Brunel University London

Design for Health

# Kali

Collaborative Project 2023-2024

**A Portable Potassium Monitoring Solution**

Clinical Leads

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Academic Lead

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Design Student

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Kalium Health™

NHS
Guy's and St Thomas'
NHS Foundation Trust

# The Challenge

Millions of people worldwide suffer from imbalanced potassium levels which pose serious health risks including seizures, heart attacks and greater all-cause mortality.

Currently, the only way to test your potassium levels is through booking an in-person blood test at hospitals or GPs; the process which suffers from delays and poor communication issues – with individuals waiting up to 7 days to receive test results.

Individuals with potassium imbalances are often living with lifelong conditions which they can only manage with lifestyle changes, treatment plans and dietary adjustments.

The inability to monitor one's potassium levels leaves patients in the dark and forces them to rely on estimates. In addition, individuals often miss out on normal daily activities attending appointments and avoiding strenuous situations for fear of worsening their condition.

# Product Requirements

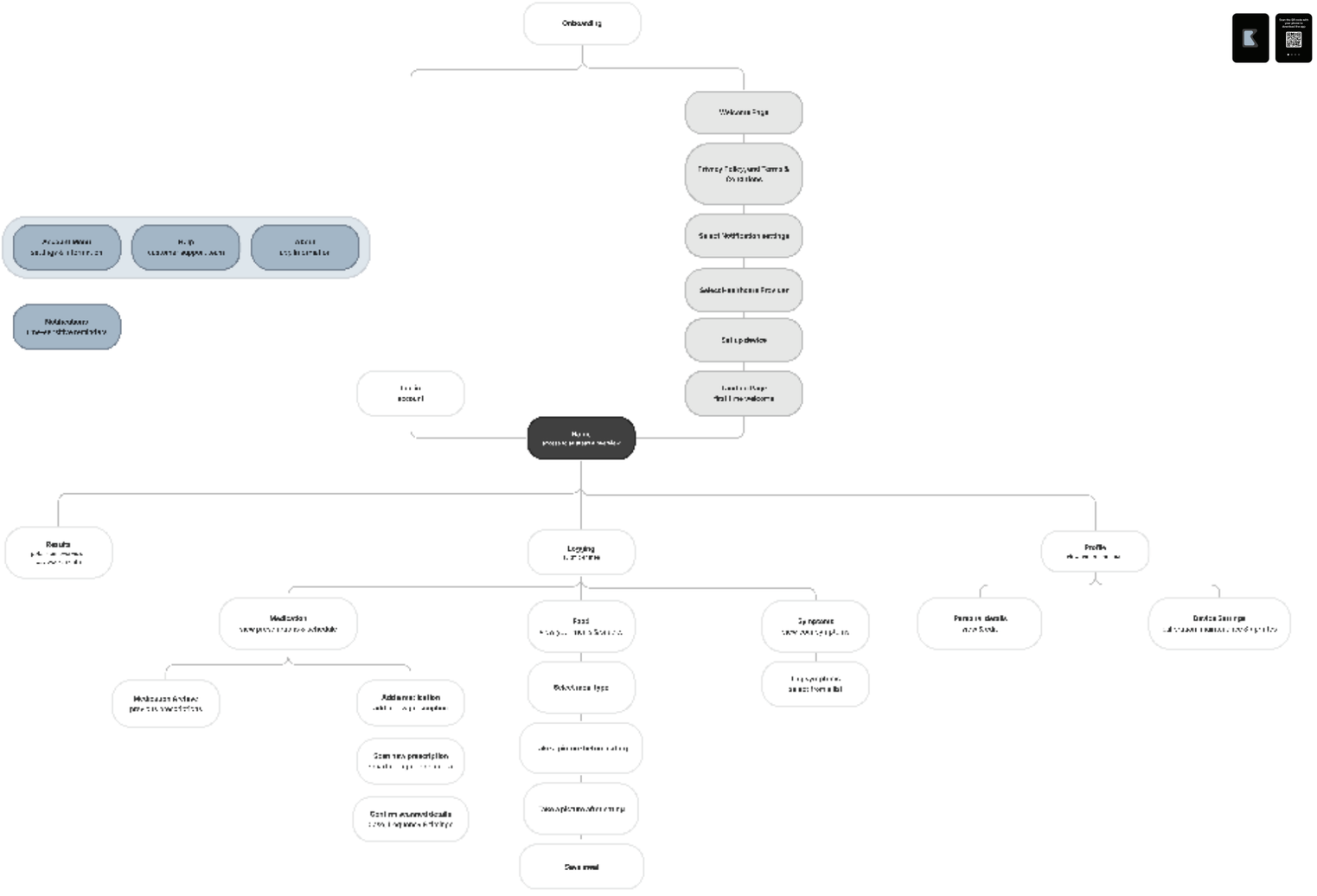
- Improve quality of life for patients with potassium imbalances
- Improve accuracy of the patients' healthcare plan
- Provide patients with more independence in their daily lives

# Ideation and Development

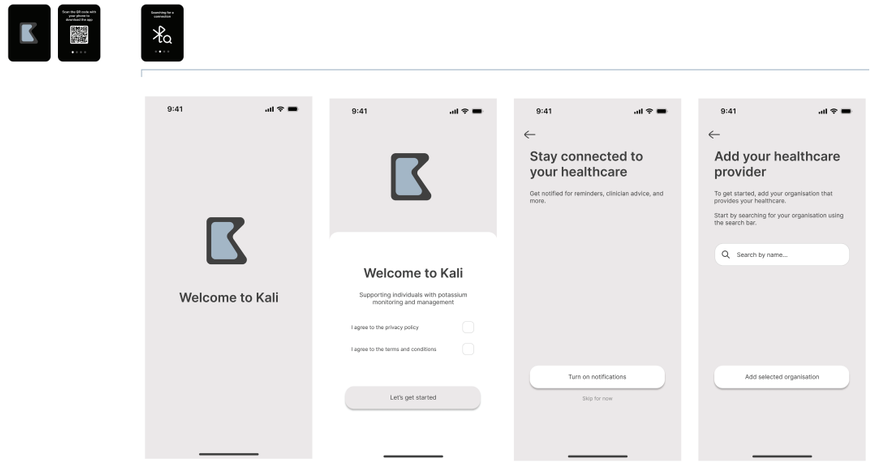
## Physical form development and ideation

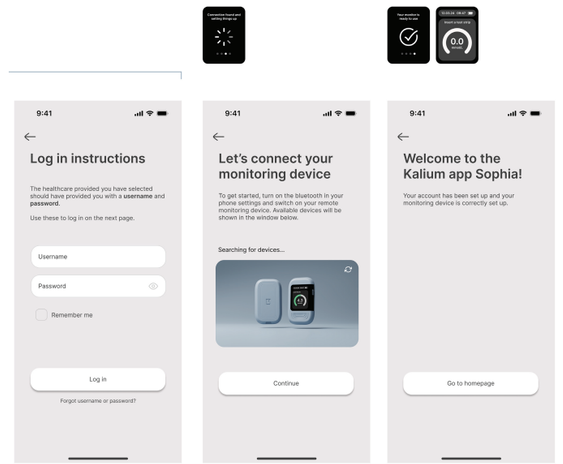
# Ideation and Development Cont.

## Key User Flows for Digital User Experience Interaction




## User Onboarding



# Final Prototype

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## Device UI

Date,Time,Battery Indication
Testing Instruction
Real-time test results

## Test strip slot

features automated test strip detection

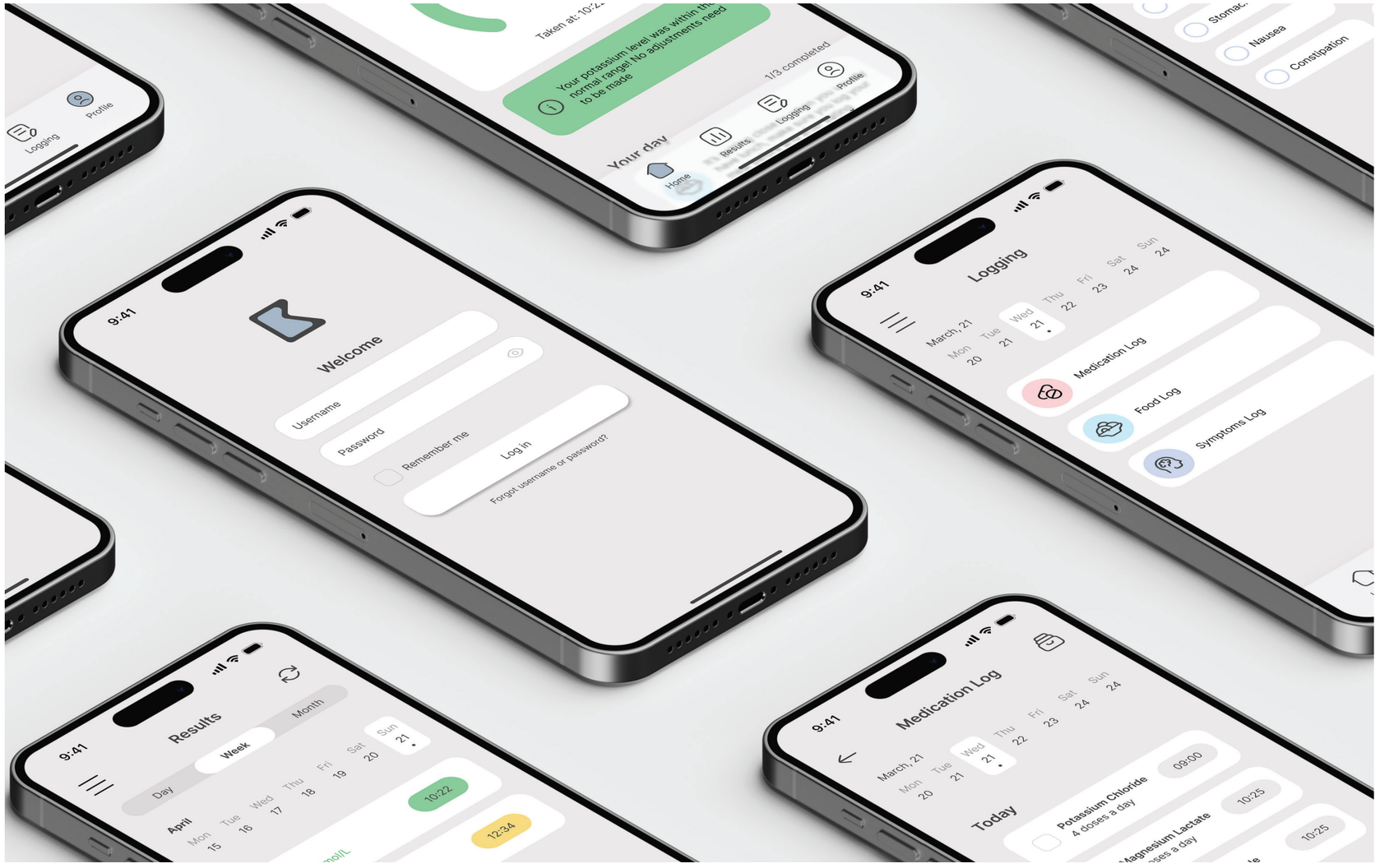
## Interaction Button

Long Press - Power on/off

Short Press - System Navigation

## USB-C Charging

# Final Prototype Cont.




**“It’s just worth having the actual dose on there, just so that it’s crystal clear what they should be on.”**
**User #5**

**‘It’s gonna be a lot more manageable for people. Fantastic. A lot less stress’.**
**User #3**

**100%**

**Users would use the system upon release**