# PORTFOLIO

*A Work in Progress.*

*Maneet Singh · 2023*

# PRODUCT DESIGN

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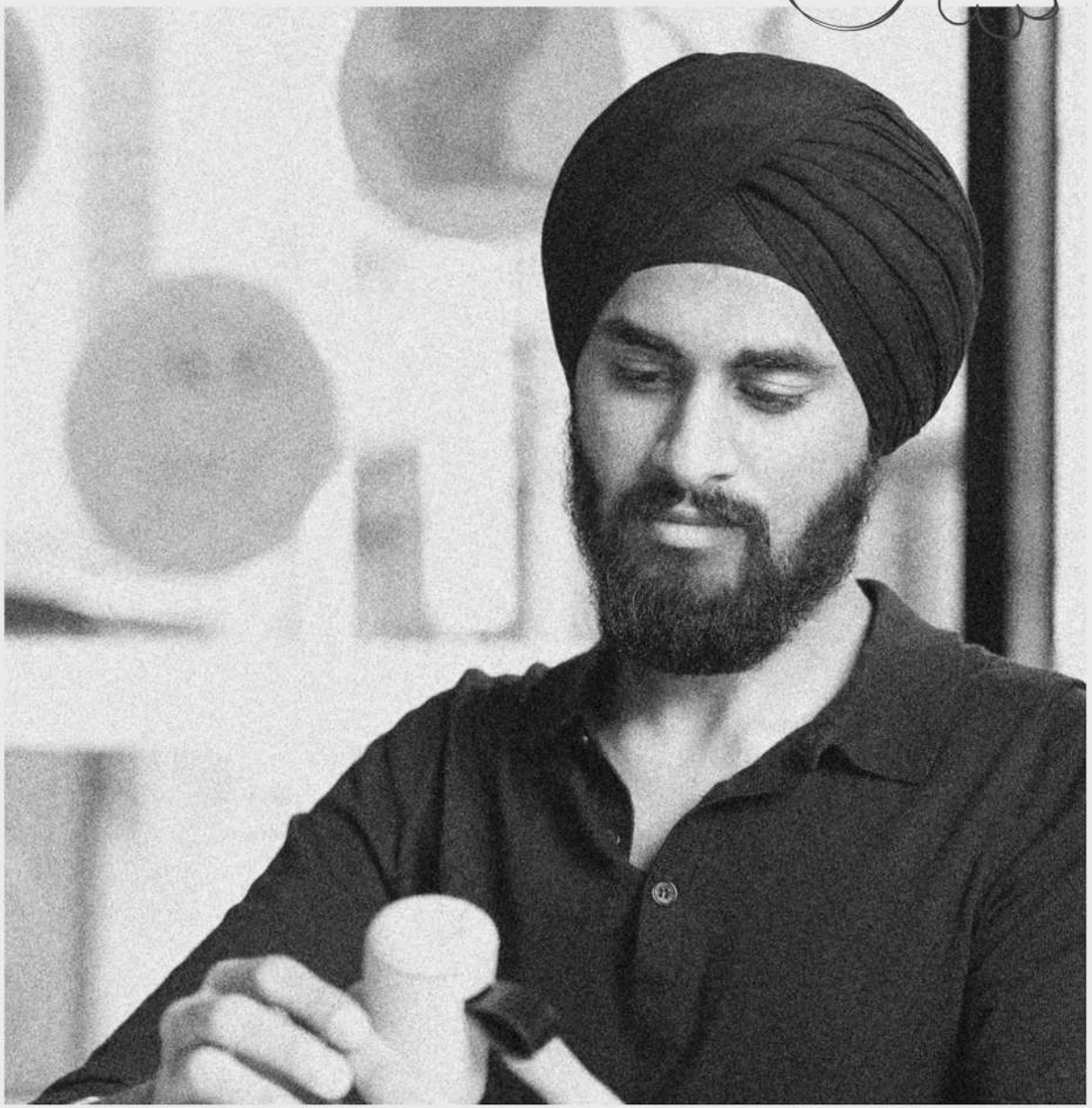
# *01* BACKGROUND

A ***national award-winning designer*** and an Industrial design graduate from RMIT University, I'm extremely passionate about human-centric design and leveraging it to create far-reaching impact.

My experience ranges from working at a ***Big 4*** firm advising the titans of the financial and consumer industries on their UX and customer acquisition strategies to single-handedly developing cost-effective solutions for Australia's ***largest medical solutions' wholesaler***. I keep people at the heart of everything I do and have built communities on campus as the ***board member*** of the Student's Association of Industrial Designers, an audience of 500+ designers, and as 1 of the 5 ***student representatives*** for the School of Design.

I also enjoy F1 and, as the ***co-lead designer***, developed the livery for RMIT Racing's car that was showcased at the Melbourne GP in 2022, and worked alongside the ***McLaren F1 team*** in 2020 on ideating and developing next-generation improvements for their car and business.

I believe my varied experiences coupled with my obsession for ***creating an impact*** through the power of exceptional design would be crucial at any dynamic and pioneering organisation.



# EDUCATION

FEB' 19 - NOV' 22

***Bachelors of Industrial Design***
RMIT University, Melbourne

- Future Leaders Scholar
- Student Representative (Lobbied and advocated to improve student wellbeing of the over 500+ undergraduate design students)

# EXPERIENCE

OCT' 20 - NOV' 20

***Industial Design Intern***
K Care Healthcare, Melbourne

Ideated, prototyped and developed healthcare products for the top Australian medical equipment provider to decrease manufacturing costs and increase customer satisfaction while improving the aesthetics

JAN' 20 - FEB' 20

***User Experience Designer***
Ernst and Young, Delhi

Increased online engagement of a national magazine (~2 million readers) by researching users, understanding their pain points, undertaking a competitor analysis and redesigning customer experience.

Designed user surveys, developed personas and captured user journeys to identify gaps in the website of major Indian bank and proposed recommendations to improve online customer satisfaction and encourage the shift to digital.

Developed use cases for a global clothing brand to leverage upcoming technologies like IoT, AR etc in order to digitalise product lines and other parts of the supply chain

# HONOURS & AWARDS

***Victoria Premiers Design Award | Best in Class, 2022***
Excellence in design and innovation recognised by the Victorian government since 1996

***James Dyson Award | National Winner - Australia, 2022***
Premier student design award for next generation of inventors globally

***The Good Design Award | Winner, 2022***
Longest-running design awards in the world since 1958

***McLaren Design Thinking Challenge | Finalist, 2020***
Selected RMIT representative to partner with McLaren F1 team

# SKILLS

***Technical Skills :***

- Adobe Suite (Photoshop, Illustrator, After Effects, Premiere Pro, Indesign and Xd)
- Fusion 360 / Solidworks
- Keyshot 3D
- Figma
- Prototyping, Fabrication and 3D Printing
- Concept generation
- Sketching
- Wireframing
- UI Design
- UX/CX Design

***Soft Skills :***

- Problem Solving
- Communication
- Team Work
- Attention to detail

# *02* AIRLIFT



The Airlift is a ***low cost, pneumatic patient transfer device*** which aids Healthcare Workers in three key patient movements. Developed in collaboration with WorkSafe, the device is an alternative to traditional slide sheets, and is intended to ***prevent ageing Healthcare Workers injuring themselves when working unsupported in the community***

GOOD DESIGN AWARD® WINNER

VICTORIAN PREMIER'S DESIGN AWARDS
BEST IN CATEGORY

THE JAMES DYSON AWARD
NATIONAL WINNER

# THE ISSUE

A spike in ***demand for at-home care,*** alongside an ***under-resourced*** and rapidly ***ageing workforce*** is making community healthcare work increasingly dangerous. Through research it was found that ***Healthcare Workers*** were often left to reposition patients individually, which ***subjects their bodies to high levels of strain***. Whilst there is a plethora of ***devices on the market*** that aid with patient repositioning, they are often ***expensive and bulky***, or r***equire multiple people*** to be used safely. The ***AirLift*** responds to these shortfalls, by providing an ***inexpensive means of repositioning patients, which can be used safely by an individual Healthcare Worker of any age.***

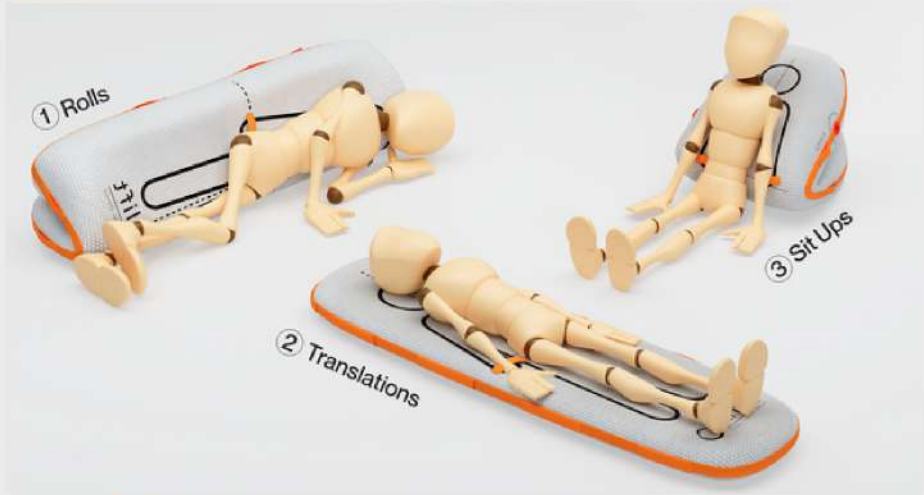




# HOW IT WORKS

Once ***tucked underneath the patient***, the AirLift can be ***inflated using a remote-control pump***, which fills the inner bladder with air and lifts the patient off the bed. Placing a ***layer of air*** between the patient and the bed ***significantly reduces the force*** required for repositions. This mitigates the risk of injury, as the device does the heavy lifting, whilst the Healthcare Worker steadies the patient. ***By folding the device*** prior to insertion the Healthcare ***Worker can switch between three key patient movements***, and a removable cover can be replaced for hygienic reasons.








# DEVELOPMENT

The design process began with ***identifying the problem***, this was done through a ***design sprint***, which is a structured process that involves intense collaboration and rapid prototyping. The goal of the design sprint was to gather insights from various stakeholders in the healthcare industry and to identify the most pressing needs related to patient repositioning.

In addition to the design sprint, ***surveys*** were conducted to gather feedback from healthcare workers, patients, and other stakeholders. This feedback was critical in understanding the ***challenges faced by healthcare workers*** when repositioning patients and helped inform the design of the AirLift.

Once the problem was identified and the requirements for the device were established, the design team engaged in ***rigorous sketching and ideation.***



# DEVELOPMENT

The idea to use pneumatics was discovered during a camping trip, where an ***inflatable lounge*** was modified by adding ***patient outlines and handles***, this was used as an ***initial proof of concept***.

The final design of the AirLift was the result of a collaborative and iterative process that involved feedback from stakeholders, ***rigorous ideation, and prototyping.***







# *03* REVERIE

Reverie seeks to ***optimize the process of reminiscence***, thereby not only fostering an ***enhanced sense of well-being in patients*** but also ***cultivating a deeper bond between the patient and caregiver***. The reminiscence kit comprises a multi-sensory album, a Memory Box, and a Conversational Questionnaire.



# THE ISSUE

Alzheimer's disease is a progressive neurological disorder causing cognitive decline, memory loss, and distress for patients and caregivers. Patients may also experience depression, anxiety, and social isolation, worsening their symptoms and quality of life. The lack of connection between caregivers and patients is a persistent issue, leading to trust issues and sub-optimal care.

Reverie addresses this by providing a reminiscing tool that enhances well-being and fosters a deeper connection. By offering a multi-sensory experience, Reverie aims to alleviate the psychological burden of Alzheimer's and improve patient well-being.

Studies show that reminiscence therapy, especially with multi-sensory stimuli, benefits Alzheimer's patients by accessing positive memories, boosting self-worth, and reducing anxiety and depression.

***In short, Reverie has been designed to leverage the benefits of reminiscence therapy and multi-sensory stimulation to improve the well-being of Alzheimer's patients while creating a deeper sense of connection between the carer and the patient.***



# HOW IT WORKS

The Reverie reminiscence kit is ***highly customizable***, allowing it to be tailored to ***suit the needs of different Alzheimer's patients***. The exterior of the box features a range of ***textures*** in the form of an outer cover that can be customised to suit the patient's preferences. This allows patients to touch and feel the textures that they find most soothing and comforting, which can help to ***alleviate anxiety and stress.*** The textures are removable and interchangeable which allows them to be easily washed.

In addition, the box itself is made of recycled plastic and can be ordered in different sizes and colours, ensuring that it fits seamlessly into the patient's environment and enhances their overall experience.





# HOW IT WORKS

Like the box, the Album is also designed with a high degree of customizability, allowing it to be tailored to meet the unique needs and preferences of each individual patient. The care giver/loved one can ***choose the pictures, people, voice prompts and music for different pages, highlighting certain stories*** that the patient loves to reminisce about. The Album captures not only the ***physical but also the digital aspect of the patient's life,*** Their loved ones can add voice notes and snippets of music they like to the pages of the album, which the patient can access by pressing the ***force-sensitive resistor (Touch capacitive Button) embedded within the page.*** The Album also comes with a family tree and name tags for the people in the pictures, making it easier for patients to remember and connect with their loved ones.

The album is securely placed on top of the box and doubles as its lid, held in place by magnets.

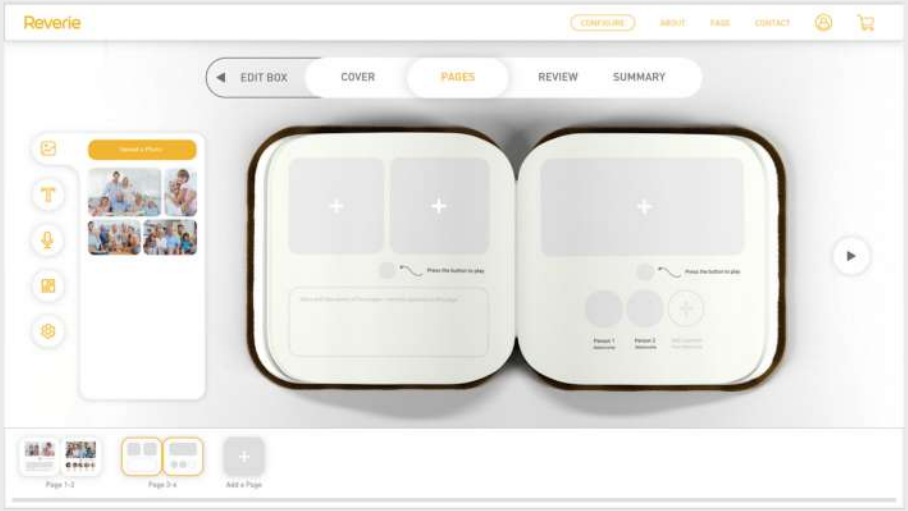


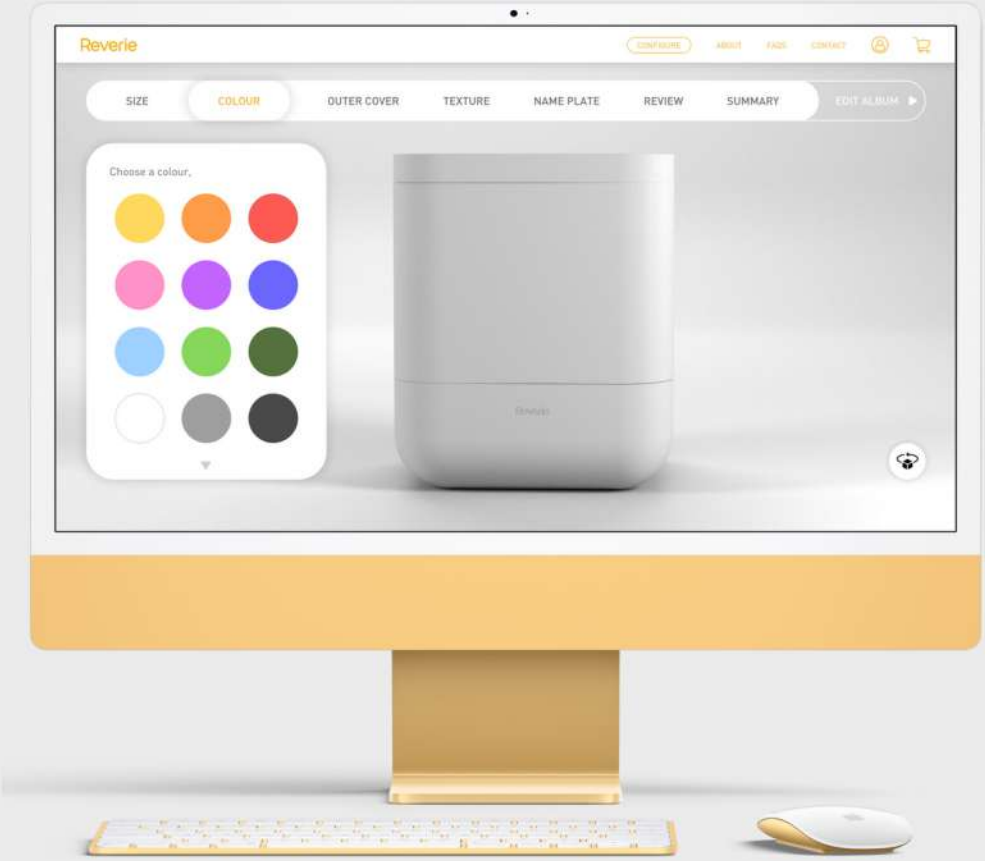



# HOW IT WORKS

The Reverie website provides a user-friendly platform where ***caregivers and loved ones*** can easily ***customise both the box and album according to the specific needs and preferences of the patient.*** For the ***box,*** users can choose the ***size and colour*** that best suits their loved one's style and the ***texture sleeve on the outside of the box*** can be selected to suit the patient's preferences for touch and feel. These textures can be removed and changed, and are attached to the box using velcro, making them easy to wash and replace.

Similarly, the album can be configured by the caregiver or loved one, who can ***choose which pictures, people, voice prompts, and music to include on different pages, highlighting certain stories in the patient's life that they love to reminisce about.***

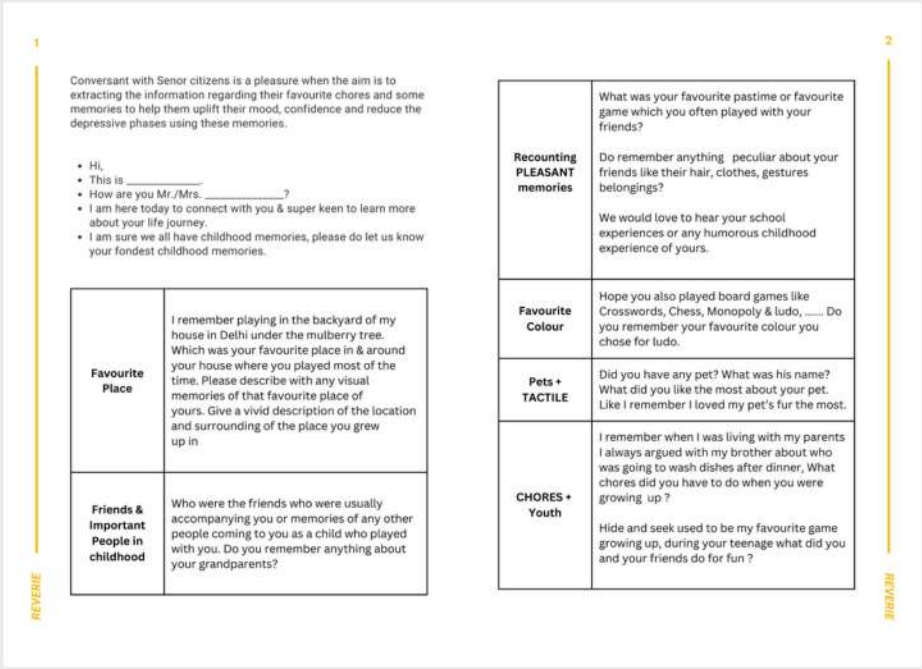


# HOW IT WORKS

To ***inform an efficient configuration of the kit***, that suits the need of the patient, the Loved one/Carer with have the option to ***extract relevant information*** from the patient through a c***onversational questionnaire.*** The questionnaire ***offers a non-threatening way of capturing the patient's life.*** It aims to ***extract key components*** from the, such as ***associations with textures, colours, certain memories, pets and hobbies***. Information extracted from this can be ***converted into the right textures*** that are ***incorporated into the box***, appropriate images and voice prompts from the loved ones that highlight the right memory. This questionnaire works as an ***empathy device, allowing the carer/loved one to understand the patient better.***

***Developed in conjunction with a Doctor***, who is working as a general practitioner since the ***past 25 years***. This questionnaire further aims to ***establish a deeper sense of connection*** between the patient and the carer. ***Lack of connection and understanding*** between the the care giver and the patient is a ***huge gap in the industry*** as it often ***leads to inappropriate care practices.*** With each patient being unique, they tend to respond to stimuli and care practices differently. This questionnaire aims to bridge this gap as it is something that ***can be performed as an activity with the patient multiple times and with each time, a deeper sense of connection is established.***



1

Conversant with Senor citizens is a pleasure when the aim is to extracting the information regarding their favourite chores and some memories to help them uplift their mood, confidence and reduce the depressive phases using these memories.

- Hi,
- This is _____.
- How are you Mr./Mrs. _____?
- I am here today to connect with you & super keen to learn more about your life journey.
- I am sure we all have childhood memories, please do let us know your fondest childhood memories.

| | |
|---|---|
| **Favourite Place** | I remember playing in the backyard of my house in Delhi under the mulberry tree. Which was your favourite place in & around your house where you played most of the time. Please describe with any visual memories of that favourite place of yours. Give a vivid description of the location and surrounding of the place you grew up in |
| **Friends & Important People in childhood** | Who were the friends who were usually accompanying you or memories of any other people coming to you as a child who played with you. Do you remember anything about your grandparents? |

REVERIE

2

| | |
|---|---|
| **Recounting PLEASANT memories** | What was your favourite pastime or favourite game which you often played with your friends?<br><br>Do remember anything peculiar about your friends like their hair, clothes, gestures belongings?<br><br>We would love to hear your school experiences or any humorous childhood experience of yours. |
| **Favourite Colour** | Hope you also played board games like Crosswords, Chess, Monopoly & ludo, ..... Do you remember your favourite colour you chose for ludo. |
| **Pets + TACTILE** | Did you have any pet? What was his name? What did you like the most about your pet. Like I remember I loved my pet's fur the most. |
| **CHORES + Youth** | I remember when I was living with my parents I always argued with my brother about who was going to wash dishes after dinner, What chores did you have to do when you were growing up ?<br><br>Hide and seek used to be my favourite game growing up, during your teenage what did you and your friends do for fun ? |

REVERIE

3

| | |
|---|---|
| **Vision Taste/aroma** | Any experience which you would like to share of your work life?<br><br>Which restaurant did you often visited, please give vivid description of its ambience.<br><br>Smell of freshly cooked rice always takes me back to my mom teaching me how to cook, Which was your favourite food any smell of food which lifted your mood. |
| **Colour/ Smell** | Any favourite flowers and which coloured flowers would you prefer to decorate your room with.<br><br>Which perfume do you use most often when you go out with your spouse. |
| **Souvenirs/ Gifts** | We all plan holidays we would like to know in detail about your family trip which you enjoyed the most. Any souvenir you brought? What did you like the most in that trip?<br><br>We all have tons of relatives and friends but we would share our secrets with only one or two of them who give us solace .Who was the lucky one whom you could discuss your sad and happy time with . Any gifts you got from your favourite person.<br><br>Any memories /experiences /toys which reminds you of your children or grandchildren |

REVERIE

4

| | |
|---|---|
| **Auditory Visual** | We often relate our emotions and past experiences to music .Your favourite music or song which you often listen to.<br><br>Which movie or TV shows you have seen more than once.<br><br>Any of your favourite actor /actress whom you love to see.<br><br>Which is the favourite dialogue you remember.<br><br>Would you like to talk about Pop culture from your youth-golden age of Hollywood etc |
| **Hobbies TACTILE** | Any historic event of your times which you could share through photos keepsakes or magazines.<br><br>We all have hobbies and have creativity which we express in our free time ....Do you enjoy any crafts, pottery, painting or sketching. |

It is important to note that this questionnaire is is still in its draft phase and is a proof of concept. Due to no access to user testing it was hard to understand the efficacy and tweak it to the most efficient form. It can be further refined and modified on more aspects through a feedback loop system via care givers and support workers. the Idea is to keep it as flexible as possible while being non-confrontational and starting any question with a story first.

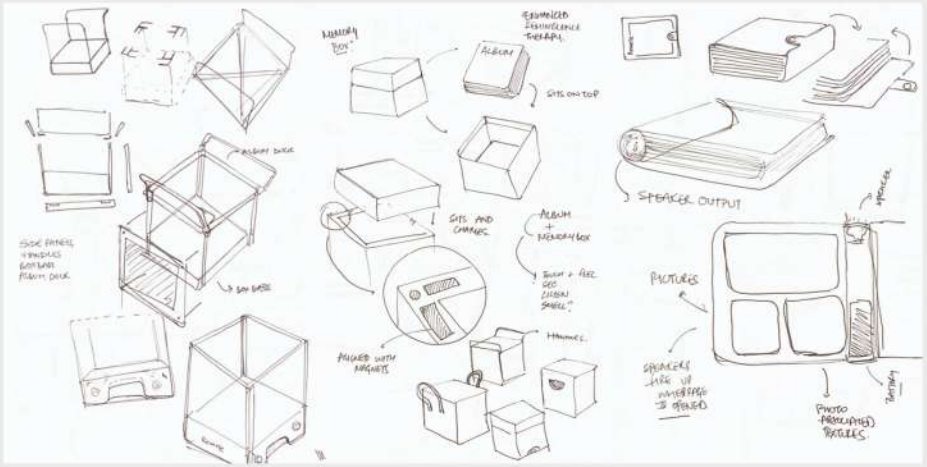
REVERIE

# DEVELOPMENT

The Design process started with a design sprint, and rough sketchesto get an Idea of how the product might look like. Talking to people withing the industry helped refine it further.

To gain a better understanding of the relationship between textures, memory associations and senses, a tactile sensory board was created, where a collation of different textures were stuck on a board. One on one interviews were conducted asking interviewees to describe each texture in 2 different ways, first - interviewees were asked to say the first thing/word that came into their minds when they touched a particular texture. Then they were asked to describe any prior associations with the texture, for example, if a particular texture reminded them of something/object. It was interesting to see that majority of the interviewees responded in some sort of an association. this helped validate the research and the connection between textures an senses.








# DEVELOPMENT

To create a proof of concept model, 0.7cm thick plywood was used to make the box. The textures on the outside of the box were made by cutting the fabric to the appropriate size and adding a thick lining to reinforce it. Velcro was then attached to both the box and the fabric so that the fabric could be easily removed for cleaning or replacement with a different texture.

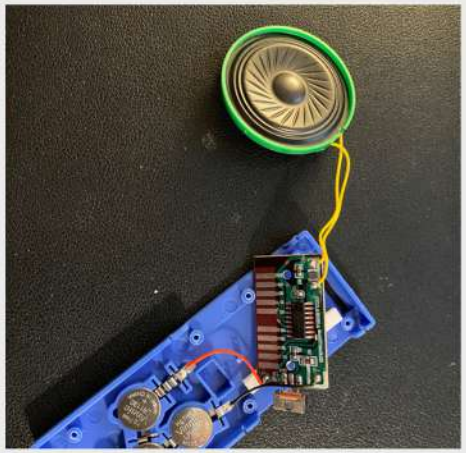


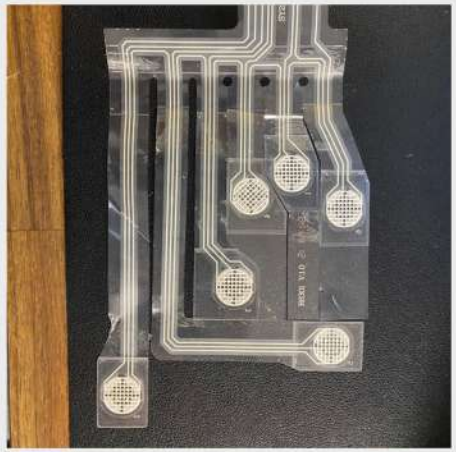





# DEVELOPMENT

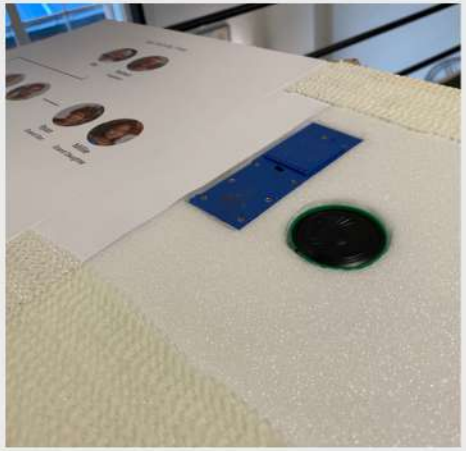
The album was made using  0.5cm cardboard for pages, and a grippy rubber textured fabric for the cover. The touch capacitive sensors are embedded within the album pages, where the user can simply press the button in the middle of the page and it will start playing the associated sound to that page through the speakers.











# *04* HIVE

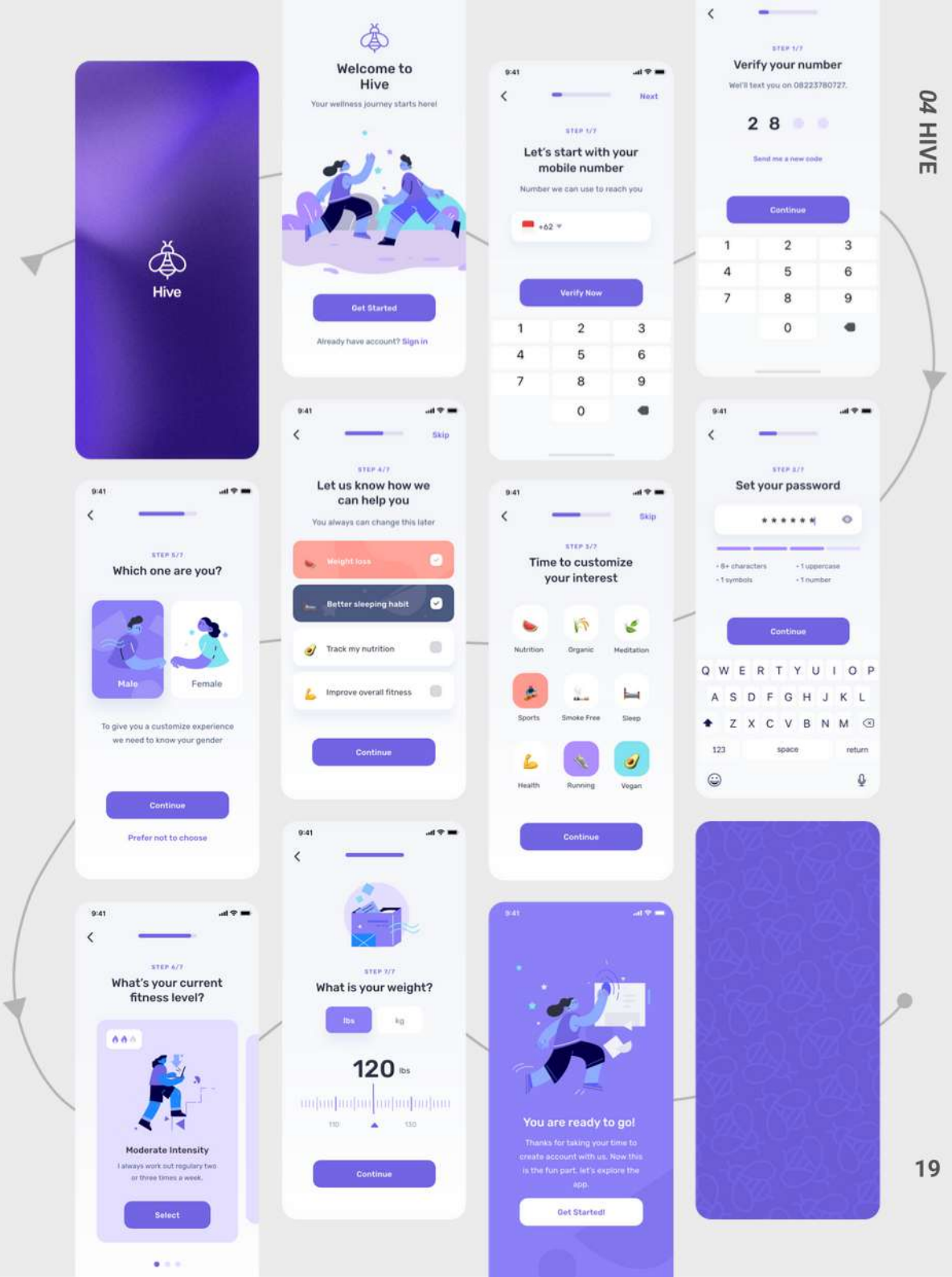
Hive is a ***fitness and wellness app*** that is designed to help users achieve their health goals in an enjoyable and seamless way.

The app features a sleek and visually appealing user interface (UI) that provides a consistent experience across all platforms.



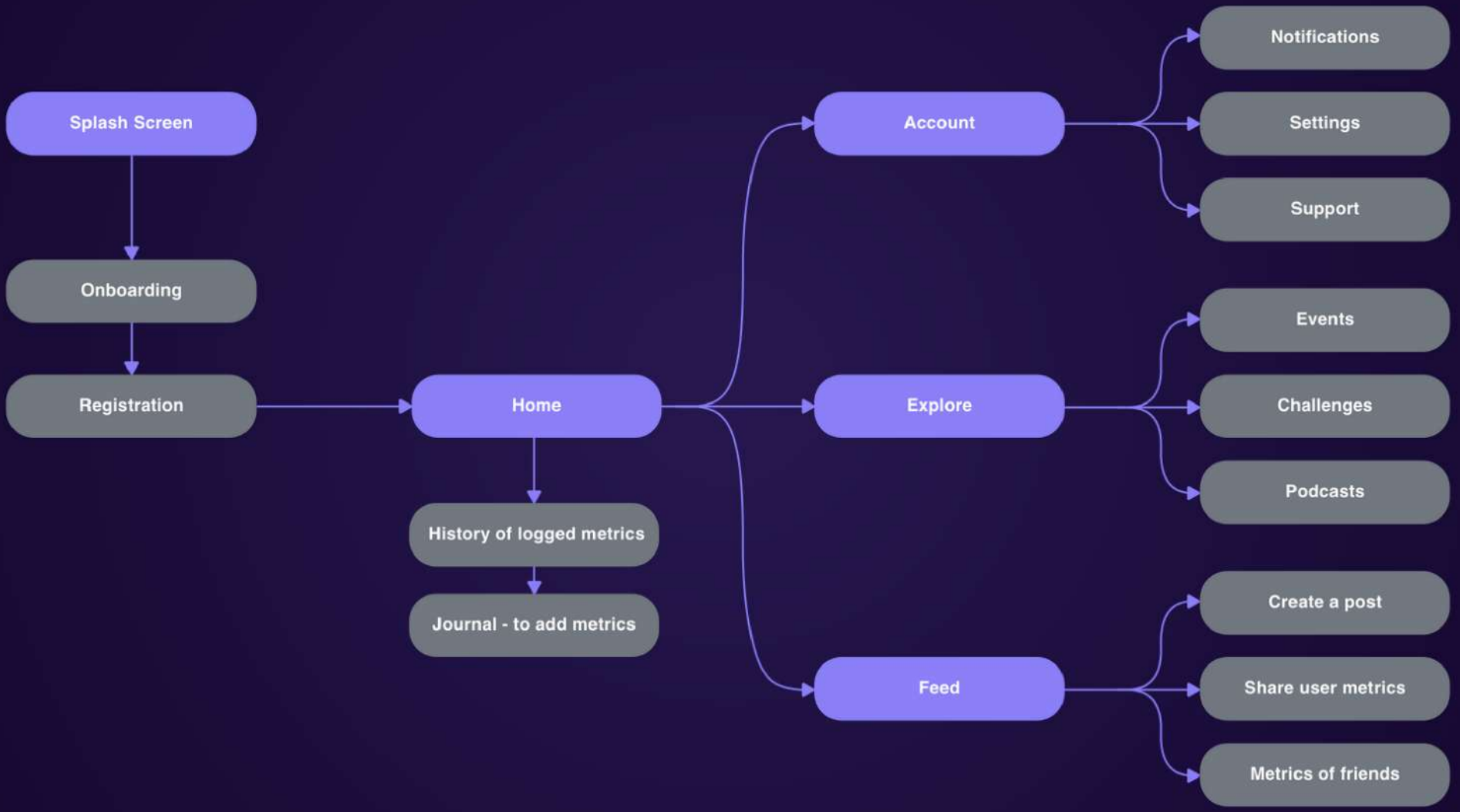
# ONBOARDING

Registration process is designed to be ***quick and easy,*** and can be done so via their mobile number, after signing up, users can begin personalising their Hive experience by adding their physical details, such as weight, height etcetera, which allows the app to ***deliver a tailored experience*** that is suited to the user's specific needs and goals.



# USER FLOW

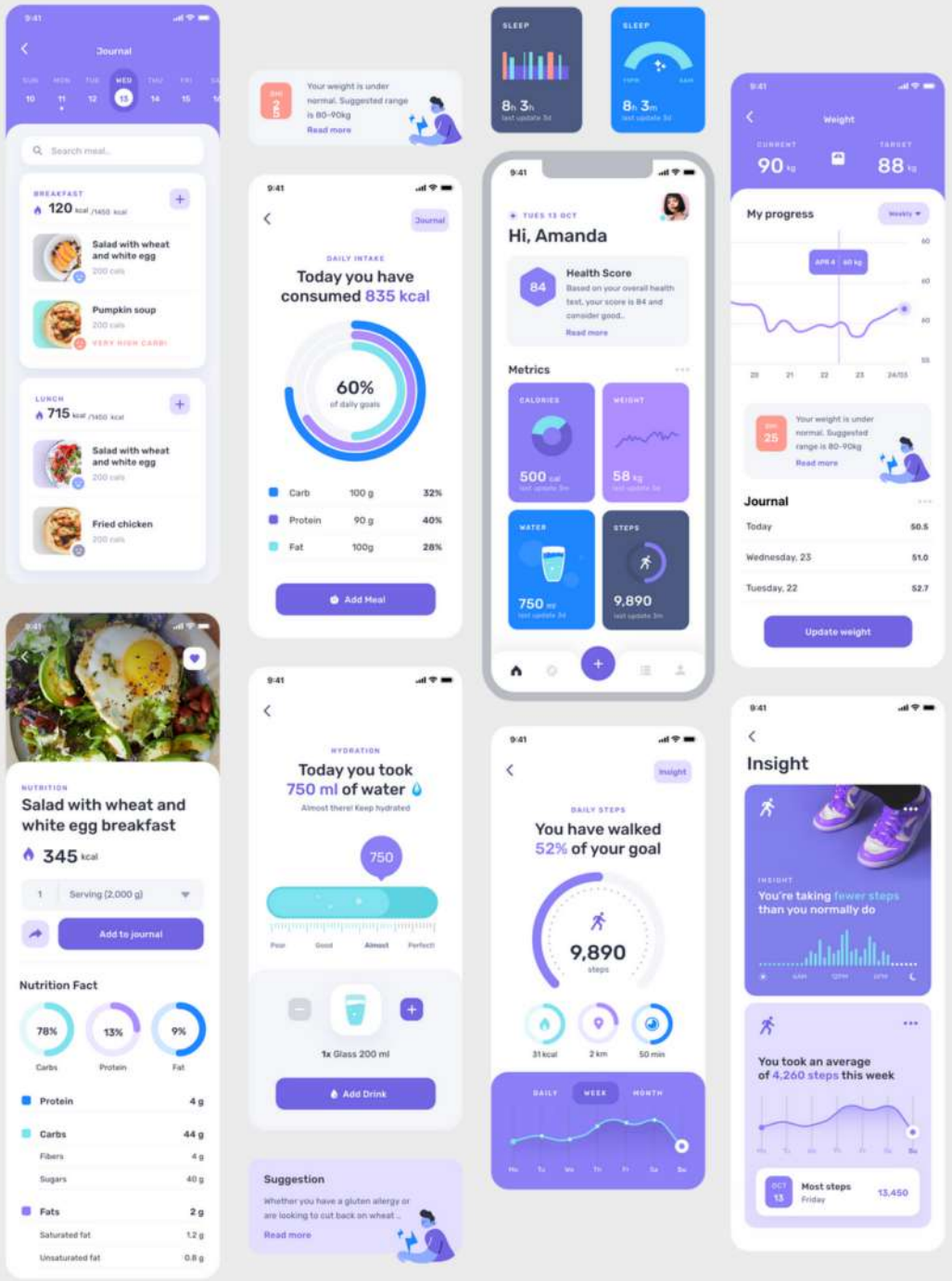



Splash Screen
Onboarding
Registration
Home
History of logged metrics
Journal - to add metrics
Account
Explore
Feed
Notifications
Settings
Support
Events
Challenges
Podcasts
Create a post
Share user metrics
Metrics of friends

# HOME PAGE & METRICS

Hive's profile customisation feature goes beyond just physical details, where users can ***choose from a range of fitness goals,*** such as weight loss, muscle gain, or overall wellness. They can also set their ***preferred activity level,*** whether that be sedentary, lightly active, or highly active. These details are used by the app to ***deliver customized content, challenges, and tracking features***

In addition to profile customization, Hive also allows users to connect their wearable fitness devices to the app, such as a Fitbit or Apple Watch. This enables the app to collect additional data, such as heart rate and sleep tracking, that can be used to provide even more tailored recommendations and insights.



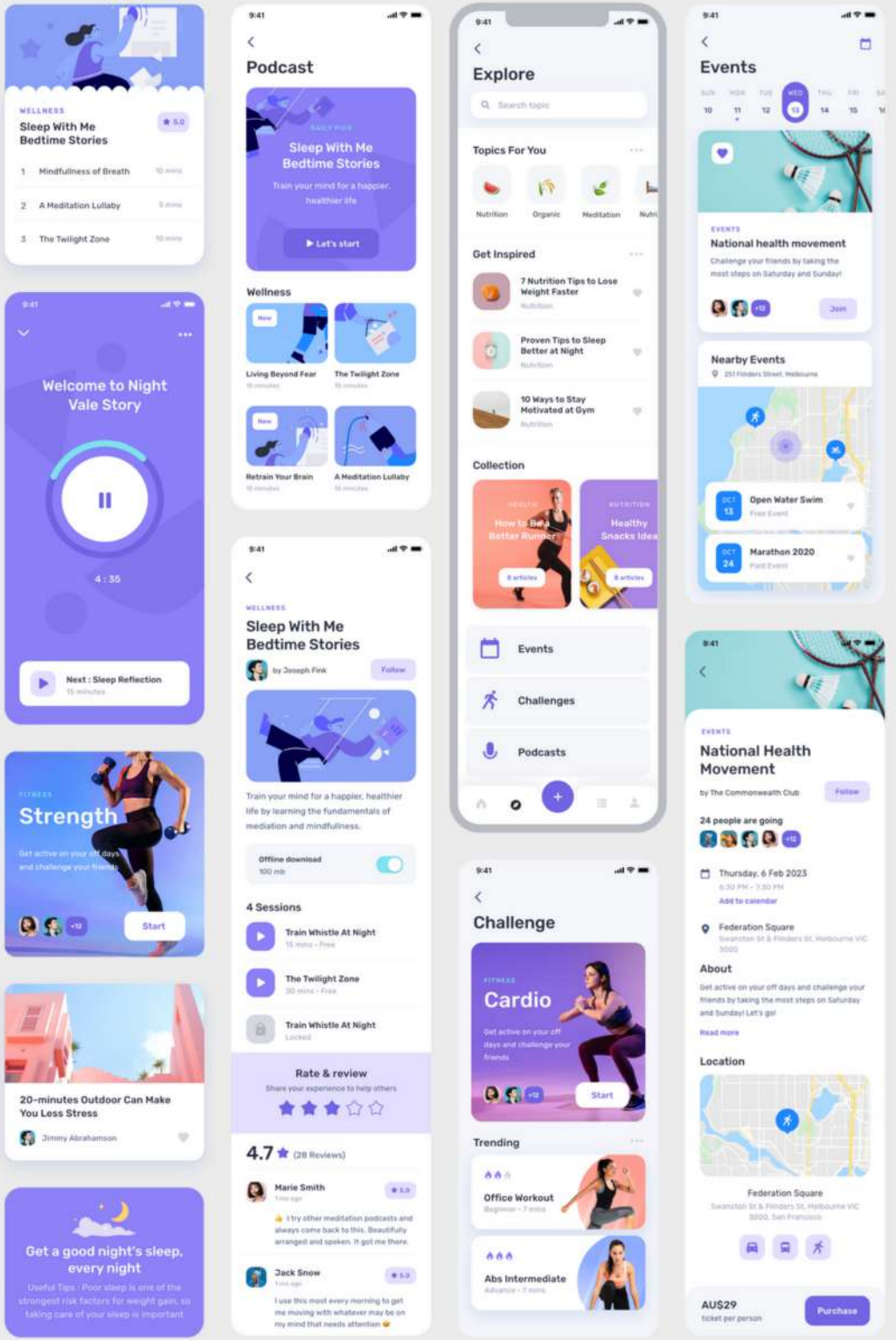
# EXPLORE PAGE

The ***Explore page*** on Hive is an essential aspect of the app's user experience. It is a ***hub of resources*** that helps users achieve their health and wellness goals. The Explore page is divided into three main sections: Challenges, Events, and Wellness Podcasts.

The ***Challenges section*** provides users with a range of opportunities to participate in different fitness and wellness challenges. These challenges ***vary from daily step goals to month-long fitness programs***. By joining these challenges, users can stay motivated and compete with friends and other members of the Hive community.

The ***Events section*** allows users to discover various ***fitness and wellness events happening in their locality***, from yoga classes to group runs. These events offer users an opportunity to ***connect with like-minded individuals,*** learn new tips on fitness and wellness, and stay motivated on their health journey.

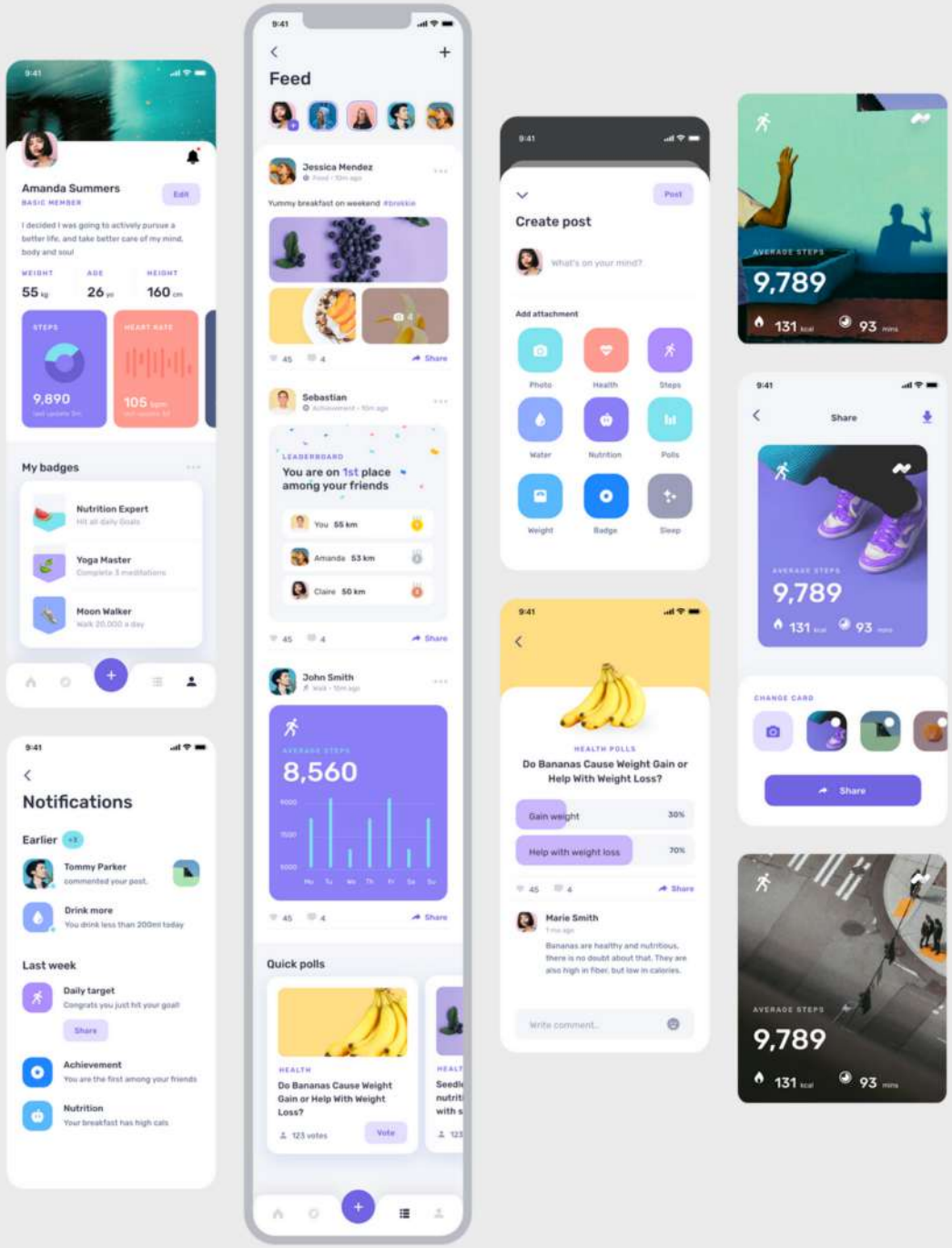
Finally, the ***Wellness Podcasts section*** offers a carefully curated selection of podcasts that cover diverse wellness topics such as nutrition, mental health, fitness, and mindfulness. Listening to these podcasts can ***help users stay informed, inspired and engaged*** as they progress towards their health and wellness goals.



# ACCOUNT & FEED

One of the standout features of Hive is its ***social aspect***, which allows users to ***connect with friends, participate in challenges, and make fitness a more engaging*** and interactive experience. This allows users to share their fitness progress and connect with friends and other members of the Hive community.

Users can ***post updates*** on their workout routines, ***share their achievements***, and engage with other users by commenting and liking posts. The feed is also personalized, showing users posts from other members who they follow, as well as posts from challenges they have joined.



# *05* SHAKER BOXES



These ***18-century boxes*** also known as ***'pantry boxes'*** made with ***bentwood timber techniques***, ***handmade*** rivets/ nails made of copper and a rustic finish provide a unique structure to create a strong and seamless storage container. Traditionally, the Shaker communities of North America made and used these oval-shaped boxes purely for utility purposes such as storing a range of dry household items.

# ABOUT

These boxes were known for their ***simple and functional design***, and came in a range of sizes, with smaller ones used for sewing or holding spices, and larger ones ***used for storage or transportation***. A ***unique*** feature of Shaker boxes is their ***nesting ability***, where they can be stacked inside each other for easy storage and transportation. Shaker boxes were sold as sets with each box in the set a slightly different size than the next, and were typically ***finished with varnish or paint***, with some decorated with stenciling. Today, Shaker boxes are ***highly collectible*** and considered a ***prime example of early American craftsmanship.***





# DEVELOPMENT

Started by cutting the materials into appropriate sizes for the different components of the box using a bandsaw. to create the walls, the wood strip was cut into shape using a jewellery saw then finished off by tapering the edges.

Copper nails were made by hammering copper wire into s metal jig which was then hydraulic pressed to help achieve the desired shape.







# DEVELOPMENT

By soaking the side strips for the box in water for a week, then steaming them, it helped bend them without breaking to take the shape of the box, once set, the copper nails were hammered in to hold the sides in place. Once the form was finished, the lids were made by repeating the above process. Finally to finish off, the boxes were sanded then varnished.







# *06* 3D MODELLING

## WALL - E

This was created in Fusion 360 and rendered with Keyshot 3D, a study into texture and UV mapping with the use of material graphs, textured labels and bump mapping.






WALL·E





# B&O HEADPHONES

This was created in Fusion 360 and rendered with Keyshot 3D, a study into complex free form modelling along with Render lighting and scene setup.





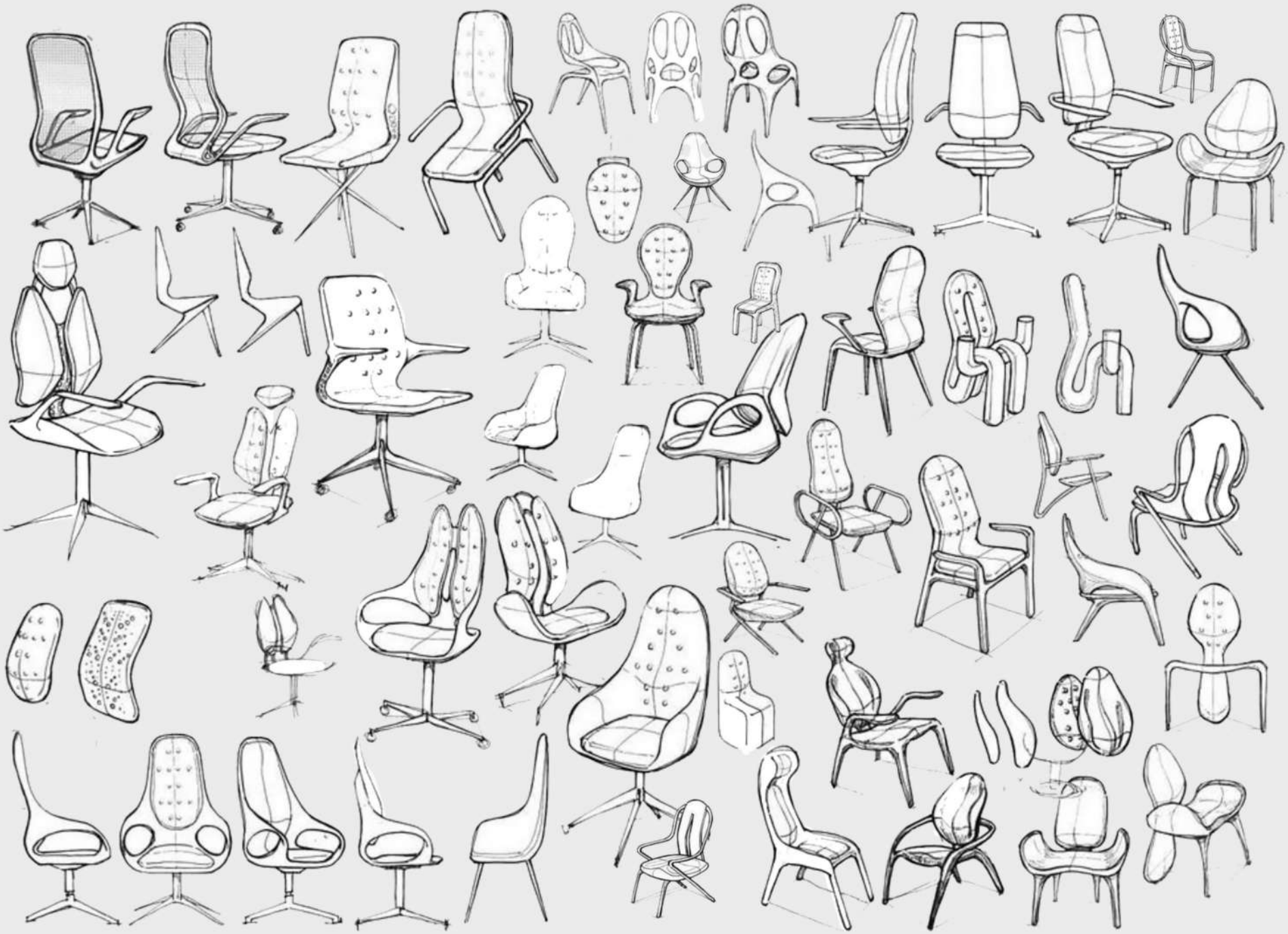






# *07* ID DRAWING






SONY

# THANK YOU

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