



SPgroup
Empowering the Future of Energy

Shanna Wong
P7462287

Wong Sin Theng
P7461695



- 
- About SP Group**
 - Product Objectives**
 - Skeleton**
 - Interface Design
 - Navigation Design
 - Information Design
 - Sensory Design**
 - Conclusion**
 - Reflection**
 - Appendix & References**

Content

Scenario 1



**Auntie Liew's
Daughter**

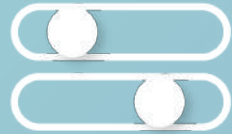
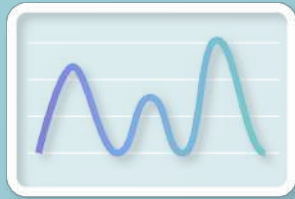


Auntie Liew



Based on our primary research, **50%** of our respondents does not know which appliances consume the most electricity

SP Digital App seeks to educate local residents and equip them with tools on how to live more sustainably.



Monitor energy consumption

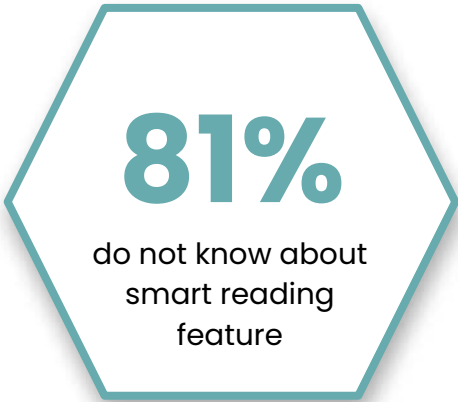


Measure carbon footprint



Learn way to decarbonise

X



Our task and challenge is to
'reimagine the future of
energy consumption'

HOW?



Building stronger relationships
with existing customers (Gen X)



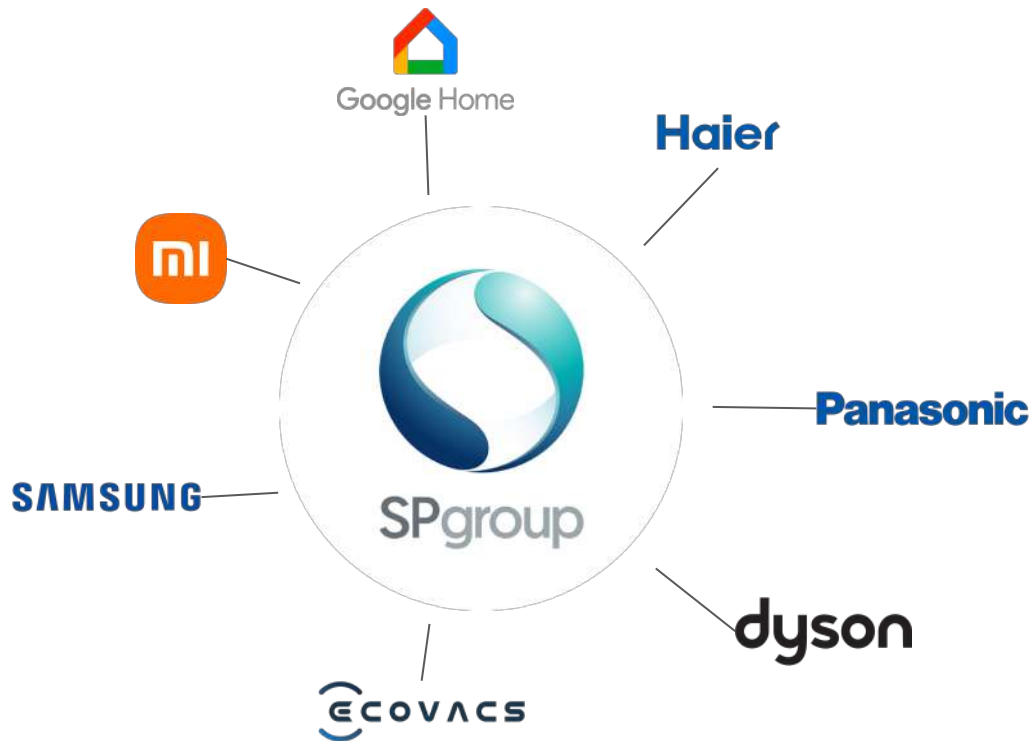
Reach new audiences (Gen Y & Z)

We are to come up with a new product that will render
SP Group to be the champion in sustainable energy
provider

Product Objectives

Smart Trace

Introducing new feature by allowing users to read energy consumption of smart appliances by syncing data from appliances into SP Group mobile app.



Key activities at this stage

RESEARCH

Through in depth analysis of the brand identity and documentations of Smart Home Apps like XiaoMi, Tian Mao Jing Ling, Google Home

ANALYSE

Through auditing and ideating on solutions such as interfaces, components, common practices and inspiration to meet our goals

FOUNDATION

Inspection of all elements in our UI inventory. We discussed and improvised on the essential components

UI Solution

🏠 **Skeleton** (Interface)

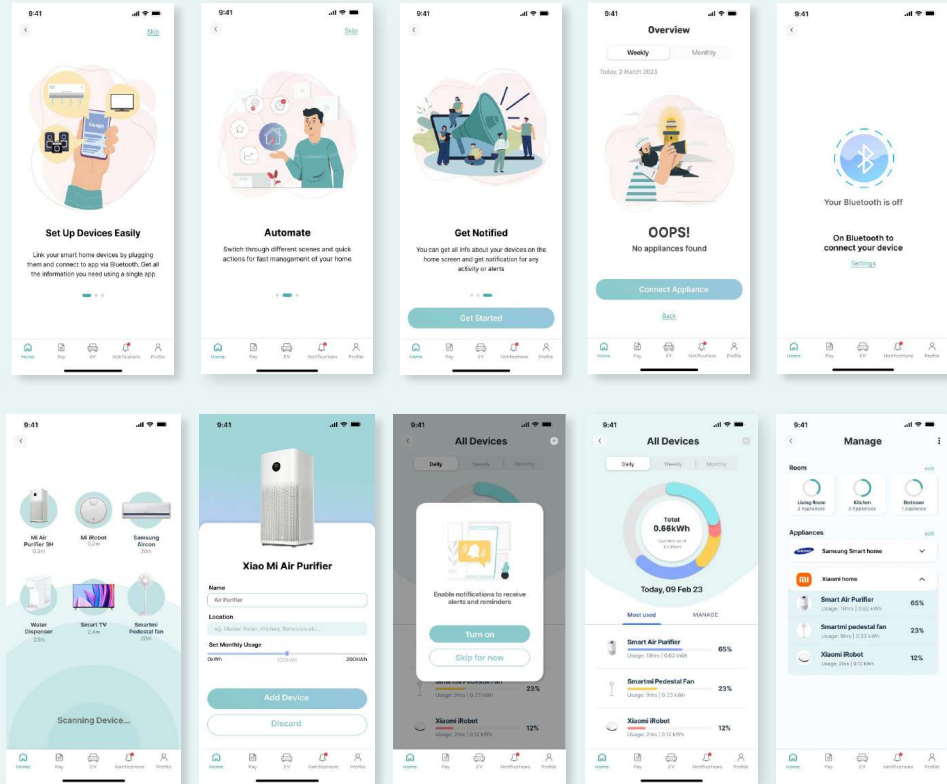
Skeleton (Navigation)

Skeleton (Information)

Sensory Design

Final Product Overview

Using design principles to identify the right visual and information is important for the feature success. As this is a new feature incorporating into an existing product, The design of 'SmartTrace' should be influenced by the user's mental models of the app.



Interface

🏠 Skeleton

- Design Principles in practice -



Affordances

are applied throughout the components, such as buttons and select boxes and users understand how they could be controlled. Buttons are also standardised in all the pages.



Switches

Toggle the state of 2 main languages on or off. All buttons are made consistently throughout designs

- Design Principles in practice -

Name

Location

eg: Master Room, Kitchen, Bathroom etc...

Set Monthly Usage

0kWh 100kWh 200kWh

Using Signifiers best

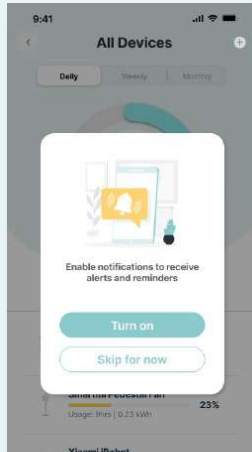
Simple description, such as helper text clearly communicate how users should interact. i.e 'Bedroom, Kitchen' when users input the location.



Constraints

To reduce clutter, confusion, and cognitive load. Each screen is evaluated to provide users with just the top-level information.

- Design Principles in practice -



Scrimmed Background
To distinguish the main dashboard and the pop up box

Drop shadow



X 1 Blur 5

Y 1 Spread 0

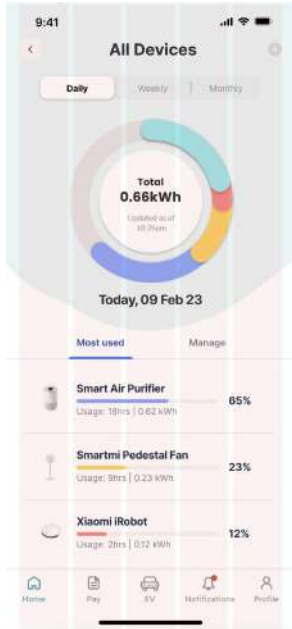
000000 10%

Show behind transparent areas

Drop Shadow

Used mindfully throughout as buttons or to create contrast and indicate edge between surfaces.

- Design Principles in practice -



Grids & Layout

We use the 5 column grid layout, which is used by SP group Grid to standardise the design.



“Progressive Advancement”

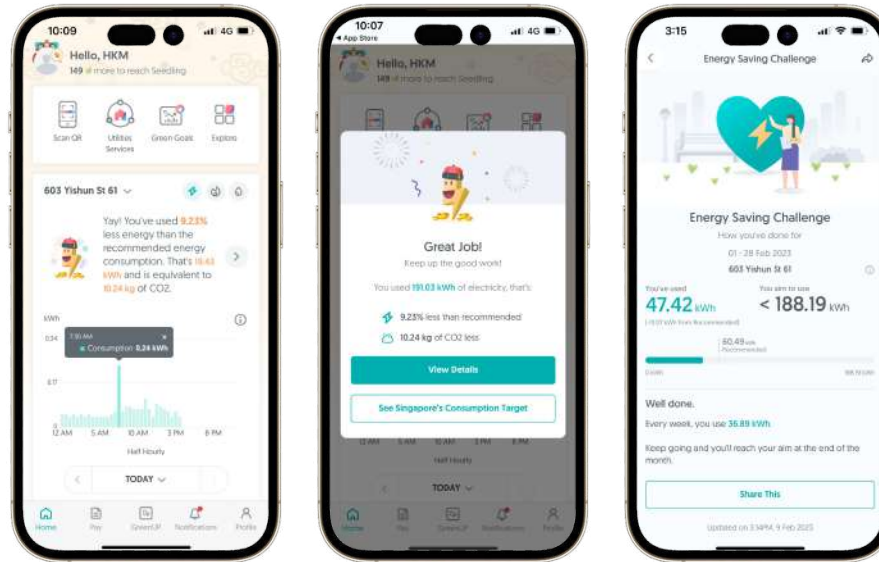
For this project, we did not do the responsiveness for web and tablet however, our approach is to use Mobile first design strategy.

Navigation

🏠 Skeleton

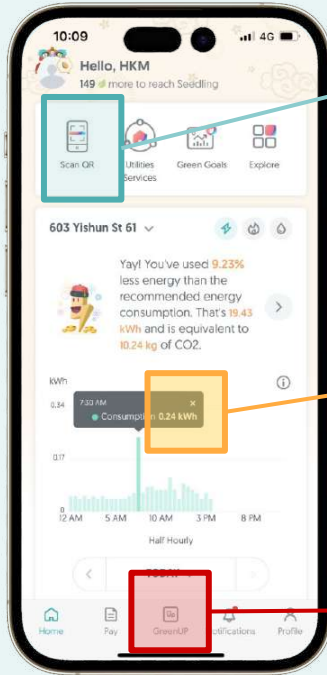
Navigation Design

Current Flow and information in SP Group App



Users currently check their consumption via the front page

Navigation Design



Homepage

1

Menu bar

Home Page main icon in the menu bar currently is Scan QR which lead user to go EV green. On the new interface, we move the EV green to the bottom menu bar and replace to Smart Trace icon on the main menu bar.

2

Chart Information Button

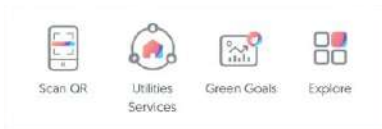
Added the 'view more' text button on the chart graph to lead users to the Smart Trace feature. Currently is a close button

3

Green Up Icon

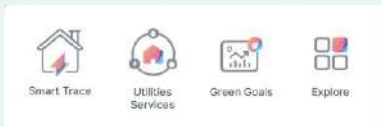
Remove the greenUp icon as this service is already under the "Explore" and replace with EV green icon.

Navigation Design



Before

After



1

Main Menu bar

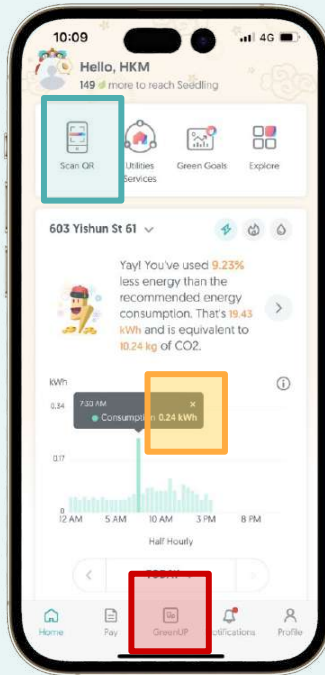
2

Chart Information Button

3

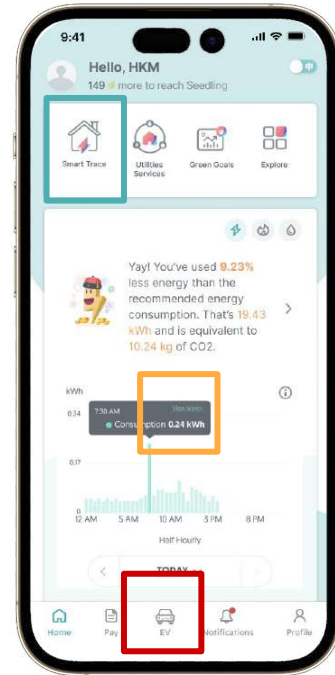
Green Up replace with EV

Home Page Overview



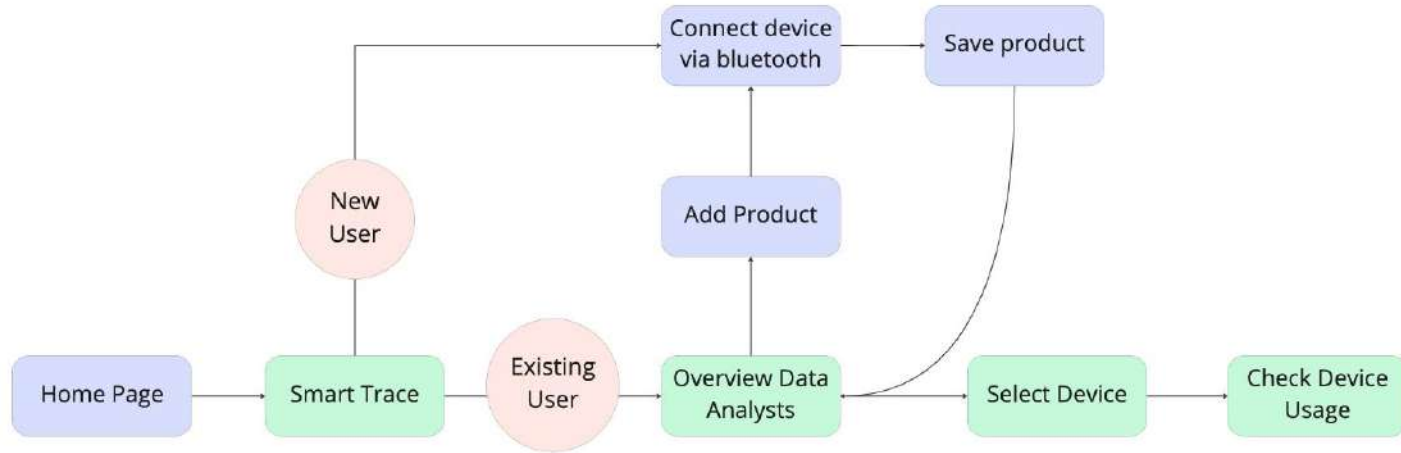
Before

With the changes, users are able to enter the smart trace feature more efficiently in the home page.



After

Proposed User Flow



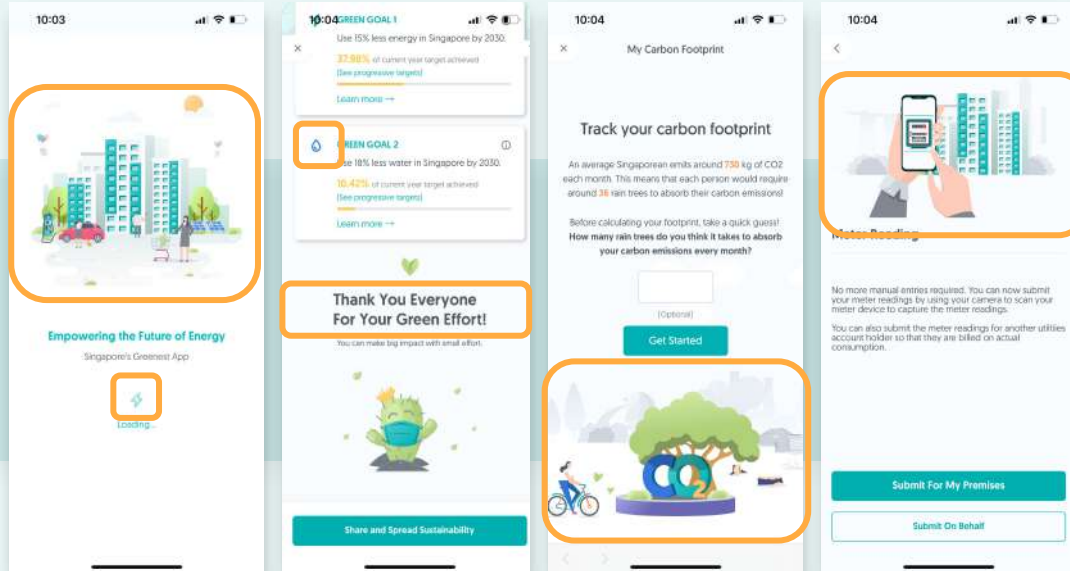
The objective of this feature is to allow users to frequently check their usage 'live'. Therefore to make it as seamless as possible, existing users would only need to launch app > tap on smart trace in the menu bar. New users will go through a simple 2 step onboarding to connect device fuss free.

Information

🏠 **Skeleton** (Information)

Design System

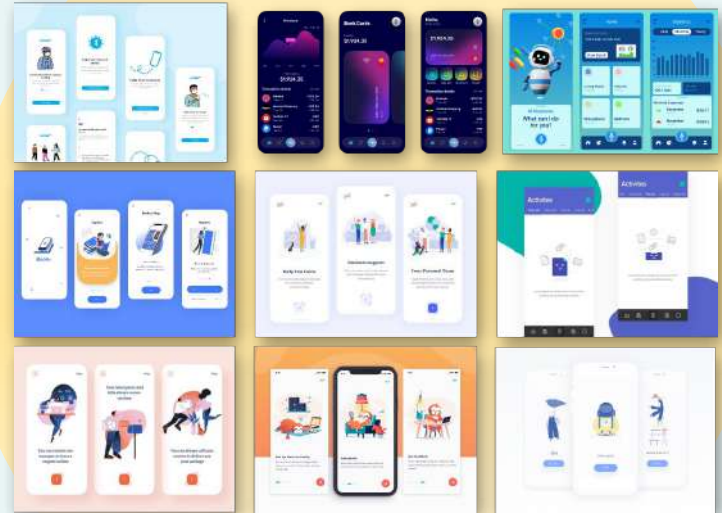
We analysed their existing visuals to understand how we can work towards presenting information that is consistent in appearance and behaviours including: **icons, colours, typography and image styling**. Below screenshot shows the key highlights of the app where we took reference from, mainly for the study the style of illustrations.



Current App design references

Final Illustrations

Illustrations observed and the design we will be going for **should be inclusive, intentional and delightful**. We created a moodboard for references on how the look and feel of our new feature would be. Below is the final result.



Moodboard

Content Writing

As this is a new feature, we need to make sure that the onboarding text is clear, accurate and concise.

Below is a variation we considered before finalising.

“Link your home devices by plugging them and connect to Bluetooth. Control them all using a single app.”

to

“Link your smart home devices by plugging them and connect to app via Bluetooth. Get all the information you need using a single app.”



Consistent Icon Styling

Smart Trace Main Icon Design



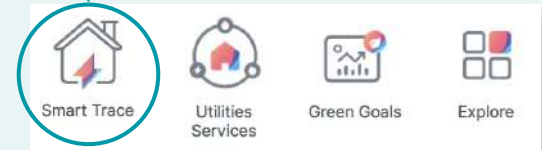
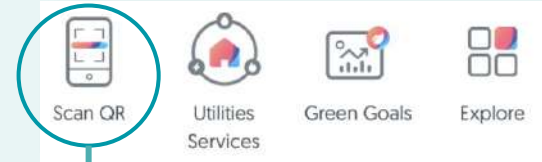
1st Draft



Final

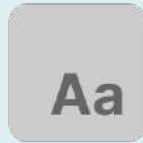
Both main icons were designed with **Clarity and Brevity** in mind. After designing for the first icon, we felt that it was limiting; mainly it portrays that it is for electrical consumption only. To design with a long term goal in mind, where the vision is to read all energy consumption accurately, We decided to use a building / house to depict the function.

Before IA Audit



Proposed

Typography



Inter

18 font weights available



Heading 1

Font	Weight	Size
Inter	Bold	24px

Title 1

Font	Weight	Size
Inter	Bold	16px

Title 2

Font	Weight	Size
Inter	Semi Bold	14px

Title 3

Font	Weight	Size
Inter	Semi Bold	12px

Paragraph 1

Font	Weight	Size
Inter	Regular	16px

Paragraph 2

Font	Weight	Size
Inter	Regular	13px

Paragraph 3

Font	Weight	Size
Inter	Medium	11px

Button 1

Font	Weight	Size
Inter	Semi Bold	20px

SP Group app uses a commissioned font that is not available for use to the public. For this project, we chose Inter, which is the closest and most suitable font.

Color Guide

Our first draft colour concept was to bring in some vibrancy as the overall look and feel of the app felt a little dull. However, we felt that the colours came off too strongly which does not suit the overall theme of the brand. Putting Jakob's law & Aesthetic-Usability Effect in mind, we wanted to compliment the current primary colour that is familiar to our users therefore chose violet to portray the feeling of friendliness and trust to the users. Gradient effect also give the brand a more modernized look.

1st Draft



#183868



#4EAE80

Final



#7F7FD5



#86A8E7



#8BCBCD

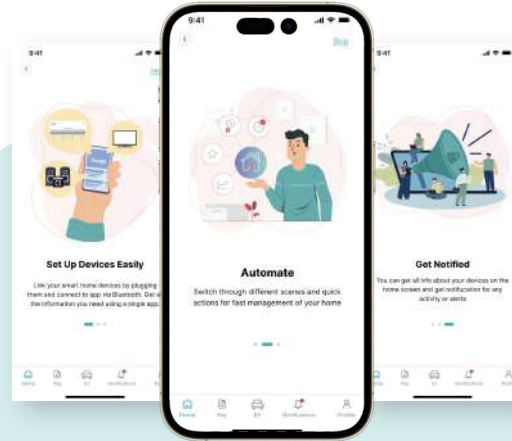
Gradient



#8BCBCD

Primary Color

Onboarding



For onboarding design, adding content writing and illustrations, we aim to illustrate why the product is a good thing for the user, how they can make the most of it and help them get the ball rolling. Like "A virtual unboxing experience that helps users get started."

Our objective is to leave users feeling like they have known the product in SP app and they can start building up a habit of using this design in their everyday lives.

Data Visualisation

We understand that visualisations are an essential part of dashboard design. Before building the Dashboard, we first analysed and learn what constitutes a good Dashboard page that can help users in decision making.

We then approached the Dashboard with 4 objectives in mind.

1.-

Clear - Providing the right type of information

2.-

Show insights and not only data - Putting data into context so users are able to action

3.-

Use the right type of chart and design

4.-

Avoid scrolling when possible - most important data to fit in a single screen.

1st Draft

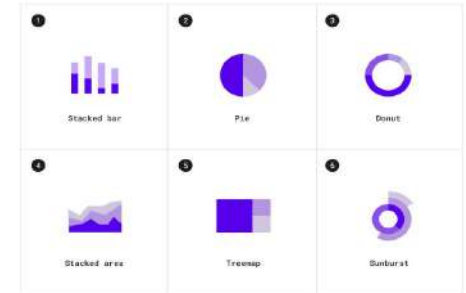


1st Draft - Highlighted issues

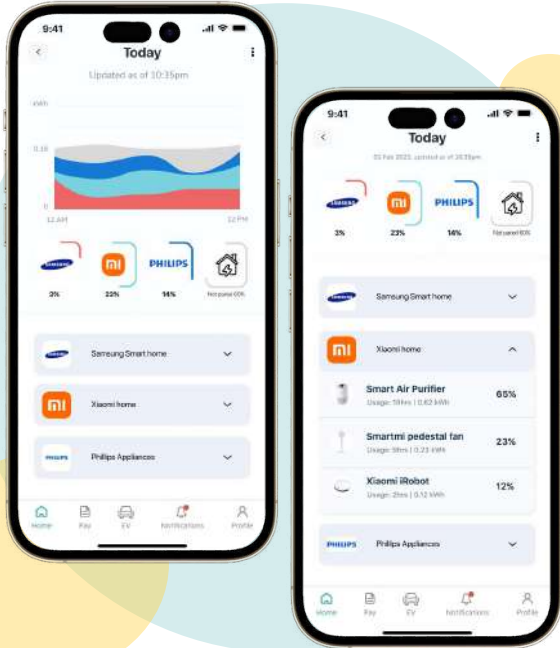
- Information showed is unclear, consumption usage by percentage can be perceived incorrectly.
- Stacked bar chart can also be perceived as 'Changes overtime' type data (m2.material.io).
- Users can be confused as to whether if it adds up or exclude the data below the stacked data.

How can it be improved?

- Choose another 'part to whole chart' to present the data
- Overview page can be more organised
 - Apply Miller's law - Group into categories or smaller pieces of information



2nd Iteration



Highlighted Changes

- Stacked area chart provided better data visualization
- Gestalt Principles (Closure) to depict how much usage in comparison
- Created groups to be more organised however viewing information does not fulfill objective (viewing data in single screen.)



How can it be improved?

- Include hierarchy
- Better Aesthetic
- Better portraying of information

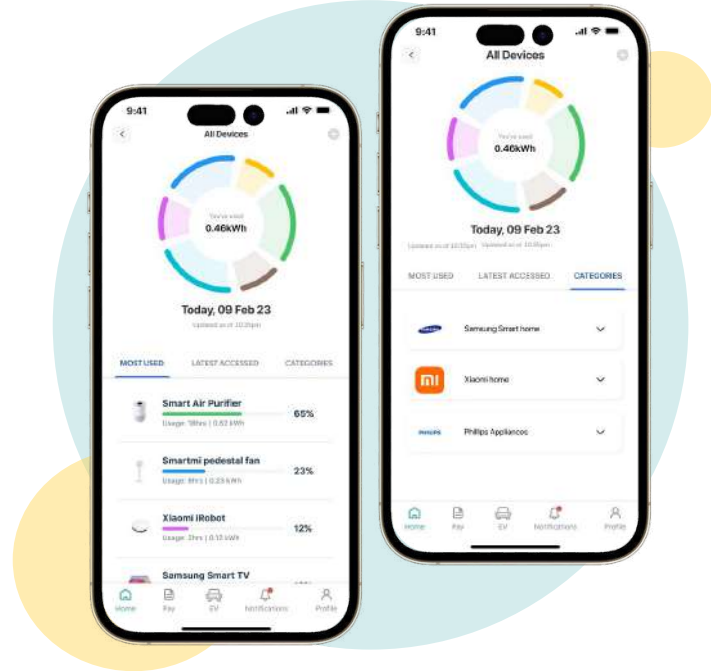
3rd Iteration

Highlighted Changes

- Major improvement - Added tabs to better organise the data at a view.
- Sunburst chart gave a clearer overview however viewing information does not inspire action (Users are able to set goals).

How can it be improved?

- Inspire action
- Reduce clutter (Applying Hick's Law to reduce complexity of choices as too many categories can be overwhelming)
- Able to track current progress against a goal

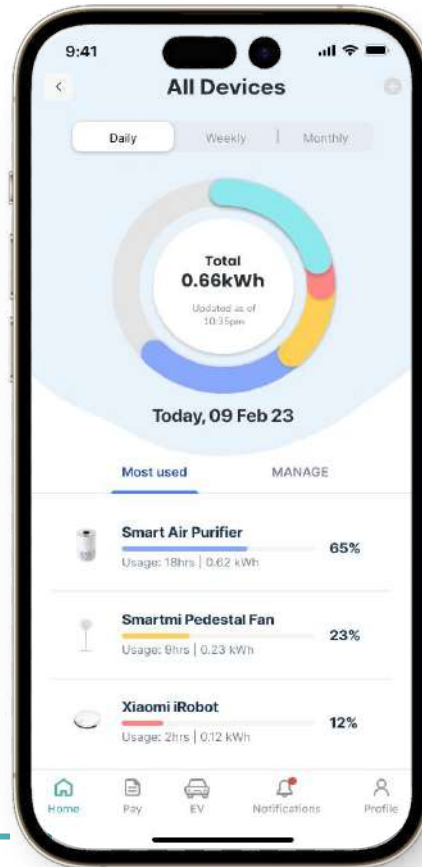


Final Design



In smart trace, one of the most important KPI is to track energy usage for individual appliances to a macro level.

We did some quick informal interviews to get insights of the few previous iterations with potential users, they identified that it would be also helpful having the 'most used' appliances that could require attention and actions. In that case implementing 'most used' category would be very helpful to trigger user attention.



Final Design

- Able to track current progress against a goal, therefore better to inspire action
- Reduced clutter
- Better organisation of information

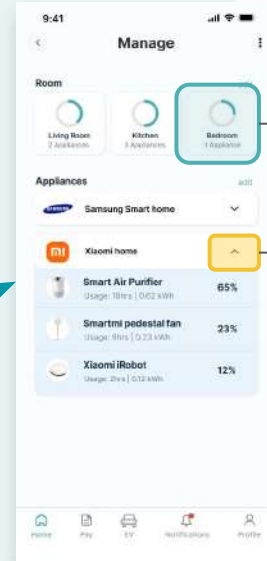
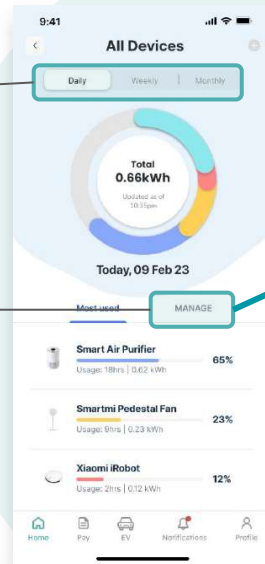
Key Learnings:

- It is crucial for dashboard design to identify who are the users, what business problem we are trying to solve and what decisions will be made by looking at the SmartTrace dashboard.

In the final iteration, Key information should stand out easy to understand and inspire action.

Dropdown Menu and Navigation

Implementing tab navigation to help **better organise content across different screens**, data sets, and other interactions.



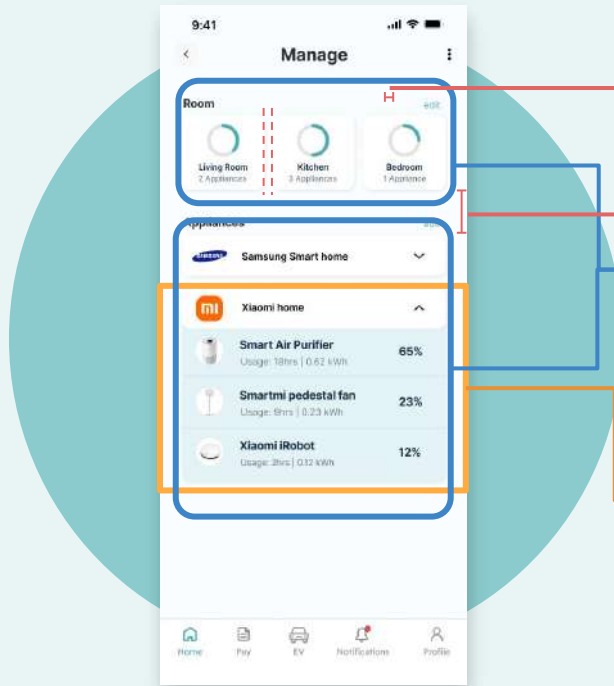
Drop shadow to show that it is a button for a forward navigation

Dropdown menu to further expand on items in the same category.

The manage page is a lateral navigation from the dashboard. It aims to break down and **further provide information** by sorting into categories - Rooms or Appliances that is **customisable** (i.e brand or product kind)

Law Of UX

Putting into practice the psychology behind interfaces.



Law of Proximity:

By grouping the same elements together using spacing, it establish a relationship with nearby objects. The proximity of both categories are not too far to also show the correlation of the functions working together, achieving the same goals.

Law of Similarity:

We create Elements that are visually similar in terms of size and orientation for them to be perceived as related as they share the same functionality.

Law of common region:

The defining background element behind the drop down box also creates the effect of the elements are together. This help users understand the relationship between the sections.

Confirmation



Some changes we implemented after class activity:

This page is designed to aid users to switch on their bluetooth in order to proceed from their previous action.

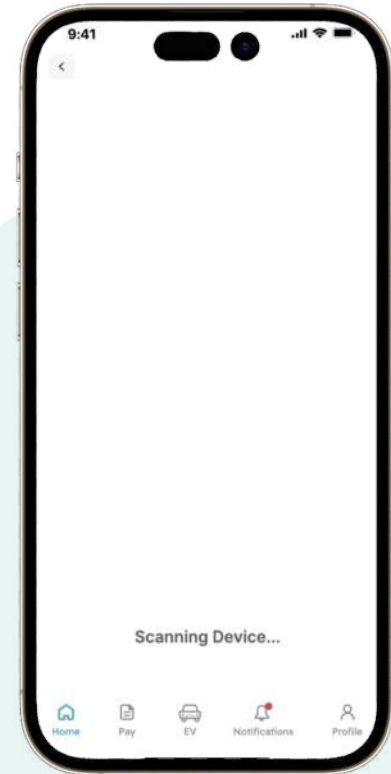
By adding CTA button, it gives user clear instruction that their bluetooth is on/off and prompt action to switch it on or proceed.

Acknowledgement

While waiting...

Acknowledgement

Feedback the user about system actions occurring in the background. In the bluetooth screen, illustrations are animated to show progress that bluetooth is connecting. Similar to the scanning device screen, helper text will appear for a short amount of time and illustration in the background will expand and contract to show that it is working. Both screens include the back button to undo the action.



Sensory Design

Scale & Visual Hierarchy



Energy tracking concept is new to users and we try to create an immersive and memorable experience that connects users to the product and brand. To engage the users, we added animations to give little delights throughout the user journey. Adding a sensory element serves to give a more superior take on Smart Trace.

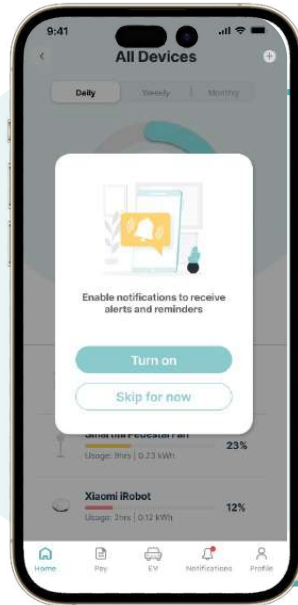
What did we do...

- Emphasizing the chart as the most important aspect by making it the biggest.
- Use typeface sizes to indicate content are most important
- Bright colours to map to items and muted colours for less important information item.

Haptics

“People are never connected to a product, they were always connected to how it felt.”

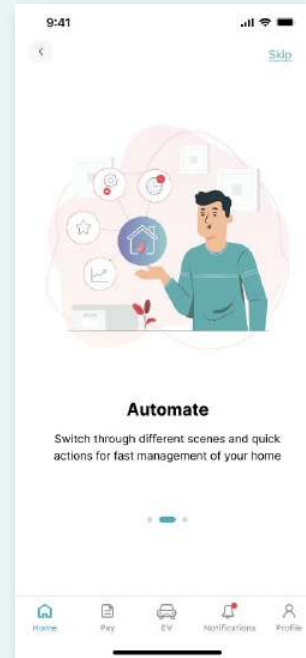
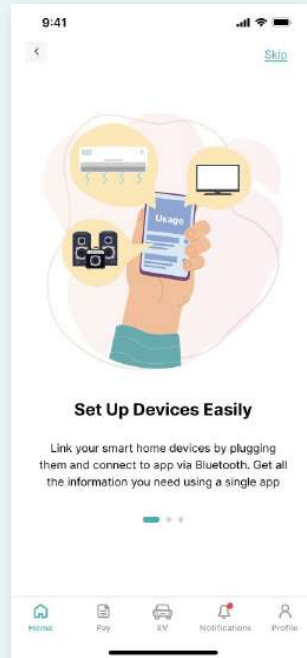
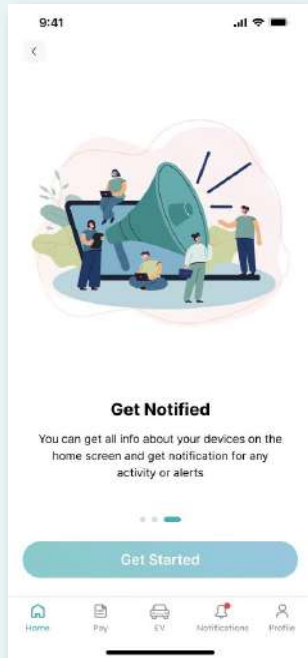
To enhance the overall user experience, we proposed to include Haptic feedback via vibration when they allow notifications to convey useful information to users.



By switching the notification, users can customise alerts by sparingly celebrate when they hit a Green Goal.

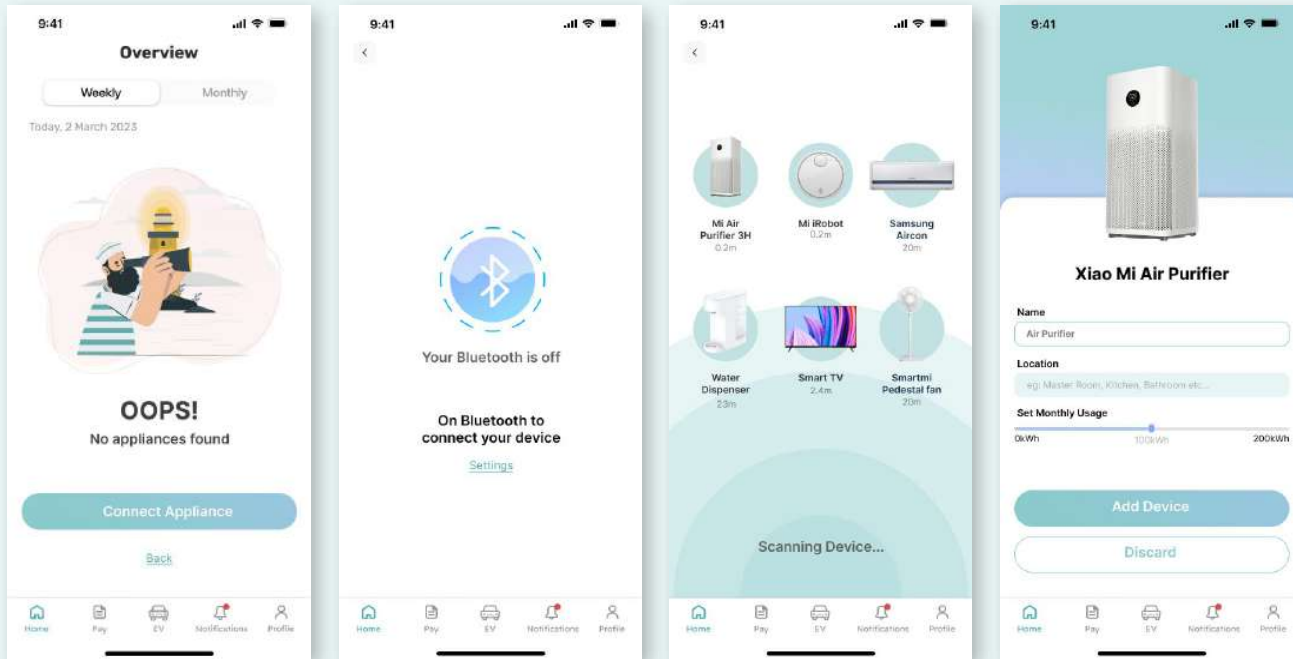
This however should be test before letting them out to the real users so as to not disrupt other experiences of the product.

Final Iteration & Flow



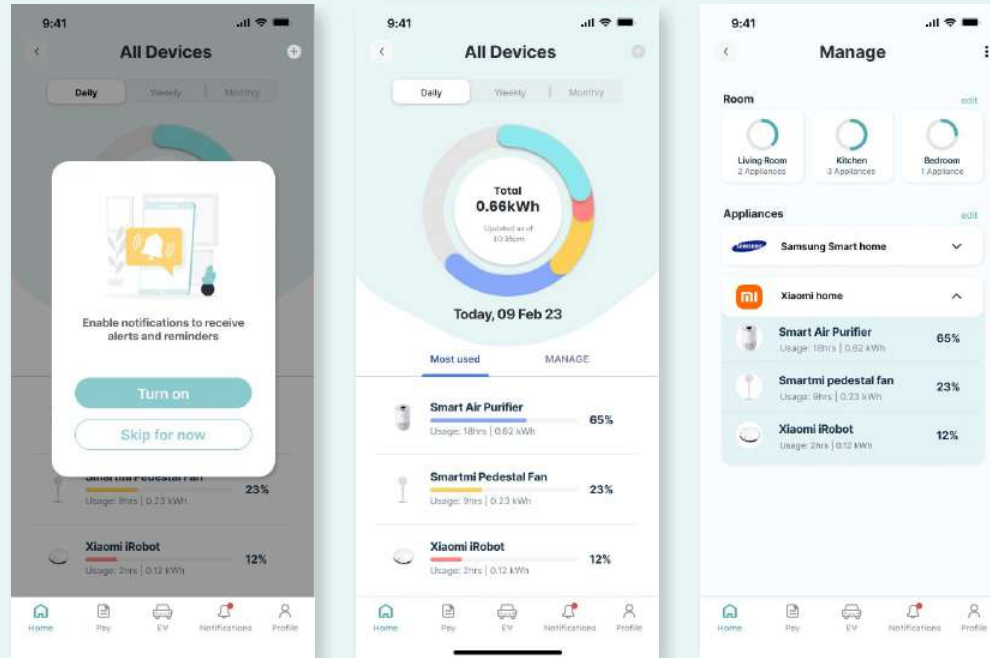
Onboarding page to help user make the most of it and help them get the ball rolling.

Final Iteration & Flow



Here is the flow for user connect their smart appliance in to Smart Trace feature.

Final Iteration & Flow



Existing user will direct to this data analysis page to check their usage in glance.

Conclusion

Conclusion

We implemented effective and efficient features, which the main job to be done is to let the audience know clearly where energy is being spent and make sure they know that they are paying for the right amount of energy.



Applied same mental model to Smart Trace

We used a tone of voice that was in line with the brand and personality. The visuals and style was also created to show friendliness and warmth.



Positive Responses

We tested the final round with all group of users and received positive responses. Users finds it useful for feature to be implemented.



Better understanding of UX theories and design principles

Bettering skills and competencies in digital product design, methodologies, and processes.

Moving Forward



More rounds of testing

More rounds of deeper level interviews, testing and iterations.

iOS / Android widgets

Adding widgets or experiences that can further enhance or make it convenient for users to make use of the technology

Smart Plugs

Current capabilities of this app is only limited to appliances that are Smart. With smart plugs, we can track items to micro levels such as Water Kettle, Charging points etc..

Thank you