

Talk, Shop, Discover: **AI Voice Assistant** in Grocery Navigation

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- 05 Limitations & Next Steps



01. Project Overview

- 🛒 The Problem
- 🛒 The Goal
- 🛒 Behind-the-Scenes



Project Overview

THE PROBLEM (DESIGN PROMPT)

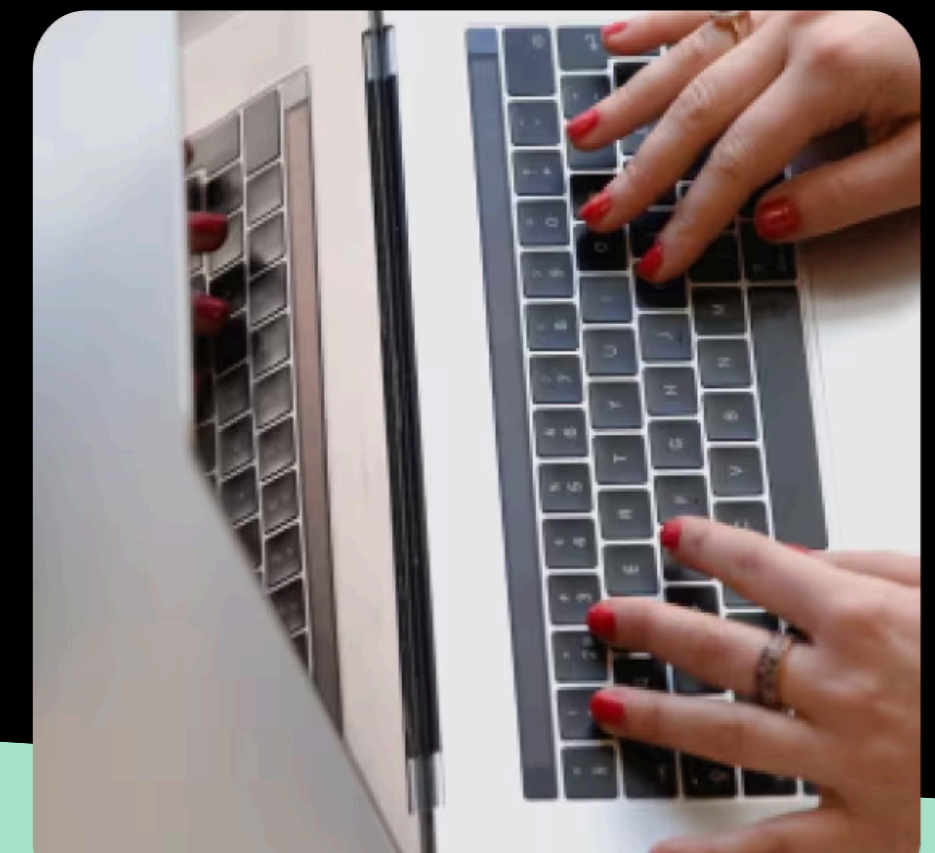
Loblaw shoppers with specific needs and preferences, such as easily identifying Canadian-made products or finding diabetes-friendly options, struggle with the overwhelming nature of the in-store environment, leading to a time-consuming and often frustrating search for relevant items. This necessitates a more intuitive and personalized wayfinding solution.

THE GOAL

Develop an AI-assisted wayfinding solution that helps shoppers navigate grocery stores seamlessly and discover products aligned with their needs.



How might Loblaw create a seamless and engaging wayfinding system that empowers customers to efficiently locate and discover products in-store that align with their personal preferences, such as Canadian-made goods or diabetes-friendly options?



Behind-the-Scenes

MEET THE TEAM



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PROJECT LINKS

Documentation: tinyurl.com/lola-pitch | tinyurl.com/lola-research
Prototypes: tinyurl.com/lola-drafts | tinyurl.com/lola-prototypes

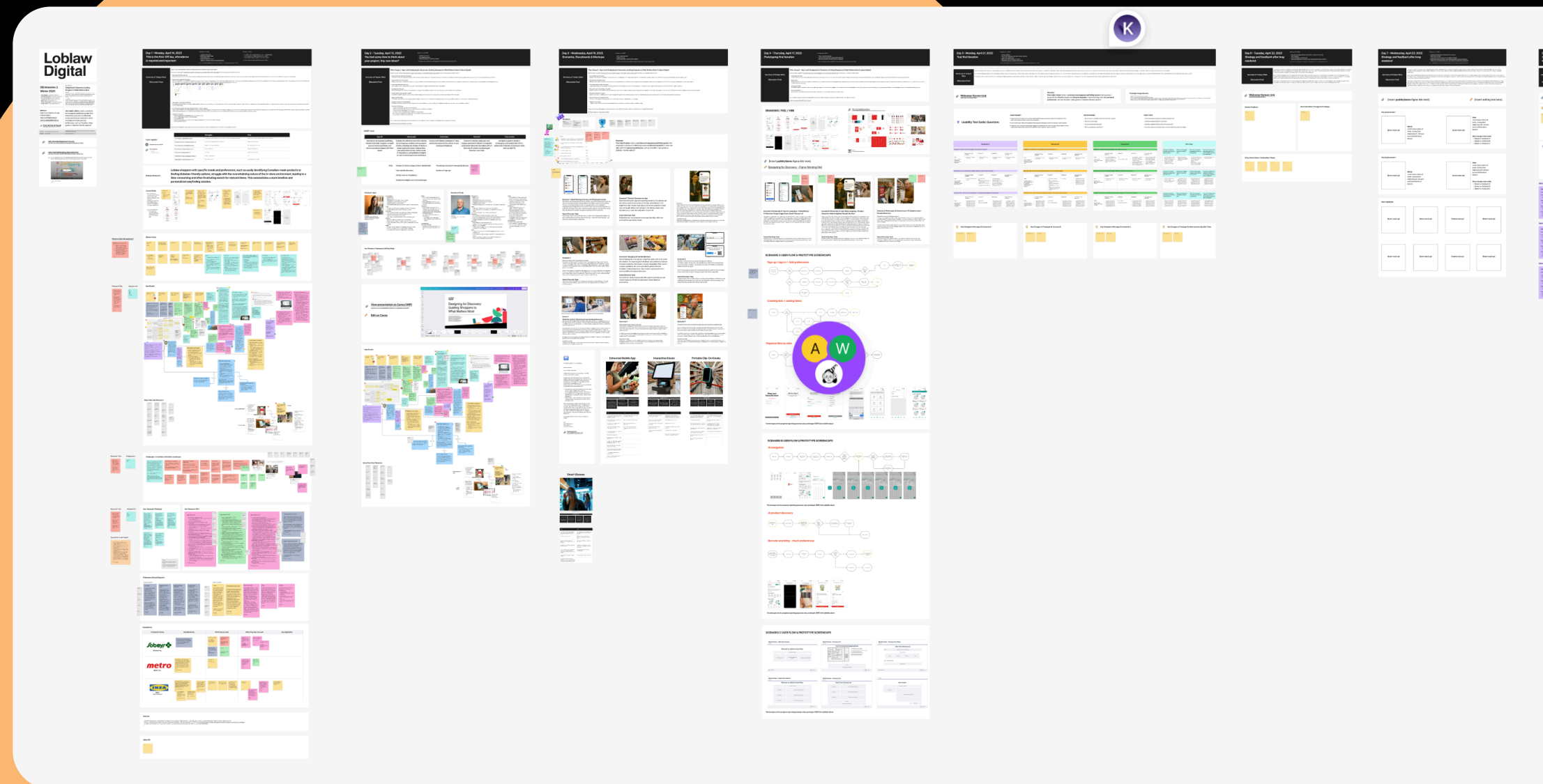
PROJECT DURATION

10 business days



02. Our Process & Decision

- 🛒 Research
- 🛒 Personas & Painpoints
- 🛒 Product Decision



Research Summary

MARKET RESEARCH SUMMARY

- **Methods:** App audits, mentor insights, innovation scans, industry analysis
- **Key Finding:** Evolving loyalty ecosystems
- **Notable Innovations:** Amazon Dash Carts, Aisle Magic, ALDIgo checkout-free stores



USER RESEARCH SUMMARY

- **Methods:** Desktop research, in-person interviews (Loblaw Staff: Loblaws, Real Canadian Superstore & Shoppers Drug Mart)
- **Initial Assumptions:** In-store shopping = user preference
- **Key Insights:** Difficulty locating items, limited staff availability, frequent product relocations



Grocery apps still lack real-time aisle-level navigation.



Most way-finding solutions in the market have high implementation and maintenance costs.



Failures in connectivity, app syncing, or inventory updates can disrupt the entire experience.



Users mainly discover new products due to out-of-stock items.



Even employees struggle to track inventory.



Shoppers frequently leave without items when they can't find them or access help.



Personas Summary

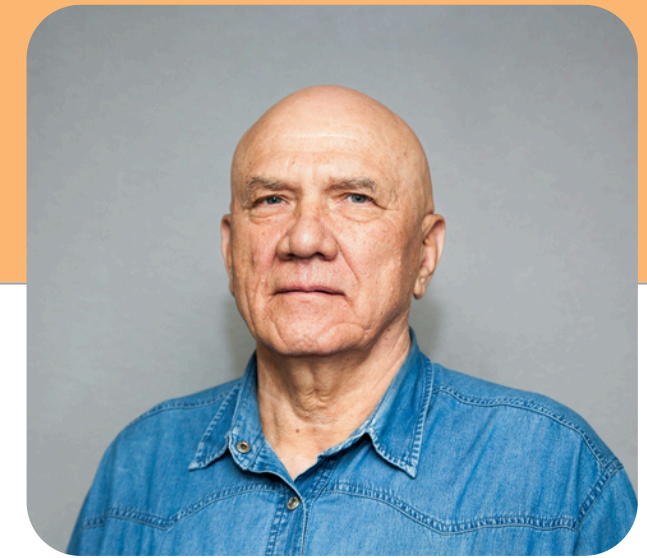
Personas guided our design, highlighting the need for intuitive in-store navigation that saves time for all shoppers, regardless of their tech-savviness or loyalty status.

SARA



- **Tech-savvy** Senior Project Manager
- Time-constrained and efficiency-focused
- **Needs:**
 - In-store navigation integrated with shopping list
 - Quick ingredient location in large stores
- **Pain Points:**
 - Frustrated by time wasted searching for items

FRANK



- Retired teacher, **limited tech confidence**
- Easily overwhelmed by store layout
- **Needs:**
 - Simple, intuitive navigation tool
 - Easy identification of Canadian-made products
- **Pain points:**
 - Relies on others for help finding important items

Pain Points & What It Tells Us



DISCONNECTED SHOPPING JOURNEY

Shoppers may plan with apps or lists beforehand, but once in-store, that **planning isn't supported or synced**.



In-store tools don't carry over the digital planning, leaving shoppers to start from scratch.



ONE-SIZE-FITS-ALL EXPERIENCE

In-store navigation and signage don't adapt to individual preferences, making shopping **feel impersonal and inefficient**.



Shoppers expect personalized experiences.



HIDDEN OR HARD-TO-FIND PRODUCTS

Shoppers with specific needs often **struggle to locate** relevant products in-store, leading to wasted time and unmet shopping goals.



Overwhelming inventory and poor organization make it hard to find what matters.



LIMITED IN-STORE NAVIGATION

The lack of clear and personalized navigation in-store causes shoppers to **waste time** and **struggle** to find what they need.



Shoppers need intuitive, real-time guidance that adapts to their in-store location and intent.



PHYSICAL BARRIERS TO SHOPPING

Physical load, such as shopping with kids or carrying multiple items, can make phone interaction inconvenient.



Shoppers need hands-free, accessible tools that work in real-world conditions.

Overview of Other Ideas

We generated a wide range of solutions that could potentially address the user challenges found. Here are some examples from our **Idea Bucket**:

SMART GLASSES

AI voice-assisted glasses that guide you through the store and display product info / recommendations as you shop.

SMART BADGE OR WRISTBAND

An AI wearable that guides your shopping trip with aisle alerts and product info.

SMART CARTS

Smart carts that track your shopping list and guide you through the store with real-time item suggestions and directions.

CART CLIP ON

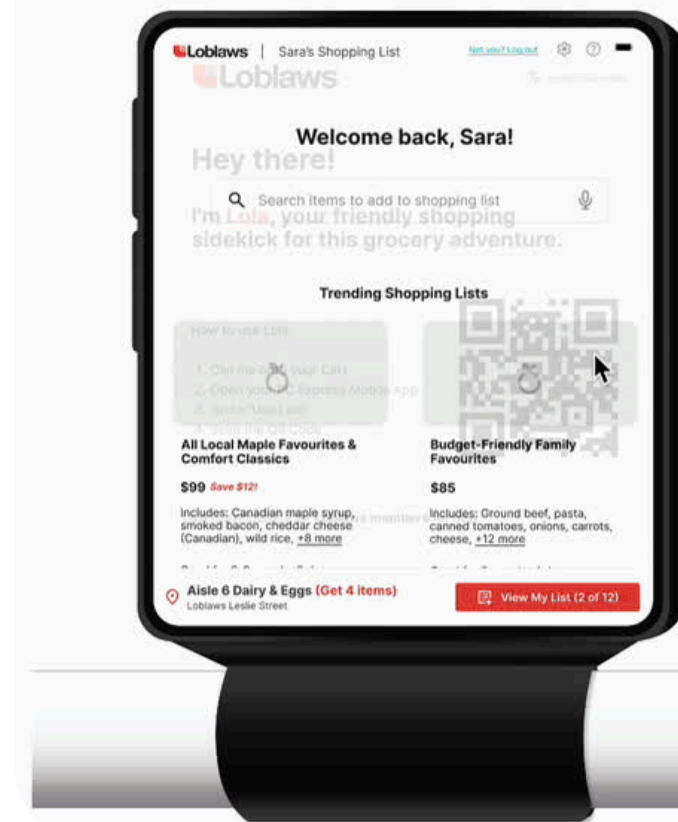
A cart clip-on that alerts you of needed items by aisle to save time shopping.

AR WAYFINDER

An AR wayfinding feature that overlays directions on phone screens to guide users through stores like a real-life game.

ROBOT HELPER

A robot helper that acts as a mobile kiosk, guiding you to items and offering directions as you shop.



Loblaw
Digital



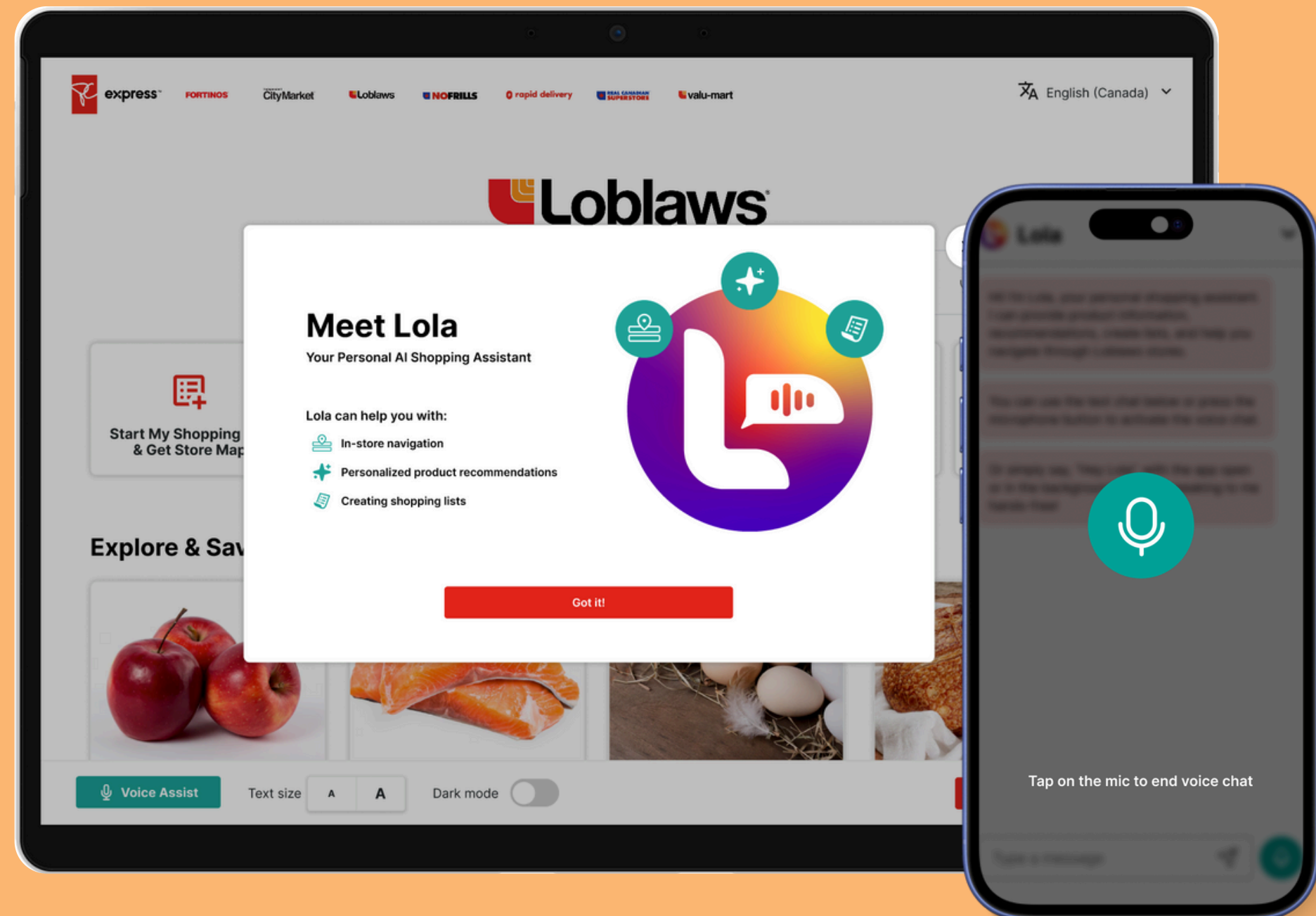
→ Comes with interactive mid-fi prototype!



Our Product Decision

Evolving Toward a Scalable AI Shopping Companion, *Lola*

- **Our Direction:** AI voice-assistant, '*Lola*', available via mobile app + in-store kiosk
- **Leverages familiar tech**—no need for new hardware invention, everyone has phones
- **Offers a hands-free, personal shopping companion**
 - Guides users
 - Suggests products
 - Encourages discovery
- **Mobile app** aligns with user behavior (planning/shopping on phones)
- **In-store kiosk** ensures accessibility for all shoppers
- **Built on an omnichannel foundation**—seamless experience across devices



Solving Key Pain Points with Lola



DISCONNECTED SHOPPING JOURNEY

In-store tools don't carry over the digital planning, leaving shoppers to start from scratch.



AI leverages pre-trip planning by **mapping grocery lists to aisles and guiding users in-store**, while suggesting missing or complementary items along the way.



ONE-SIZE-FITS-ALL EXPERIENCE

Shoppers expect personalized experiences.



AI delivers **a personalized shopping experience** through voice-based guidance tailored to individual preferences like diet, brand, or budget.



HIDDEN OR HARD-TO-FIND PRODUCTS

Overwhelming inventory and poor organization make it hard to find what matters.



AI sorts your list by store layout to **save time**, while offering real-time suggestions like product pairings and new discoveries.



LIMITED IN-STORE NAVIGATION

Shoppers need intuitive, real-time guidance that adapts to their in-store location and intent.



AI **maps grocery lists** by aisle and offers friendly, voice-guided support, like a personal shopping assistant in your ear.



PHYSICAL BARRIERS TO SHOPPING

Shoppers need hands-free, accessible tools that work in real-world conditions.

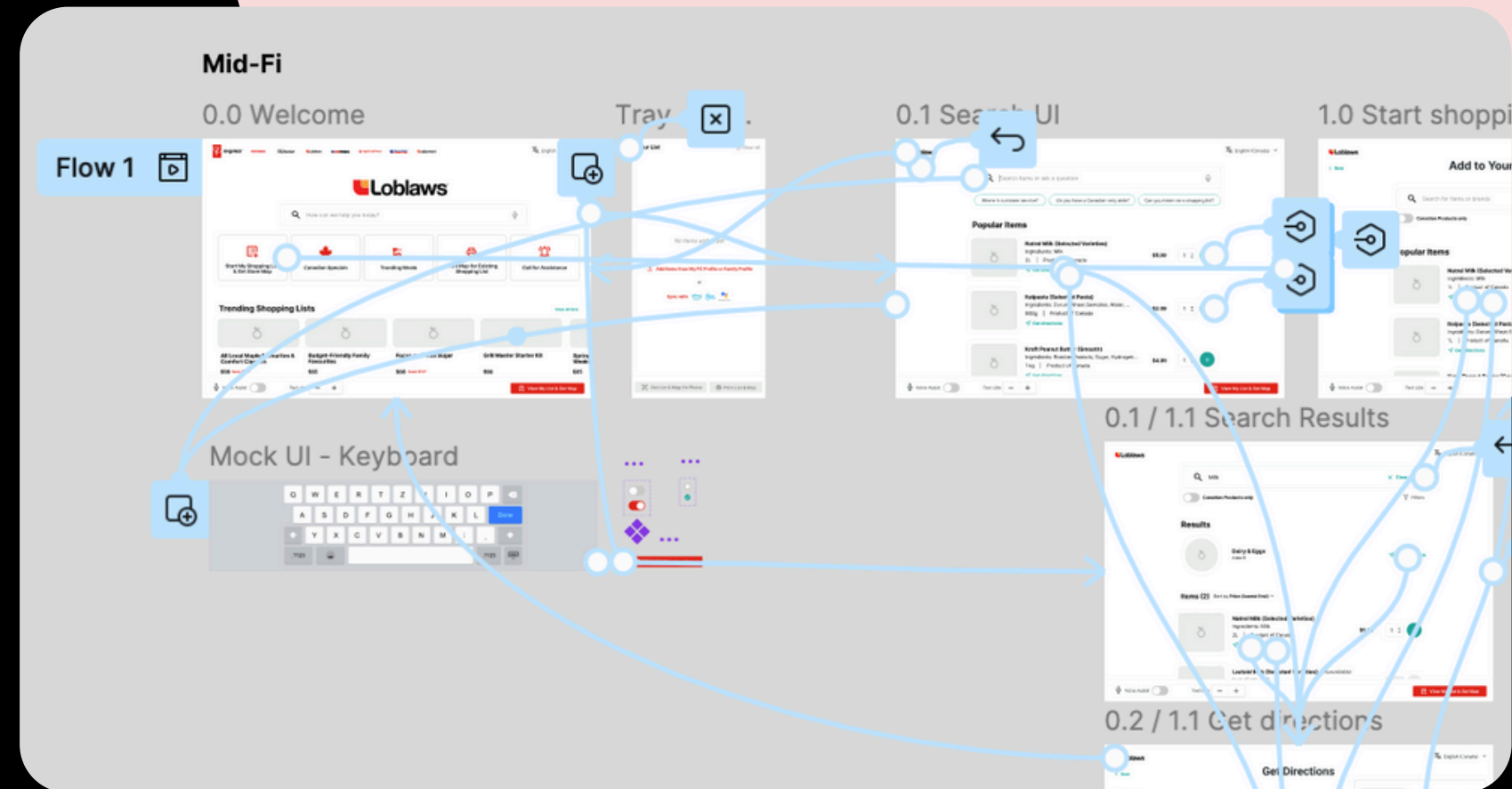
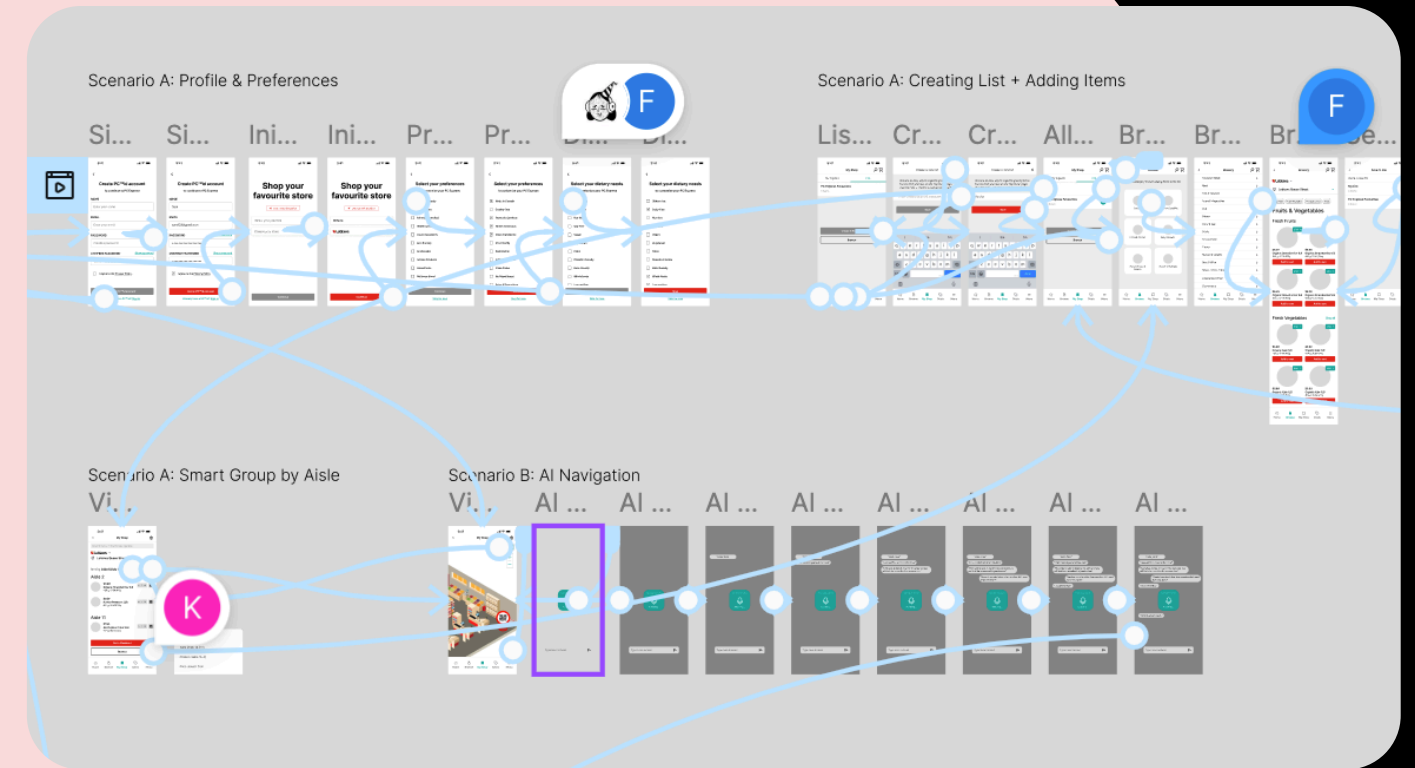


Hands-free voice guidance via earbuds supports all users, just talk and listen, with visual pathing for the hearing impaired and audio support for the visually impaired.

03. Designing the Product

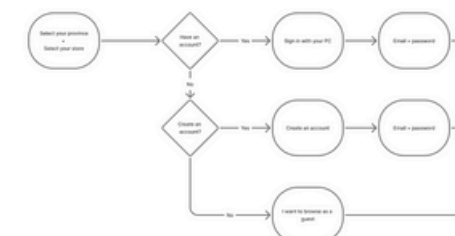
🛒 Early Mockups

🛒 Impact of User Testing

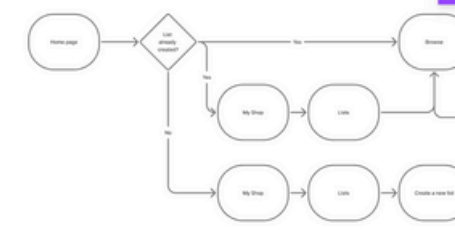


SCENARIO A USER FLOW & PROTOTYPE SCREEN

Sign up / sign in + Add preferences



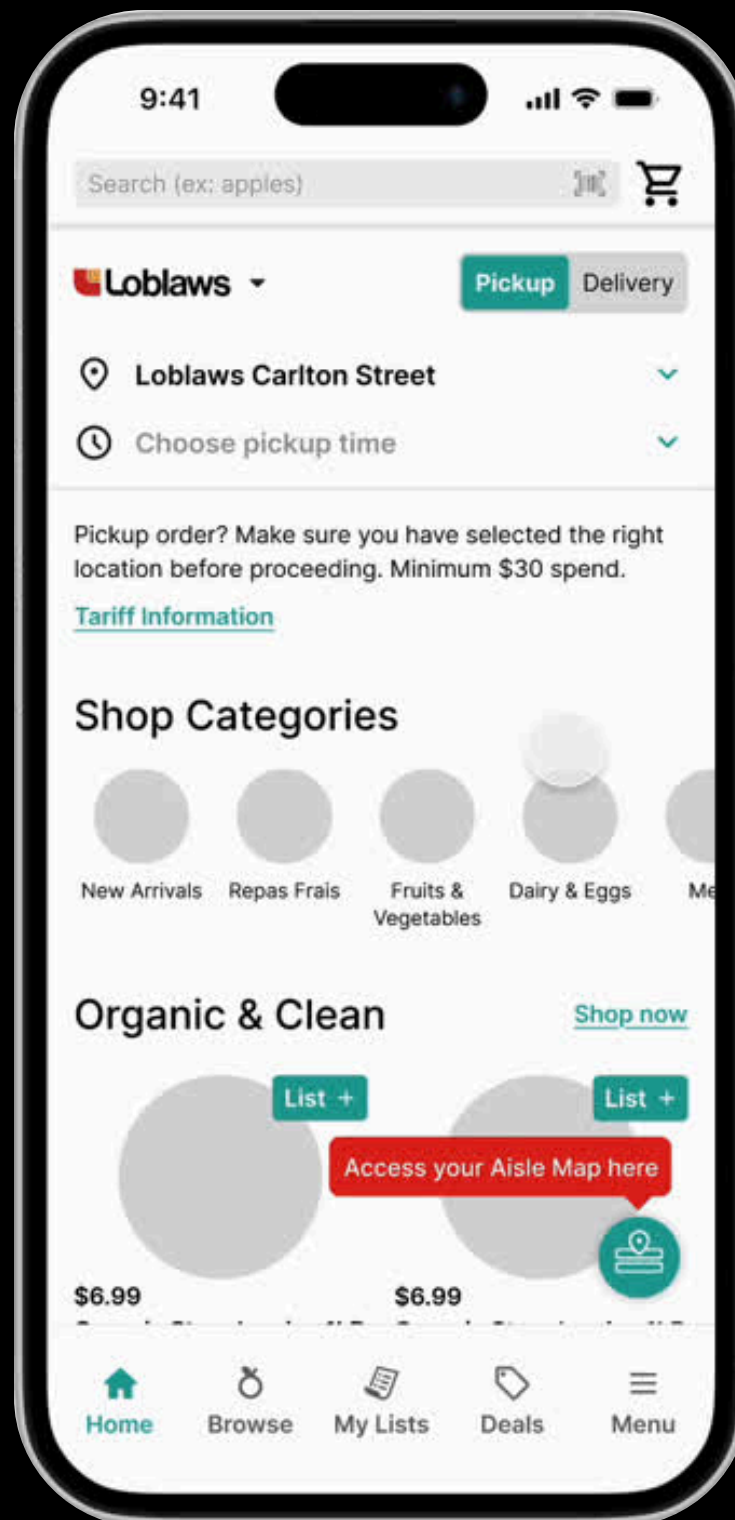
Creating lists + adding items



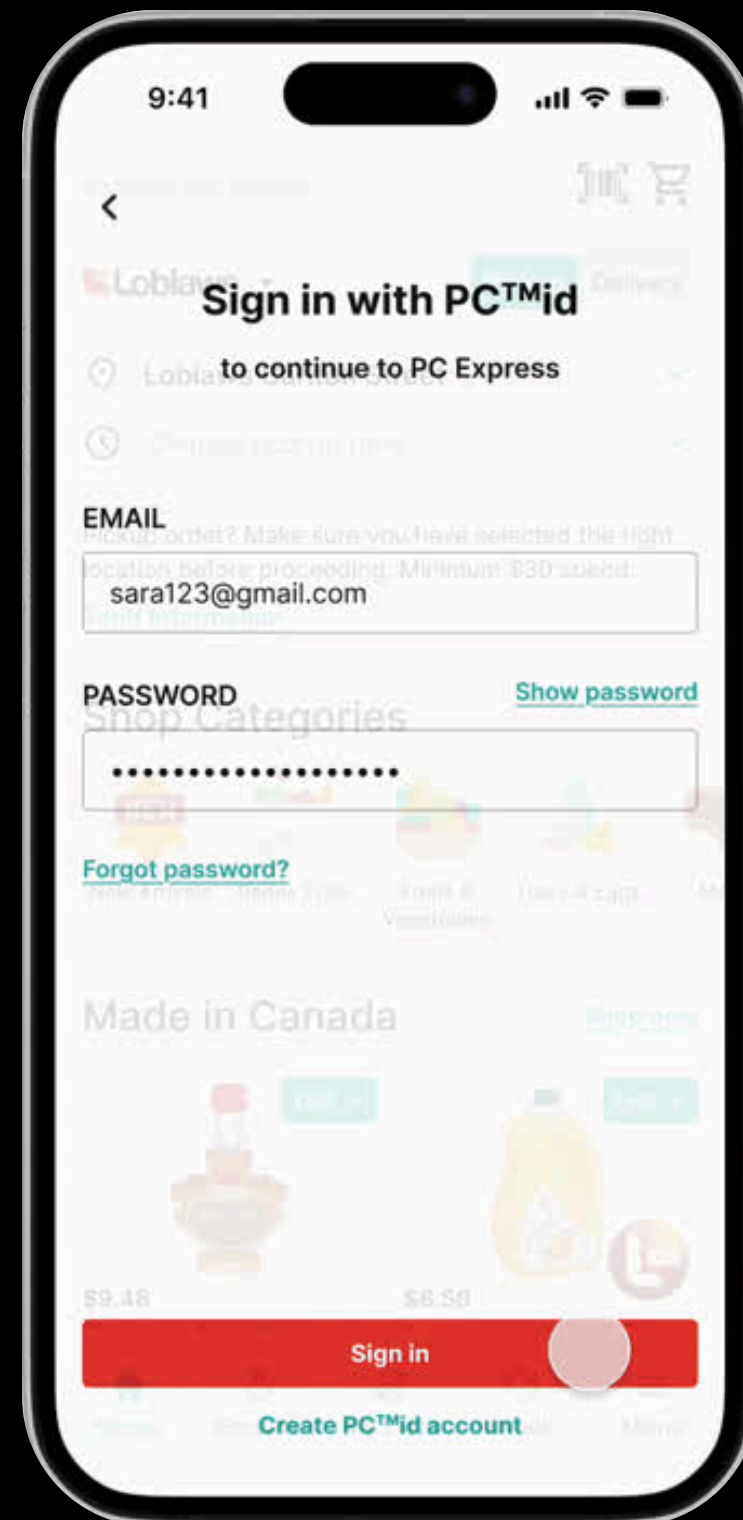
Organize lists by aisle

Early Stages

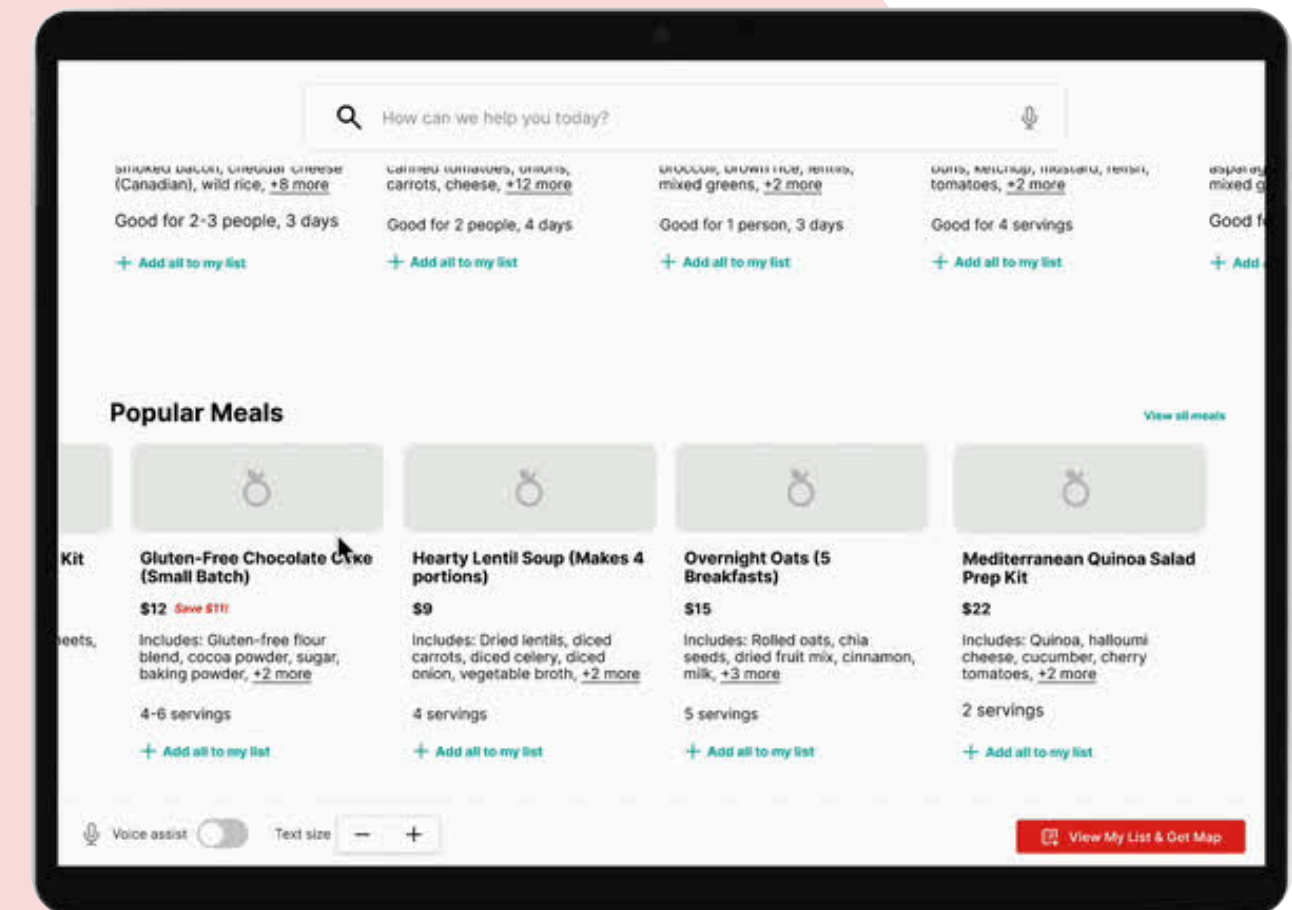
Visit the early stages of our designs at tinyurl.com/lola-drafts



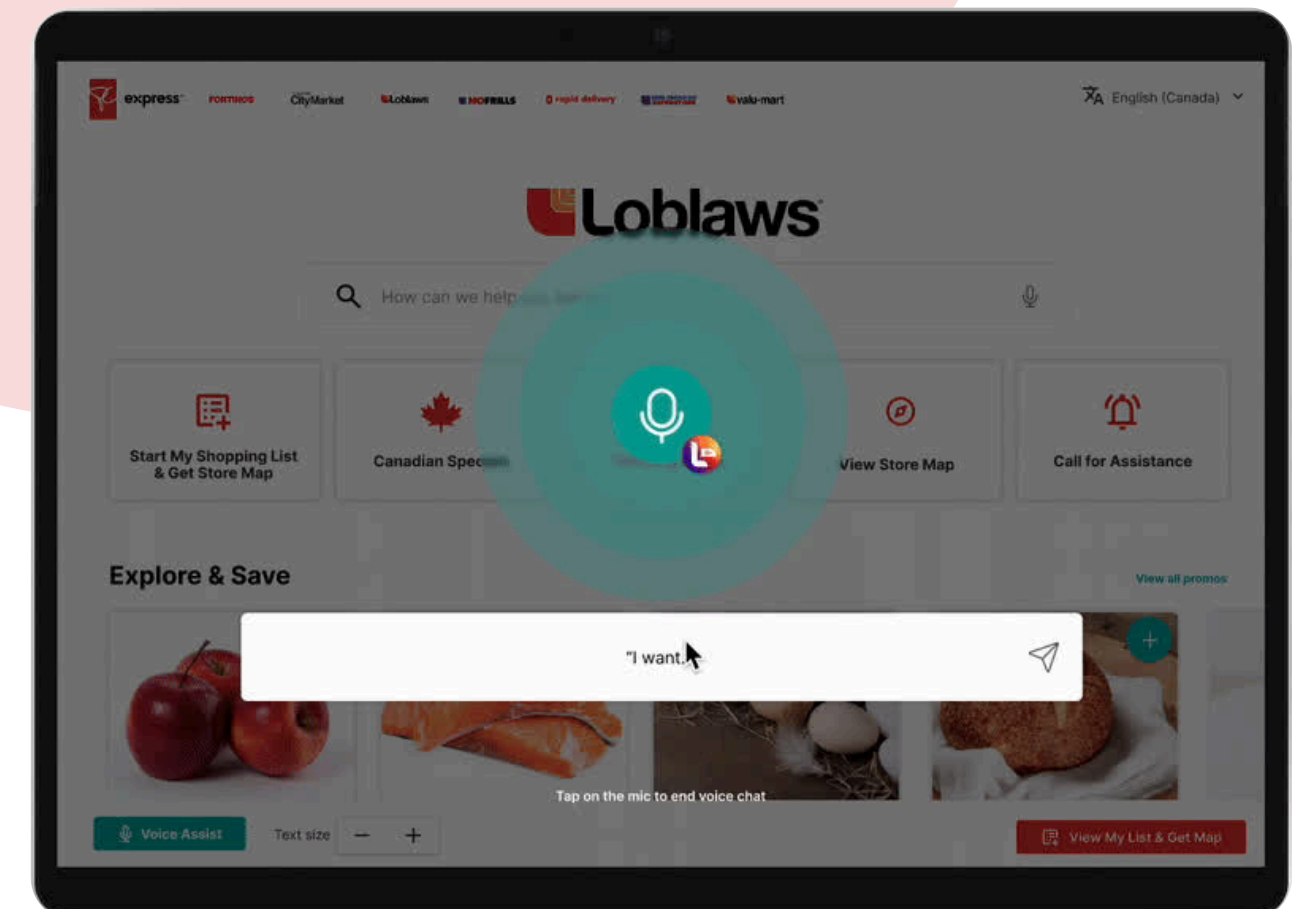
1st Iteration (Mid-Fi)



2nd Iteration (Hi-Fi)



1st Iteration (Mid-Fi)



2nd Iteration (Hi-Fi)

Impact of User Testing

KEY STATS

80+

Suggestions for improvement collected

2 rounds of user testing, **1 round of mentor feedback session** and 1 round of user research interviews

10 user test participants of varying ages & backgrounds

4 employees consulted



USER TESTING ROUNDS

ROUND 1: MID-FI PROTOTYPES

- **Tested** early app and kiosk flows
- **Participants:** Target users + consulted Loblaw & Real Canadian Superstore floor staff
- **Focus:** Shopping list, in-store navigation, product search

ROUND 2: LOLA-CENTRED PROTOTYPES

- **Focused** on voice assistant 'Lola' across the mobile app
- **Participants:** Target users + consulted Shoppers Drug Mart floor staff
- **Tasks:** Voice queries, in-app/kiosk use, shopping assistance
- **Added:** Refined user flows, improved graphic features, Lola incorporation, etc.

TOP TAKEAWAYS FROM ALL SESSIONS



Lola Adds Value for Frontline Stakeholders

- Users appreciated the ease of voice-activated search
- Staff saw Lola as a helpful tool to reduce repetitive location questions—benefiting both sides of the aisle.



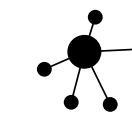
Improved 2D Map Enhances Navigation

- Users found the simplified layout more intuitive
- Staff noted a digital map tool allows for searching outside their jurisdiction.



Empowering Self-Service, Reducing Interruptions

- Users liked being able to independently locate products
- Employees valued the reduction in disruptions, giving them more time for service and operations.



Unified Brand & Experiences Across Channels

- Inconsistencies between devices stood out to testers.
- Both Users & Staff highlighted the importance of consistency between kiosk and app

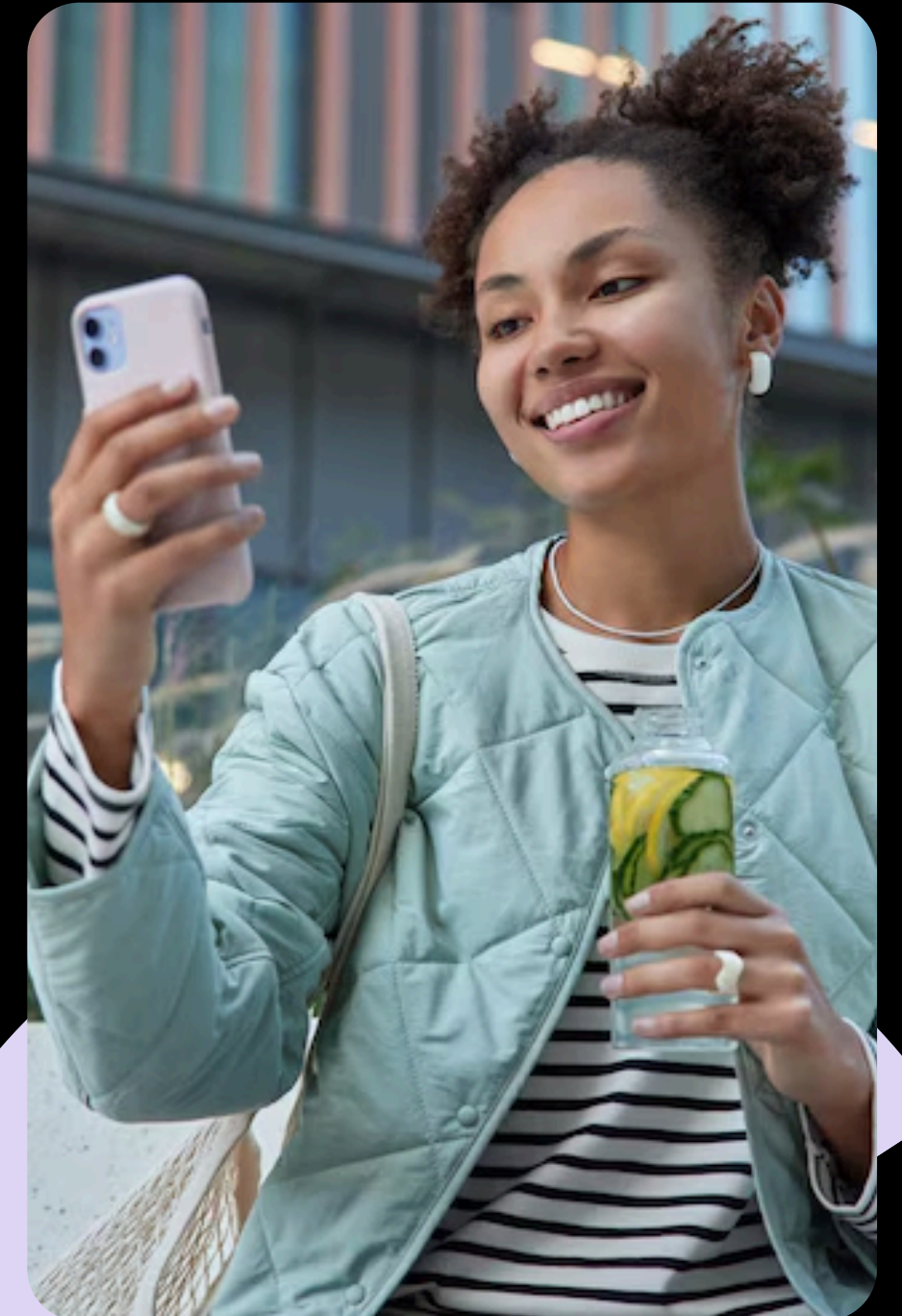
“I don’t know about products outside of my department - **this would help both myself and customers tremendously.**”

- Loblaw Employee

04. Product Demo

To explore the prototype on your own, **scan the QR code** or visit:

tinyurl.com/lola-prototypes



For the best viewing experience, we recommend using wide screen devices like a tablet, laptop, or computer.

Scenario A: Mobile App

Before heading to the store:

- Creating your profile based on your shopping and dietary preferences
- Creating your shopping lists with Lola

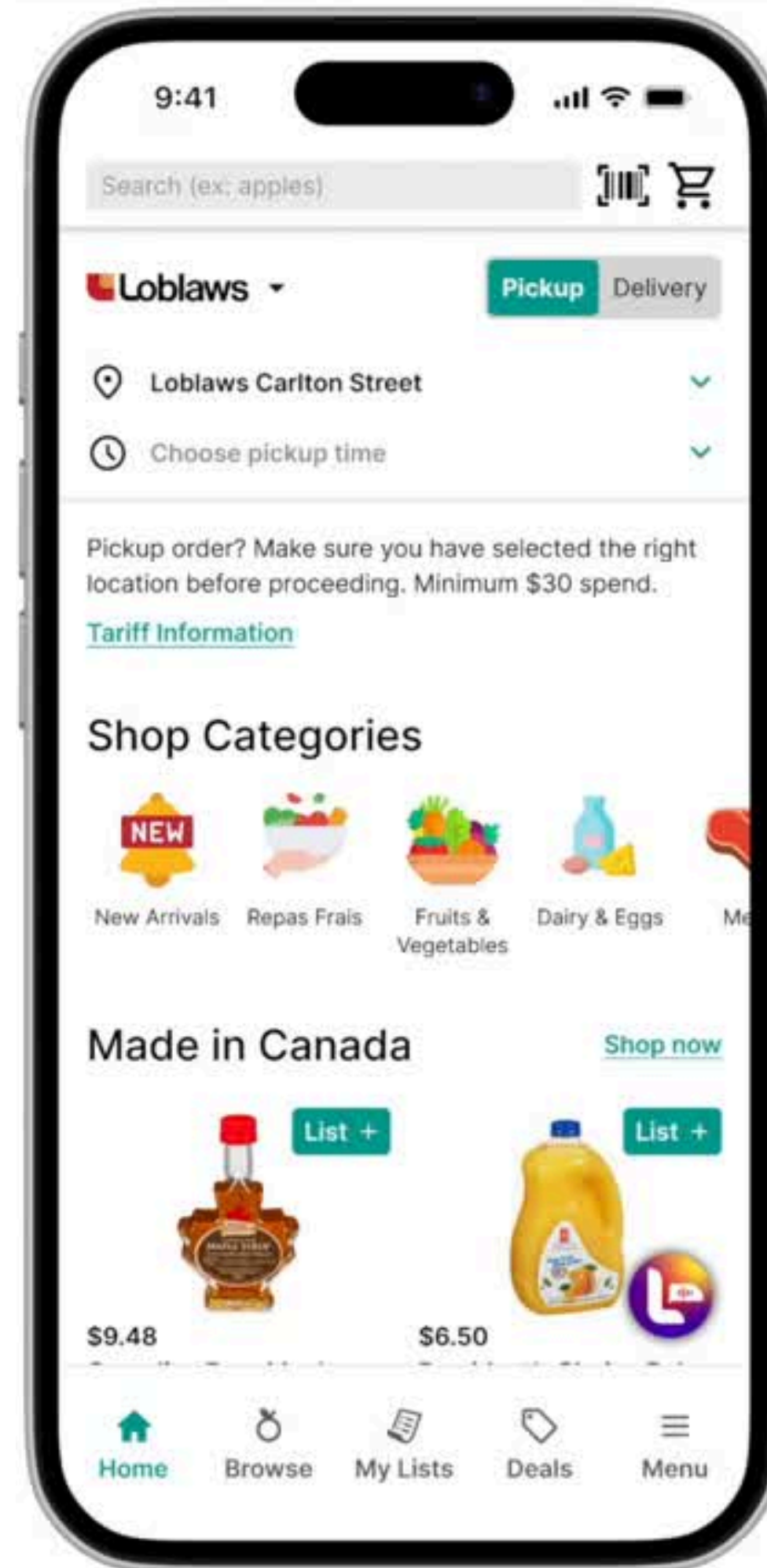
Visit Lola in the Mobile App at tinyurl.com/lola-prototypes



Scenario B: Mobile App

- In-store shopping experience
- Scanning bar codes with your phones to get product info

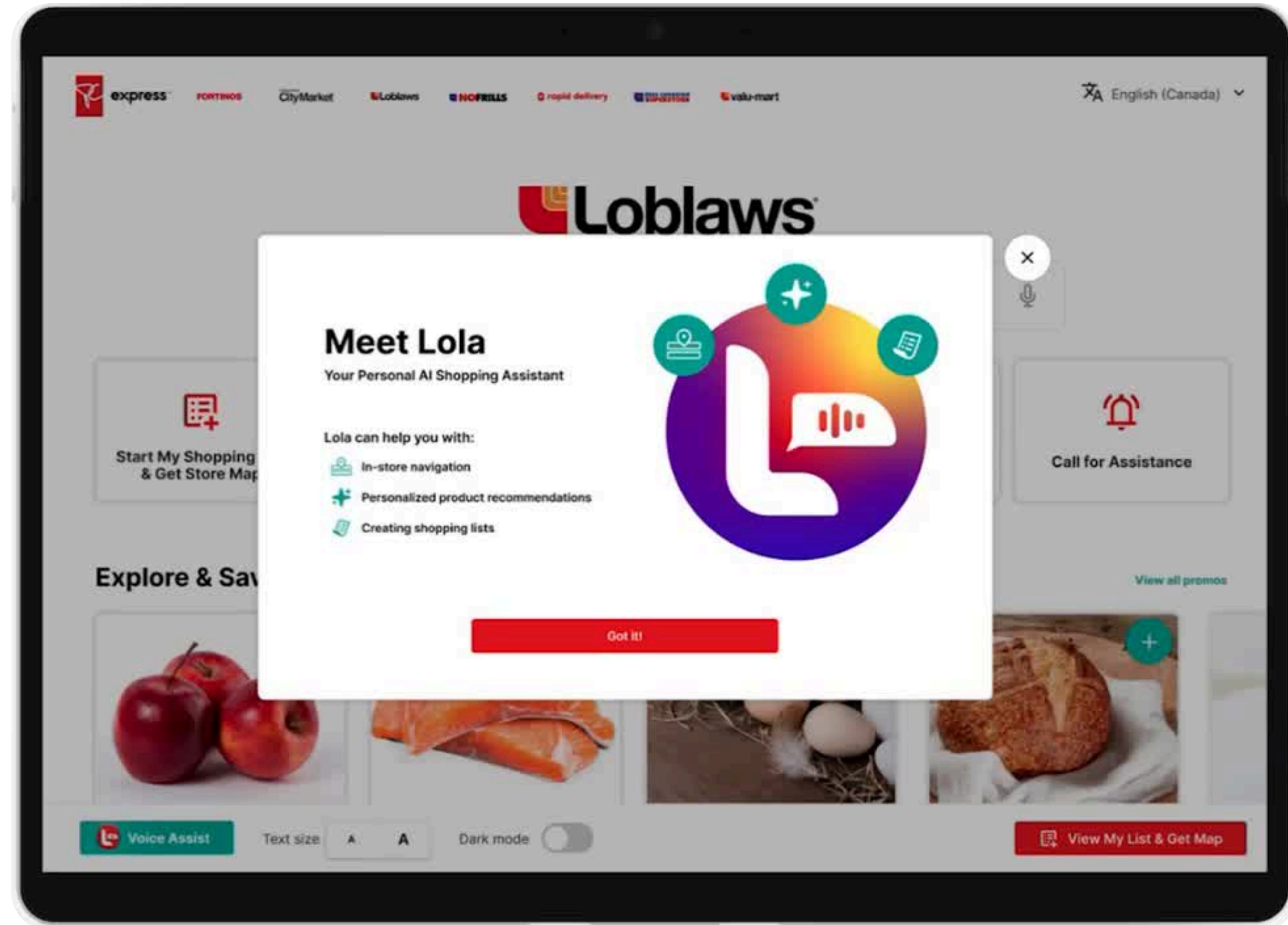
Visit Lola in the Mobile App at tinyurl.com/lola-prototypes



Scenario C: In-store Kiosk

- For non-members or non-mobile app users
- Creating a shopping list and a map using Lola or manually

Visit Lola in a Kiosk at tinyurl.com/lola-prototypes





Limitations & Next Steps

LIMITATIONS, CONSIDERATIONS, ASSUMPTIONS

- **AI integration requires extensive training** to ensure accuracy and personalization.
- **Not all users may prefer voice commands.** Traditional input options (e.g., typing) are available as alternatives.
- **Accurate aisle placements, real-time inventory updates, and consistent information** from staff are crucial for the system's effectiveness.
- **Proper training for staff** on how to manage the system and assist users will be necessary.
- **User training** will be important to ensure shoppers understand how to effectively use the voice AI and kiosk features.
- There will be a **learning curve for both users and staff** to effectively adopt and interact with the voice AI and kiosk.
- **Privacy concerns**, especially regarding data collection and usage for offline kiosk users, will need careful consideration and clear communication.
- **All input methods still contribute to the AI's ability to learn and personalize** the shopping experience.
- **Scalability across diverse store layouts** and potential future feature additions will require a flexible architectural design.
- Sustaining this system **requires accessible design, multilingual support, and consideration for the diverse needs** of all shoppers across various store formats.
- Kiosk systems will depend on consistent **maintenance**, incurring ongoing **costs**.

KEY TAKEAWAYS

- Shoppers want help locating items quickly, especially when stores feel overwhelming.
- Voice assistance offers a natural, hands-free solution that aligns with existing customer behavior (AirPods, earbuds).
- Pre-trip planning integration (mapping lists to aisles) improves efficiency and reduces shopping stress.
- Successful adoption relies on creating a smooth, low-friction experience from home to store.

NEXT STEPS



Conduct real-world pilot tests in select stores to measure impact on shopping time, product discovery, and satisfaction.



Refine AI prompts to maintain a balance between helpfulness and non-intrusiveness.



Gather feedback from frontline stakeholders to improve onboarding and in-store support for the new system.

Thank you!

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