

we are

**LeafBank**



**Dabin, Omar, Ore, Pat and Steve**

# **LeafBank - Origins**

What is LeafBank Anyway?

Your Feedback

Exploring the Tabs

Software Architecture

Demo

Future Steps

Q&A

LeafBank - Origins

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# **LeafBank - Origins**

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Ore

# LeafBank - Origins

## **Initial Client Interactions**

Report on current status of the project  
Inheritance of large library of prototype sketches  
Taking notes on what features/tabs to work on

## **Further Client Interactions**

Show client what we had done  
Get feedback  
Ask questions

# LeafBank - Origins

Breeze was LeafBank before it was LeafBank. A lot of the old app was the basis for our new app but we still had to change things in terms of what the client expected

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# What is LeafBank Anyway?

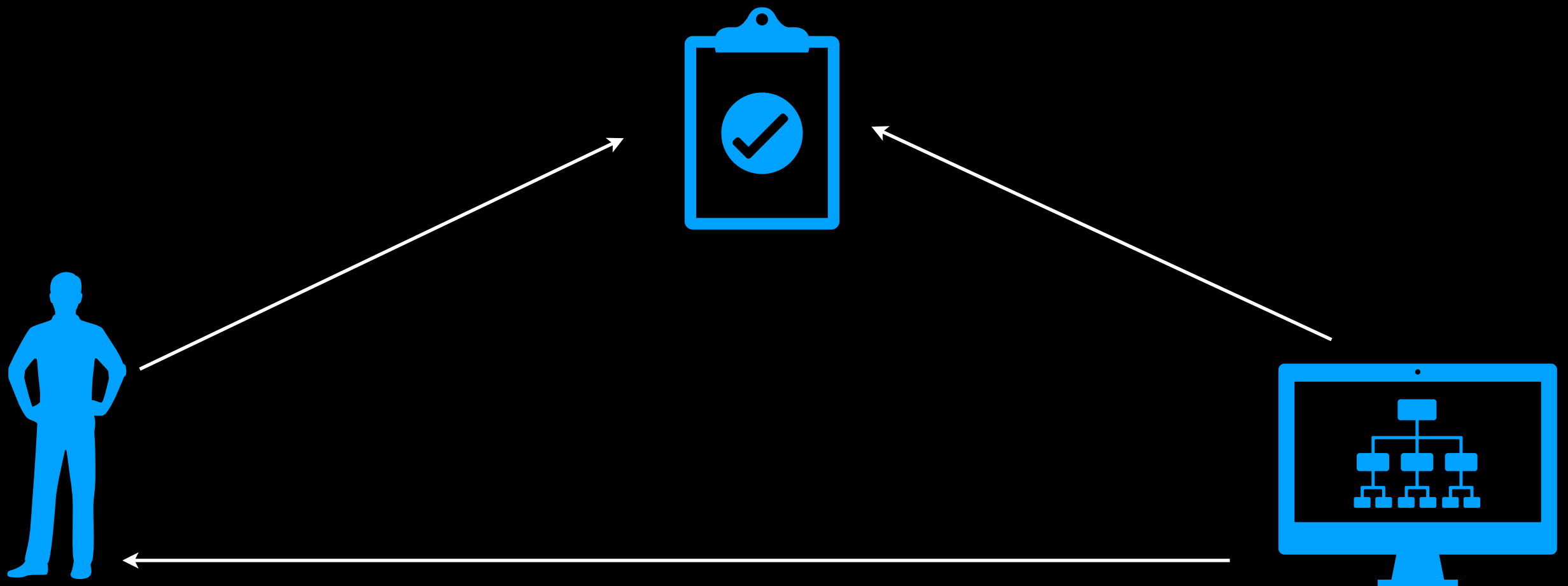
LeafBank sees that there is a problem and we try to address it

**Problem:** The sentiment of many veterans is that they are ignored. We know we have a lot of data potential from vets prescribed medical marijuana but right now there is no wide-spread form of collection

**Goal:** to use this data so that it makes a positive impact. First we have to actually get the data

# What is LeafBank Anyway?

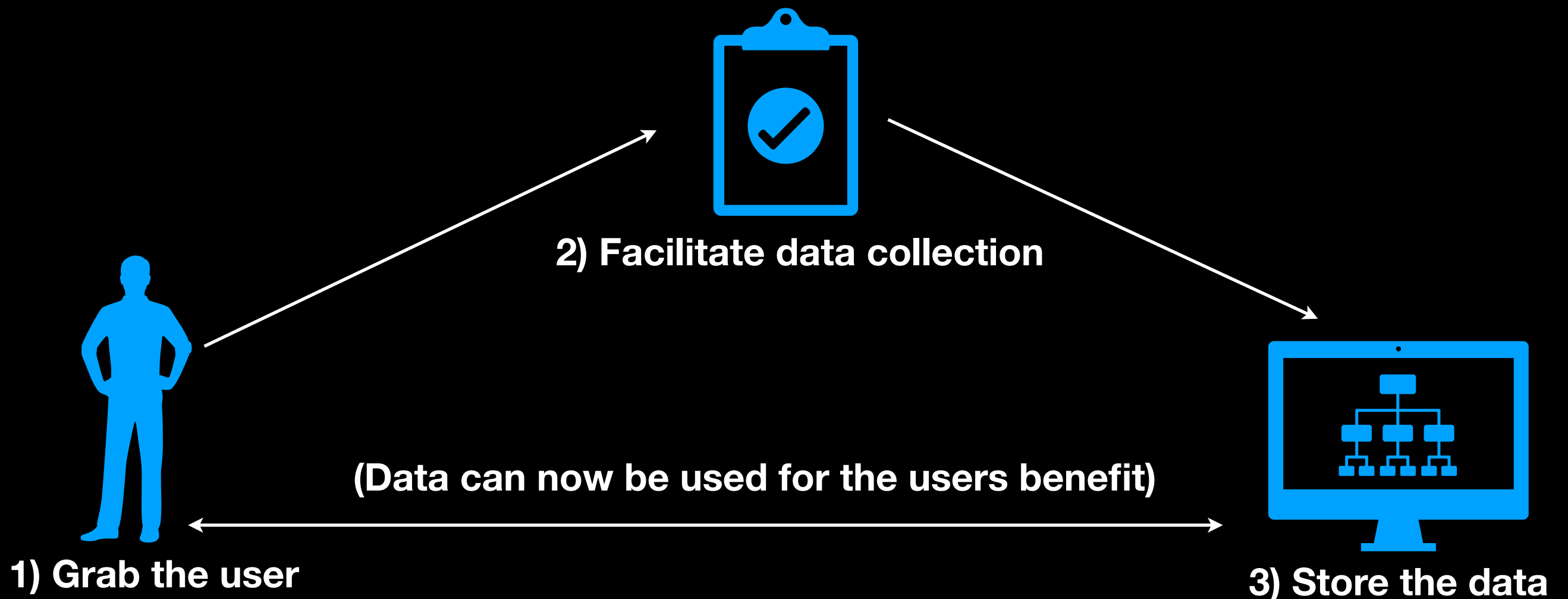
LeafBank is a conduit for data collection in a safe trusted way





# What is LeafBank Anyway?

LeafBank is a conduit for data collection in a safe trusted way



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**Steve**

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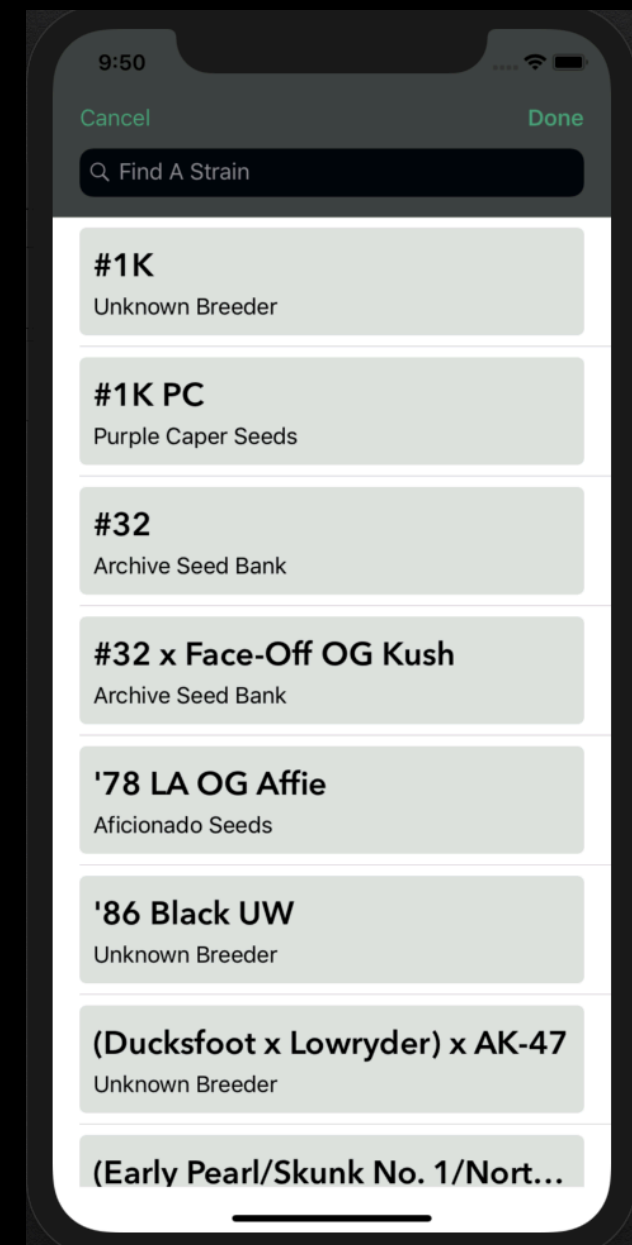
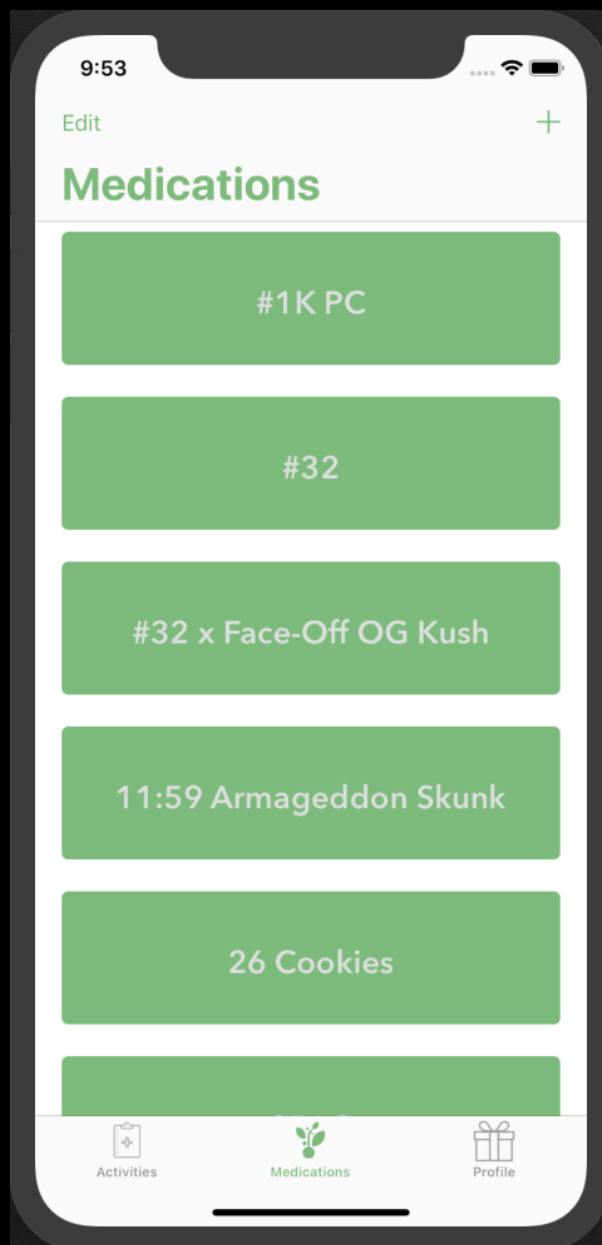
Future Steps

Q&A

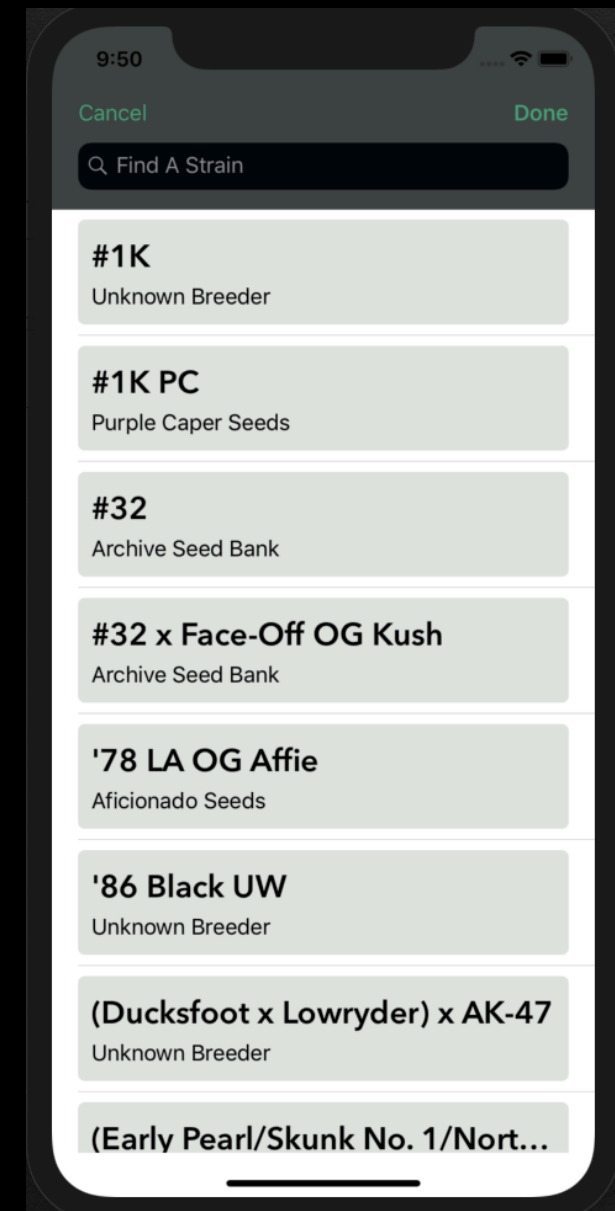
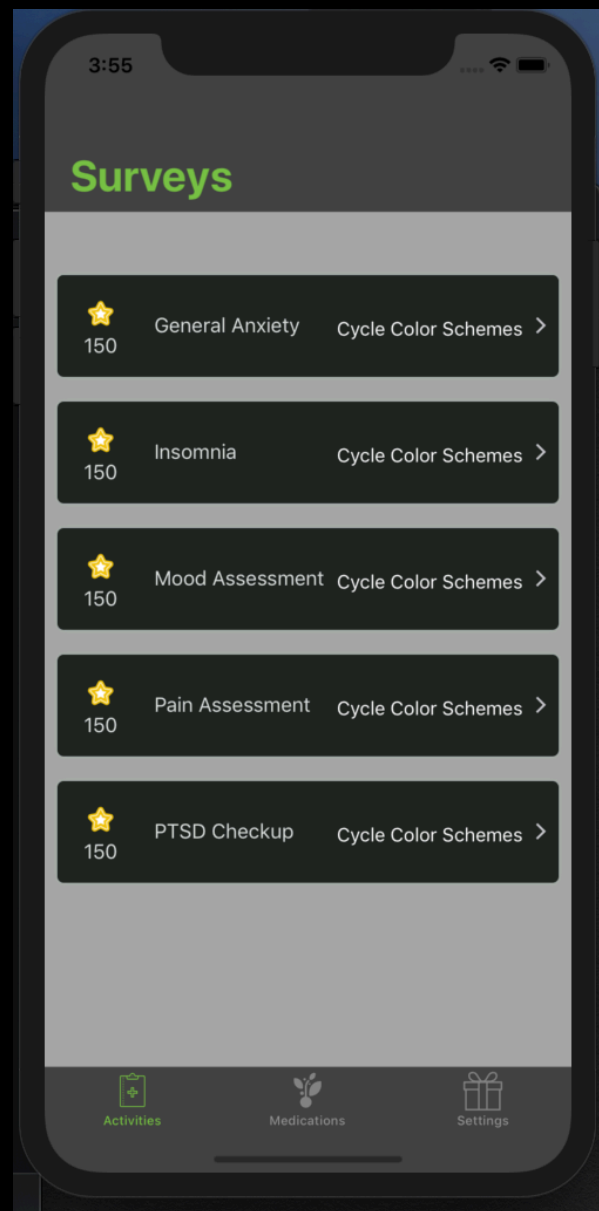
# Your Feedback

Backend good, focus on UI  
Adjustment to color scheme  
Tableview cell presentation  
Tab bar iconography

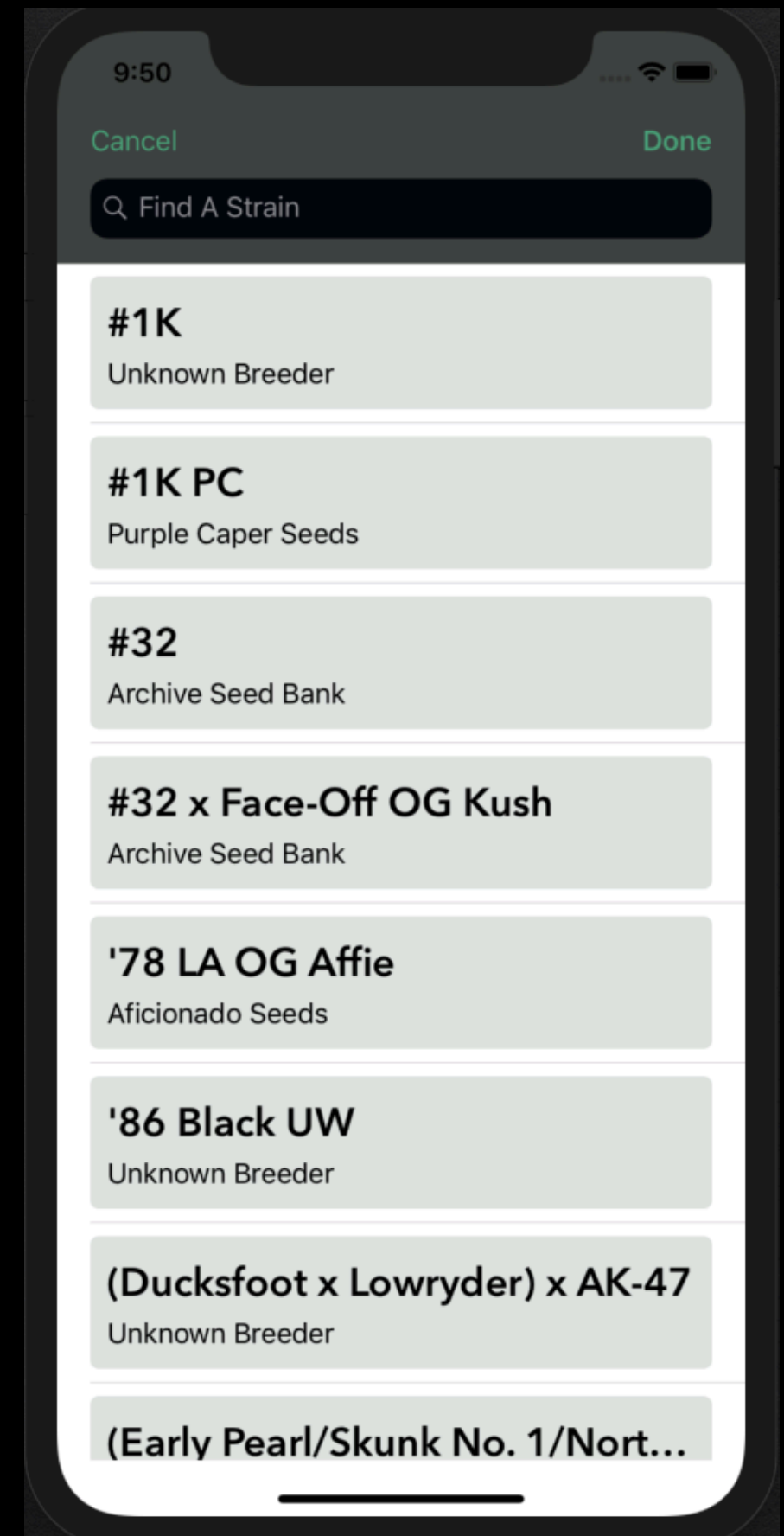
# Themes



# Tableview Cells

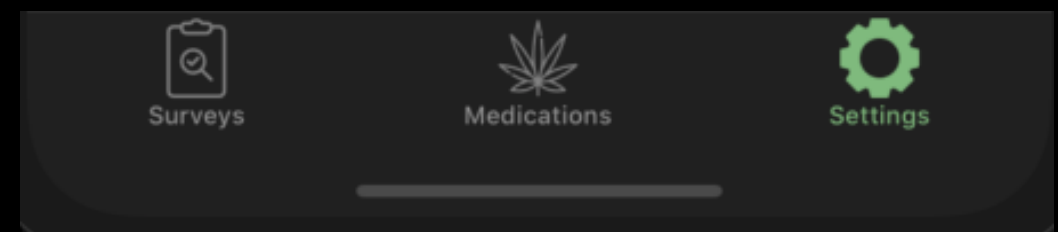
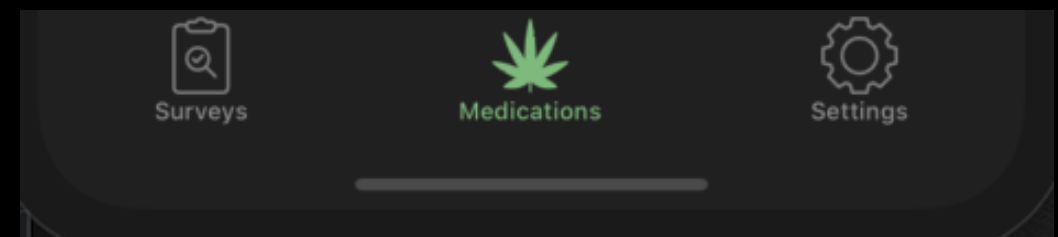
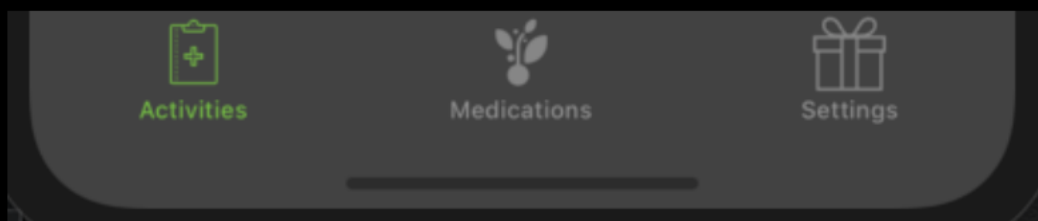
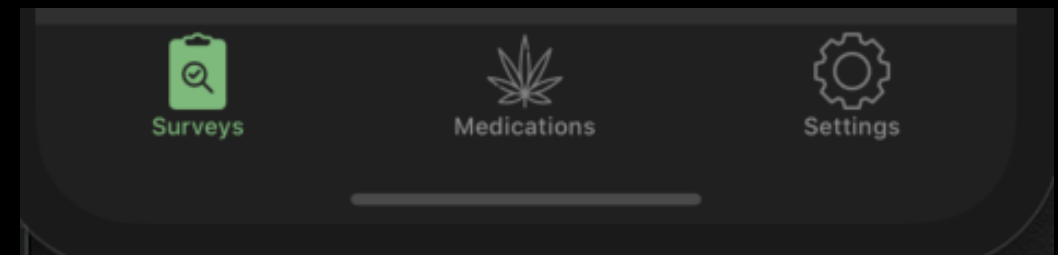
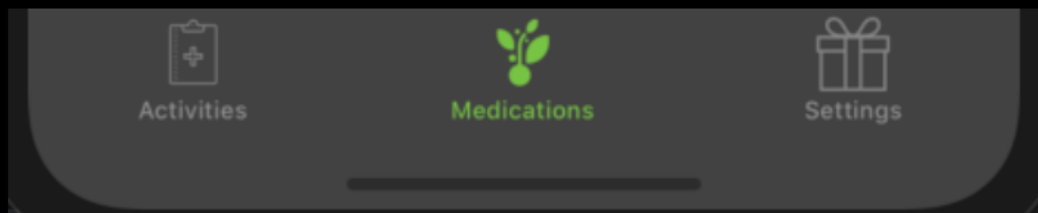


# Adding a Medication

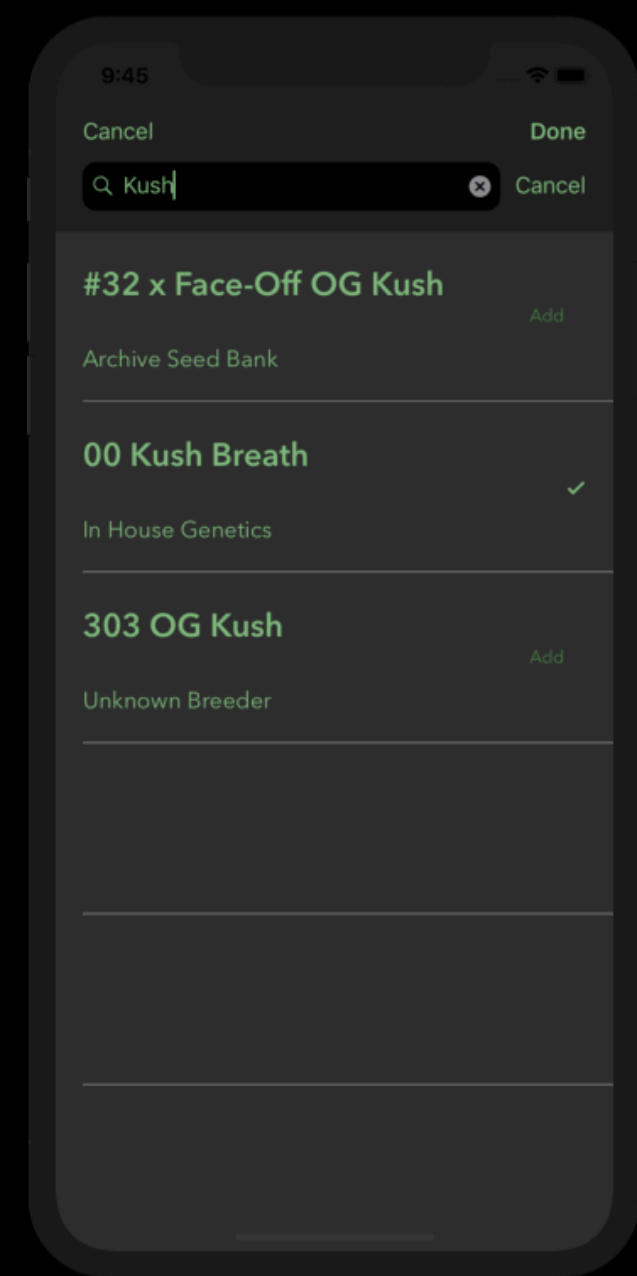
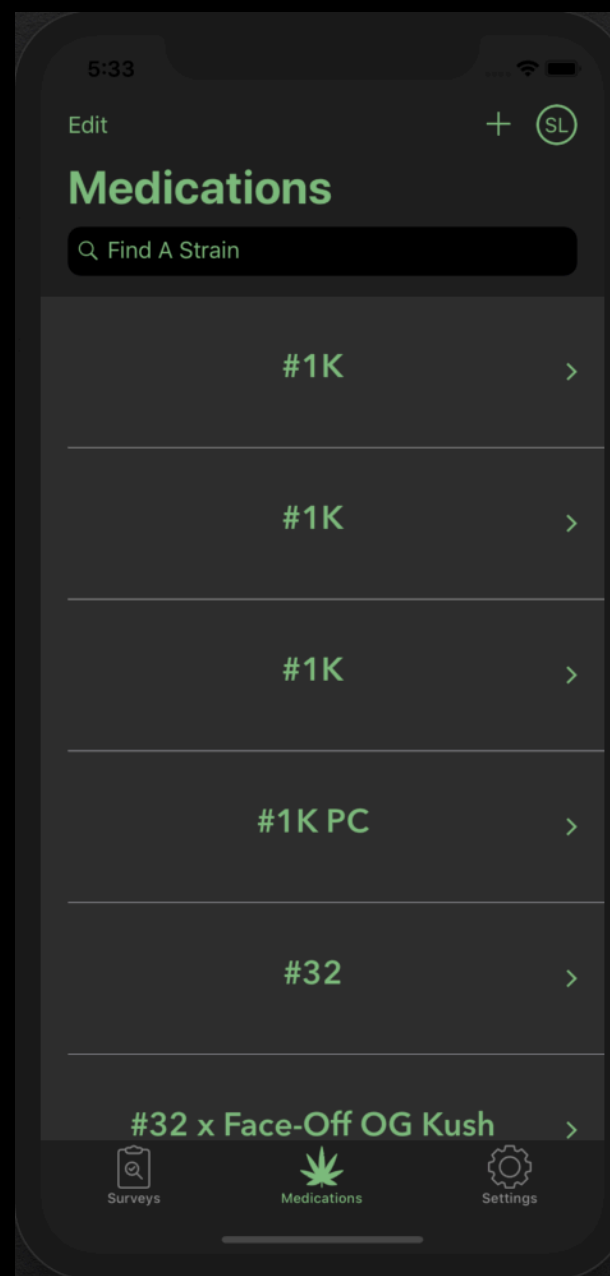
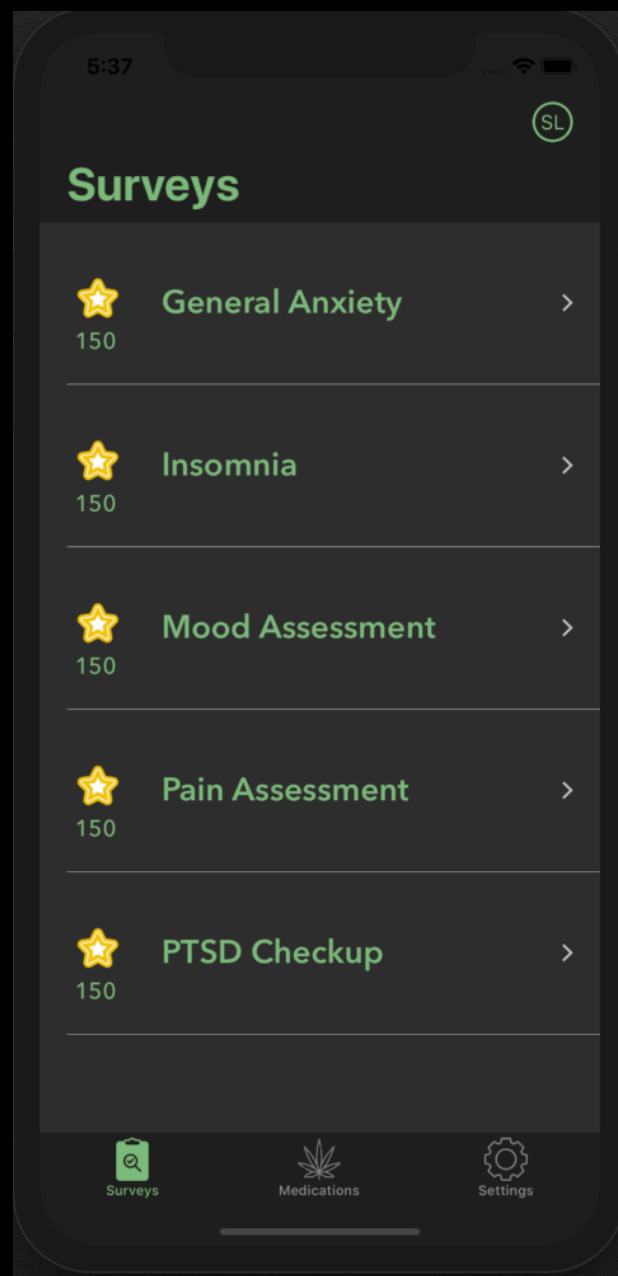




# Tab bar Icons



# The New Design



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**Dabin**

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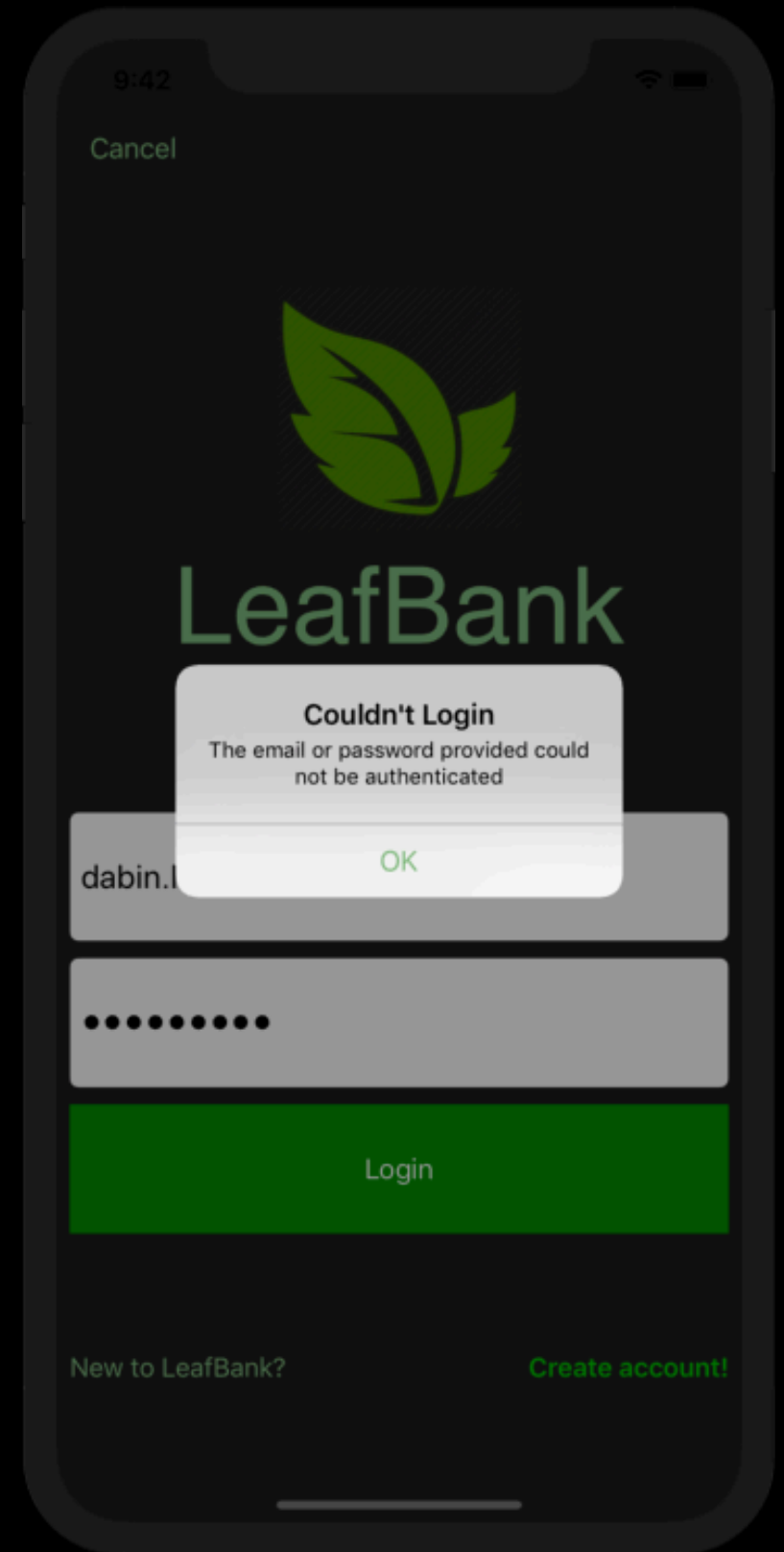
Q&A

# Exploring the Tabs

Login View

Authentication Error Handling

Full Backend Implementation



# Exploring the Tabs

Registration

Privacy Policy

Registration Error Handling



A mobile app registration screen for LeafBank. The screen has a dark background. At the top, there is a status bar showing 9:50 and a 'Cancel' button. Below the status bar is a green leaf logo and the text 'LeafBank'. The registration form consists of several white input fields: a first name field containing 'Jeremy', a last name field containing 'Wright', an email field containing 'jeremy@outlook.com', a password field with masked characters, and a confirmation password field with masked characters. Below the password fields is a placeholder image for a medical marijuana card. At the bottom of the screen is a large green button labeled 'Register'.

9:50

Cancel

LeafBank

Jeremy

Wright

jeremy@outlook.com

.....

.....

MEDICAL MARIJUANA

placeholder

Register

# Exploring the Tabs

Surveys Tab

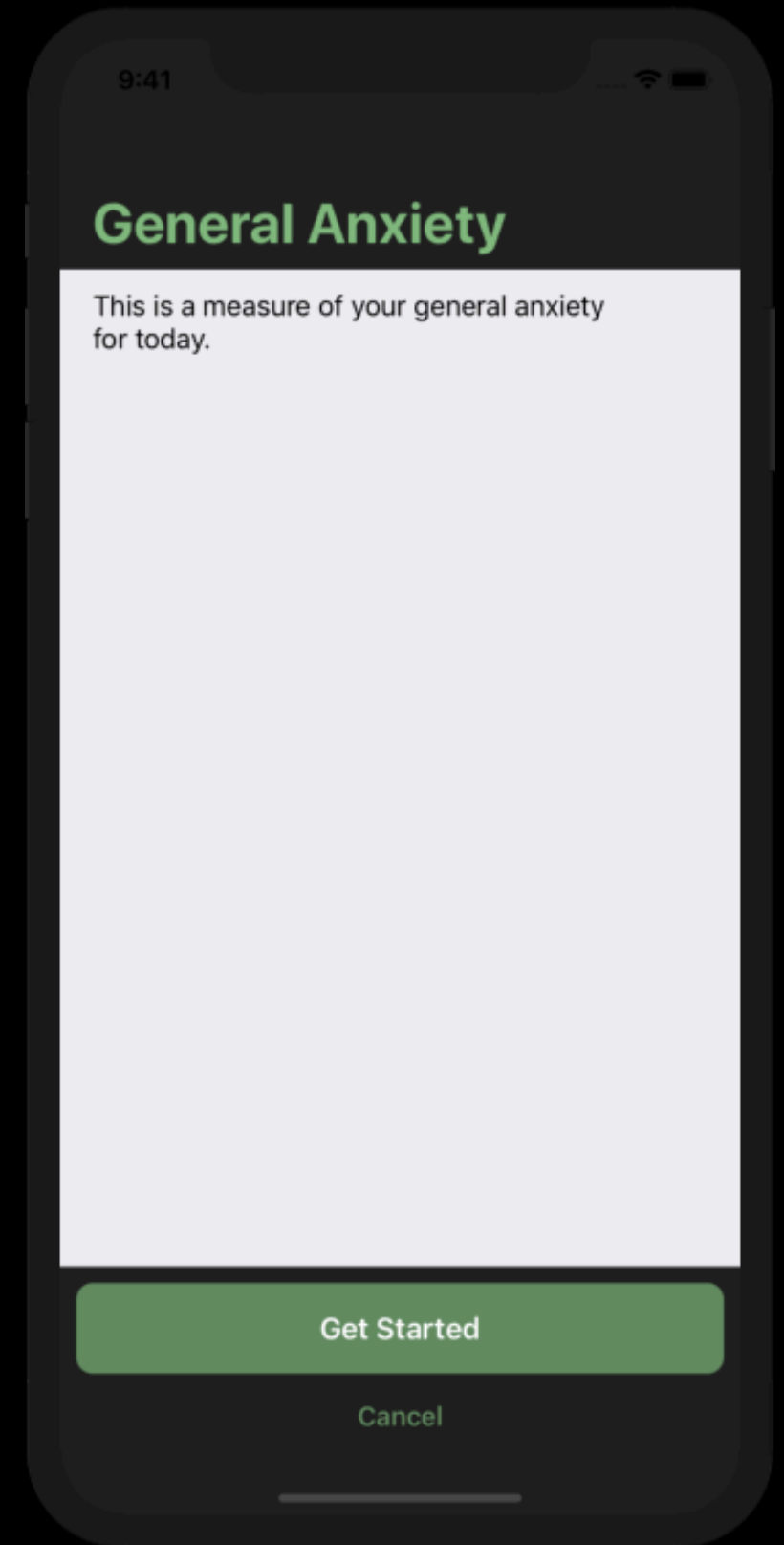
ResearchKit

EaseKit

Results

Challenges

ResearchKit UI Customization





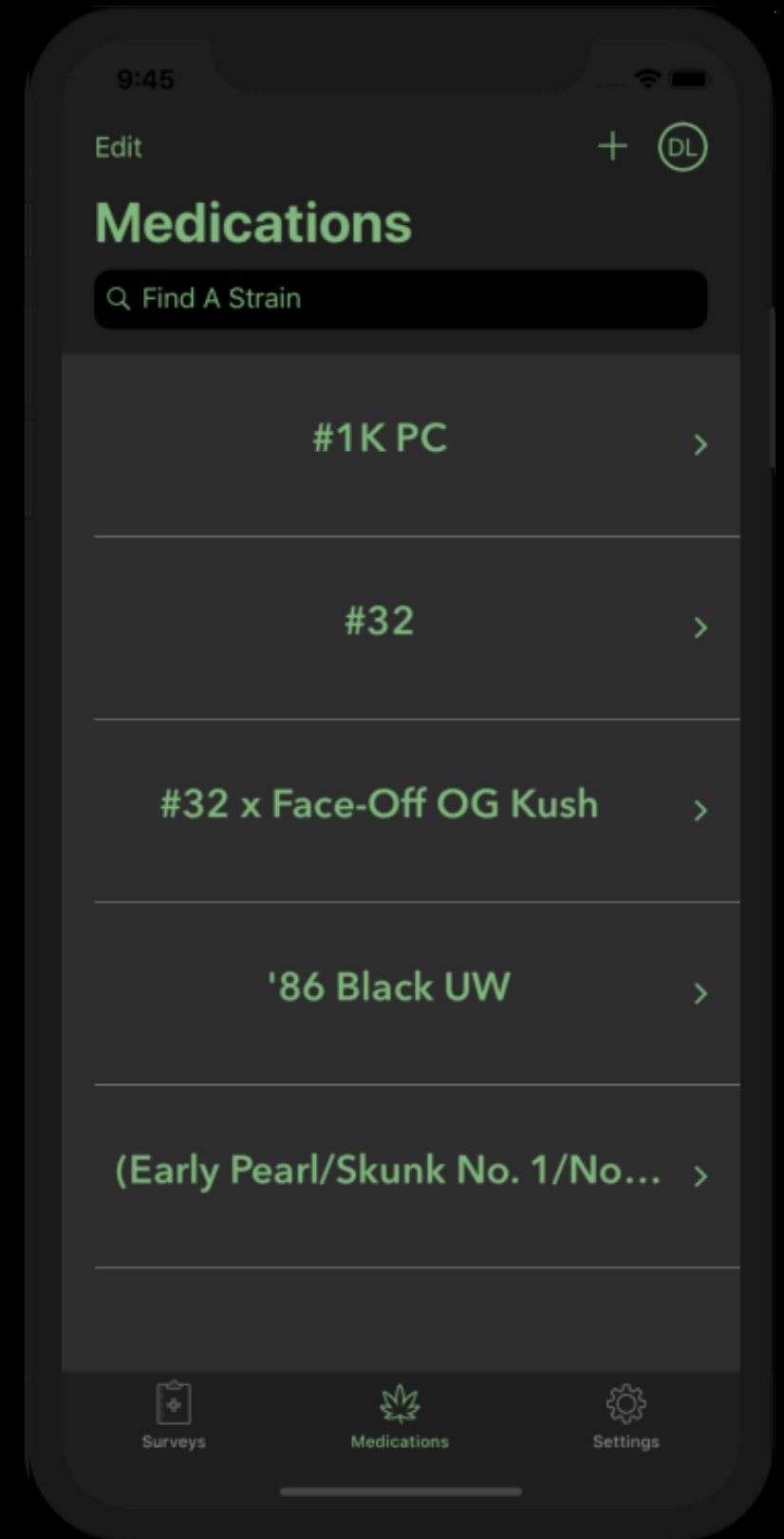
# Exploring the Tabs

Medications Tab

Mutable Table Views

Medication Reminders

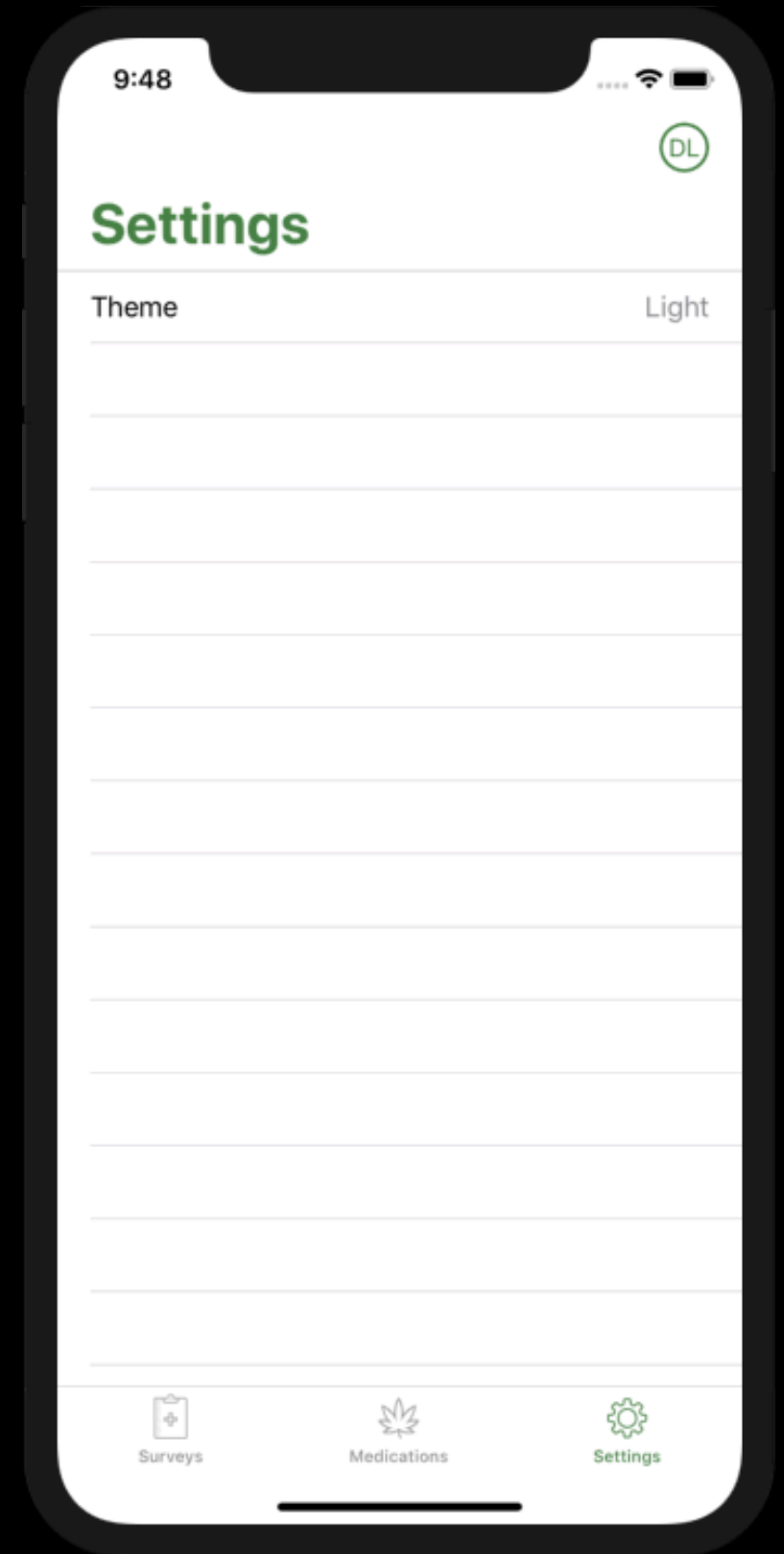
Otreeba API



# Exploring the Tabs

Settings Tab

Application Themes



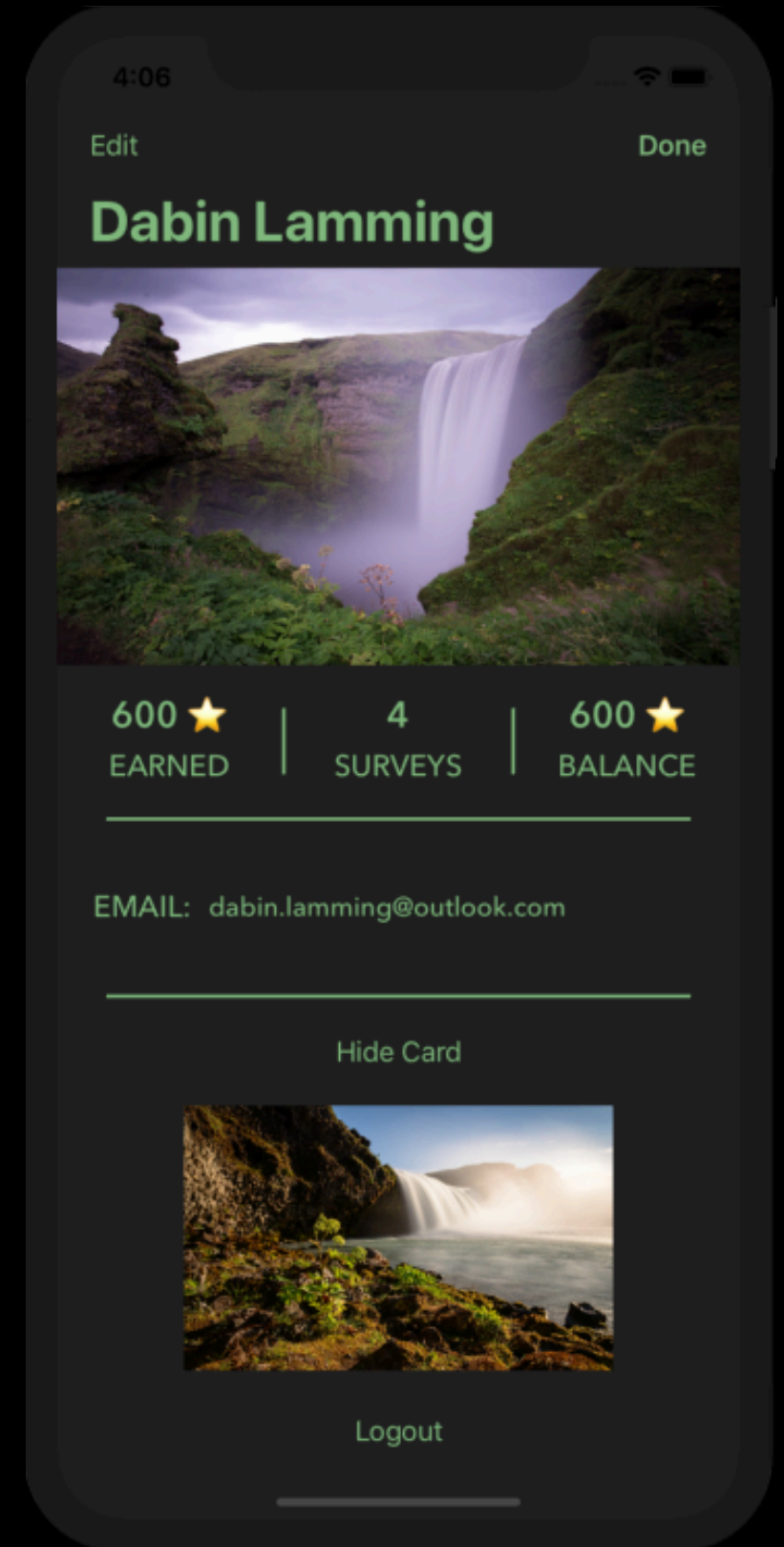
# Exploring the Tabs

## Profile View

Profile Image

User Information

Card Image

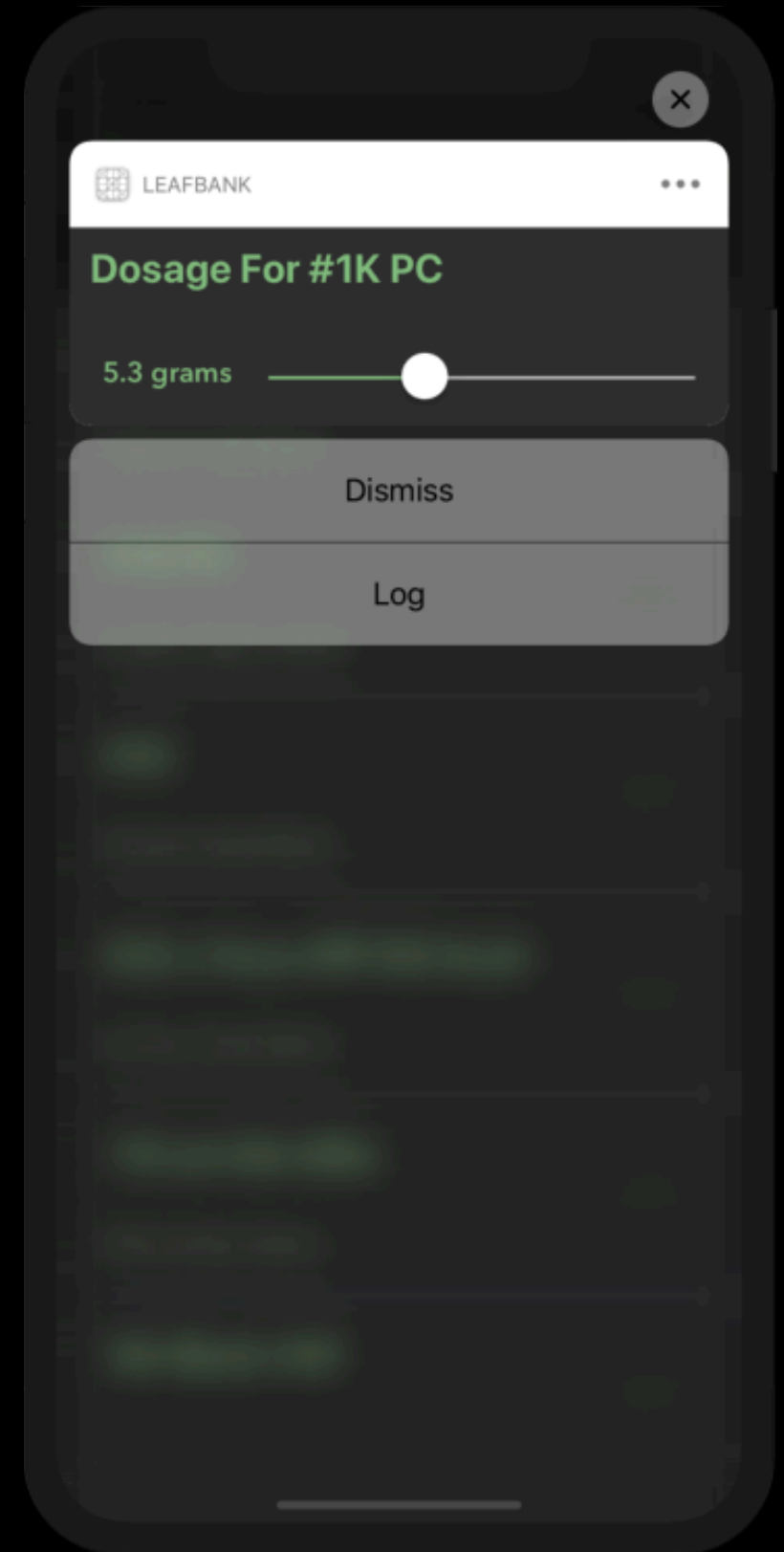


# Exploring the Tabs

Rich Notifications

Dosage Logging

Foreground Or Background



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**Pat**

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# Software Architecture

## RxSwift (A Reactive framework)

- Update views when the current user changes
- Update views when the observed collection or document changes

```
Auth.auth().rx.currentUser()  
    .unwrap()  
    .map({ user in  
        user.document.collectionOf(Medication.self)  
    })  
    .flatMapLatest({ collection in  
        collection.valueObservable(queryBuilder: {  
            $0.order(by: Medication.CodingKeys.name.rawValue)  
        })  
    })  
    .do(onNext: { elements in  
        // updated data  
    })
```



# Software Architecture

## Type safe Firebase

- Allows safe access to collections and documents of a specific type

```
user.document.collectionOf(Medication.self)
```

# Software Architecture

## Theme Manager

- UIAppearance causes issues when changing more than once
- - Custom theming engine using Swift 4 Key Paths
- - Optional update closure for fine grain control
- - Constraints based on view hierarchy

```
self.add(ThemeComponent([
    ThemeProperty(\UITextField.defaultTextAttributes, self.tintedTextAttributes),
]) {
    // Apply tint to image views
    for case let subview as UIImageView in $0.subviews {
        subview.image = subview.image?.withRenderingMode(.alwaysTemplate)
    }

    // Apply tint to placeholder text
    guard let placeholder = $0.attributedPlaceholder?.string ?? $0.placeholder else { return }
    $0.attributedPlaceholder = NSAttributedString(string: placeholder,
                                                attributes: $0.defaultTextAttributes)
}
    .adding(constraint: .IsChildOf, UISearchBar.self)
)
```

# Software Architecture

## Theme Manager Internals

- Runtime method swizzling

```
let originalSelector = #selector(UIView.didMoveToSuperview)
let swizzledSelector = #selector(UIView.leafbank_didMoveToSuperview)

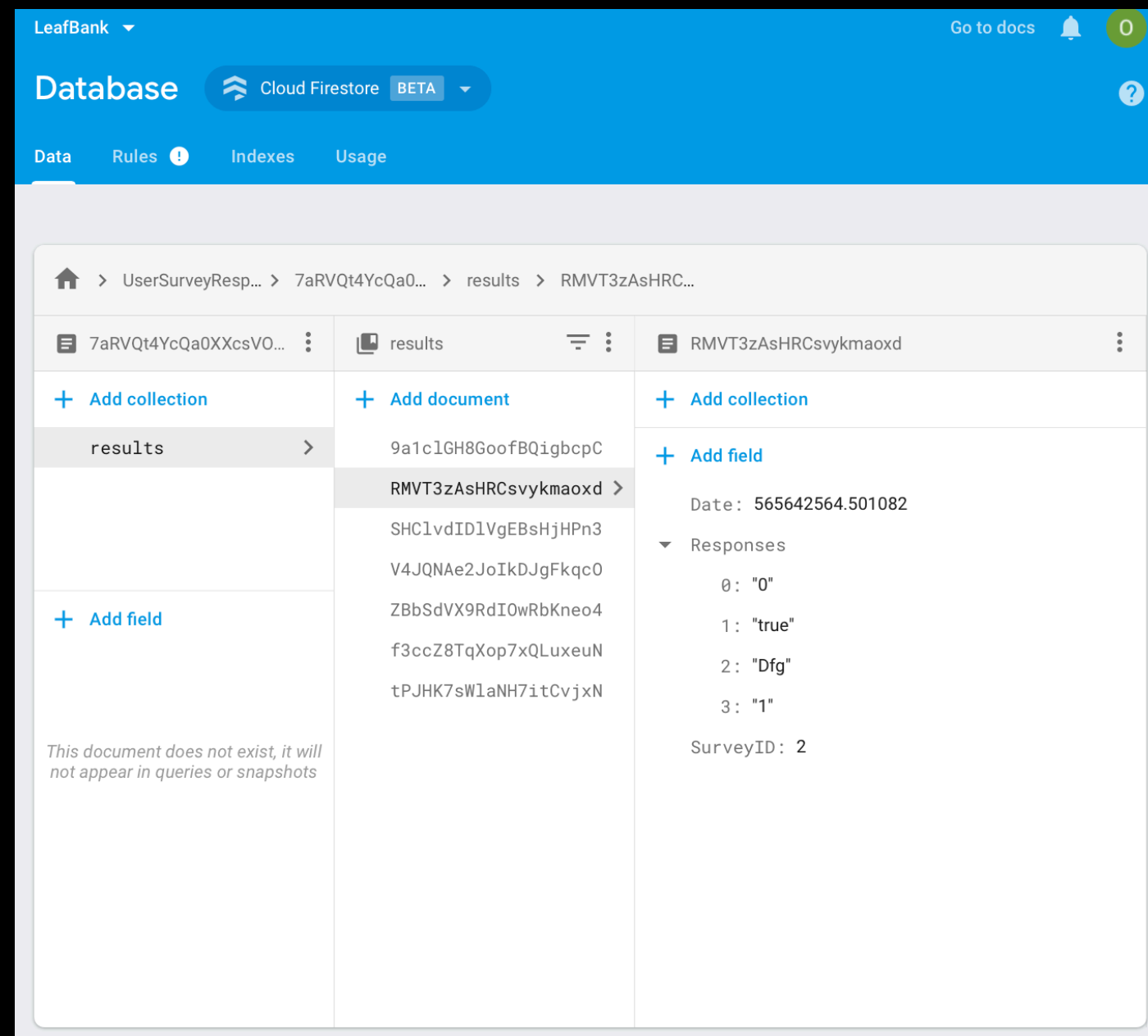
let originalMethod = class_getInstanceMethod(UIView.self, originalSelector)
let swizzledMethod = class_getInstanceMethod(UIView.self, swizzledSelector)

method_exchangeImplementations(originalMethod, swizzledMethod)
```

# Software Architecture

## ResearchKit + Database

- Open Source
- Forked to allow Theming engine to work properly
- Firebase as database
- Can parse ResearchKit responses to store into database for each respective user



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**Omar**

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# Future Steps

LeafBank will continue to grow - with or without us

Recent developments include scaling back on medication

Focus more on meaningful, accurate surveys and survey response collection

# Final Comments

Summary of LeafBank

Our experiences

Our contributions

Acknowledgements

Thank you,  
you've been awesome 100 🌟

Questions?