ThermoBank

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Meet the Team

Roles

- Viktoriya : Project Management & Information Architecture
- Daryna: Usability Engineering & Quality Assurance
- Nik: Content Strategy
- Kareem: Prototype Execution & User Interface Design

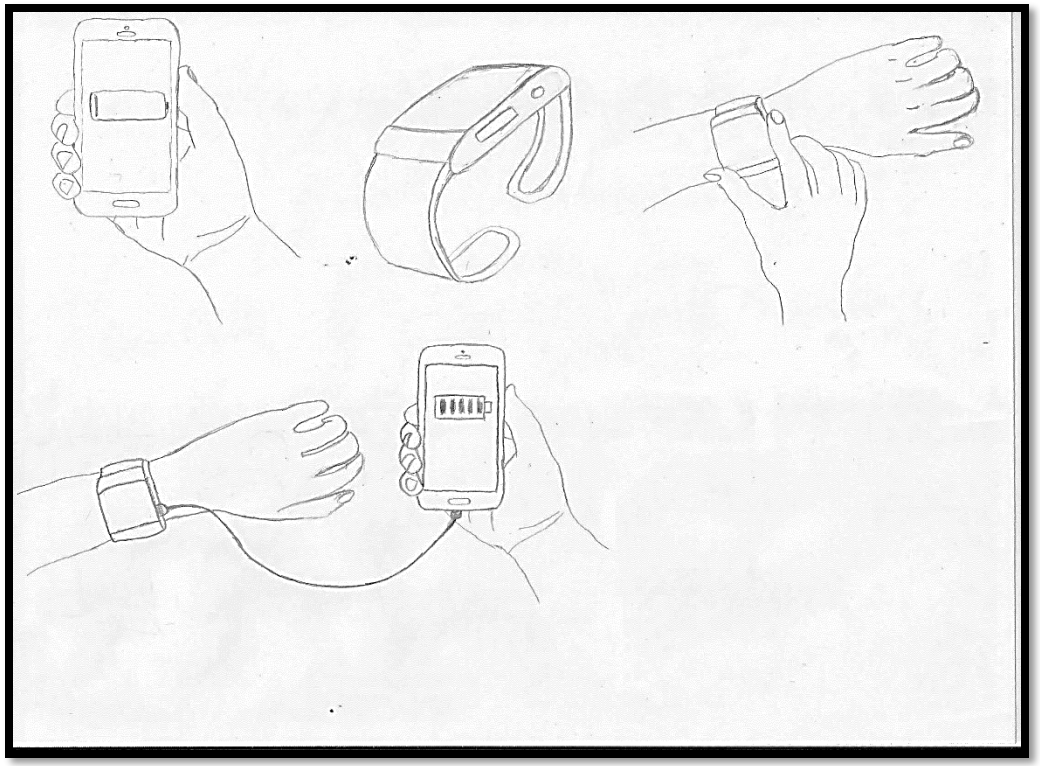
Responsibilities

- Viktoriya
  - Project Manger
  - Process flows and Wireframes.
  - App Development
- Daryna:
  - Execute usability testing
  - Prototype Research analysis
  - Reporting test results
- Nik
  - User Scenario Research
  - App development
- Kareem
  - Design Research
  - Create/Test prototypes
  - Final Editing

Hikers

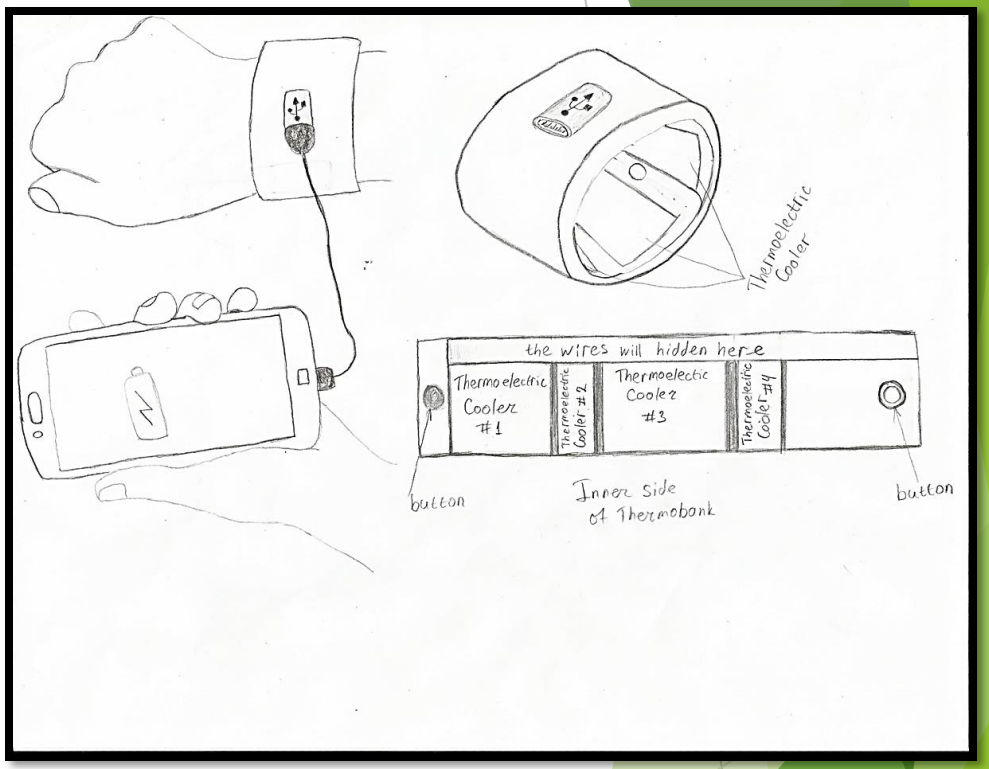
- Usually can't find a place to charge a phone
- Existing power banks are the size of a phone or larger, making them uncomfortable to carry in the pocket
- On long trips, you can't recharge a power bank, making them useless in the long run

ThermoBank device



The initial concept of ThermoBank.

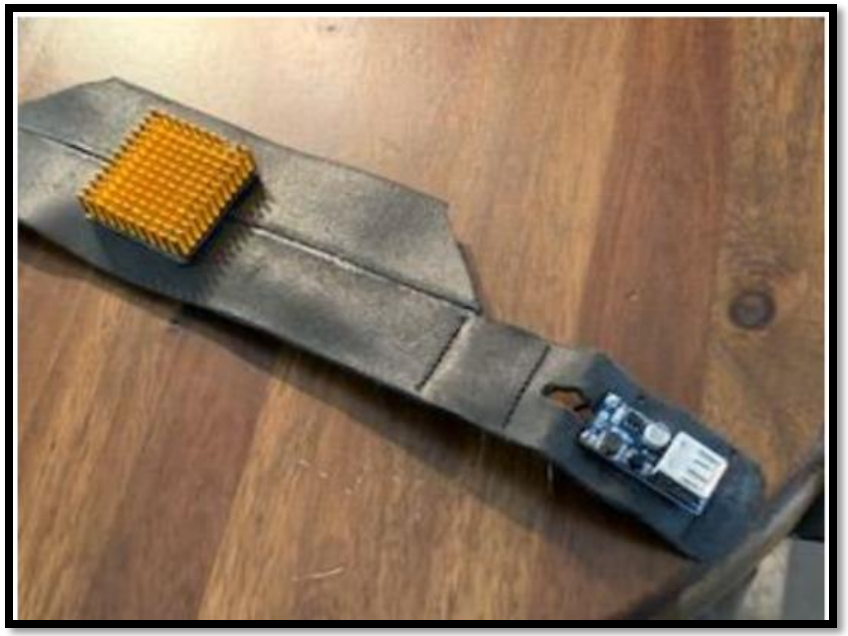
Notice the slimmer design that mirrors an Apple Watch/FitBit



The secondary concept of ThermoBank.

The design now resembles that of an iron bracelet

ThermoBank 1.0 – The Beginning



- Prioritized getting a charge from the wrist
  - Getting that charge through a cable to a phone
- Initial materials made the device uncomfortable/clunky

ThermoBank app

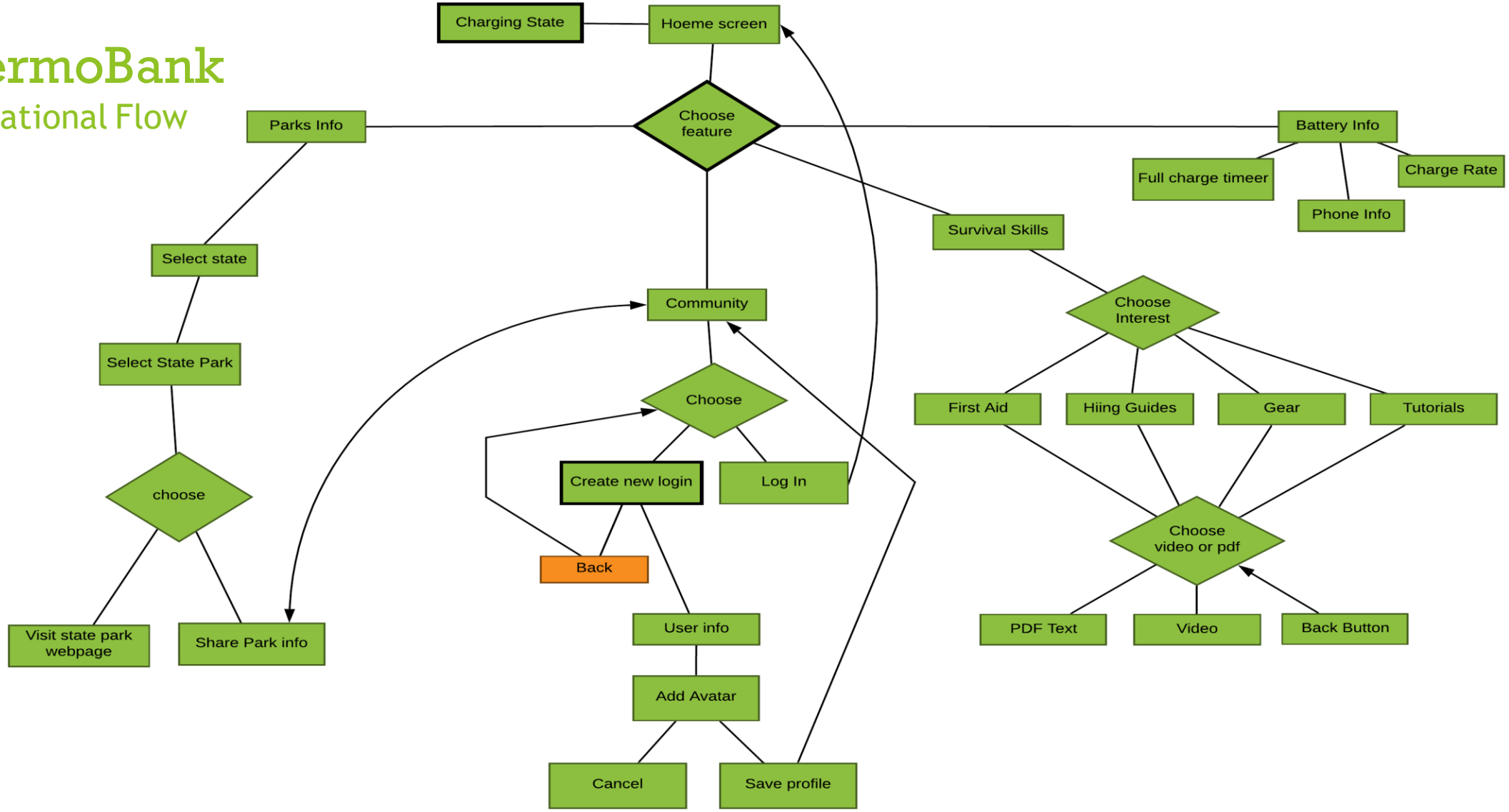
The initial concept

The secondary concept

The final concept

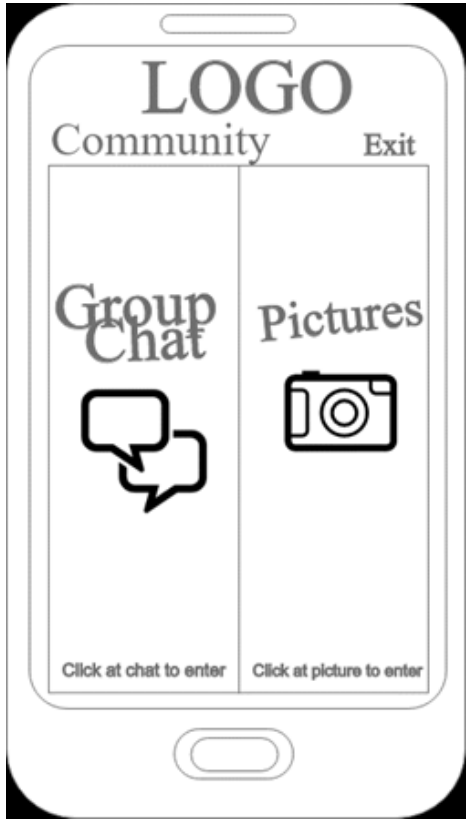
ThermoBank

Navigational Flow



Wireframes


LOGO
Community
Name
Enter your name
Password
Enter your password
Forgot password
Home
Back
Enter
To return on the main menu click Home.
To return on the previous page click back.
To continue click log in.

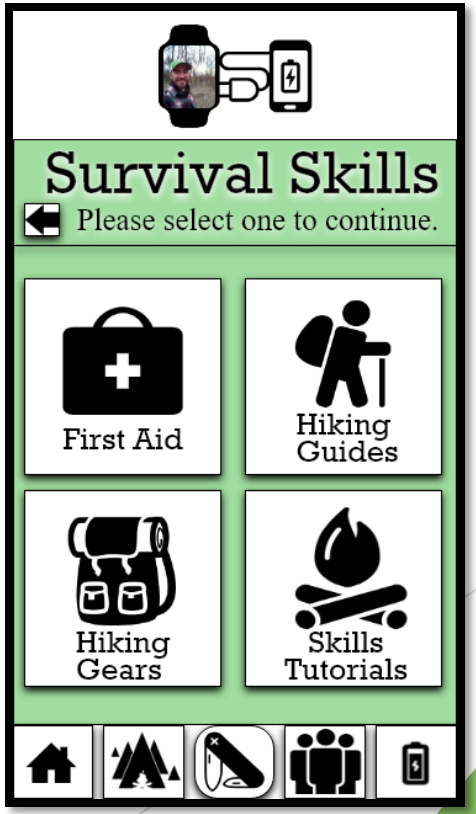

LOGO
Community
Exit
Group Chat
Pictures
Click at chat to enter
Click at picture to enter


LOGO
Community
Welcome to our community
to continue please log in or
click on create a new account.
Log In
Create new account
Back
To return on the previous page click back.
Name Of Company


LOGO
GPS
Survival Skills
Park Information
Community
Name Of Company

Visual Design

- Logo symbolizes the idea(cohesiveness) of charging phone from the wrist device
- The Rockwell font is easy to read in outdoor light and while in motion
- Light green color symbolizes the outdoors and prosperity



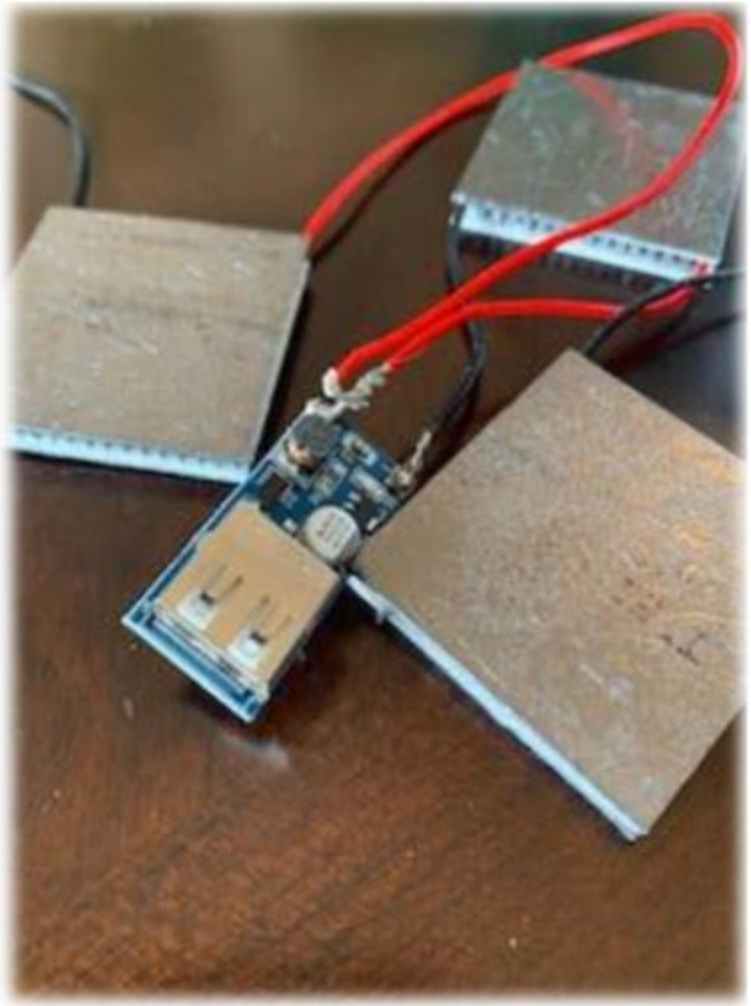
Visual Design

- Wearable device is 1½ inches wide with an adjustable length
- Material 1 - Nylon
  - Light synthetic plastic fibers for breathability, durability and strength
  - Black color for better thermal conductivity
- Material 2 – Velcro
  - Heavy-duty Velcro with stitched edges to maintain secure fit

Prototype Development

- Thermo-electric generator- Harvests electricity from low delta temperatures
- Ultra-low voltage converter - Takes 45millivolts and convert it to 5V
- Power Supply Module with USB - Amplifies generated electricity

TESTING RESULTS:
1 TEG used in normal environmental conditions yields approx. 178 mv
3 TEG * 178mv = .534 V
.534 V (Not Enough)



Final version of ThermoBank

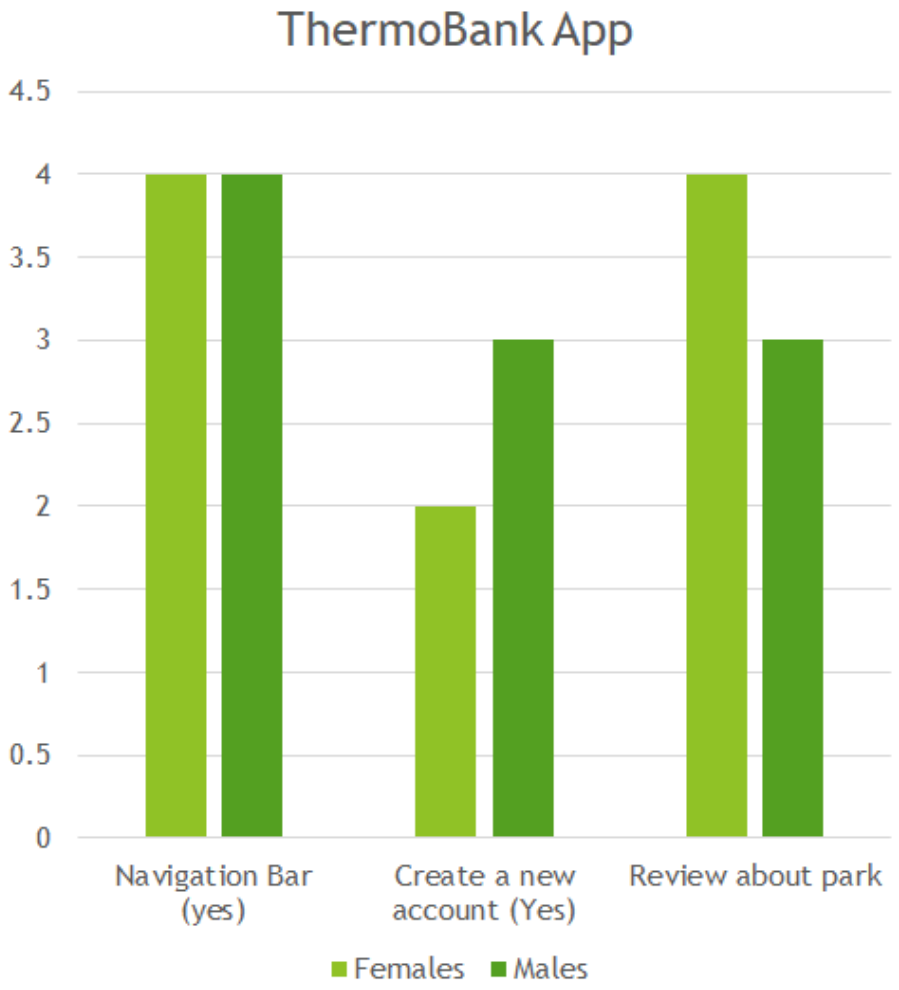
Despite its greater functionality, the final design doesn't look too appealing...

- The functionality of this version is greater than the older models

Interactive prototype

- Software: Adobe XD

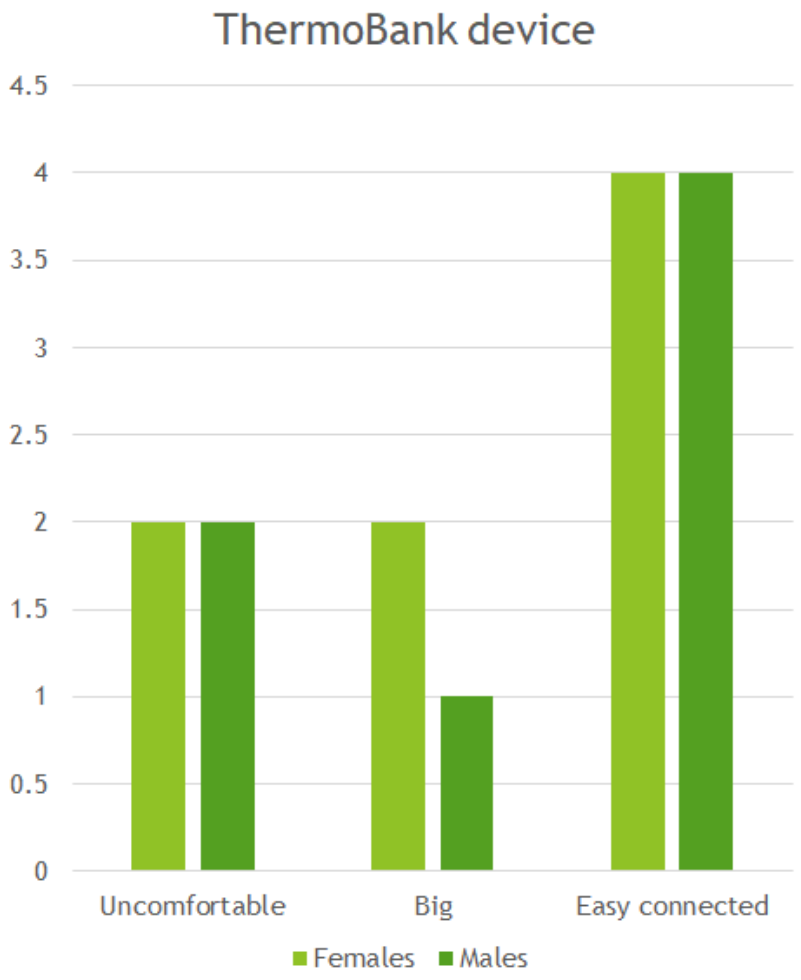
https://xd.adobe.com/view/584da393-6942-4f58-6054-cd7820484092-2e7c/?fullscreen



Usability Test of the ThermoBank App

Questions that we asked:

- Can you locate the Navigation Bar?
- Can you create a new account easily?
- Share a review about a park.



Usability Test of the ThermoBank Device

Questions that we asked:

- How do you feel wearing it?
- What do you think about the size of the device?
- Can you connect device and try to connect it to the phone?

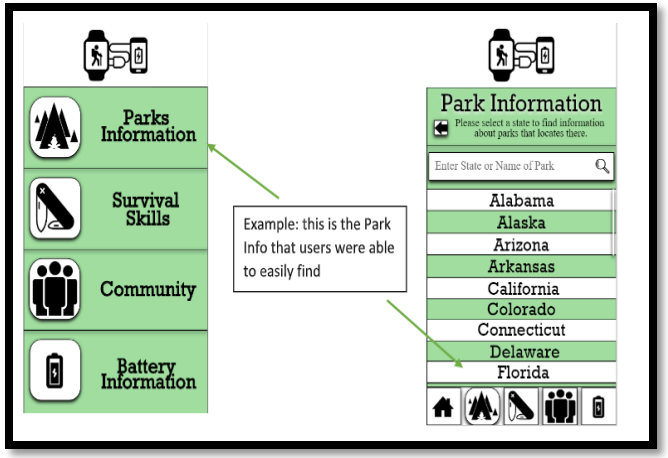
Changes

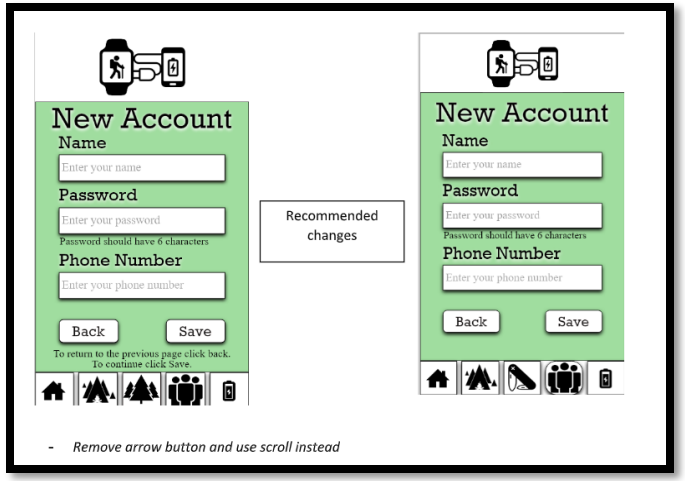
App

- Less text to allow for more space
- Make easy use of the back-arrow button
  - Adjusted some to include scrolling
- Change of Survival Skill icon to resemble something that better reflects its function

Device

- Adjustable to fit many different sized wrists
- Feels softer and more comfortable compared to previous designs





Overall Experience

- Viable idea for development.
- It solved a big problem of charging.
- Needs more of human body thermal energy to generate a usable voltage.

- A future implementation incorporates liquid cooling mechanisms.
- It would generate the required charge while the person is in action.

Thank you!