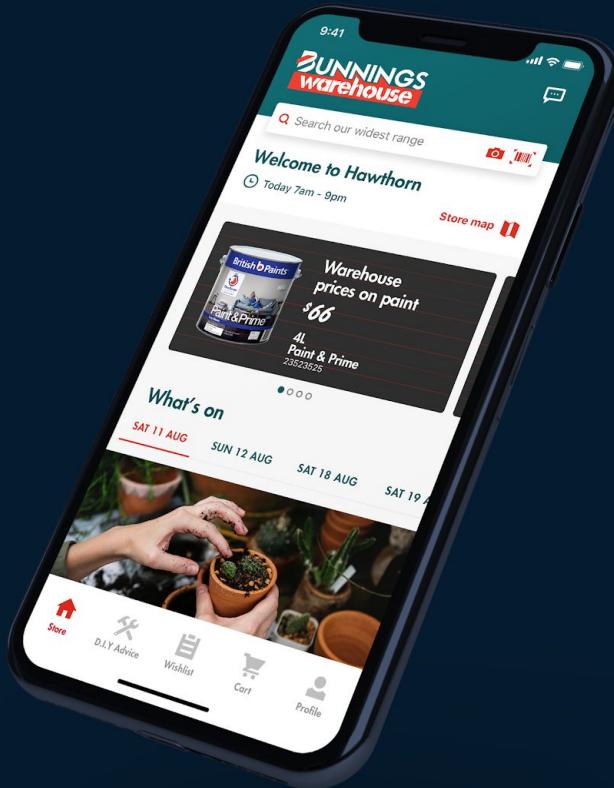


# Bunnings

## PDS and PoC mobile app

- 1. The brief**
- 2. Our approach**
- 3. Experience concepts**
- 4. Moodboards**
- 5. App prototype**
- 6. User research**
- 7. Next steps**
- 8. PoC demos**



# Bunnings mission

---

Make people's lives better, by building the world's best digital ecosystem that helps everybody through every step of their home improvement journey.



## Where our **focus** is

**Practicality, helpfulness, a sense  
of family and community, knowledge.**

Possibilities.

Down-to-earth,  
welcoming, friendly, informed.

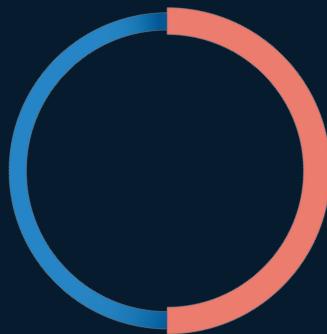
A fun, family-focused experience.  
A sense of discovery. An authentic, warehouse feel.

Widest range, best service, lowest prices.

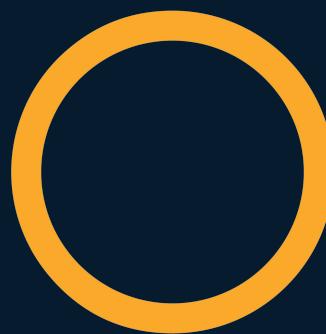
People who believe that their house is a place of endless possibilities and understand that through H.I. & D.I.Y. they can create the home that's right for them.

# Who the app is for

People engaged in home renovation, personal D.I.Y. projects or redecorating / styling their home & garden, who use their smartphone to shop with retail companies.



**GENDER SPLIT**  
50% FEMALE / 50% MALE



**AGE RANGE**  
20 - 65



**DEVICE USAGE**  
36% ANDROID / 64% iOS

# Research

---

We studied the home improvement & outdoor living findings, which included the mobile app research summary, retail customer journey and retail customer persona.

# The brief

---

- Create & validate a concept for a Bunnings mobile app
- Explore technical feasibility & practical application of a number of technologies

# Our approach

---

- Workshop, ideate, prototype & test concepts with real users
- Create a series of proof of concepts to test technical solutions

# Ideation workshop

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- A 30+ person workshop
- Generate product ideas
- Theme ideas in Pre-shop, Shop and Post-shop



# Key themes

## Pre-shop

---

- Wishlist
- AR Project Visualisation
- Video Hub
- Project Assistant

## Shop

---

- Bunnings Wallet
- In-store Assist
- Find a Team Member
- Self Checkout /  
Bunnings Go

## Post-shop

---

- Workshop Integration
- Partnerships
- Delivery
- Post-product support
- Post Purchase Help
- Warranty

# Feature prioritisation

---

Based on:

- Desirability
- Viability
- Feasibility



# Workshop output

**NOW**

Bunnings Gift Cards	E-Receipts	eCommerce	General Content Pages	In-Home Our Services	In-Store vibe	Interactive store maps	Our store	Product Catalog
Video Hub	Warranty	Wishlist	Registration	Push Notifications	Profile	Login	Pay	

**NEXT**

Find a Team Member	Post-product support	Post-product help	Chatbot (Voice or text input)	In-store mode toggle	Image Search	AR In-Store Wayfinding	Product Barcode Scan
Delivery	Biometric Authentication	Onboarding					

**LATER**

AR 3D Product Preview	AR Project Visualisation	In-store Assist	Self Checkout	Workshop Integration	Partnerships	Project Assistant	Sausage sizzle ordering
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# Workshop output

**NOW**

Bunnings Gift Cards

E-Receipts

eCommerce

General Content Pages

In-Home Our Services

In-Store vibe

**Interactive store maps**

Our store

Product Catalog

Video Hub

Warranty

Wishlist

Registration

Push Notifications

Profile

Login

Pay

**NEXT**

Find a Team Member

Post-product support

Post-product help

**Chatbot  
(Voice or text input)****In-store mode toggle****Image Search****AR In-Store Wayfinding****Product Barcode Scan**

Delivery

Biometric Authentication

Onboarding

**LATER****AR 3D Product Preview**

AR Project Visualisation

In-store Assist

Self Checkout

Workshop Integration

Partnerships

Project Assistant

Sausage sizzle ordering

# Sketch studio

Together Bunnings, AKQA and Outware created ideas:

- Based on our values
- App analysis and considerations
- Focused on pre, post and during shop experiences

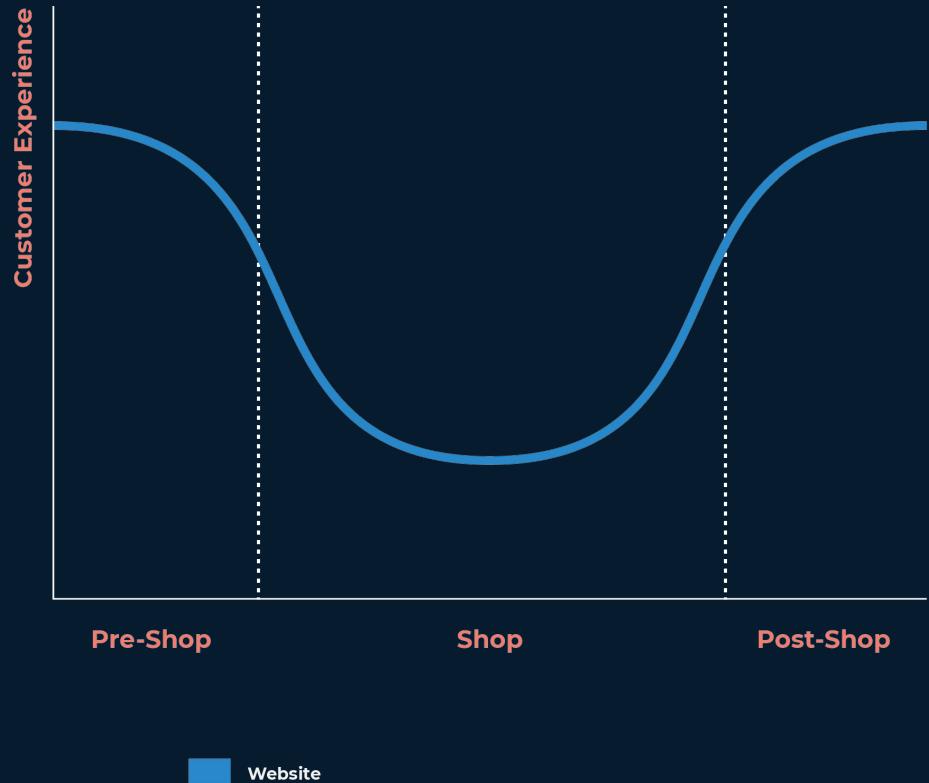


# Strategy



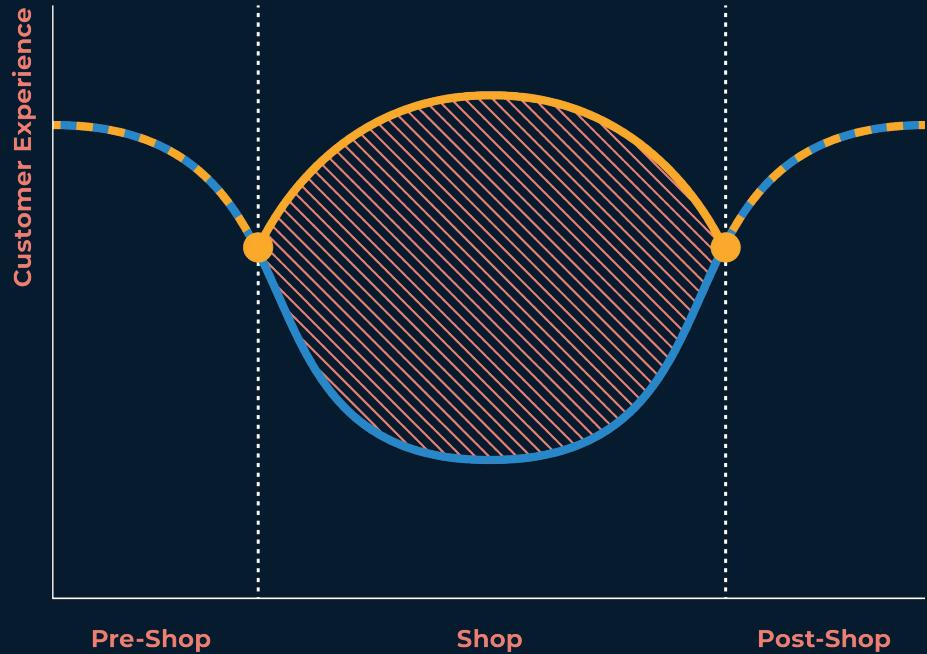
# App opportunity

---



# App opportunity

---



Website

Mobile App

App Opportunity

# We identified three key experiences

---

- 1. In store**
- 2. Projects**
- 3. eCommerce**

# In store

Locate all products quickly and learn new D.I.Y. skills.

## Product discoverability

Source the location of any product, allowing for a more enhanced shopping experience.

## D.I.Y. workshops

Receive all the information needed to get a D.I.Y. project off to a good start.

## In store events

Browse and register for upcoming events at a local Bunnings store.

### Practicality



### Family & Community



### Helpfulness



### Knowledge



## Potential value

- Increased customer satisfaction
- Increased employee satisfaction
- Increased app adoption and customer advocacy
- Increased customer engagement

# Project

Easily manage any D.I.Y. project.

## Project hub

A place for the research, thinking and planning behind the customers next great project.

## E-receipts

Keep hold of those receipts. Customers can import receipts from the store by simply taking a picture of it. View and share them instantly.

## D.I.Y. videos and articles

D.I.Y. advice section to search & find tutorials, videos, ideas, activities and inspiration for D.I.Y. projects around the home and garden.

### Practicality



### Family & Community



### Helpfulness



### Knowledge



## Potential value

- Increased customer retention
- Increased brand awareness
- Increased customer base

# eCommerce

Enhanced mobile shopping experience.

## Mobile shopping experience

A shopping experience users are familiar with, allowing customers an easy way to purchase any product, any time, any day.

## Shopping cart management

Add, remove, adjust and change your items in the shopping cart as much as you need. Use a simple checkout and payment process once ready.

## Payments made easy

Make use of a simple payment process as well as keeping track of your in-app purchases with a digital receipt.

### Practicality



### Family & Community



### Helpfulness

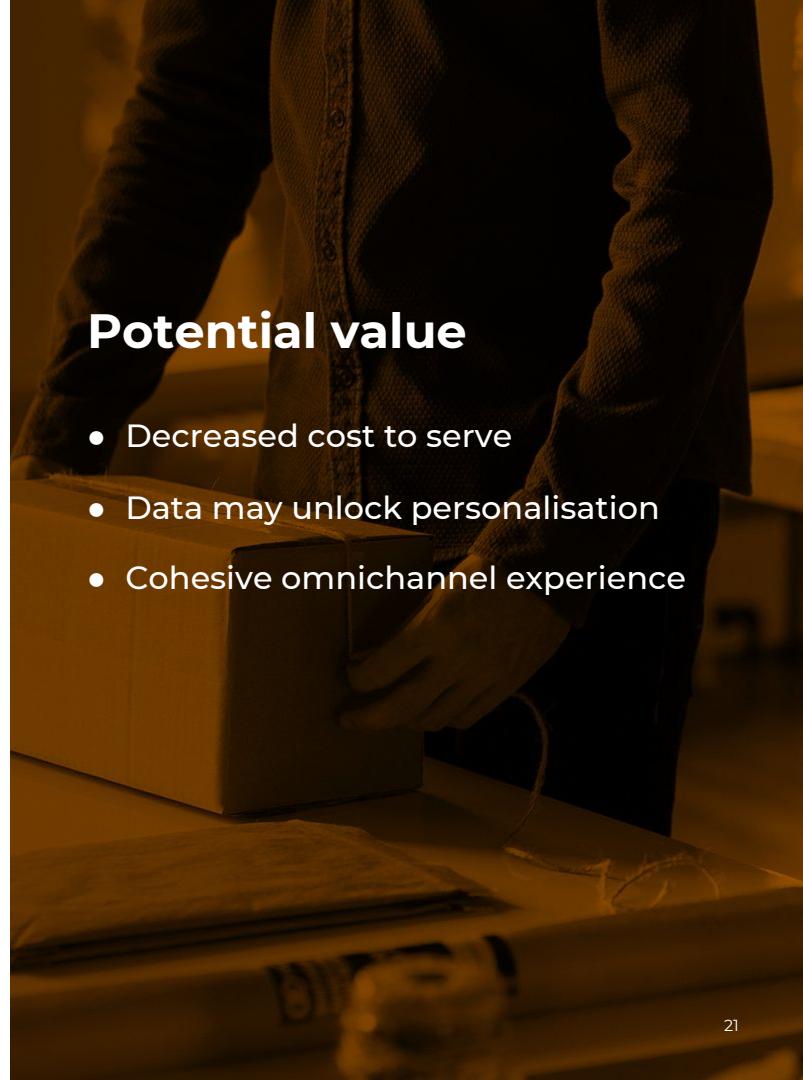


### Knowledge



## Potential value

- Decreased cost to serve
- Data may unlock personalisation
- Cohesive omnichannel experience



# Moodboards

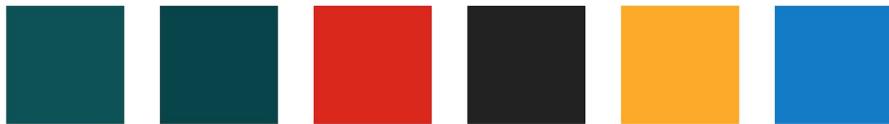


# What is a UI moodboard?

---

A collection of assets and patterns that eventually evolves into a style guide. Created to help viewers understand what the product will look and feel like.

# Bunnings style guide



Warehouse prices on our wide range

\$79.50



Add to Wish List

Add to Wish List

Chevron Button »



Hawthorn

Today 7am - 9pm



**BUNNINGS**  
warehouse

Search our widest range



## What's on: Hawthorn

SAT 11 AUG

SUN 12 AUG

SAT 18 AUG

SUN 19



Nature Workshop

10:30AM - 12:30AM

See more



How To Learning about Drills and Drill Bits

11:00AM - 12:30PM

## Corded Drill Driver

[View all 5](#)



Makita

570W Tek  
Screwdriver

\$39



DEWALT

550W 10mm  
Rotary Drill With Keyless  
Chuck

\$89



RYOBI

1200W Corded  
Impact Drill

\$159

40

39

38

37

36

4

5

6

7

8

11

## ★ Your Saved Advice

### Paint



Paint preparation  
[How to sand walls](#)

Paint  
[How to choose the right colours for your home](#)

Splashbacks  
[How to paint a tiled splashback](#)



Ryobi 1200W Corded Impact Drill

\$159

[Get directions](#)





\$139.00

## Makita LXT 18V Brushless Cordless Hammer Drill

Learn how to use your drill



» Helpfull



# Hello, Samantha.

How can we help you today?

I'm looking for a Makita drill.



Should it be cordless?

Yes



No



# BUNNINGS warehouse



Let us help you get there



## Samantha Sample

Hawthorn 7am - 9pm

Wishlist

In-store Classes

Settings





## Makita 570W Tek Screwdriver

\$249



### DESCRIPTION

FS2500 has the best possible body for screwdriving ergonomically designed to

Hawthorn  
7am-9pm



## Q What are you after?

[Our Range](#)

[D.I.Y Advice](#)

[Service](#)

### BUILDING & HARDWARE

[Building & Construction »](#)

[Decking »](#)

[Landscape »](#)



WHAT'S ON AT YOUR LOCAL



10-11AM

Nature Workshops

[Join us »](#)



# Our Backyard Patio measurements



Our paints choices!



3m

6.50m



Measuring tape

Spirit Level

**BUNNINGS**  
warehouse



19° Saturday  
Clears sky all day



16° Sunday  
75% chance of rain

# Our Backyard

ALL

NOTES

PHOTOS

LINKS

RECIPTS

Wife's ideas



Suggested Advice



How

How to prepare walls for painting



How

To Buy List



Matador 6 Burner  
Hooded Artiste BBQ  
with Side Burner

\$899

To Do List



Measure patio dimensions



Choose patio tiles



Ask about paint



Buy BBQ



---

# App prototype



# What is a prototype?

---

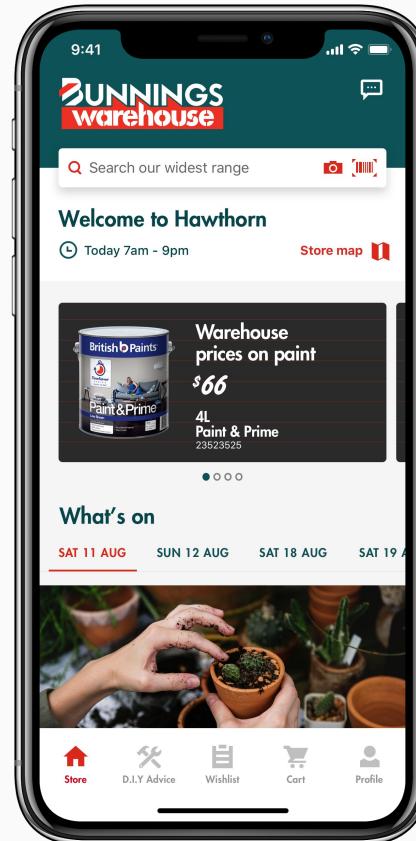
A prototype make ideas tangible, allowing us to gain feedback from customers, learn and adapt.

# Why do we prototype?

---

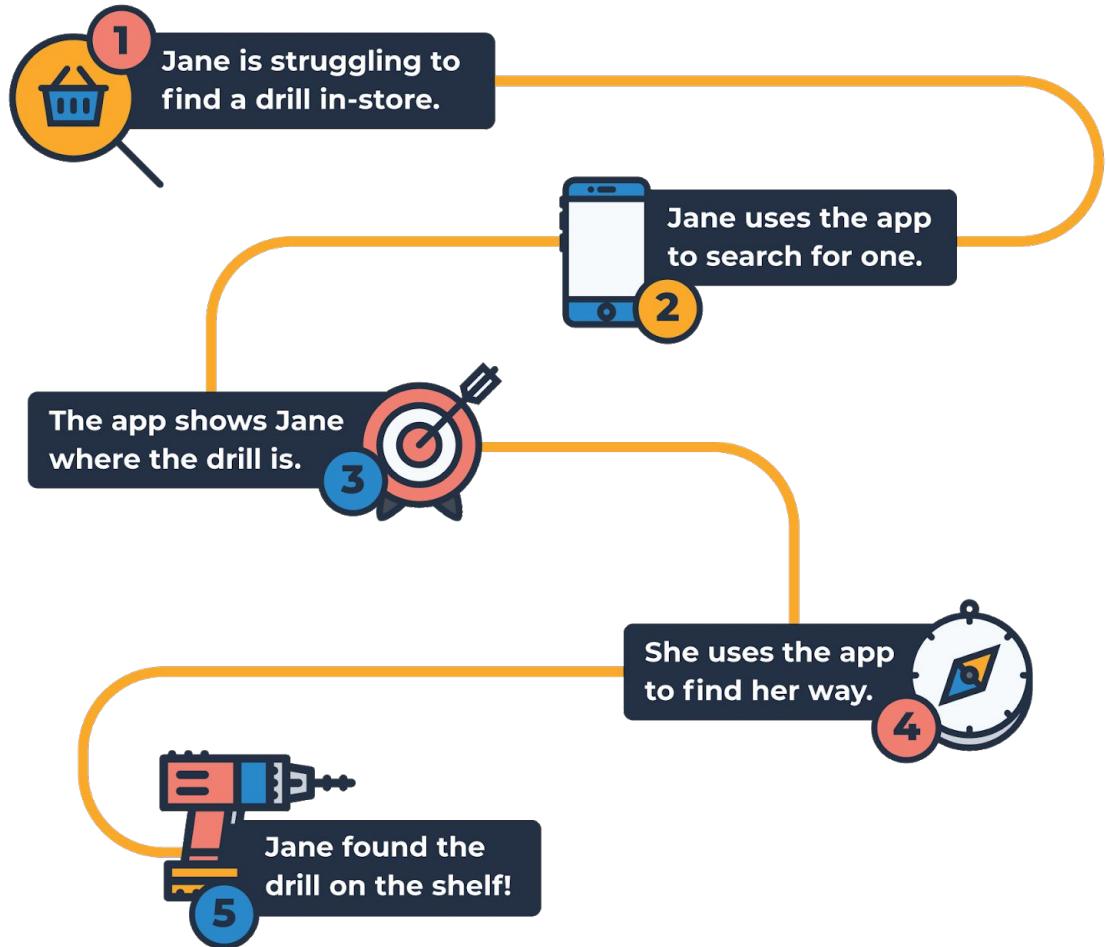
Problems are far cheaper and easier to solve when they are design mockups rather than lines of code.

# Reinforcing D.I.Y. is fun and inspiring customers through a handy digital ecosystem to complete small jobs and projects.



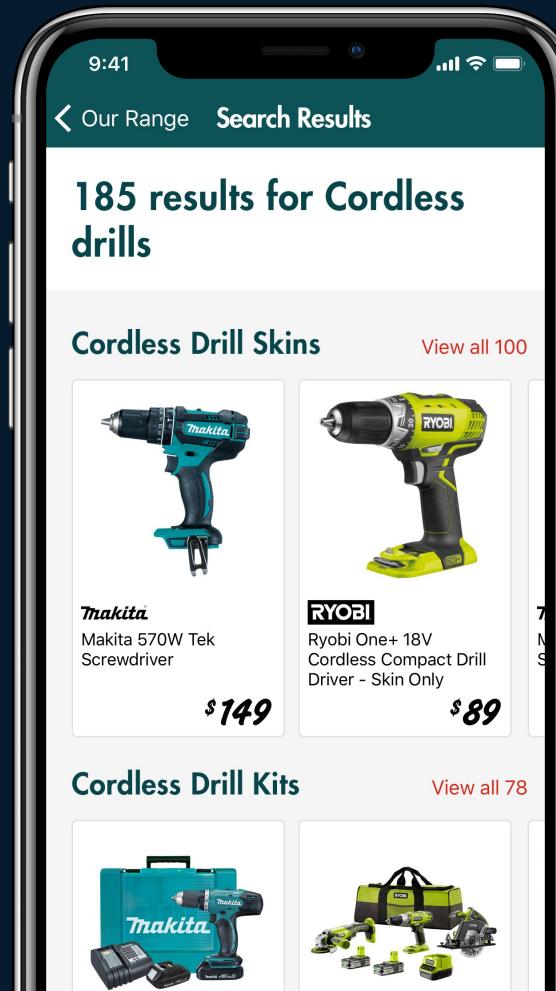
# Finding a product in store

---



# Browsing for a product Product catalogue

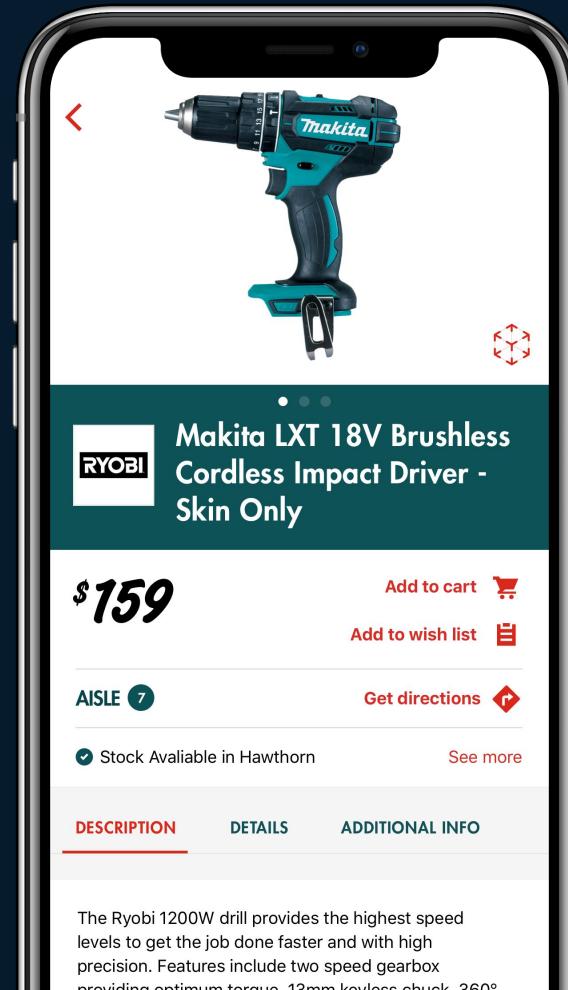
Enhanced shopping from your mobile device. Search, browse the wide range of trusted brands at warehouse prices.



## More information Product detail

### Product discoverability

Source the location of any given product, allowing for a more enhanced shopping experience.

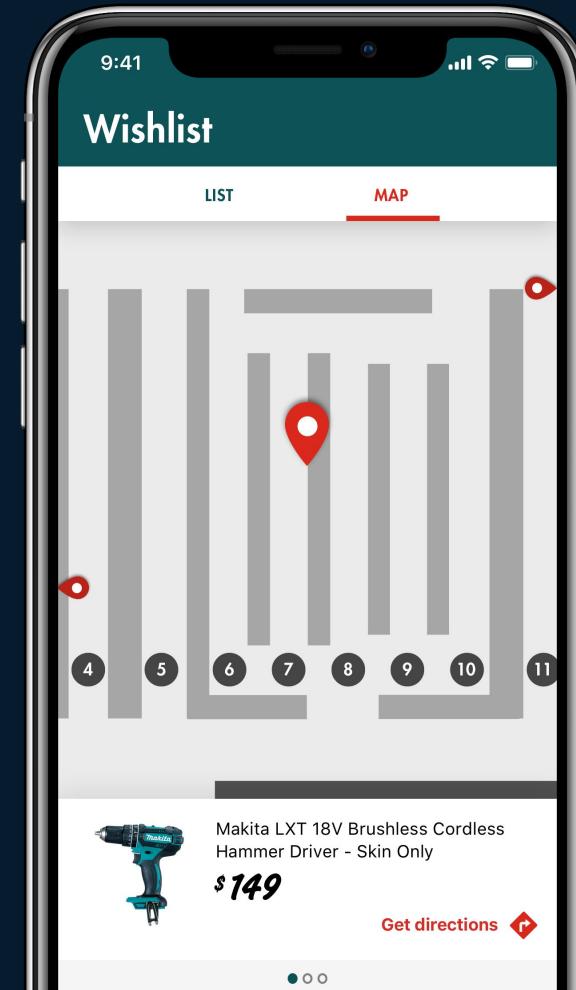


## Locating a product Interactive store map

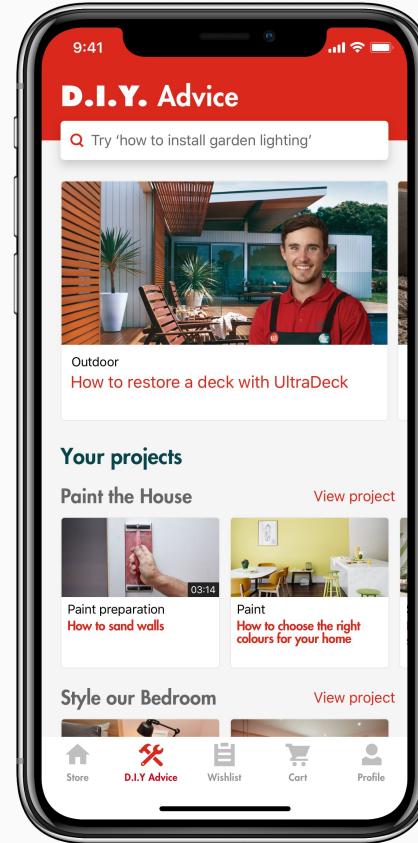
Source the location of any given product, allowing for a more enhanced shopping experience.

Friction is removed from the current in store experience.

Employees can focus on sharing expertise rather than guiding customers around the store.

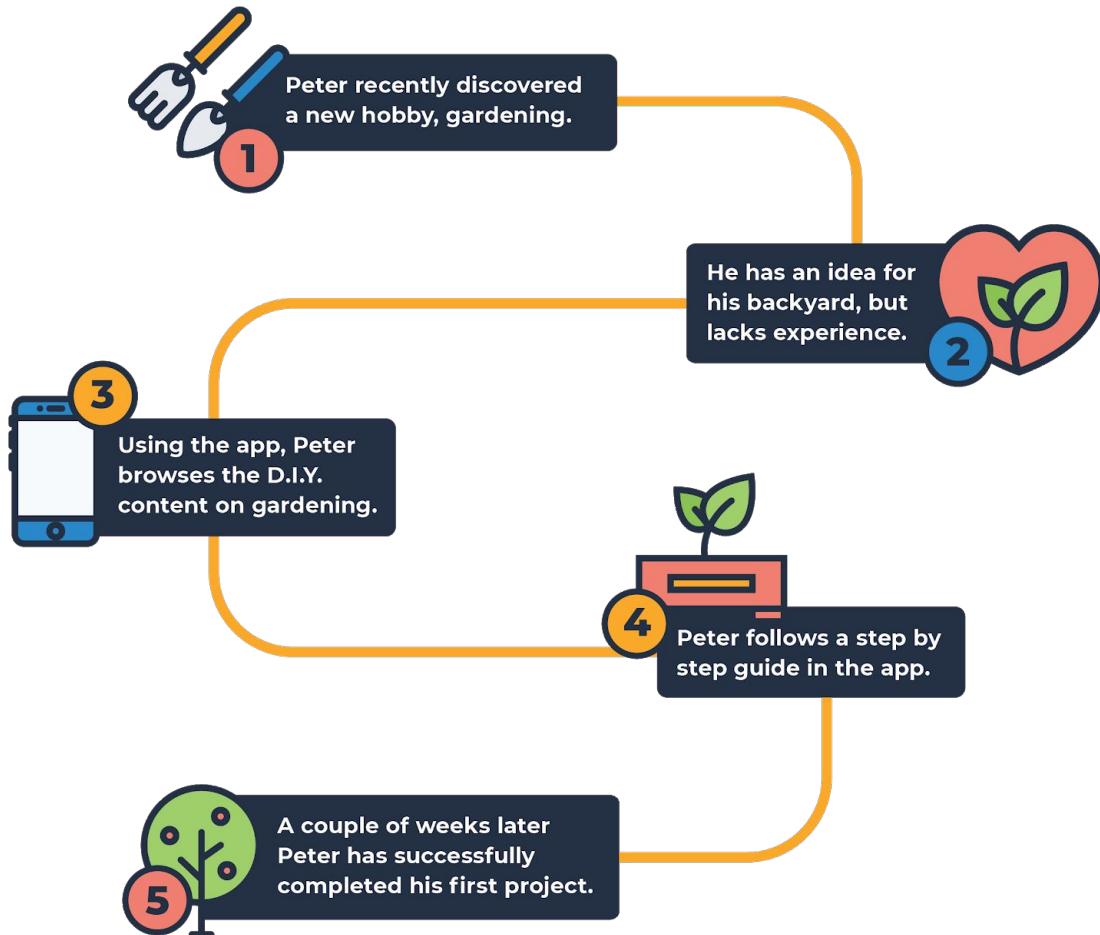


**Making the home improvement journey seamless and enjoyable, by supporting customers in getting their big plans done.**



# Learning a new D.I.Y. skill

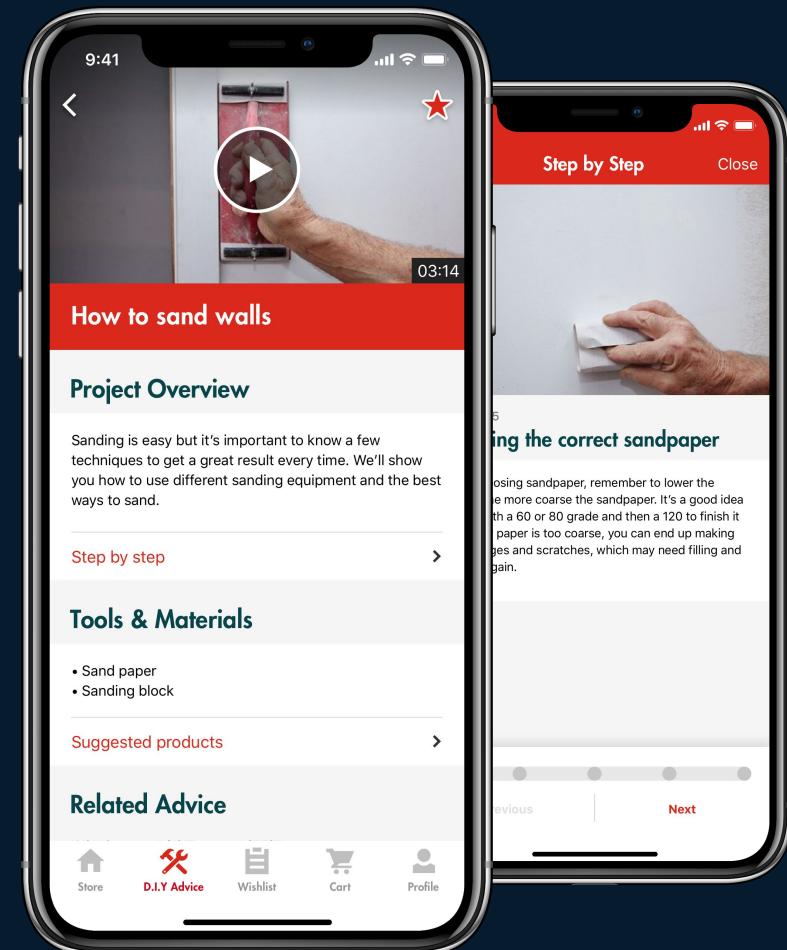
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## Learning new skills D.I.Y. advice

This hub serves as the main attraction for the identified **Project manager** persona. It helps them to conveniently achieve the following:

- Learn a range of D.I.Y. skills
- Find inspiration for upcoming projects
- Save their favourite D.I.Y. projects
- Source and purchase required tools and materials to complete their D.I.Y. project



The Planner

## 2. PROBLEMS / PAINS

Which problems do you solve for your customer?

There could be more than one, explore different ones.

e.g. existing solar solutions for private houses are not cost effective  
a good investment (1).

# User research

TOO MANY POINTS FOR COMPARISON  
(FIND IT HARD TO COORDINATE BOOKING FOR  
ONE PERSON)

TOO MANY TABS

TOO MUCH INFORMATION ON THE WEBSITE  
NOT ENOUGH INFORMATION

# Why we tested

---

To understand customers needs and **identify features** that would **trigger user engagement** with the app.

Validate a potential solutions for **product discoverability** and **learning new D.I.Y. skills**.

# Who we spoke to

---

## Participant breakdown

- 3 Female, 2 Male
- 18 – 55
- Bunnings customers
- Currently engaged with a home project
- Use their smartphone to shop

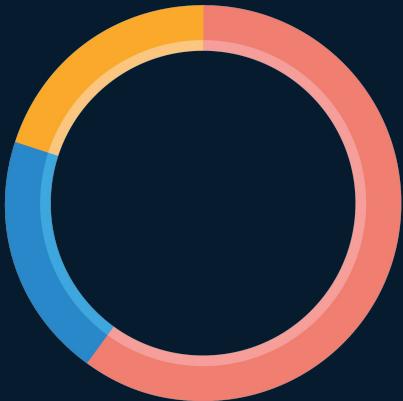


# We questioned customers about:

---

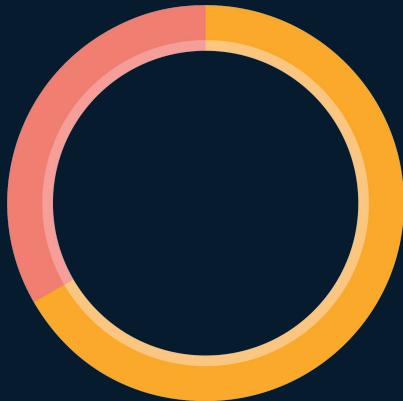
- 1. Learning about their problems and opportunities**
- 2. Gather their feedback per-screen**
- 3. Overall reaction to the product**

**How would you describe your  
D.I.Y. experience?**



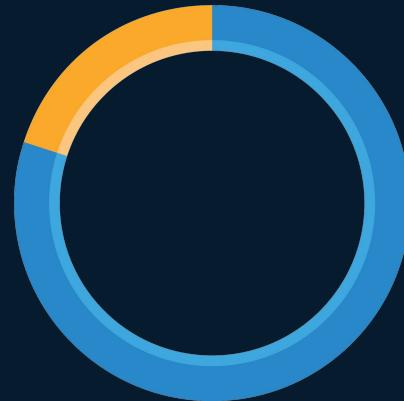
**60% /** I love doing small jobs and projects  
**20% /** I've got big plans, but I need help  
**20% /** I'll do it all myself

**Have you recently learnt  
any new D.I.Y skills?**



**66.7% /** No  
**33.3% /** Yes

**Did you know Bunnings have  
in-store classes?**

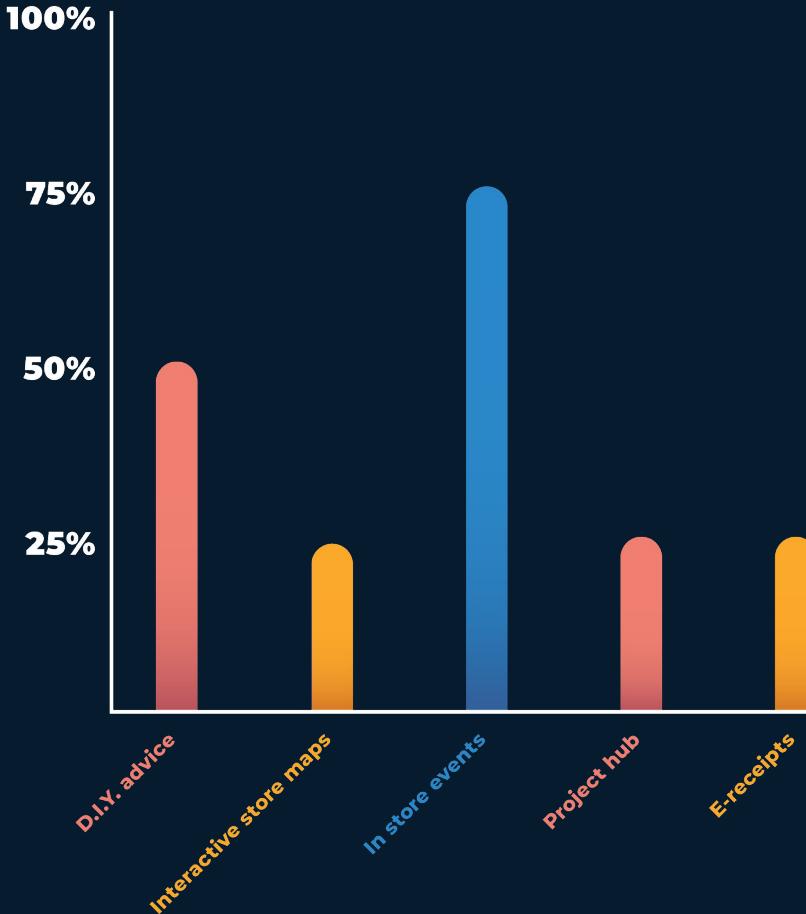


**80% /** No  
**20% /** Yes

# Engaging features

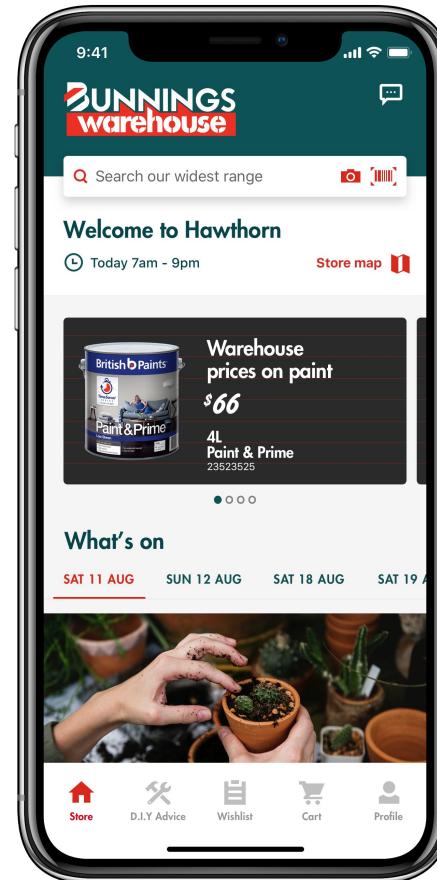
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**100% of respondents indicated that they would download the app.** The participants were asked to select the features they would like to see most.



# Landing screen

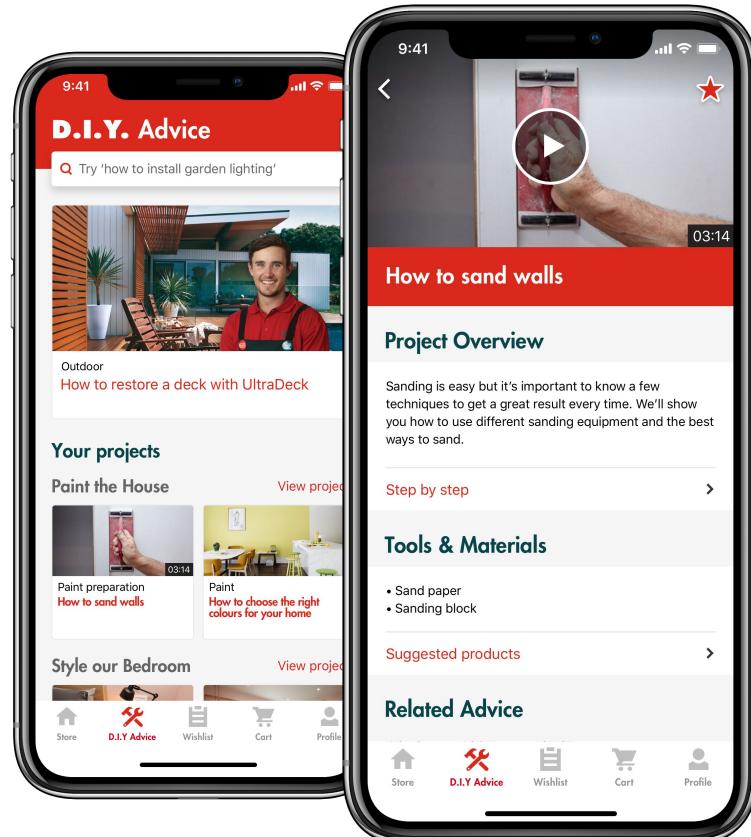
“ I like that its showing me the closest store and the opening hours - the workshops are really useful with showing the dates and the times.



# D.I.Y. advice

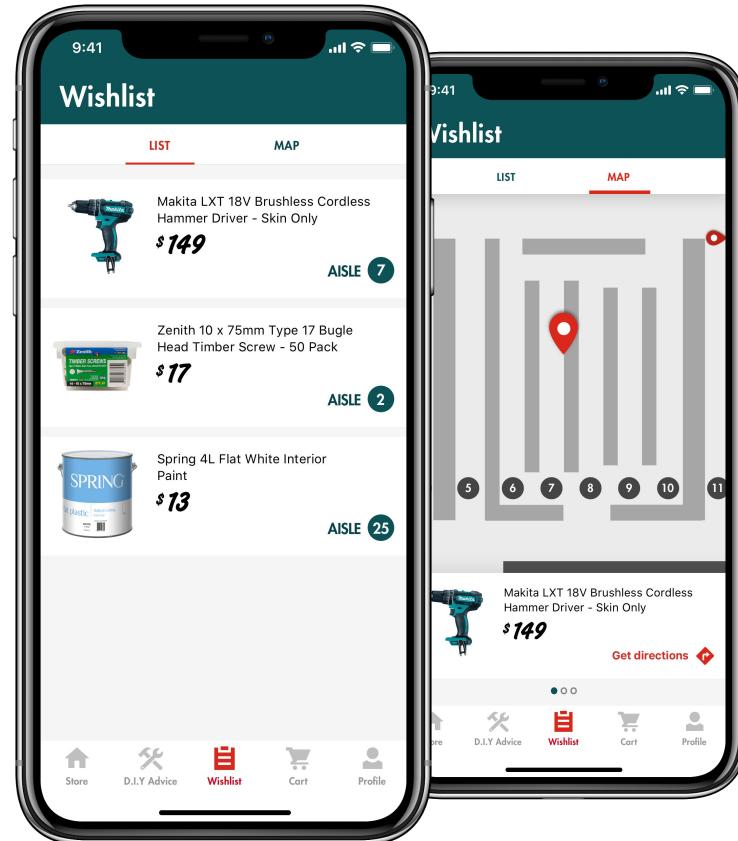
“ It would help with trying new things around the house. The kitchen is one thing we need help with. Would love it to serve as an inspiration through advice.

“ I know they have videos on the website so that would be good to have in the app - I recently watched some of them for fixing up a crack in the bathroom.



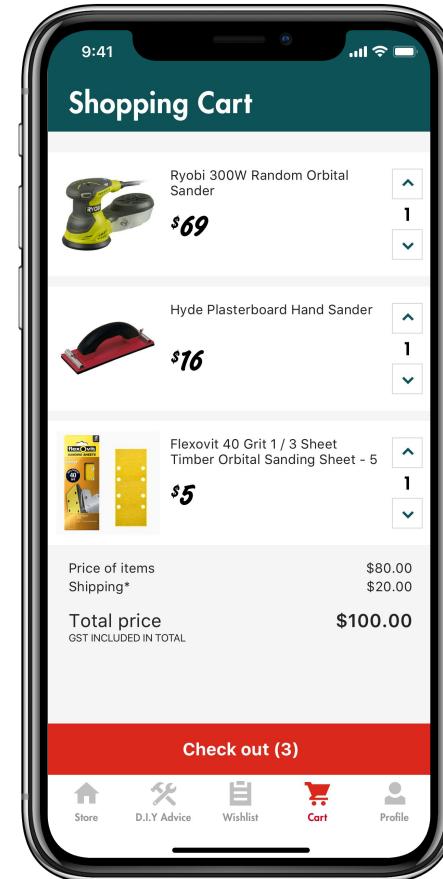
# Wishlist

“ I like the aisle location of the items, I've always find myself wandering around lost. It would also be good for their staff there too.



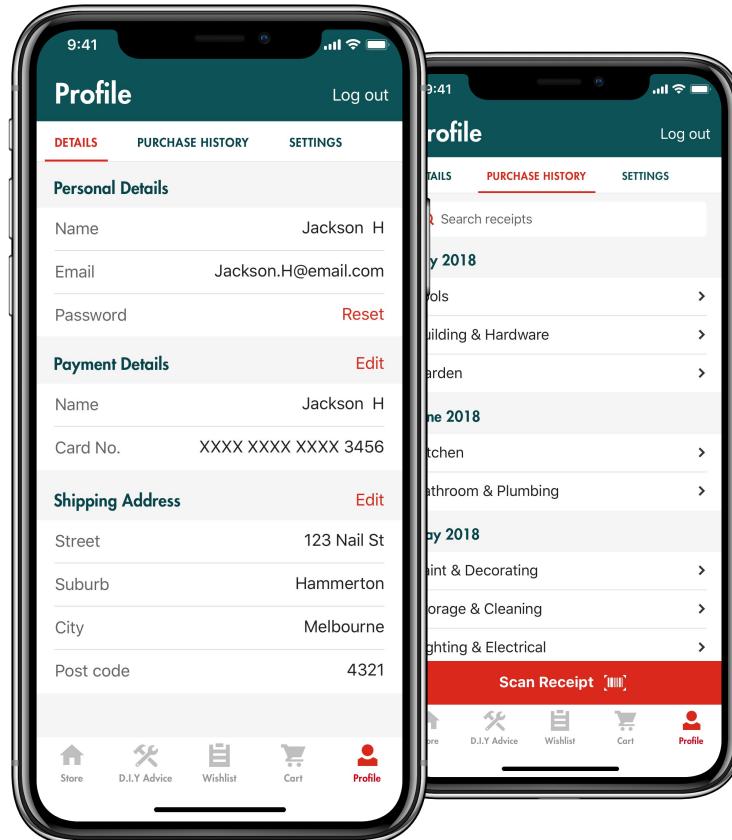
# Shopping cart

“ I would use Bunnings eCommerce for products where I'm not bothered about its look & feel.



# User profile

“ I find it useful (Purchase History - Receipts) as I can't keep track of any of my receipts.



# Summary

---

Users were introduced to the concept and we asked **“What’s your overall feedback to the app concept? Why?”**

“I think it’s useful, I would recommend it to my friends.

“I like the aisle location of the items, I’ve always find myself wandering around lost.

“It’s trying to do a lot. The videos are more of a desktop feature and on the small screen the shopping is much more fitting.

“I think it’s useful and its easier to use but it could be simpler.

“Simple and efficient.

---

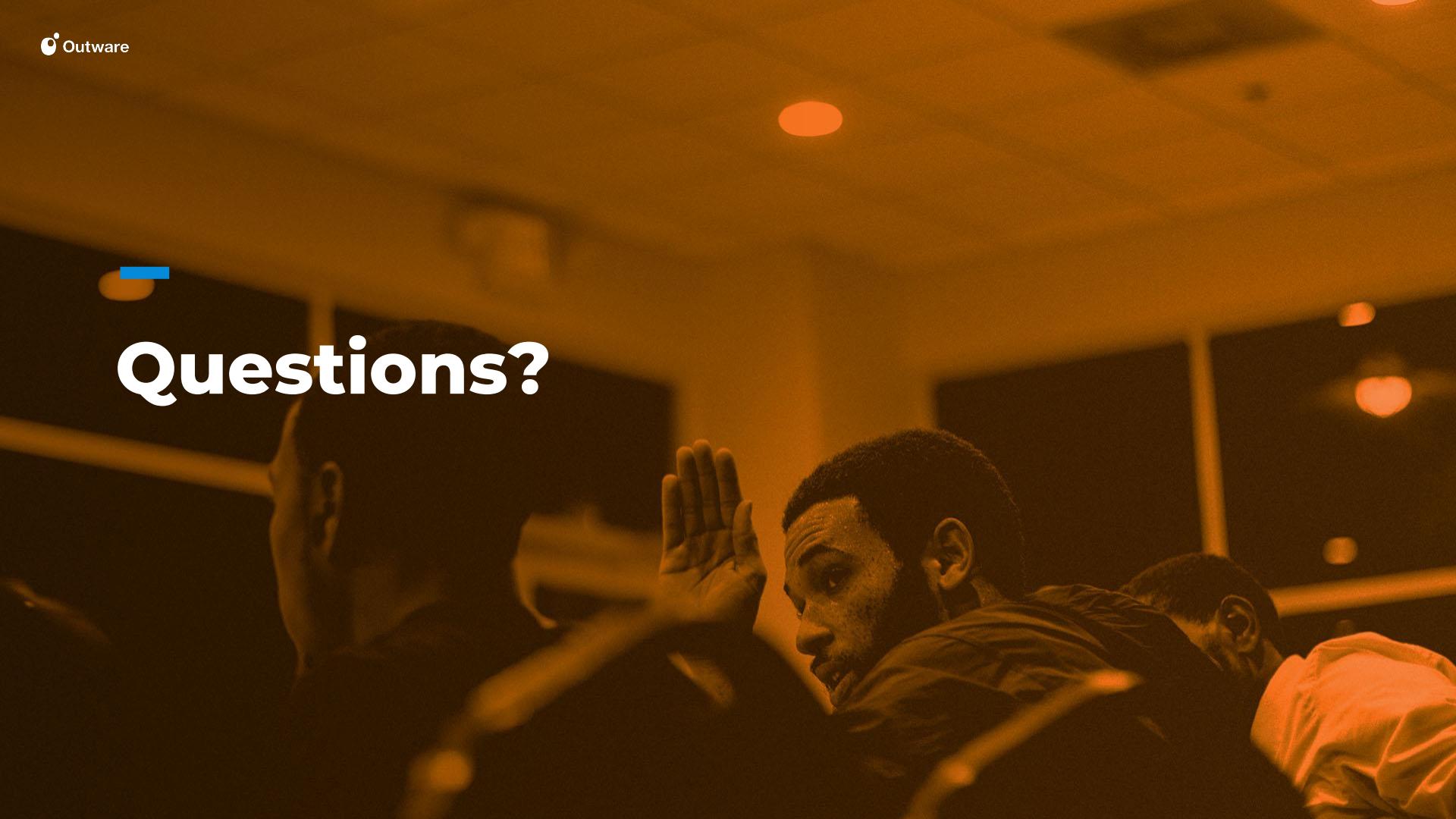
# What's next?

# Next steps

---

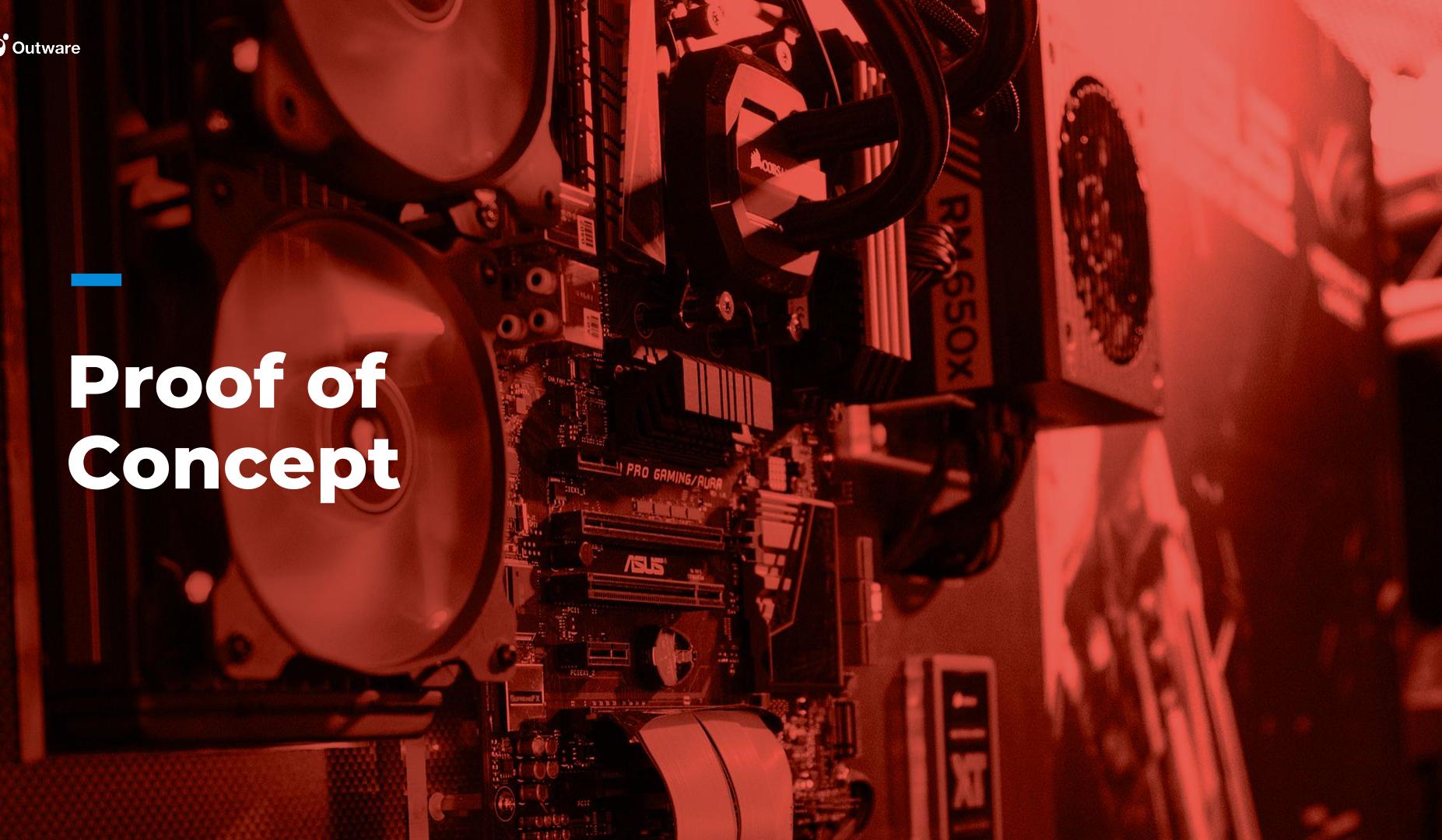
- 1.** Define product vision
- 2.** Define success metrics
- 3.** Validate value proposition with customers

# Questions?



---

# Proof of Concept



# What is a PoC?

---

- A “Proof of Concept”
- A quick, small-scale experiment
- Defines a problem, in the form of a hypothesis
- Designed to validate feasibility of a technical solution and/or use case
- A precursor to embarking on ‘proper’ development

# What **isn't** it?

---

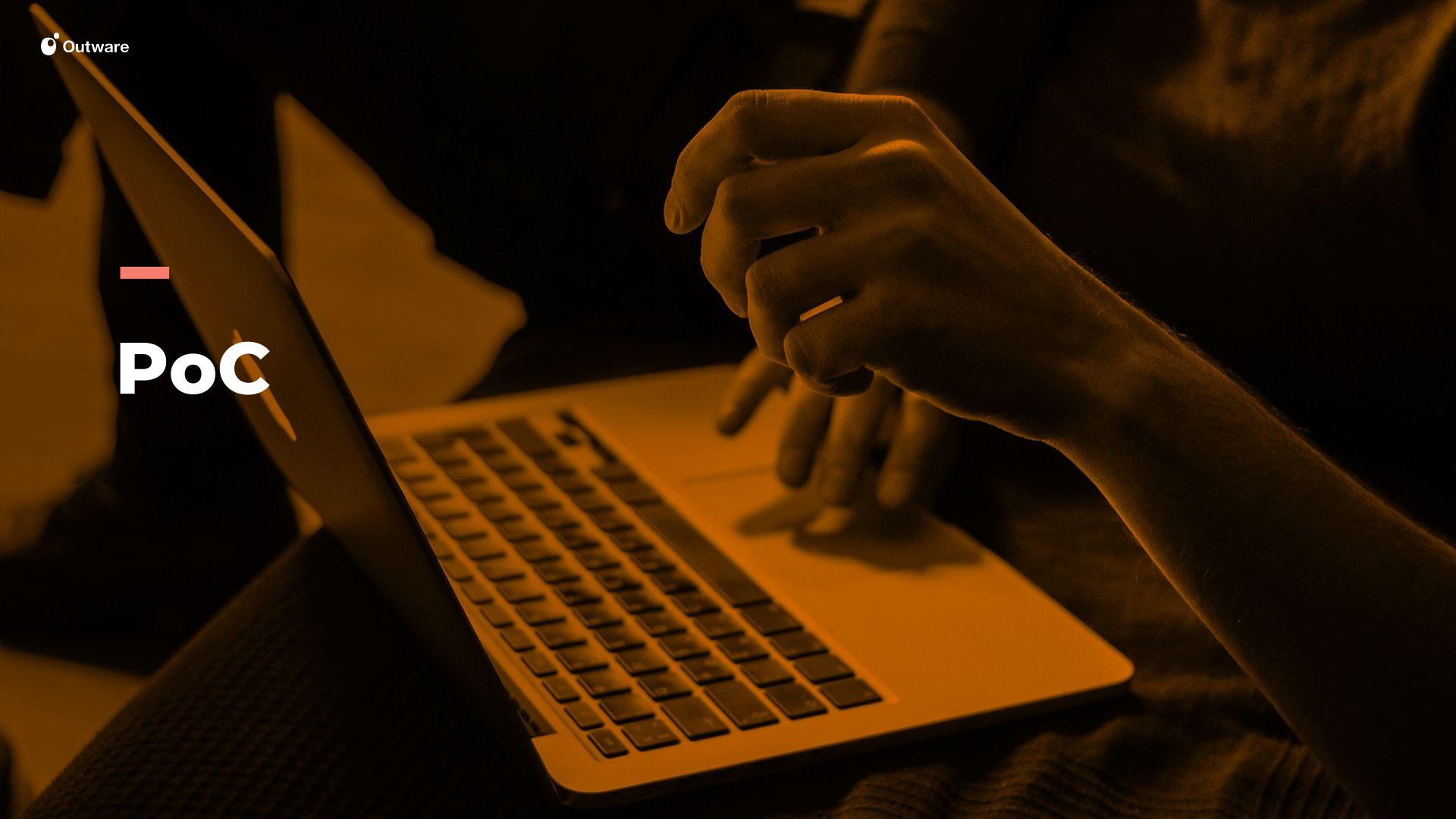
- Production quality code
- Fully tested
- Thoroughly fleshed out - Minimal UX, design, error handling, no edge cases

# Why do we PoC?

---

- Verifies that a concept/solution is technically feasible
- Verifies that a concept or solution has practical application
- Delivers answers to the above questions quickly and cheaply

—  
**PoC**



# PoC features

---

- 1. Voice & text chatbot**
- 2. AR Product view**
- 3. AR product wayfinding**
- 4. Interactive store map**
- 5. Product image search**
- 6. Barcode scanning**



# Voice & text chatbot

Added some simple conversations with a customer to Locate the Product (link to wayfinding) and Provide support in choosing a product (ie: cordless drills).

This was done using AWS Lex. (Choice was made before the limitation of non-AWS was presented to us.) Small dataset scraped from the website to avoid delays in integrating APIs. Simple search and filtering built from scratch.

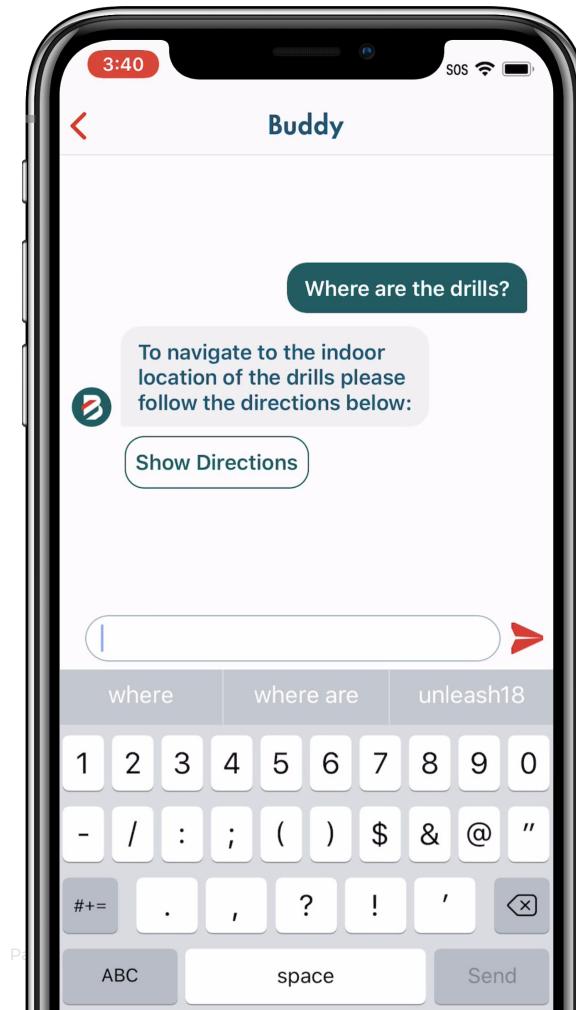
## Moving forwards:

Build Chatbot in Azure or GCP

Integration with existing APIs for product search and filtering would be required

Build out the existing APIs for mobile/chatbot consumption

Ensure that the filtering can be achieved properly on product details (very important for support in choosing product) - consistent data/options is imperative across products

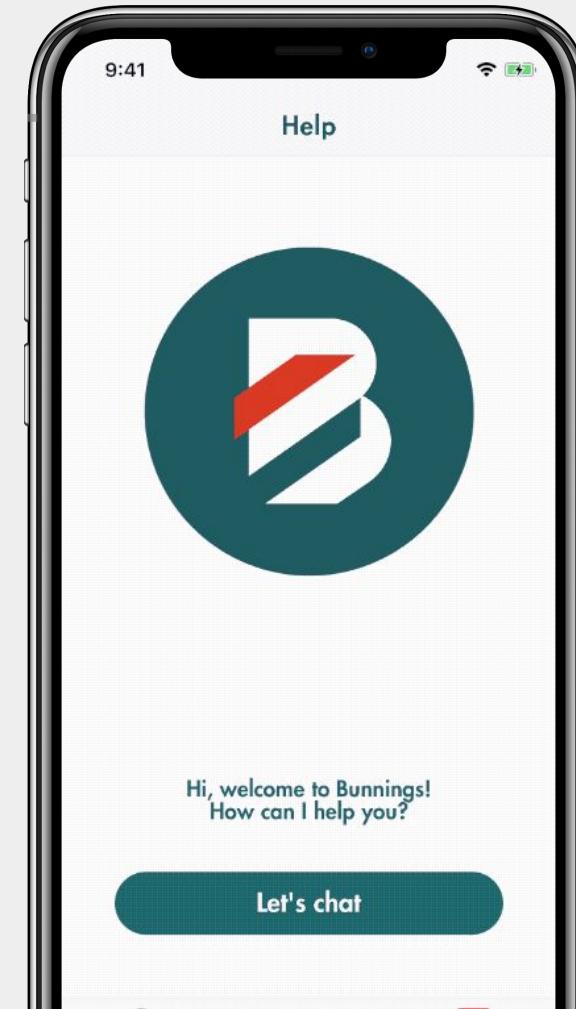


# Voice & text chatbot

---

If you need help to find a product,  
ask “Where are the drills?”

Or if you need help choosing a  
product, ask “Bosch drills”



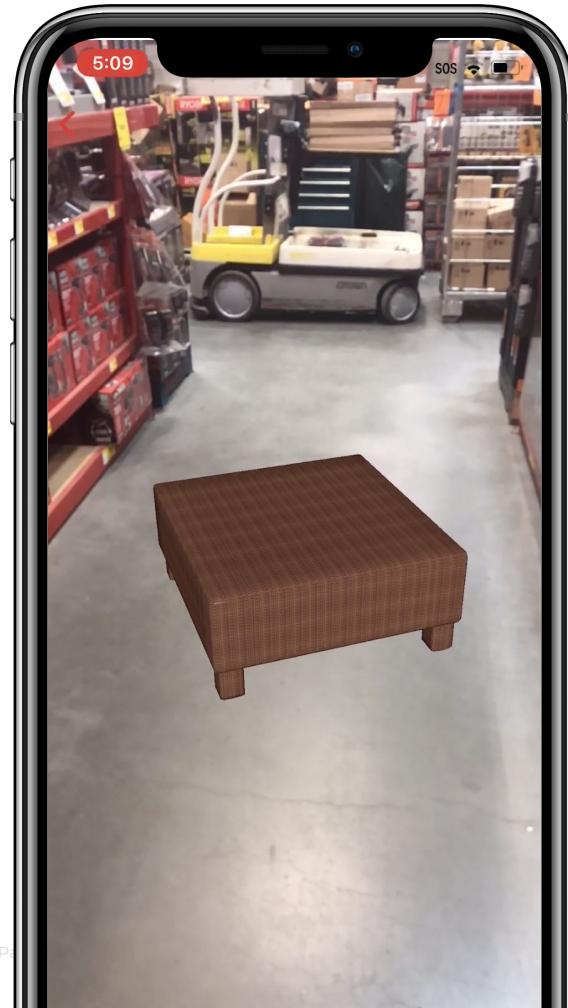
# AR product view

Display a 3D representation of a product that the user can then place on a surface e.g. floor, table and interact with.

When a model is found for a certain product -- based on ID -- the 3D visualisation feature is enabled and accessed from the product detail screen. With ARKit and SceneKit, the app tries to detect a plane to place the model onto. The product can then be moved and rotated.

## Moving forwards:

Source/create 3D models for suitable Bunnings products



# AR product view

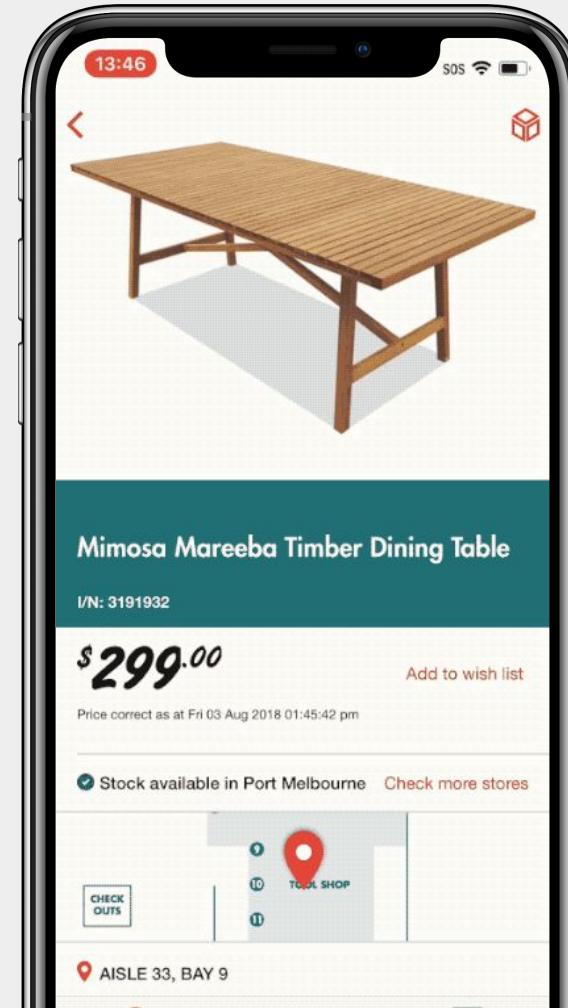
## See it before you buy it

AR product visualisation lets you imagine how products will look and feel. Before going to store.

Tap on



to see it



# AR product wayfinding

Product wayfinding allows customers to answer the common question of “where is this item?” themselves.

After searching and then viewing a products details, the customer is presented with a navigation view. Once customers scan an aisle sign to allow the app to orientate, a virtual path is laid out for them, guiding them to the exact in-store product location.

The solution makes use of Apple's iOS framework ARKit and Outware developed indoor navigation technology.

## Moving forwards:

Create detailed navigation paths for all stores

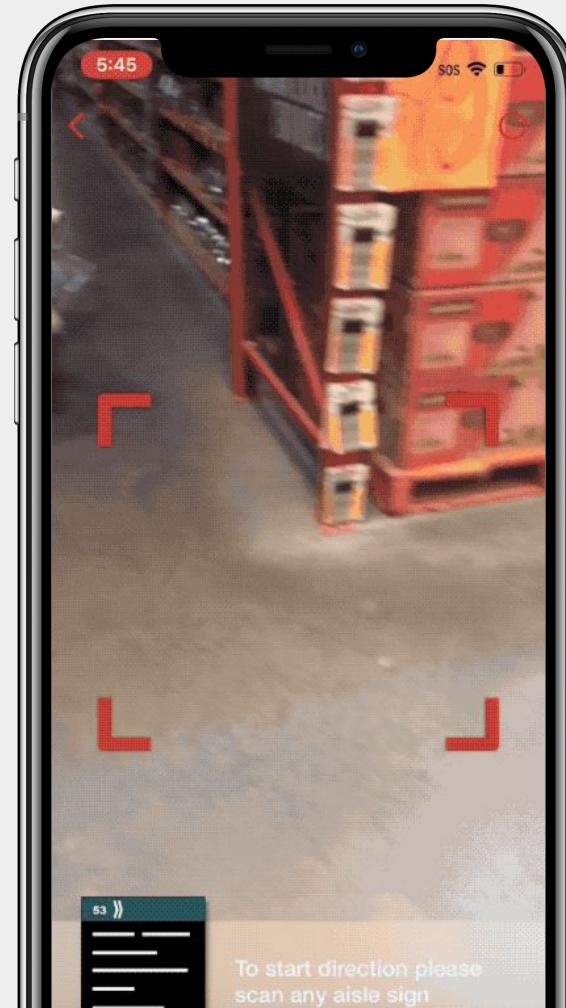
Distill data and provide a very consistent way of providing the location of all the products across all the stores, ensuring location data changes are real-time



# AR product wayfinding

---

1. Search for “drills”
2. Select the first result, “Mikita LXT 18V”
3. Tap on “Instore directions”
4. Scan aisle signs 1 to 3 nearest the store entrance, or aisle 5 nearest the centre aisle of the store
5. Navigate along the path
6. Follow the path to the tools section, aisle 7



# Interactive store map

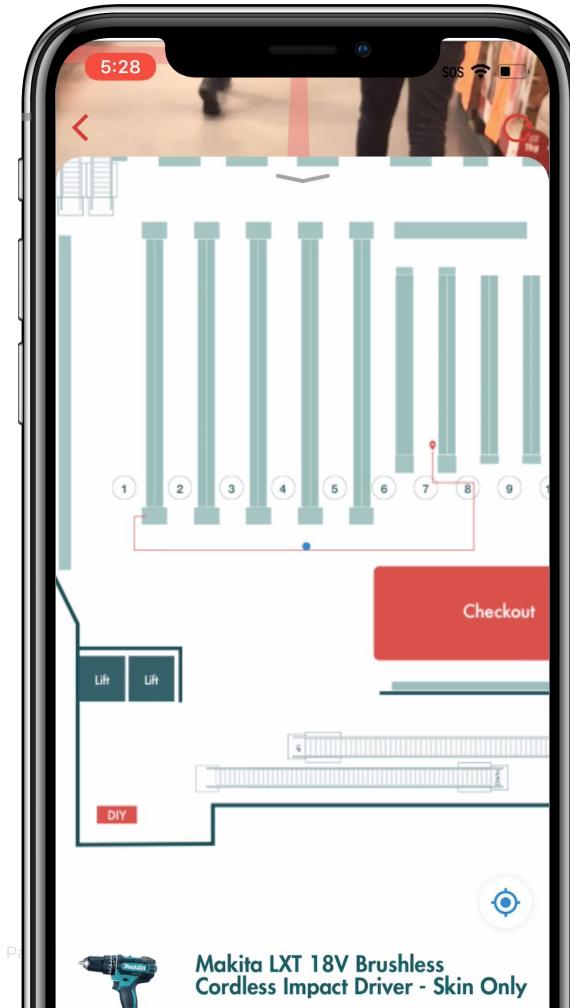
Working in tandem with AR Product Wayfinding, the interactive store map shows and tracks your current location, the path to the selected product and the destination. In addition to directions from A to BBQ, the interactive map allows customers to explore the store by panning and zooming in on areas of interest.

Again using Apple's iOS framework ARKit and Outware developed indoor navigation technology, the store map allows customers to see at little more than a glance where they are and how to get to the products they want.

## Moving forwards:

Create detailed maps (scaled PDF format) across all stores

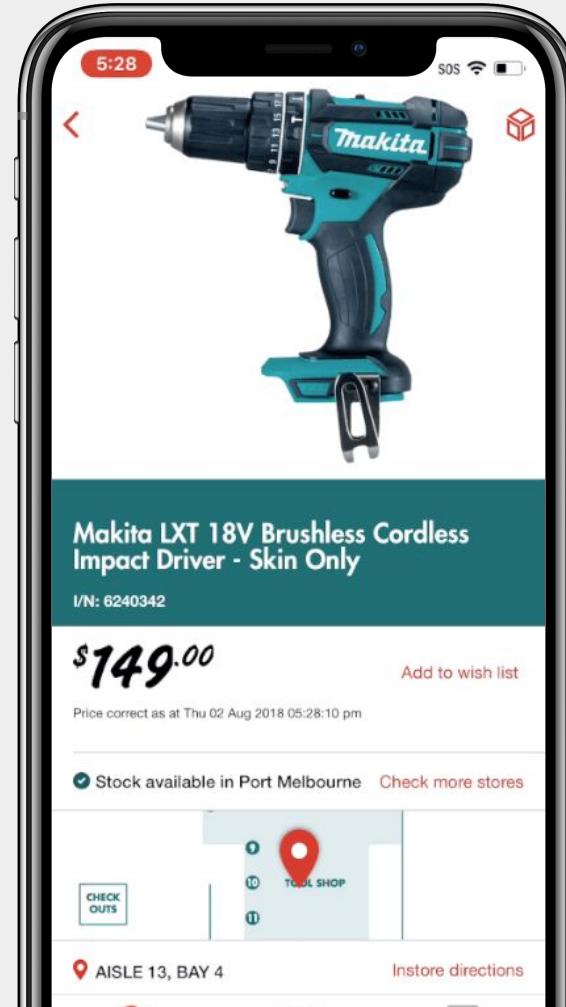
Distill data and provide a very consistent way of providing the location of all the products across all the stores, ensuring location data changes are real-time



Makita LXT 18V Brushless Cordless Impact Driver - Skin Only

# Interactive store map

1. From a product detail tap the Instore directions
2. Follow the steps for AR wayfinding, optionally substituting the “drills” search term for “Hammer” or “Trolley” and select the first item returned in the search results.



# Product image search

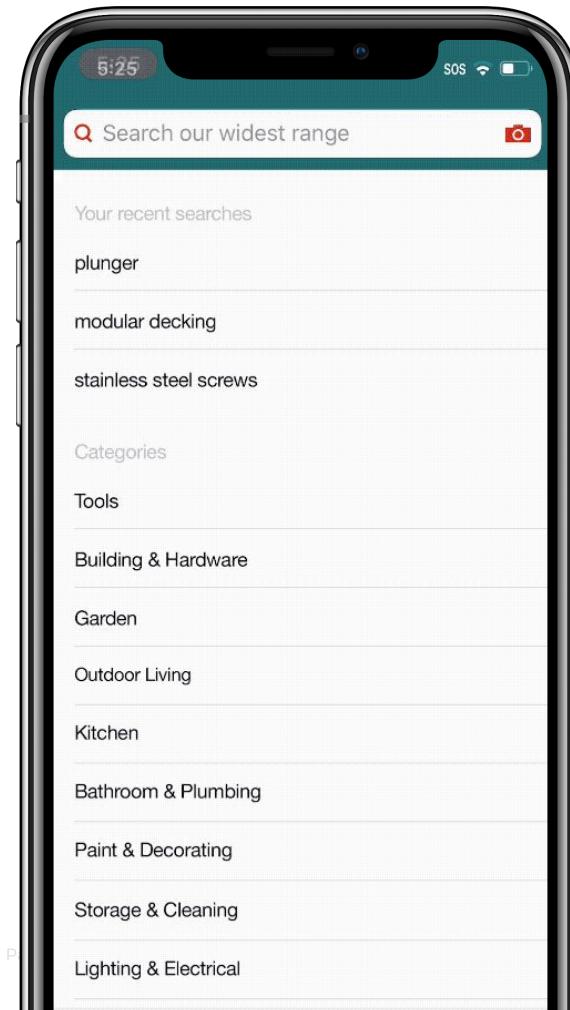
We collected image datasets for 14 classes of typical Bunnings products and trained an image classification model. We used the open source image-net database for computer vision research and used Apple's TuriCreate machine learning framework to train the model and Apple's native CoreML API to deploy the model locally in the app.

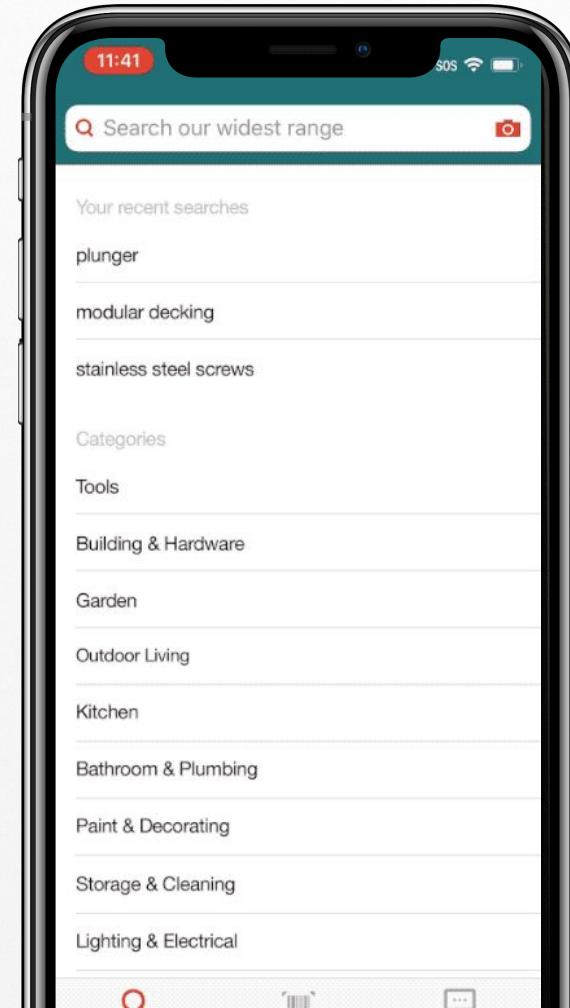
## Moving forwards:

Expand the image collection dataset with new product classes.

Introduce brand and text recognition to identify specific Bunnings products.

Begin using CoreML 2 on iOS 12 devices which performs significantly better and is significantly more lightweight.





# Barcode scanning

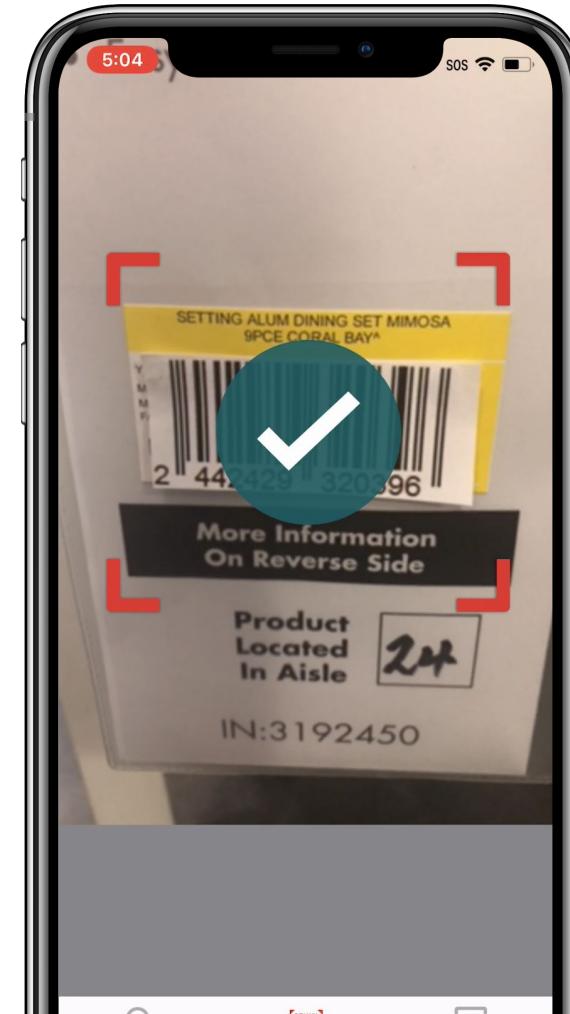
Generated some random valid EAN-13 barcodes and added to products in the sample data set.

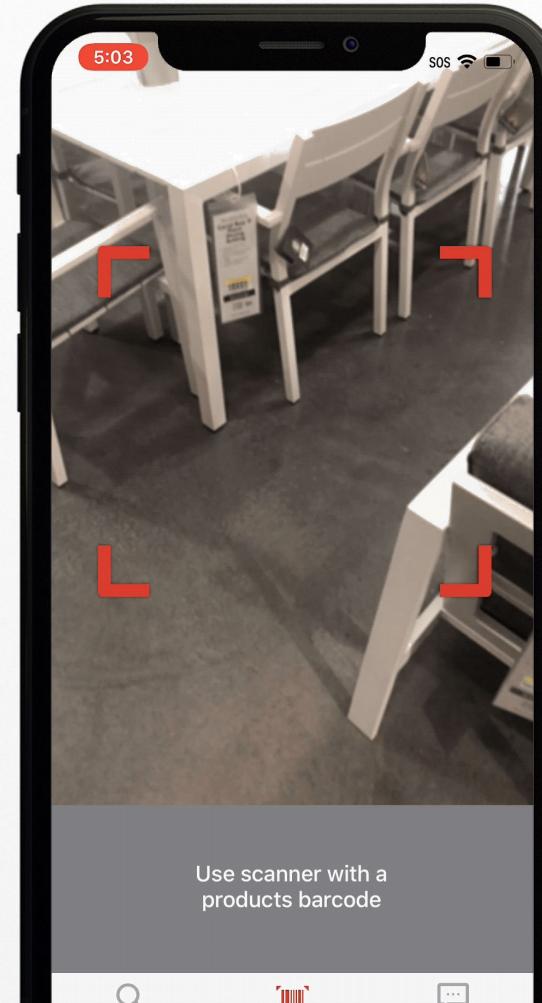
Incorporated a barcode scanning library in the mobile app, which can scan the barcodes and perform an API call (to the mock backend server) to retrieve the product details for this specific product.

## Moving forwards:

Integration with existing APIs for product search using barcodes would be required

Build out the existing APIs for mobile consumption





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# Thank you.