KOMODO

EV COMPANION APP: A STEP-BY-STEP GUIDE TO THE PRODUCT DESIGN PROCESS

Follow an app design project from start to finish and unlock insights into professional agency processes.

— WORK BOOK
DESIGN SPRINT

WHAT'S IN THIS WORKBOOK

CONTENTS

Estimated reading time: 15 mins

01 — OVERVIEW

OVERVIEW

Do you know what's annoying about design? You only ever SEE 20% of it. When you look at a product it's easy to get caught up in the looks – but a lot of what makes good design great is hidden behind the screens.

Do you ever think: when will I use it? What do I do with this? How does it work? Who is this for? Why should I bother? These questions make up 80% of a UX and UI designer's work.

What we love about design is creating intuitive experiences and products that work. But it's difficult to show the 80% of work that goes into designing exceptional products.

Between NDAs and client-agency agreements, we can't always show our processes. So, as all good designers do, we came up with a solution.

What's the goal?

By the end of this workbook we want to give you a window into what a UX and UI design project looks like from start to finish – a top product studio's design process, and the best practices to get into your users' shoes and solve real problems. Get ready to see an app unfold before your eyes. All 100% of it.

02 — INITIAL RESEARCH

OUR CHALLENGE

To complete the brief, we followed our in-house design approach from initial research to final product. The project was split into four design sprints over 20 days – five days each: Discovery & Research, Analysis & Audit, Wireframing & Prototype, and Design & Iterate.

One of the biggest challenges was establishing a knowledge base on electric vehicles and existing EV apps – but we took it in our stride. A note on software: most of the project was done in Figma & Miro, letting our team collaborate and do their best work.

What do we need to find out?

01	What are the issues with charging apps?
02	What's the flow to charge in public / at home?
03	Why do users choose an EV?
04	What pain points do users experience?
05	Any positive takeaways from current apps?

How do we improve the user experience?

02 — INITIAL RESEARCH

How do we understand users' needs?

All projects start with the user. To understand their needs we start with research – putting ourselves in their shoes to empathise with their needs, wants and frustrations, and mapping their characteristics and typical journey. Ideating and testing is far easier when you understand their point of view; it lets designers criticise their own work and push for a positive user experience.

OUR DESIGN PROCESS

RESEARCH	Initial research · Competitor analysis
EMPATHISE	Ethnographic research · User persona · User journey mapping · Empathy mapping
DEFINE	Sitemap · User flow
IDEATE	Wireframes (low + high fidelity) · UI designs
PROTOTYPE	Testing

03 — MARKET RESEARCH

WHAT ARE THEIR CURRENT PAIN POINTS?

To build the best version of our product, we needed to find out what causes difficulties – the common barriers to success and what negatively impacts UX. Our research identified several areas of dissatisfaction. The points below stood out as the key pitfalls with current EV charging apps and wider challenges for EV drivers. Crucially, they are the springboard for design-centric solutions.

KEY PAIN POINTS

01

Not enough useful data

02

Unreliable service due to data connection issues

03

Complicated to set up with home charger

04

Dated and unintuitive UI

05

Incompatible with car

06

Not being able to export usage data

07

Lack of ability to make manual adjustments

08

Doesn’t support all charging networks

03 — MARKET RESEARCH

APP ANALYSIS

No matter how many great ideas you have, it's always important to look at the competition. What are they doing well? How do they talk about it? What do their users like – and why? We listed key features and the ratings each app received for a clear competitive overview.

	RATING	Covers home & public	Charge scheduling	Shows charge status	Remote controls	Power flow management	Usage data	Cost data	Data export	Notifications	Chargepoint map
Easee	5.0	●	●	●	●		●			●	
Monta	4.4	●	●				●	●	●	●	●
Rolec	4.2		●	●	●		●	●			
Ohme	3.8		●	●	●		●	●			
EV Box	3.1	●	●	●	●	●	●	●	●		●
Wallbox	3.0		●	●	●	●	●	●		●	
MyEnergi	2.9		●	●	●	●	●	●	●		
Podpoint	2.2	●	●				●	●	●		●
Project EV	2.1		●	●	●	●	●	●			
EO Charging	2.0		●	●	●	●	●	●			●

04 — USER RESEARCH

HOW DO USERS BEHAVE?

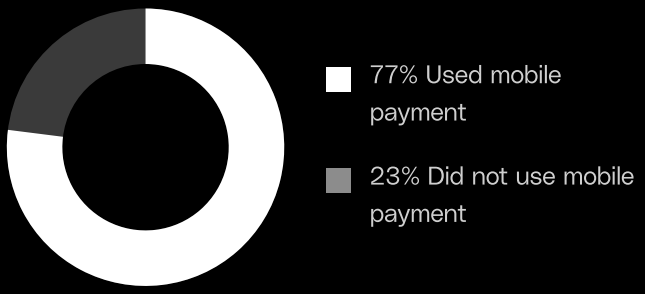
Through ethnographic research we understood more about drivers' behaviours and habits. Using a range of secondary resources, we built a clearer picture of current market demands and the trends driving innovation.

Ultimately, the research we gather lets us create a solid product that lives up to users' expectations. In other projects we can access our user research team to talk to real users and form a repository of primary data.

Source: fuelsinstitute.org — EV Consumer Behavior Report

Payment preference

% of respondents who used mobile payment (Aug 2018 – Aug 2019)



Charging at home vs public

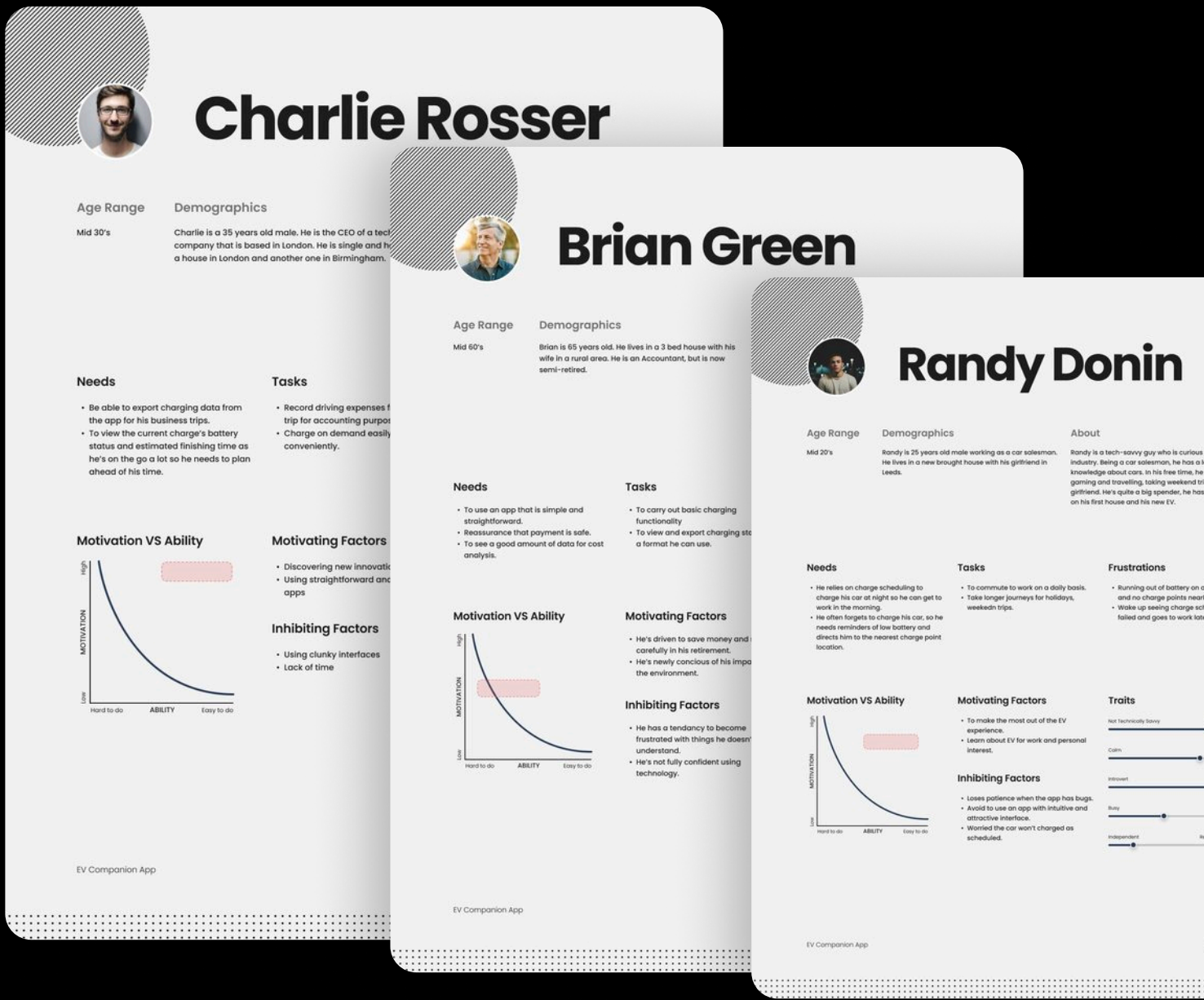
WHAT INFLUENCES A USER'S DECISION?

01	Non-availability of at-home charger
02	Running out of battery range
03	Accessibility
04	Value
05	Convenience

05 — EMPATHISE & DEFINE

USER PERSONAS

To get a better overview of different user groups we fleshed out personas. Covering the main user types and demographics, we arrived at four unique personas. It's essential our research is reflected in them so they're true to life – capturing each user's key requirements, the motivations that drive them, and the blockers that stop them taking action.

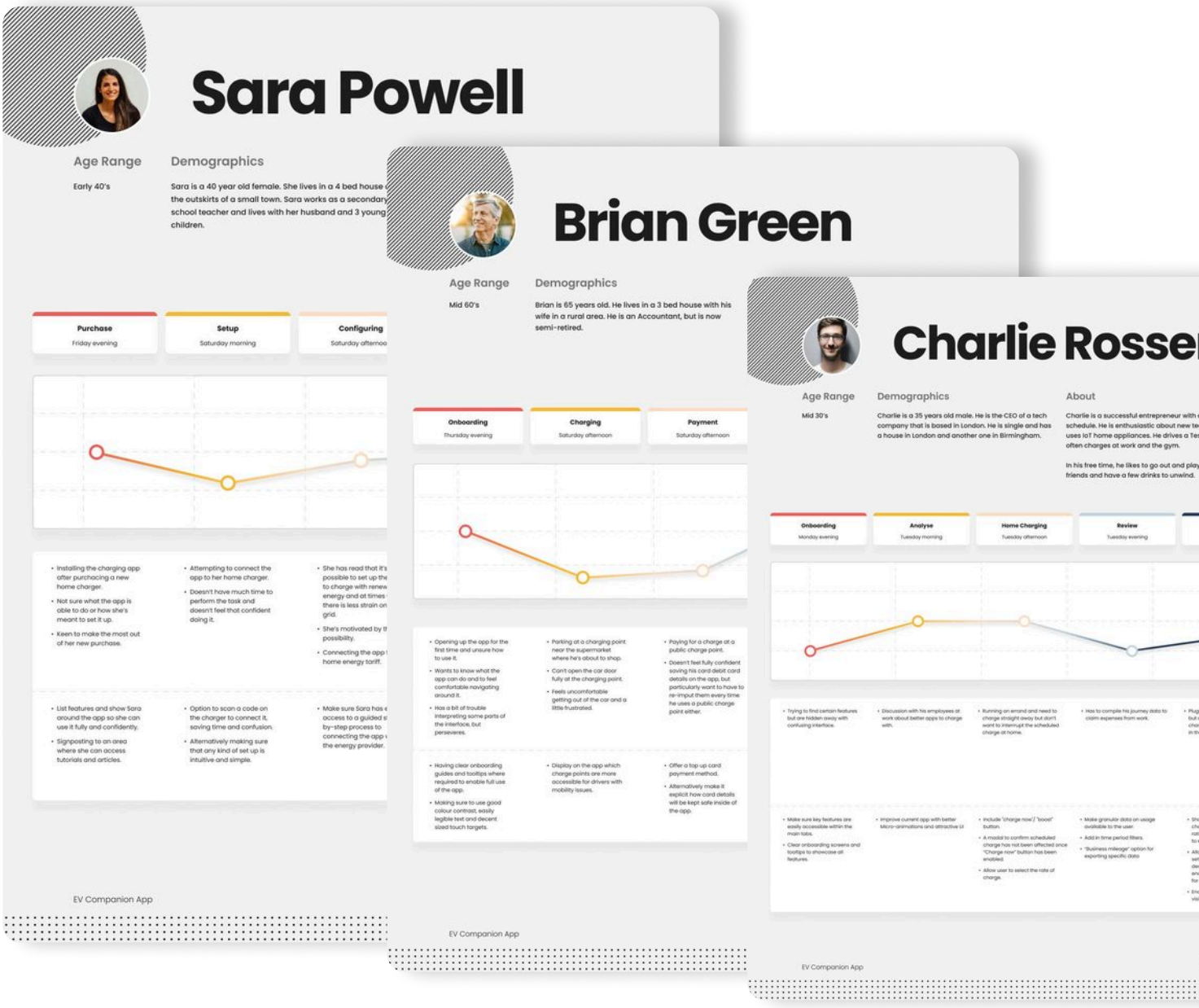


05 — EMPATHISE & DEFINE

USER JOURNEYS

Mapping user journeys is crucial. They go beyond standalone personas, letting us be meticulous – considering each step a user takes to complete a task, identifying key touchpoints, and deciding what features to include.

Journeys also capture the emotions a user feels while using the product. That empathetic lens shows where we can really make a difference to their overall experience.



05 — EMPATHISE & DEFINE

EMPATHY MAPS

Going a layer deeper, we use empathy maps to add extra understanding of user behaviour. They focus on four key areas – what they see, what they hear, what they say and do, and what they think and feel. Considering these emotional states colours in our personas and makes them feel human.

05 — EMPATHISE & DEFINE

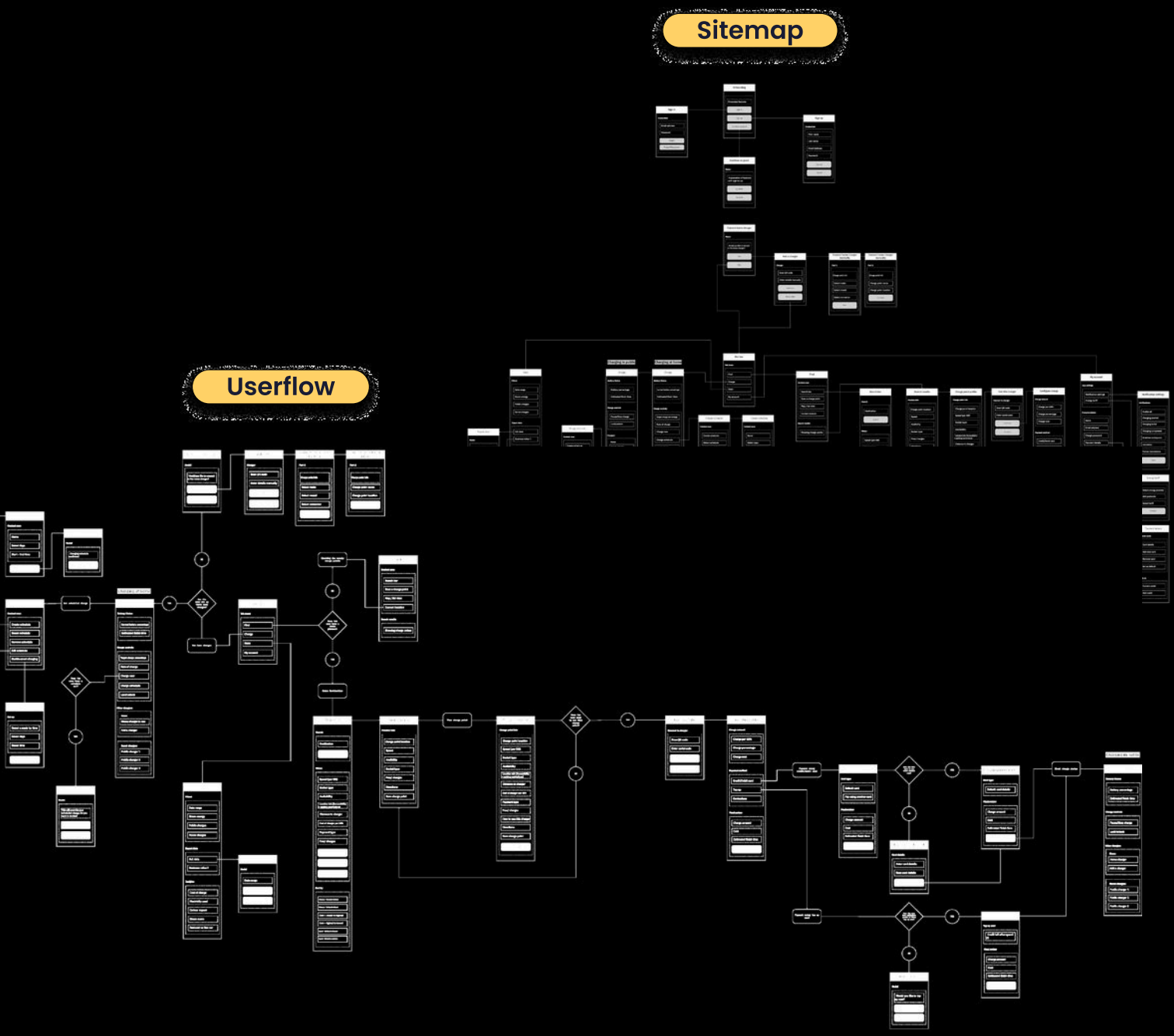
SITEMAP & USER FLOW

Sitemap

It's time to become experience architects. We begin by drafting a sitemap – building an understanding of the information architecture through a visual overview of the app, and letting the team identify key features and prioritise workloads.

User flow

With the sitemap complete, we test the user flows. They highlight what works and expose flaws in initial thinking. Building the flow is iterative – it tests the logic of the designs, challenges our decisions and shows the bigger picture, so we identify what's truly valuable.

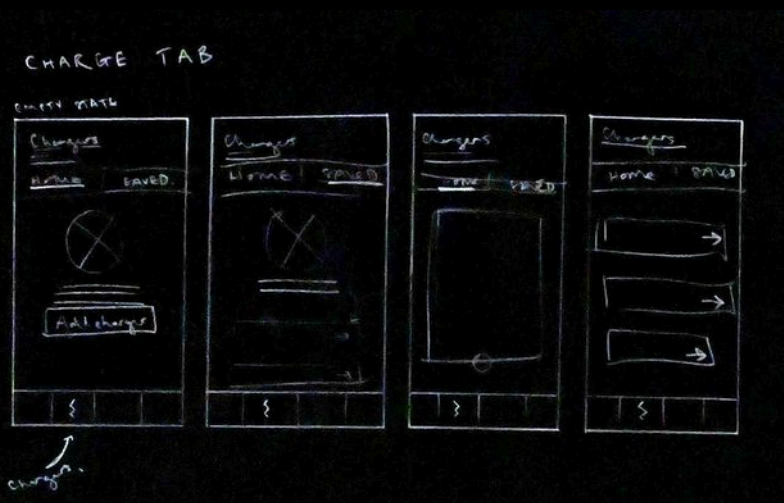


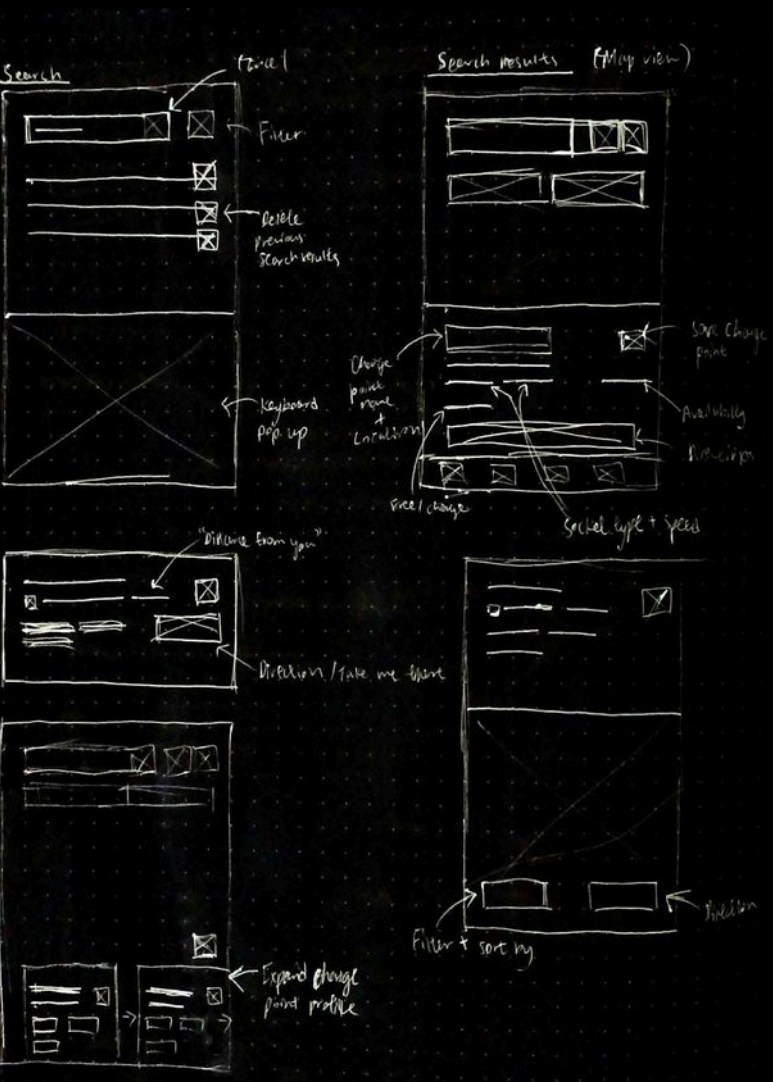
06 — IDEATE & TEST

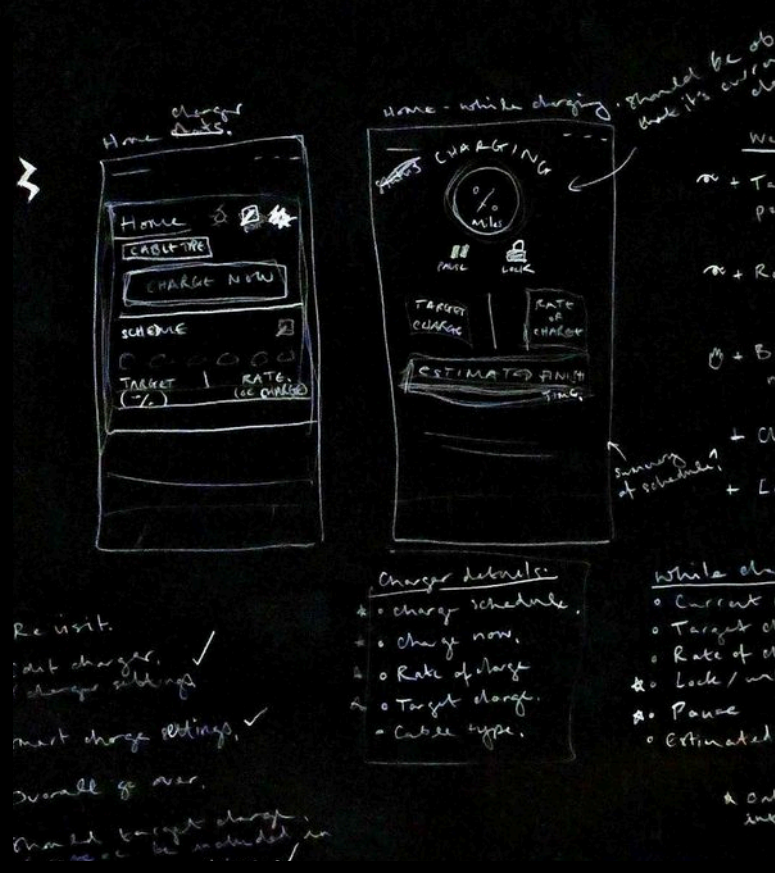
WIREFRAMES – LOW FIDELITY

With the bulk of the UX work complete, it's time to shape the user interface. By analysing UI from existing apps – using our research – we decide what works and what doesn't.

You start with sketches. Low-fidelity wireframes let you move quickly through ideas, good and bad. They can be messy, but they save time so we can focus on perfecting the ideas worth taking forward. Ideally you test these with real users for their all-important feedback.





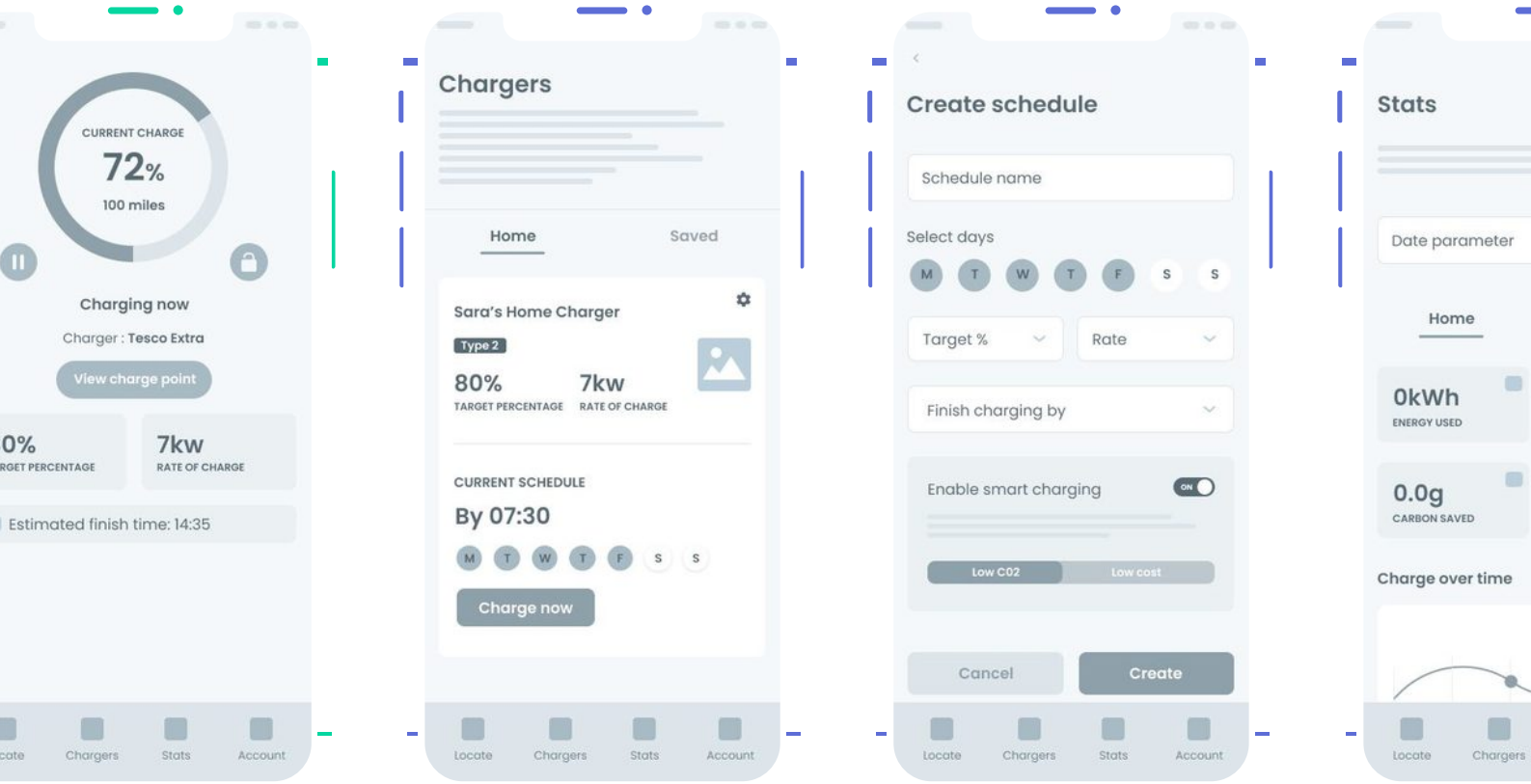


06 — IDEATE & TEST

WIREFRAMES – HIGH FIDELITY

A high-fidelity wireframe is where you give shape to the product. You begin tidying up messy ideas and carrying your best ideas forward.

Key considerations include choosing component types, how buttons are formatted (toggle vs dropdown), and whether the element hierarchy works effectively.



06 — IDEATE & TEST

PROTOTYPE

Prototyping was a key stage in the wireframing process. Moving from low to high fidelity brings unique challenges and a lot of back and forth – you continuously test ideas to make sure the layout is functional and each iteration shapes a better experience.

For our EV app we constantly asked: can users navigate smoothly? Would radio buttons cause confusion? What's the best size for a button? Does the design align with the needs uncovered in research?

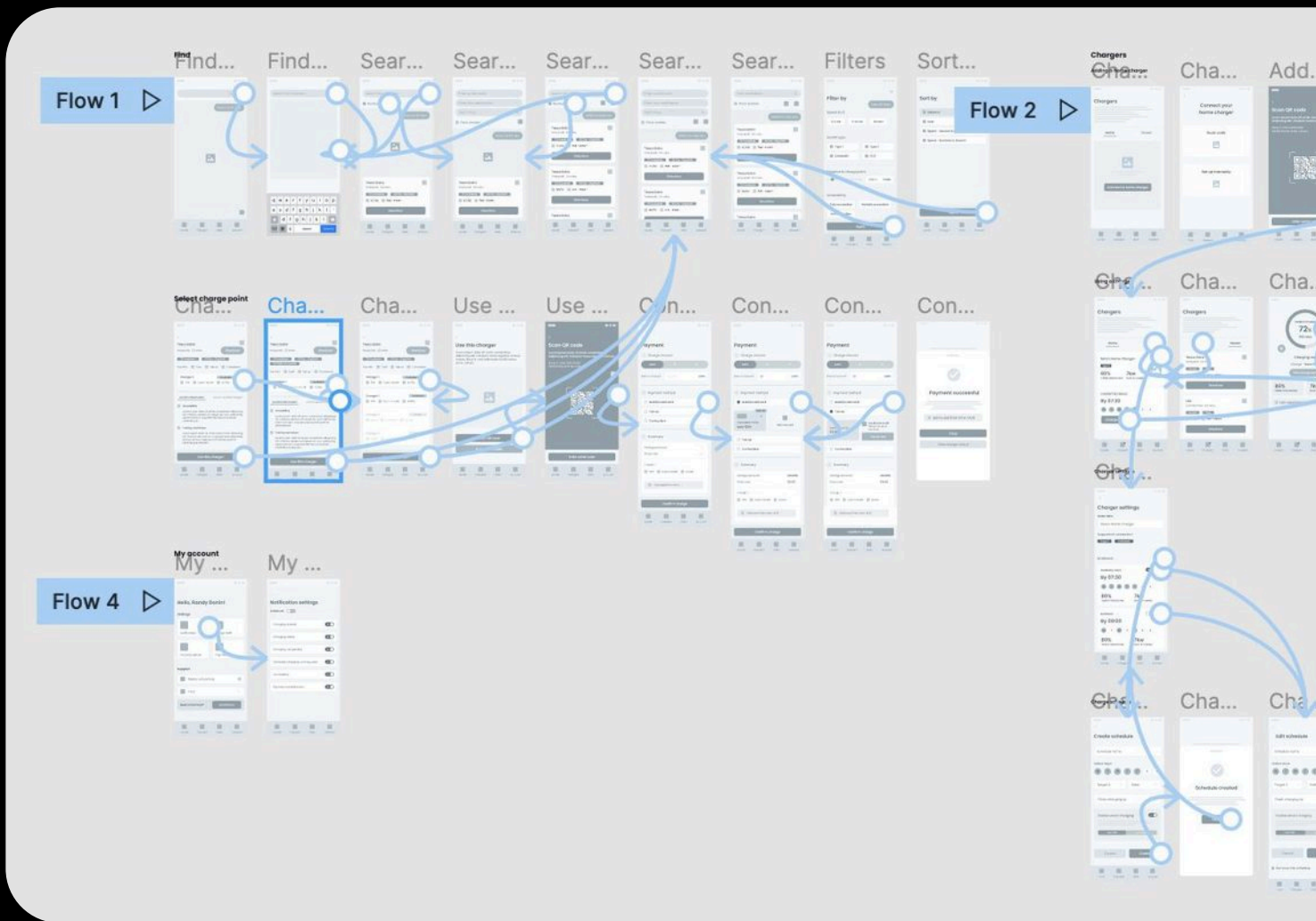
COMPONENT EXPLORATIONS

Checkbox

Radio button

PRIMARY BUTTON

Exploring component types, states and button sizes.



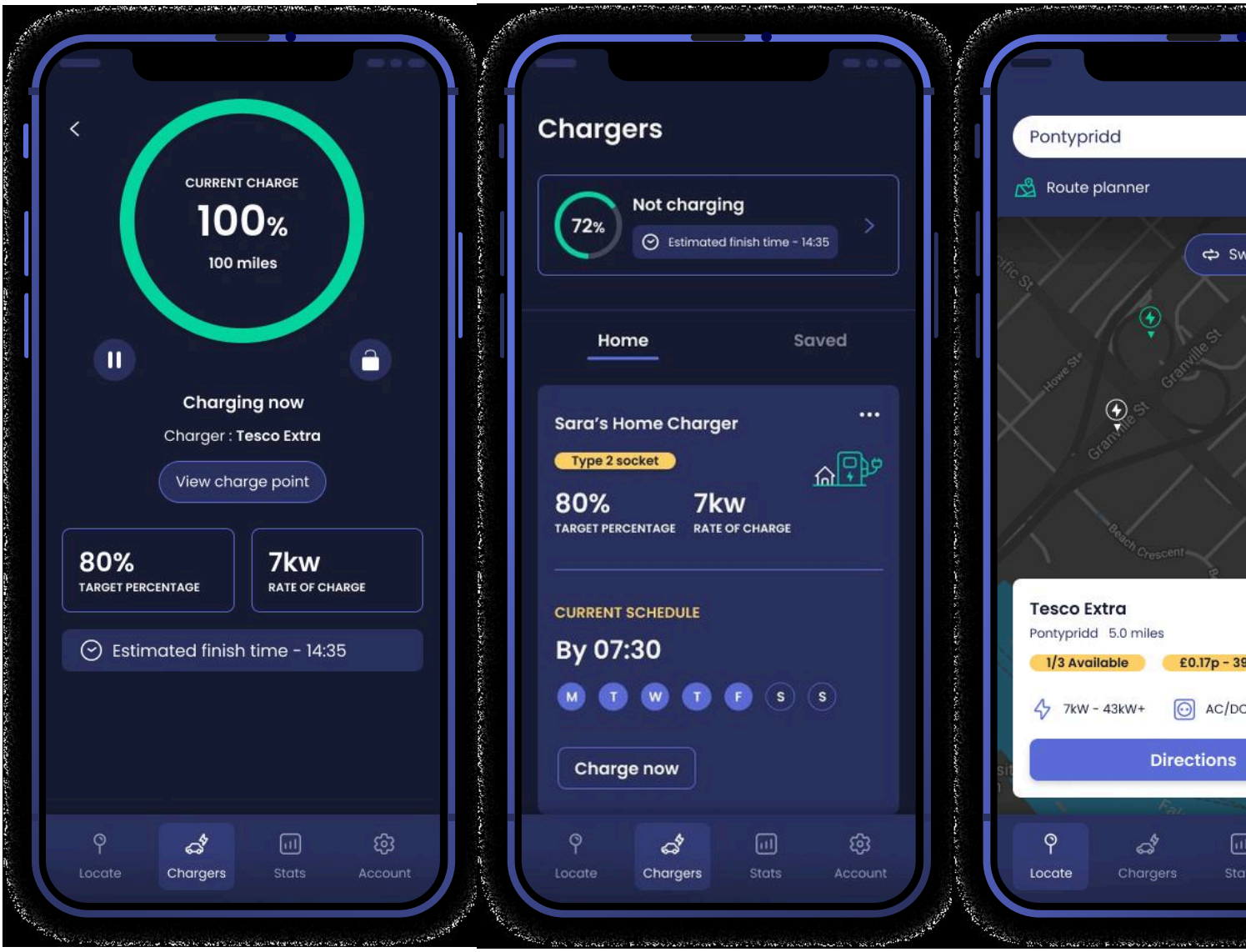
07 — FINAL PRODUCT

DESIGNS

After completing the foundations, we started assembling the final designs. First we tested the styles and tone of voice – how the micro-copy and app styling talk to the user. Usually this is dictated by branding, but here we had room to wiggle. Second, we tested the best way to create consistent, appealing visuals, selecting supporting imagery and iconography. The key screens follow.

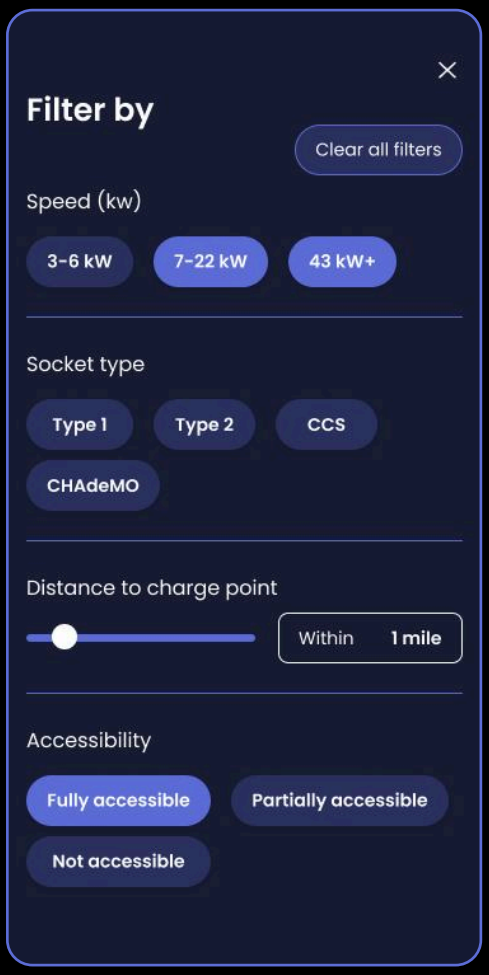
Public + home charger, all in one

A single home for both – switch between Home and Public in a tap.



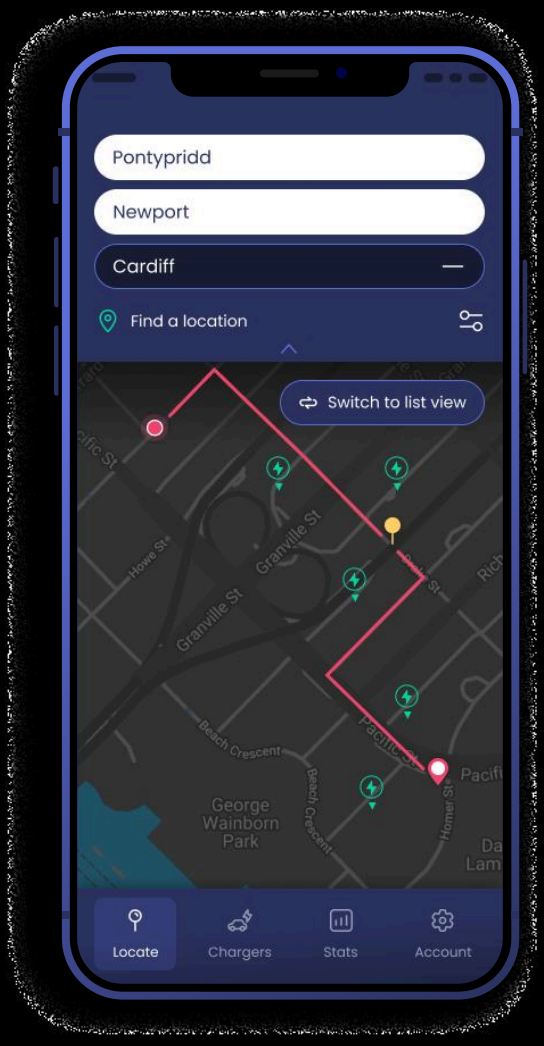
07 — FINAL PRODUCT

KEY SCREENS



Configure your search

Filter and set up exactly what you're looking for.

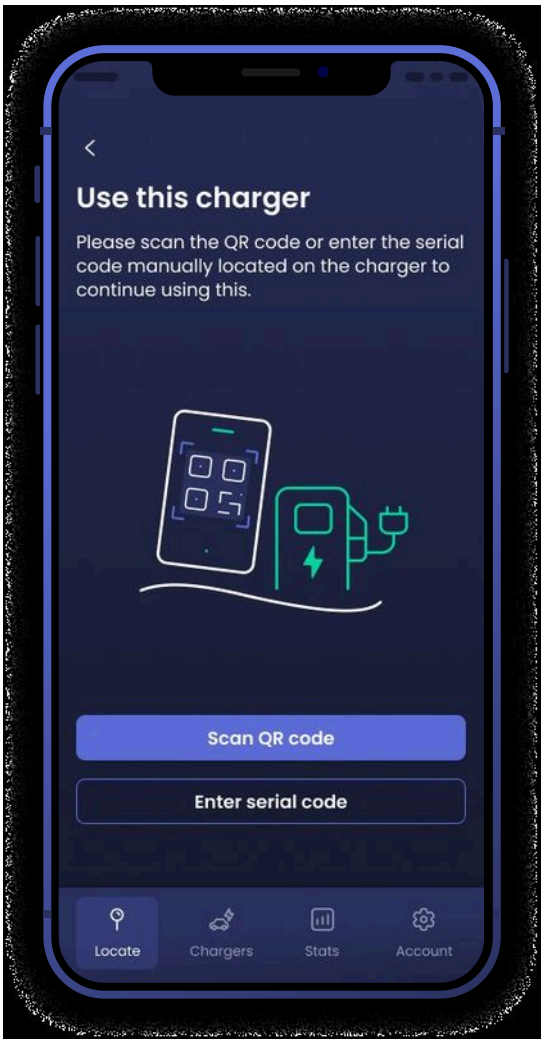


Plan your journey

Find charge points along your route, then select your preferred charger to view availability and accessibility details.

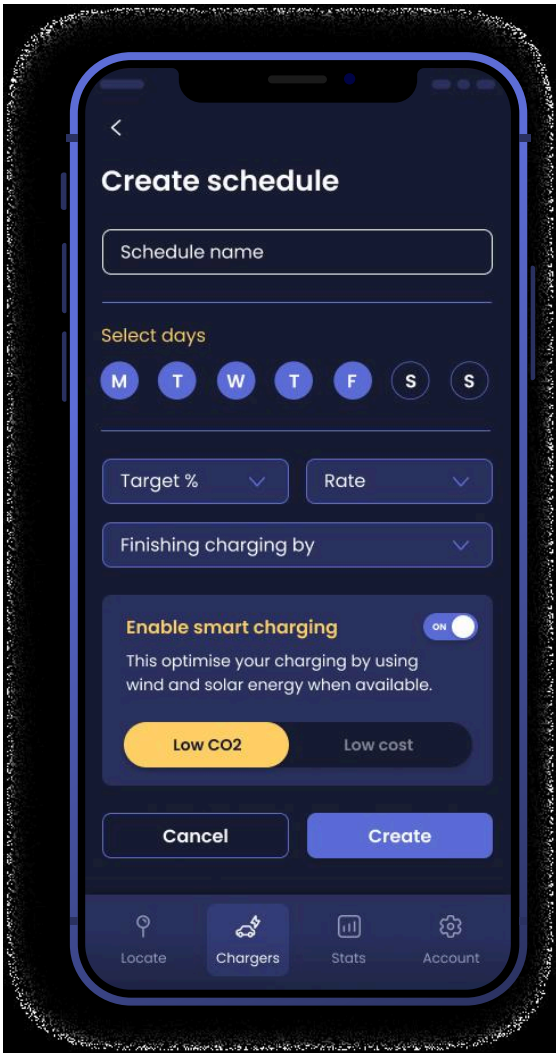
07 — FINAL PRODUCT

MORE FUNCTIONALITY



Using a public charger

A straightforward process for a quick, easy charge – plus access to your saved chargers.



Home charger settings

Create a charge schedule and optimise for greener energy and lower cost. Review history and carbon footprint, set notifications, and export your data by date and format.

08 — DESIGN PRINCIPLES

COLOUR PALETTE & TYPEFACE

An exciting challenge was selecting a colour palette. We wanted a strong visual identity – bold and vibrant, with contemporary styling that fits the modern vision of EV charging.

Beyond looking good, the design is rigorously tested against accessibility standards. Colour contrast and font size are crucial – it's not a functional product if the text isn't readable.

COLOUR PALETTE

#191D34 #2B3260 #5D6DD7 #FFD166 #06D6A0 #EF476F #FFFFFF

TYPEFACE — POPPINS

Poppins 40 px

Poppins 25 px

Poppins 18 px

Poppins 16 px

Poppins 14 px

Poppins 12 px

Poppins 11 px

08 — DESIGN PRINCIPLES

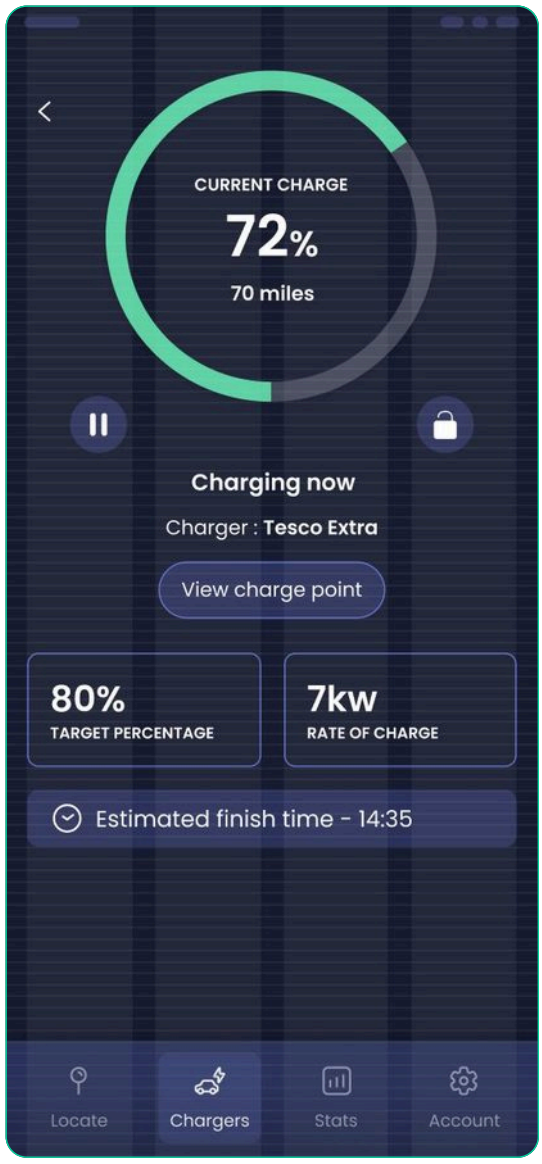
GRID SYSTEM

Using a grid keeps designs consistent across every screen. It gives a clear visual hierarchy so users can easily scan the interface – the human eye loves this as it reduces cognitive load. The consistency also reaffirms branding and creates a robust visual identity in the app.

8-POINT GRID

Spacing on an 8-point scale keeps rhythm consistent.

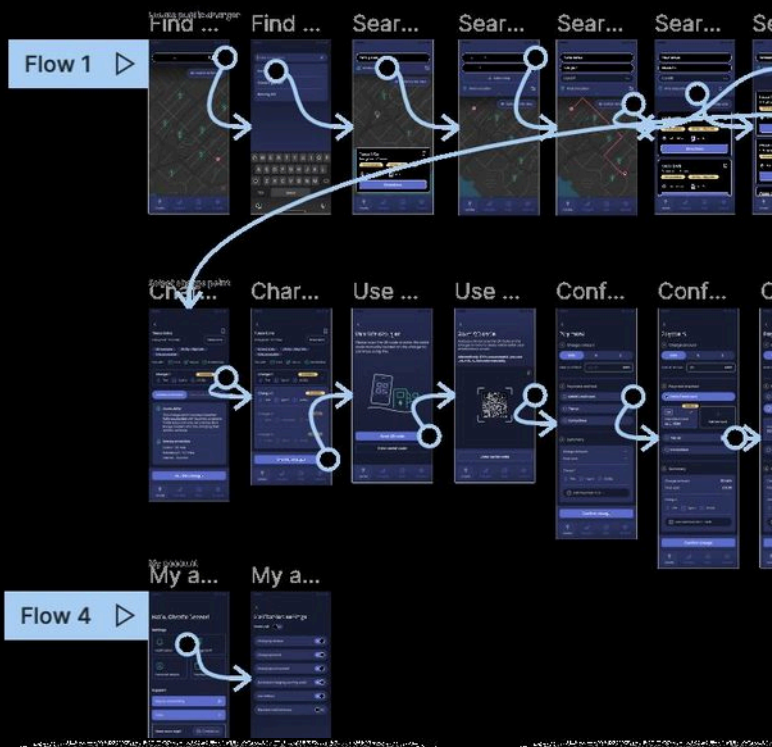
4 COLUMNS · 16PX GUTTER

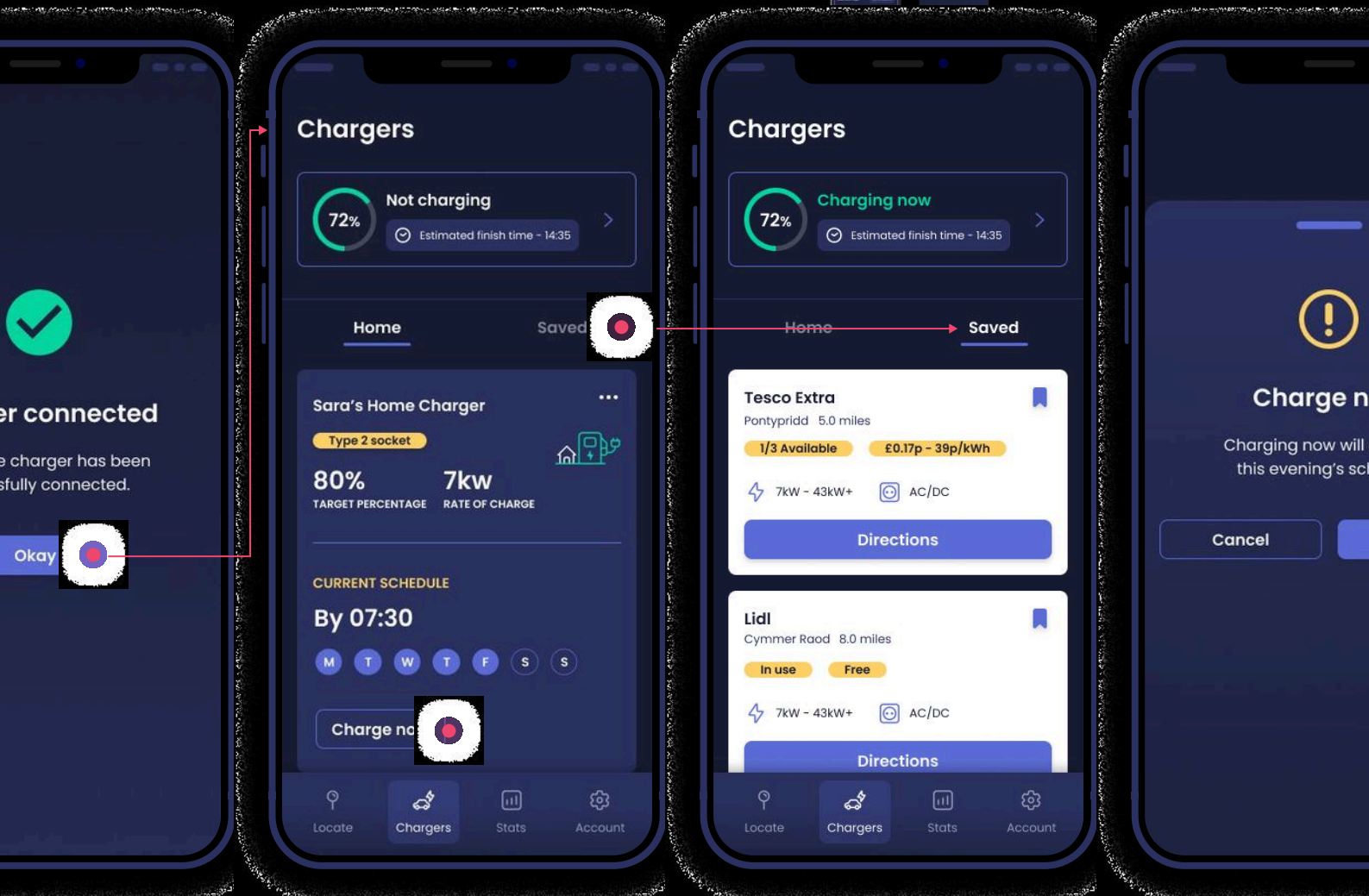


09 — FINAL PROTOTYPE

FINAL VERSION

At this stage we were happy with the design. Marrying the complete user experience with an intuitive UI, you could say the app was done – for now. Next, we'd complete a development handover, providing a style guide and design details for the engineering team.





10 — CONCLUSION

SUMMARY

99%... complete. Easy, right? Setting aside us flexing our design capabilities, we hope this was insightful!

Design can be daunting when there's so much to consider. You want to provide as much value as possible to your users – but how can you be sure it will pay off? That's where KOMODO comes in. For over 18 years we've been researching, designing and building exceptional digital products, refining our product mentality across a wide range of industries for private and public sector organisations.

By working with us, you'll benefit from our collaborative approach and original thinking. While delivery is the end goal, the processes woven throughout a project are what really make your product exceptional. The products we build are borne out of creative problem-solving – not just a string of working parts. These processes are what deliver real ROI. Working across web and mobile, our approach covers all the bases to hit your business objectives.

KOMODO

GET IN TOUCH

LET’S HAVE A CHAT.

Got a project in mind? Get in touch with KOMODO now. We understand you’re busy – so book our team to help. An audit can be conducted rapidly and cost-effectively to uncover opportunities to improve your software and get ahead with your product roadmap.

GET IN TOUCH

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