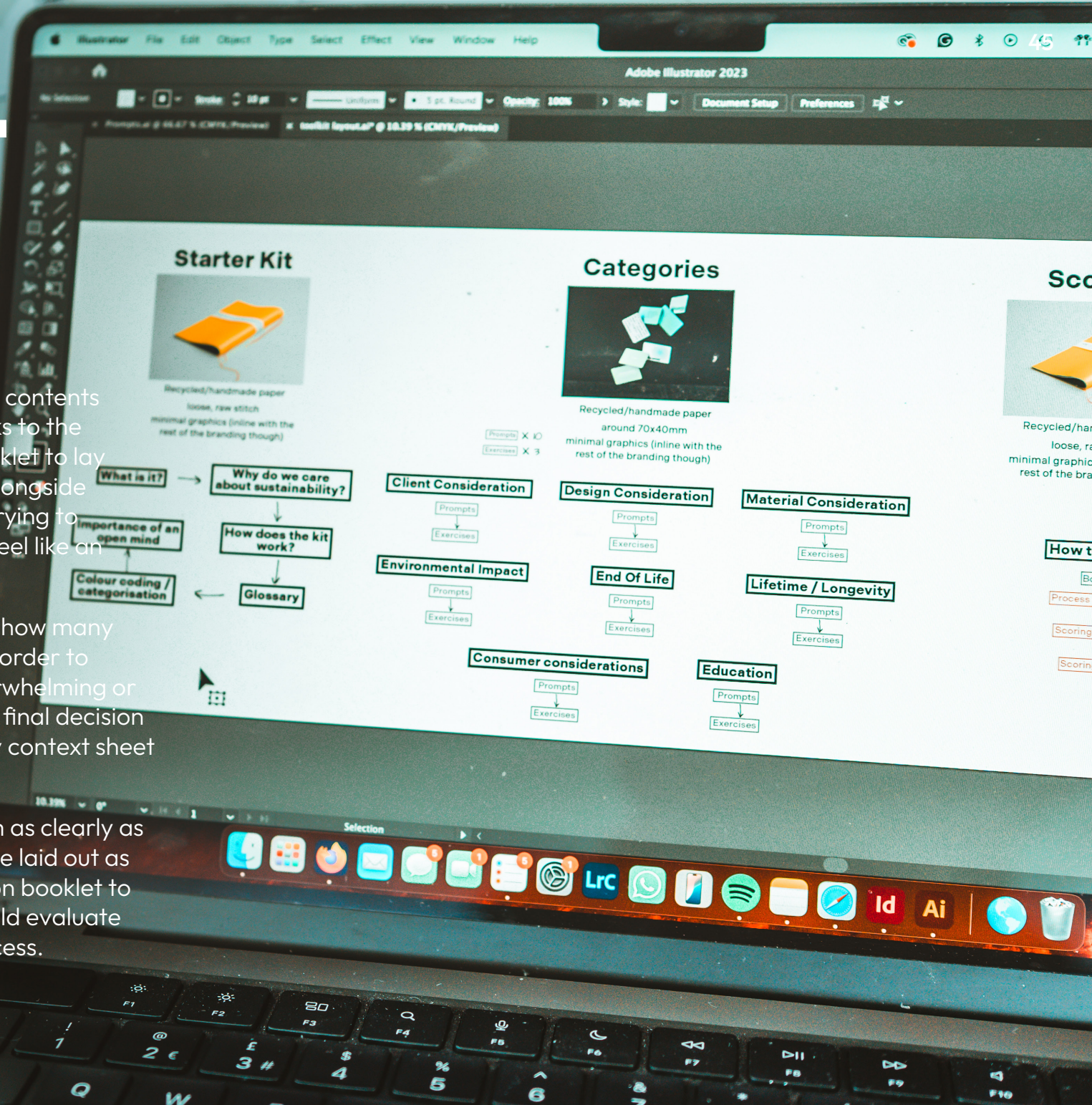
The playful nature of the tools and its importance in inspiring creativity in a subject that can be difficult to think about open-mindedly, needs to become a more core talking point.

How's it work?

Off the back of the user trial I reworked the contents of the toolkit slightly and made a few tweaks to the overall process, adding an introduction booklet to lay out the aims and processes of the toolkit. Alongside communicating the importance of play in trying to make a difference in what can oftentimes feel like an unchangeable part of society.

In this final process overhaul, I also decided how many of each element was going to be needed in order to cover enough bases without becoming overwhelming or appearing too daunting to get started. The final decision was 10 prompts, 3 exercises, and 1 category context sheet for each of the 6 categories.

In order to communicate the scoring system as clearly as possible, I also considered how that might be laid out as a standalone flyer or part of the introduction booklet to remove any confusion as to how a user would evaluate their design decisions at the end of the process.



Pulling things together



Who is the “who”

Throughout the development process, the ‘character’ of this product has been establishing itself. The nature of a product like this is such that the criteria it has to meet, do much of the work of defining ‘who it is’.

We've established that we're focussing on sustainability. In order to communicate that effectively, the aesthetic needs to remain minimal, but not so minimal that it appears boring and unappealing. Oh, and there needs to have some level of interaction to incentive use too.

Those general constraints do a lot of the heavy lifting conceptually, but now its time to fill in the blanks. To do that, I started with a decent stint of procras... pinteresting.

Things like pastel colours, simple shapes and letter forms, using natural elements like light and shadow to create subtle visual intrigue were the most standout elements from this process. All of which conveniently fit into Scandinavian design language, which even more conveniently, tends to err more on the side of minimal.

Too many to count

Building from the Scandi link established in the research and exploration phase, I started playing with words in the Nordic languages, eventually settling on "växa" which means "grow" in Swedish. As an obvious nod to nature growing, and a more subtle link to the toolkits desire to inspire sustainable growth in the design industry.

Over the course of the next 2 weeks I experimented with hundreds of iterations and versions of logos, which in hindsight was perhaps not the best use of time given that the logo appears twice in the entire toolkit, unless you find the little third one...

I struggled with balancing imagery with simplicity. Finding a way of crafting a logo that speaks to the message behind the brand without being too complex is no small feat. In the end though, the final logo ended up being one of the many revisions of a fairly early concept, naturally.





Got there eventually

Depending on how willing you are to indulge me, there's a few elements in this final logo that link to 'who' the brand is.

The most obvious element, I think, is the Umlaut. Part of the reason I went down the route of using Swedish was for the diacritics and their ability to make more interesting forms from strings of letters. In this case, I squared them up and reduced the spacing slightly in order to mimic the double diamond design method, how Honours student of me...

The "V" scaled up slightly so that it would appear to frame the rest of the word.

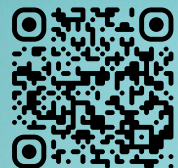
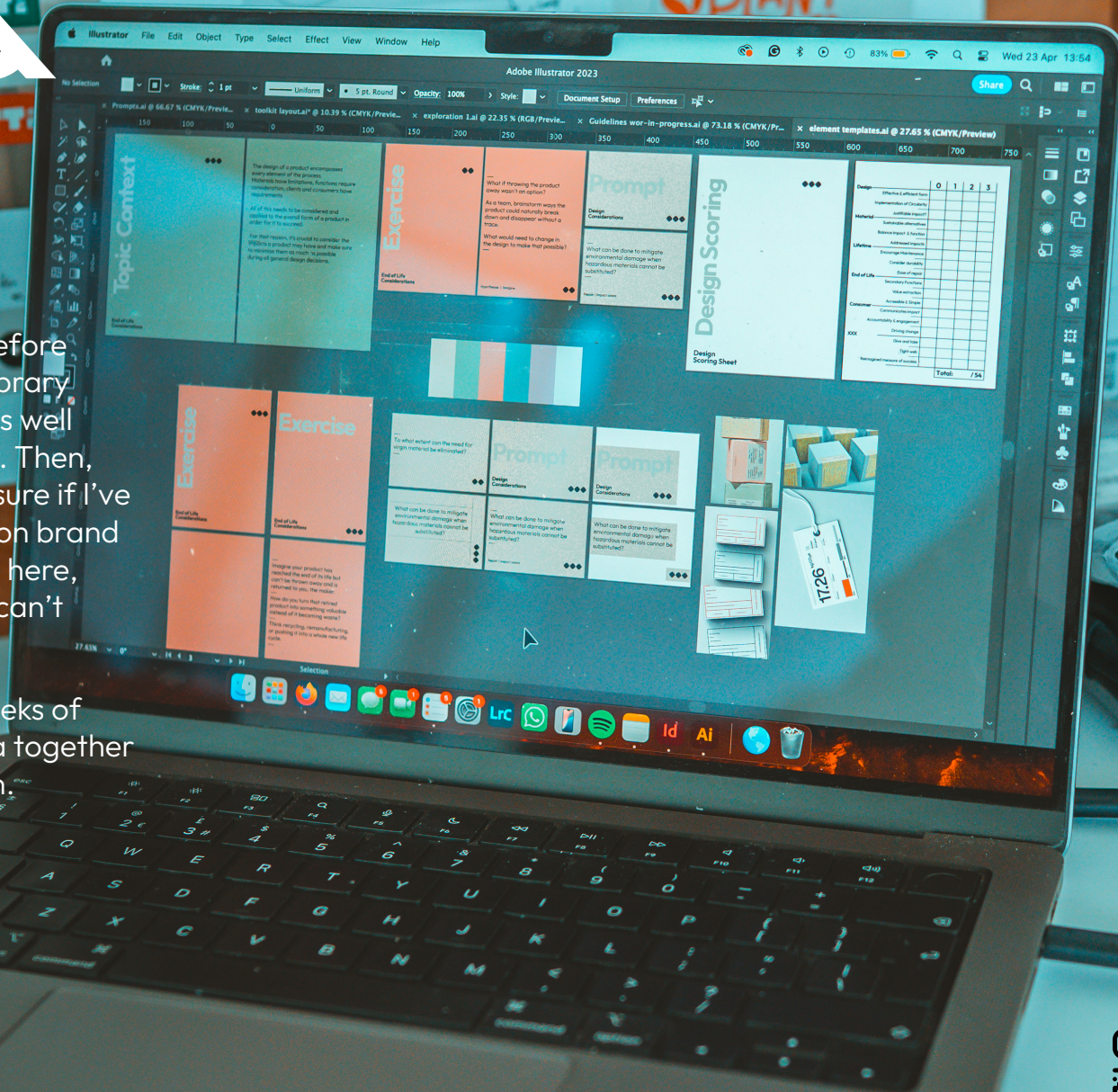
The letter corners rounded slightly to present as more organic and natural.

And if you're really willing to indulge, the combination of the Umlaut and the "a" somewhat looks like 2 people having some kind of conversation or embrace of some kind. Not sure if that's just me though...

Shapes & colours

Having a logo is only part of a branding suite. Before I could call this brand designed, I still needed a library of colours to sample throughout all the media, as well as a typeface and accompanying text hierarchy. Then, thanks to my time in AUSTRALIA, which I'm not sure if I've mentioned yet... I dredged up some old notions on brand guidelines, things like how much spacing to have here, what you have to put there, why you absolutely can't have this next to that, and so on.

For better or worse, after one of the longest weeks of this degree, I managed to pull all the print media together and get everything sent off to Winter & Simpson.



Special delivery

I don't think I quite did justice to just how quickly I had to pull all the print files together. Through no one else's fault but my own, I found myself underprepared, underinformed and running a bit short on time to get 60 prompts, 18 exercises, 6 context sheets, a 16 page booklet and scoring sheet developed, refined and finished in 4 days in order to get them sent away with enough time to make the tactile additions I wanted and finish everything else.

A few late nights later and I sent everything off, just to wake up the next afternoon to see I'd formatted a few elements against the bleed and not the edge of the artboard or forgotten to expand to the bleed line, obvious mistakes that don't jump out at sleep deprived eyes in the same way that they do to fresh ones.

In the end though, I got everything fixed and W&S pulled a blinder getting everything turned around faster than I hoped and threw in a load copies of everything too, which didn't at all feel like a lack of confidence...



Making do

From quite early on in the visual development stage of this project I'd set my sights on finding a way to deboss an element of the final product. I was working under that assumption from then on, only finding out just how expensive it was going to be when it came to sending everything to the printers and I was quoted a grand for the dies I'd need cast. No chance I'm spending that so I started playing with ways to do it myself, eventually landing on 3D printing some stamps and a jig in PETG and 60% infill. It took a few different versions to get a crisp compression but I found that the sweet spot was a 0.8 by 0.4mm bund around the lip of each letter was enough when you wellied it in a vice and put all your bodyweight and then some more on it.

My rationale for the debossing was to add a bit more visual and tactile interest to the tools and if I'm honest, I think the outline deboss fits that bill better than what I was initially hoping for by debossing the whole profile of the words.



Smaller box

As I got nearer the end of the project and had the physical cards to play and experiment with I grew to really dislike the packaging solution I'd been developing.

The interaction of opening the string and washer envelopes was nice but it was impossible to keep any kind of order inside. You also couldn't see any of what you were working with so it lacked some of the clarity that I was aiming for.

Eventually I decided that trying to make it work was more effort than it was worth so I redesigned the envelope entirely. Keeping the string and washer element but changing everything else, I created this 4 fold bundle that when opened, reveals the neatly stacked and bound cards. Much better.



Bigger box

Having redesigned the category packaging, It felt wrong to leave the whole toolkit package the same, so that got an update too. Instead of the 2 part, weird proportions bland mess that I had previously, I mimicked the unfolding interaction of the category bundles, brought over the string and washer closure, and left the sides exposed so consumers could see into the toolkit without even needing to open it.

I positioned the folds just beneath the bottom of the category bundle labels so that as a consumer progresses through each one, they can see what's next which should create a bit of flow to the process and increase incentive to keep going.

I finished the package with a simple debossing of the logo on the front fold to tie it in with the brand without sacrificing its minimalism, and that was that.

Paper
Futures

Finished at last.

So, with that, the project comes to an end. There were some ups and downs, some back and forth and a LOT of doubt, but in the end, the toolkit that came out the other side feels as though it has the potential to really empower sustainable change. Having spent so long refining the content and getting the input of such well informed, industry leading designers, I don't think that's unreasonable to say...

The only way of really knowing for sure though is to put my money where my mouth is. So who knows, maybe the next time you find yourself wandering around a design studio or reading an article on some sustainability forum, you'll see a flash of Brown and find yourself looking at 'Paper Futures' Once again, or maybe you won't. Either way, I'm proud of it and that'll do for now until I've caught up on some sleep.



Is that all?

I've spent most of this project, like with every project, hating most of it and struggling to trust that it's going to turn out ok, because of that I didn't spend much time looking to what the future could be for it.

Now that it's done and I've had time to sit with Ross' comments through the projects development though, I do see a world in which I take this idea and run a little further. There are some portions I'd like to flesh out some more, having the opportunity to workshop all the exercises with users to develop more effective versions, or taking the time to really break down the scoring system to make it as valuable as possible, are all things I'd really like the opportunity to try.

Maybe there's scope to tweak the toolkit as a whole so it can be used outwith product design, how could I switch it up to work for an architect, or what changes would be needed to make it a tool for change in the banking industry.

Sustainability affects everything and all of us are guilty of taking that for granted from time to time, even me... Maybe it's just about taking little steps here and there to help pave the way for others? Who knows where we'll be in a few decades?

IProminix
**Responsibility
Considerations**

In my defence

“My honest opinion on the content of the toolkit is that it is an effective way of conveying all the most important messages related to sustainable product design, not only regarding resource awareness, circularity and impact, but also touching on the need to engage consumers into this alternative way of looking at products. The toolkit not only provides the designer with thought-provoking ideas, but it also engages them in activities aimed at the translation of these ideas into action and practical exercises, which is helpful to define approaches that will reach the production and manufacturing stages. This is the main goal: making sure that these ideas become the norm in how we conceive product design and production.”

-Dr Irene Mazzei



