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Spectrum

Mobile app prototype for bipolar disorder management

Course Project

MHI2004 Human Factors and Change Management



Roles

Usability testing
Wireframing
Interaction design
Information architecture

Deliverables

PowerPoint prototypes
Final presentation
Final paper

Tools

Google Docs
Google Sheets
Microsoft PowerPoint
Microsoft Word

Process

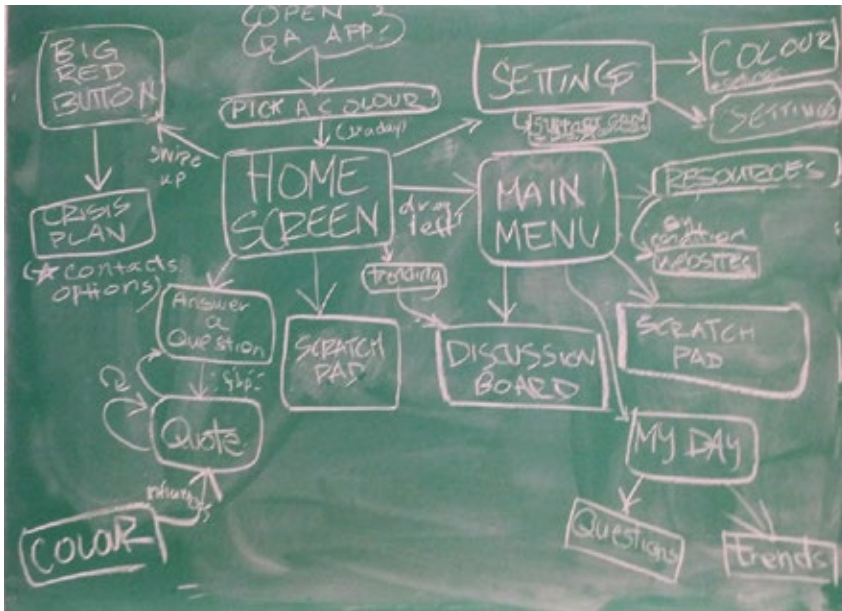
Our semester-long project was to develop a mobile health application for a mental health issue. We created the concept of an app for the management of bipolar disorder.

- Gathered user needs requirements, through **literature reviews and interviews**
- Sketched application flow and created **paper wireframes**

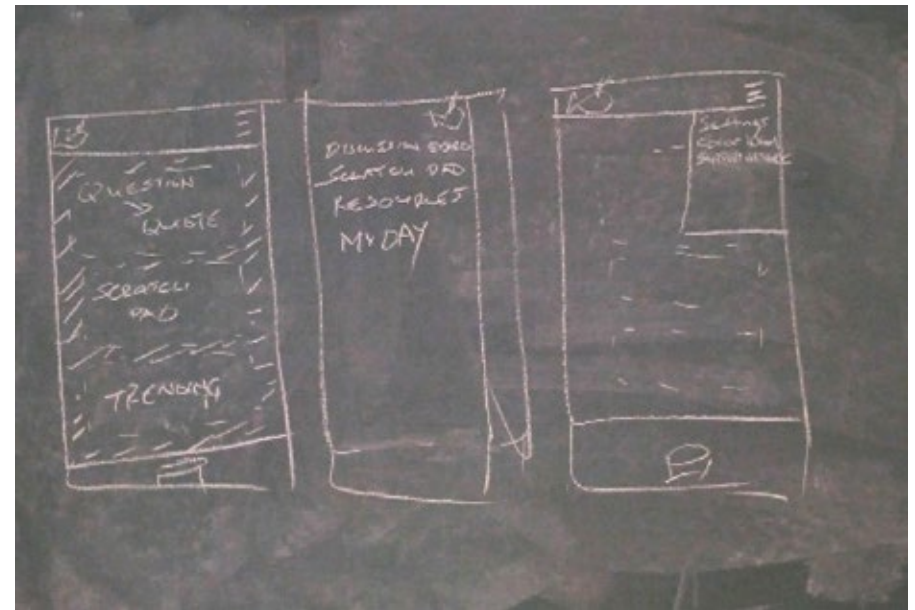
Main features of an Android application:

1. Mood indicator
2. Scratchpad/diary
3. Forum
4. Important contacts
5. Resources
6. Mood trends
7. Emergency call button
8. Settings (of the application)

- Designed an **interactive, high fidelity prototype** in PowerPoint
- Incorporated suggestions from external heuristic analysis into further updates
- Conducted **usability testing** at the Centre for Global eHealth Innovation's Human Factors labs
- Produced usability scenarios
- Scribed **comprehensive time-stamped notes** on participant feedback, expressions, and usage
- Submitted **final report and presentation** outlining the design and development process



Information architecture diagram of app



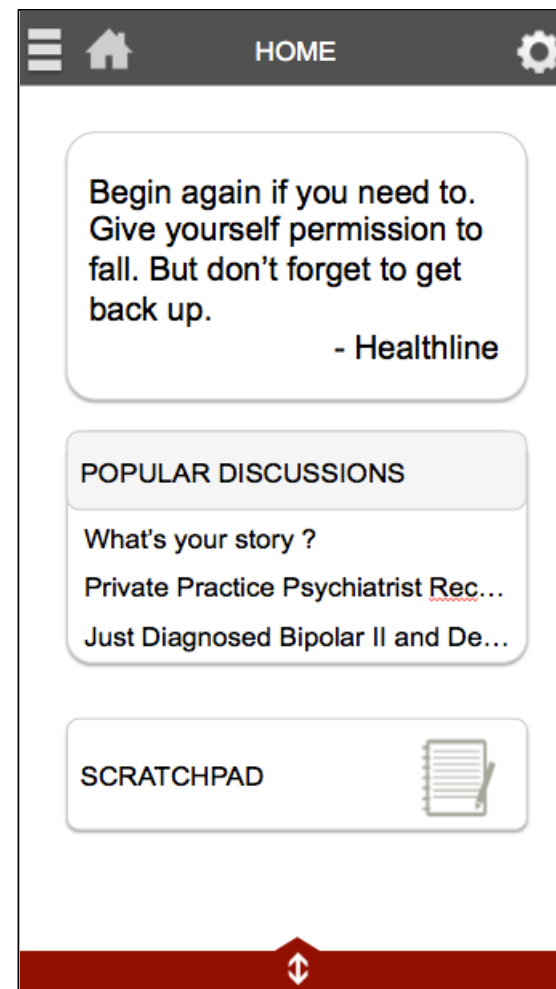
Initial chalk wireframes



Paper wireframes and additional IA diagrams



Prototype day tracker summary screen.



Prototype home screen.

COPD Management Application

Adapting a paper flowchart into a responsive web application

Client

Health Quality Ontario

Roles

Assisting with usability testing
Wireframe prototyping
Information architecture
Interaction design

Deliverables

Axure wireframes
Prioritized usability results
Project management documentation

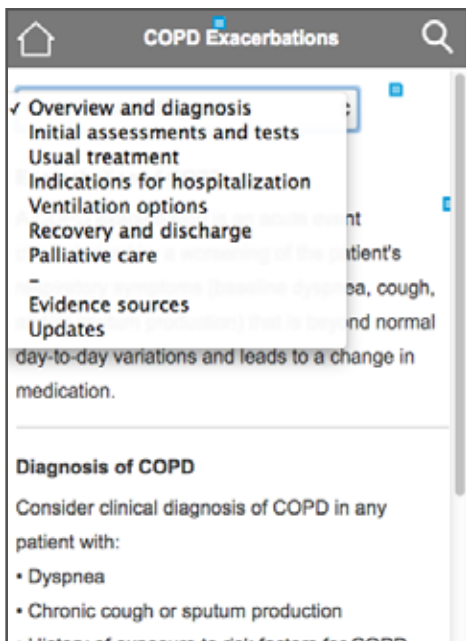
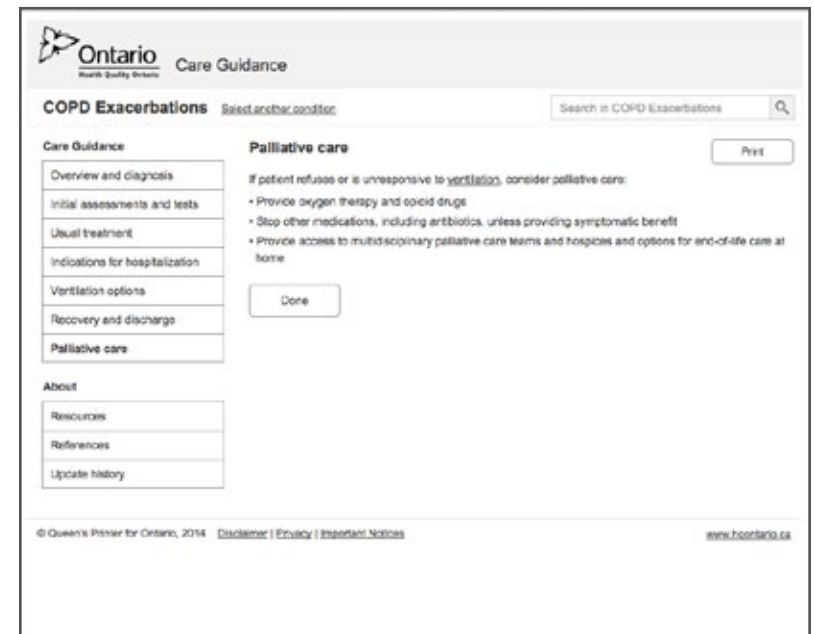
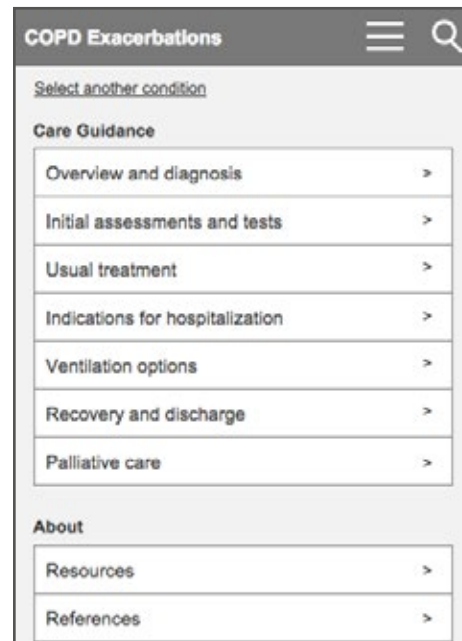
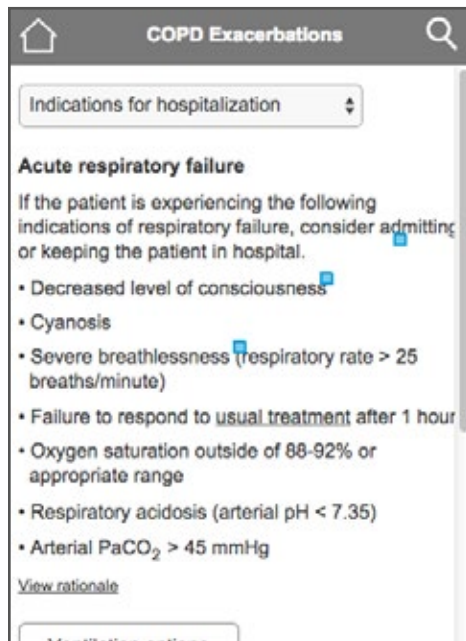
Tools

Axure RP 7
Microsoft Excel
Redmine

Process

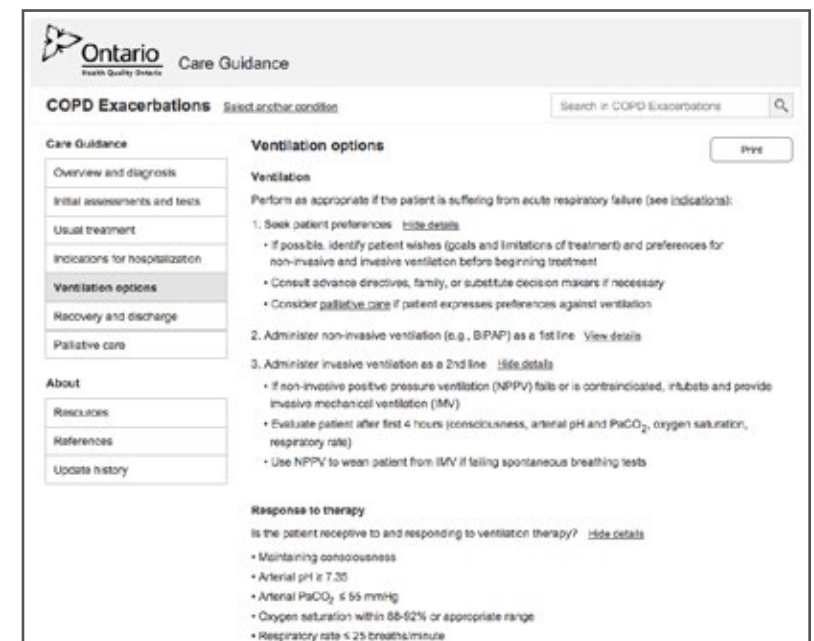
Healthcare Human Factors was asked to transform paper-based medical guidelines for chronic obstructive pulmonary disease into a responsive web application. To begin, we consulted with health professionals on the accuracy and usefulness of the guidelines.

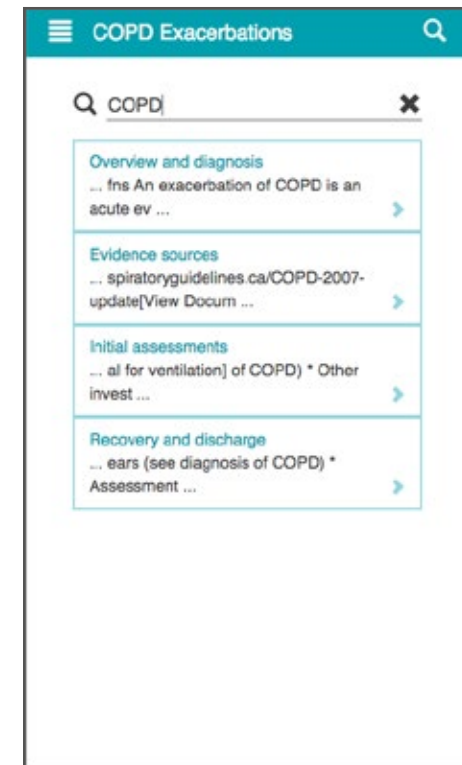
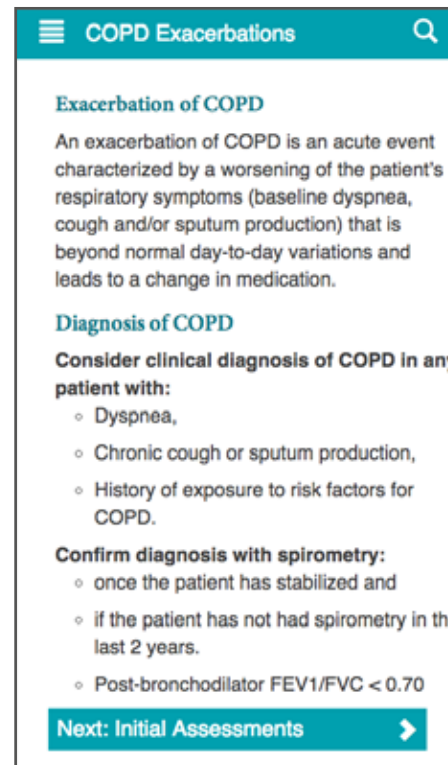
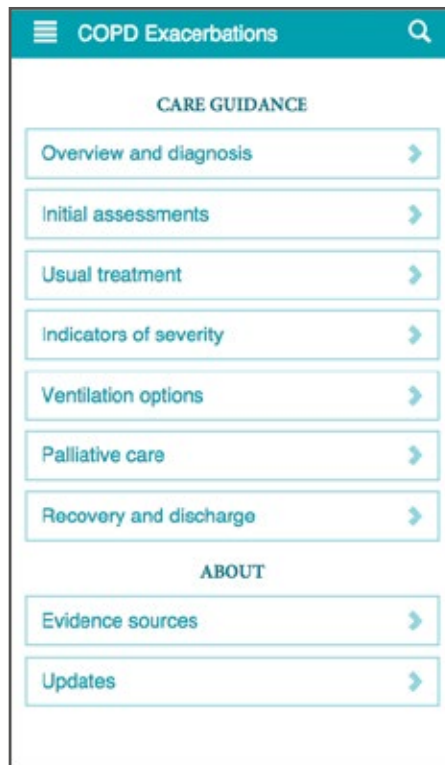
- **Interviews** conducted by colleague with health professionals on COPD practices
- Colleague created **mobile Axure prototype** based on HQO care guidelines and interviews
- Based on mobile prototype, I created the desktop prototype in Axure
- **Optimized and simplified** the userflows further for both mobile and desktop prototypes, based on clinician feedback
- Wrote 10 **usability testing scenarios**
- Recorded participant observations, eliciting open-ended feedback, pre- and post-surveys
- Improved the prototypes using feedback, resulting in **positive stakeholder feedback**



Initial mockups illustrating (clockwise from bottom-left):

- Two initial Axure wireframes of mobile appearance of app, with dropdown menu
- Hamburger menu implemented after usability testing
- Two wireframes of desktop appearance





Prototype with visual treatment by Laura Parente.

Purchasing Service Design

Optimization of healthcare procurement services

Client

HealthPRO

Roles

Field work
Literature review
Synthesizing results
Layout design

Deliverables

Literature review
Prioritized issue list
Booklet of prioritized business decisions and rationale

Tools

Adobe InDesign CC
Adobe Illustrator CC
Microsoft Excel
PubMed
Google Scholar

Process

HealthPRO wanted to update their pharmaceutical reviewing software as part of their procurement process. We (Healthcare Human Factors) discovered that we needed to examine the other aspects of the process to improve the overall experience of pharmaceutical purchasing and reviewing.

- Conducted **structured interviews** with previous buyers (healthcare professionals) to understand the purchasing process
- Gathered client's informational material and conducted **field work** at their offices
- Completed **literature review** to examine the current state of purchasing and ideal conditions
- Colleague carried out **heuristic analysis** on client's software
- **Synthesized** themes from analyses of results
- Determined potential business decisions and **prioritized** them
- Designed easy-to-read and visually appealing booklet for the client
- **Presented results** to client in a conference call, supporting my colleagues
- Invited by client to present on human factors principles to their stakeholders at seminar

Bye Bye Meltdown

Mobile health application prototype for young children

Competition

Hacking Health for Kids @ Sick Kids 2014



Roles

Usability testing
Wireframing
Visual design
Interaction design

Deliverables

Interactive prototype
Graphics, wireframes
PowerPoint presentation

Tools

Adobe Illustrator CS6
Adobe Photoshop CS6
Microsoft PowerPoint

Process

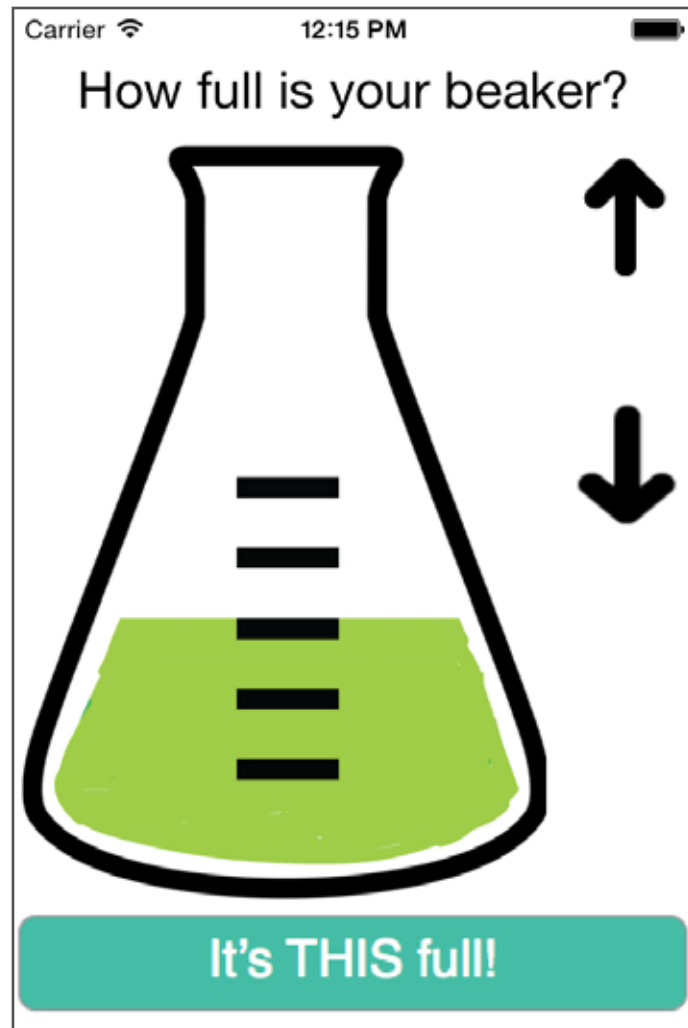
The clinical psychologist on our team wanted to create an interactive mobile adaptation of an existing child psychology method to manage children's emotions before they got out of hand.

- Conducted **environmental scan** on existing mood tracking apps for children
- **Interviewed** adults and children about meltdowns

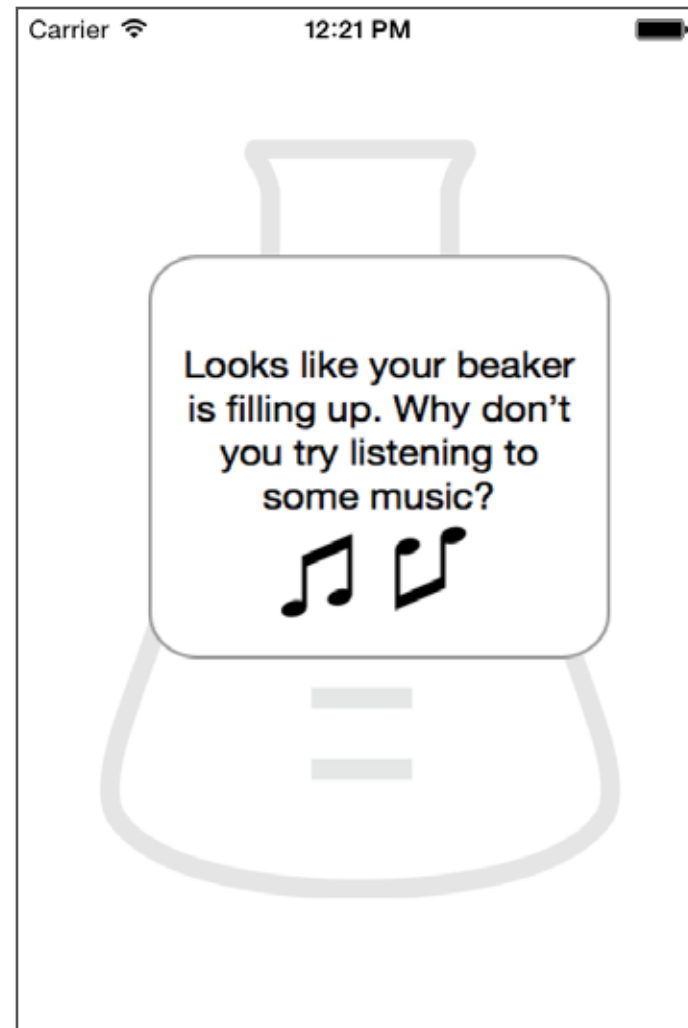
The main features of the app included:

1. Interactive beaker to be filled or emptied on touch
2. Tailored suggestions on how to calm down based on one's emotion level
3. Profile page for the child to input their stressors and calmers

- Designed interactive, cute and playful elements to evoke a **positive emotional response** from intended audience
- Bye Bye Meltdown was awarded with the **Pivot Design Group Award for Best Design**
- Received much positive feedback from Hacking Health participants and the general public
- Collaborated with Pivot Design Group to define **user stories and personas** for future iterations



Early hackathon prototype of beaker screen.



Early hackathon prototype of calming suggestion screen.



Later interactive prototype of onboarding process, with design by Samantha Beekie

LIBRAR-e: The TPL App

Bringing library services to the forefront in an accessible app

Personal Project

Collaboration with Crystal Chin

Roles

User experience designer
Graphic designer
Environmental analysis
Information architecture

Deliverables

Screen mockups
Presentation boards
Concept write-up

Tools

Adobe Illustrator CS6
Adobe Photoshop CS6

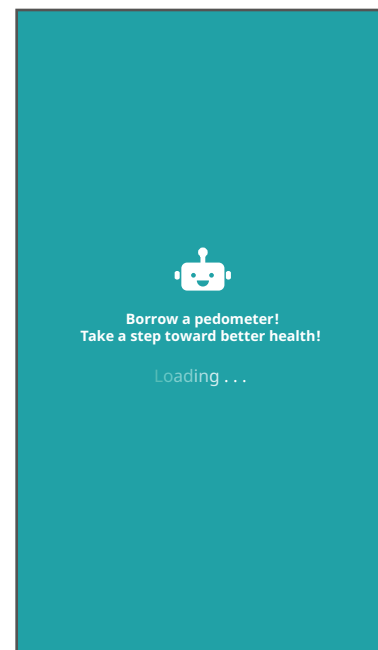
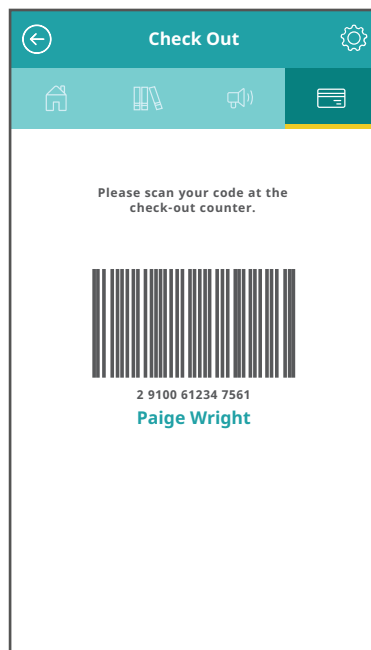
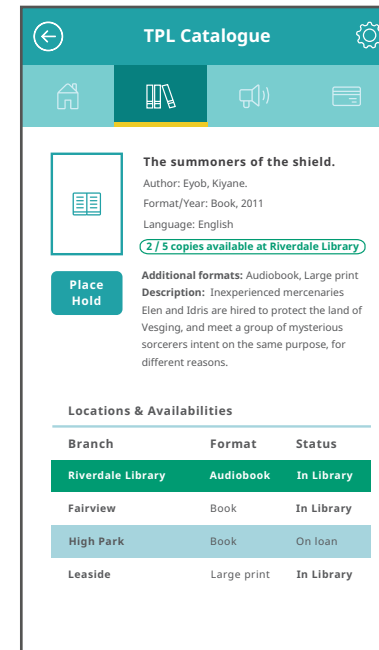
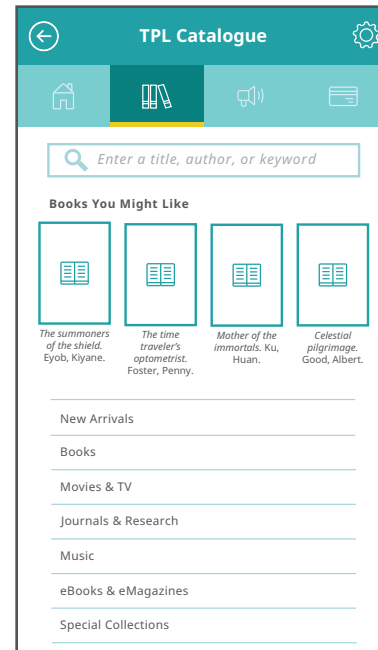
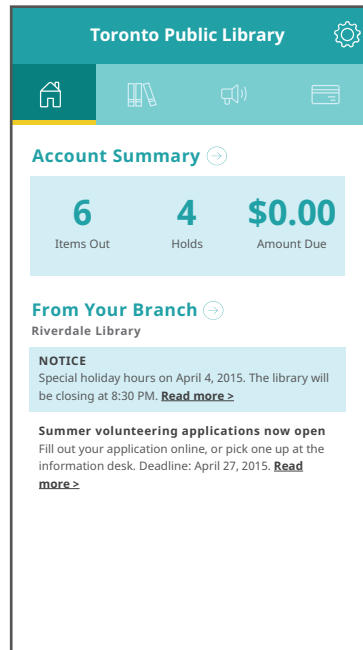
Process

My partner and I created a concept for a Toronto Public Library app in order to address needs of usability and adaptation to current technology.

- Conducted **environmental analysis** of client habits, service gaps and existing library applications around the world
- **Target audience:** Students, technology savvy people who haven't used the library in a while

User requirements were distilled into three main app features:

1. Digitize the library card
 2. Personalize the library experience
 3. Context-specific, relevant information
- Consulted accessibility standards in Ontario
 - Incorporated library accessibility needs including font size, contrast, language
 - Created paper wireframes and applied visual treatment on Illustrator mockups



Initial mockups illustrating (clockwise from top-left):

- Main screen with account summary details
- Library catalogue screen
- Library catalogue detail page
- Loading screen with library tidbit
- Digitized library card

thank you!

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