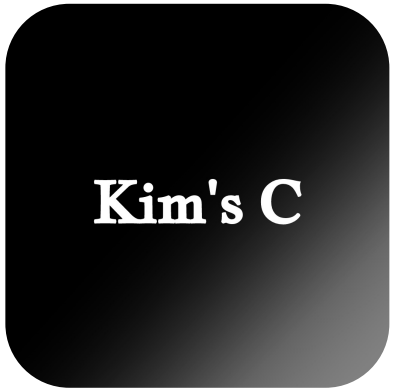


Kim’s Collection

A Meta-Data Collection App

Oluwafolajinmi Olugbodi - Dr. Kim’s Lab

Concepts of Metadata and Data Provenance

- What is data provenance? Historical ledger of data
- Why is this relevant to genomics data? Data quality and authenticity
- What is metadata? Data that describes other data
- What kind of metatdata are relevant to HuBMAP—examples
  - SampleID, HarvestBy, Species, Strain, cellType

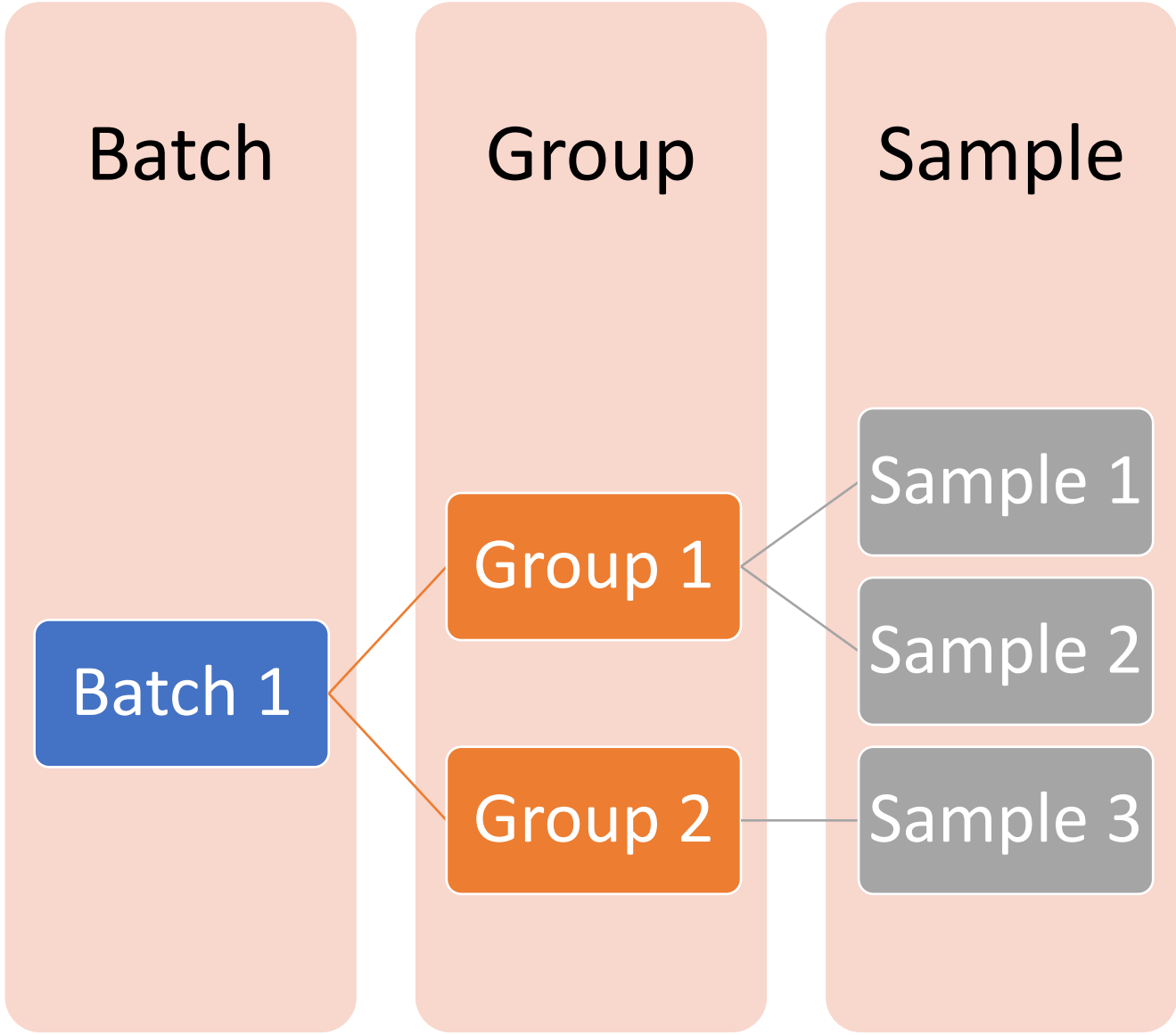
Problems with Collecting Metadata and Our Solution

- labor-intensive process
- the task of recalling prerecorded data time consuming
- We want to propose a solution where experimenters can capture metadata on the fly while doing experiments

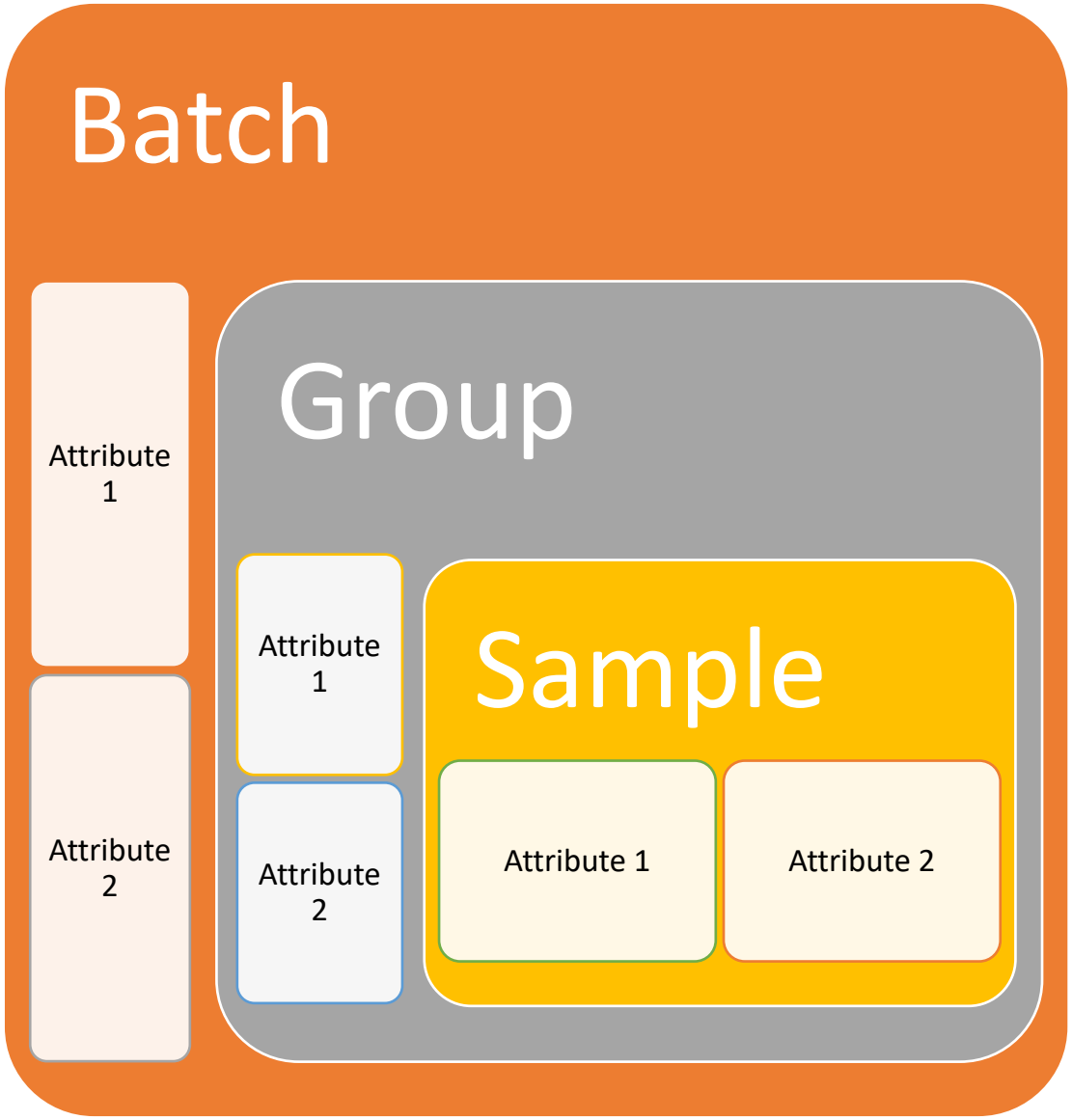
Objective

- We want to capture metadata to establish data provenance for HuBMAP
- Gather and assemble data procured by Lab Technicians before, during, and after a procedure using an elegant, mobile, user-friendly and uncomplicated input methodology

Hierarchical Approach

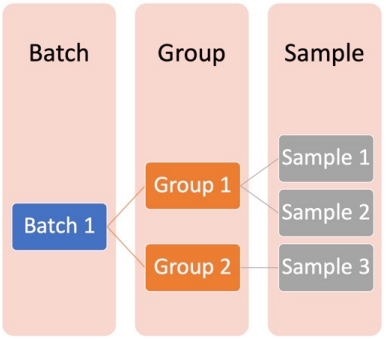


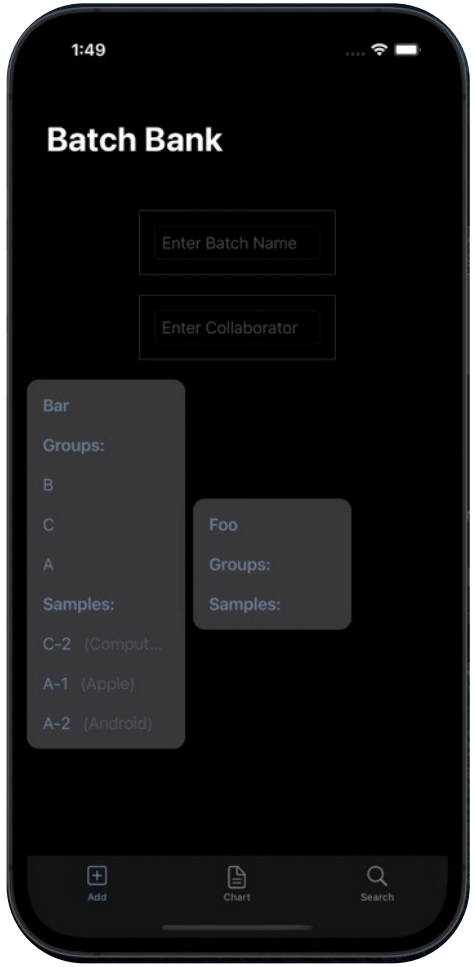
Hierarchical Attributes

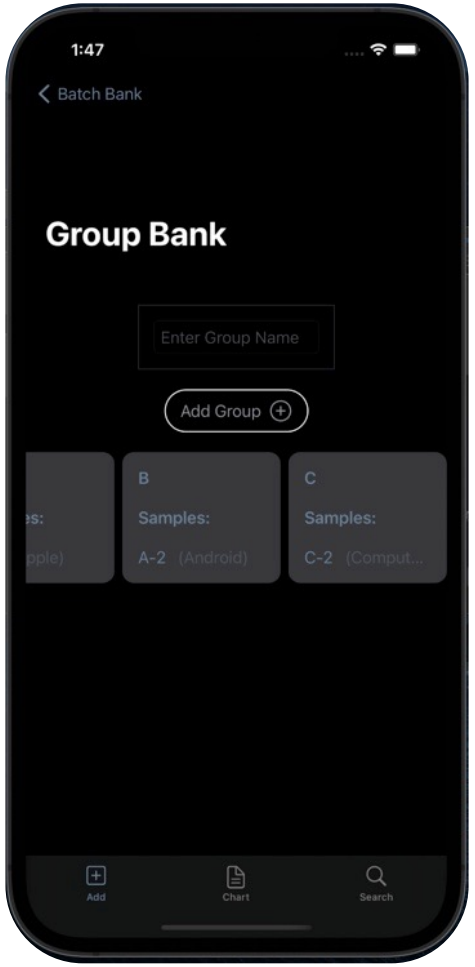


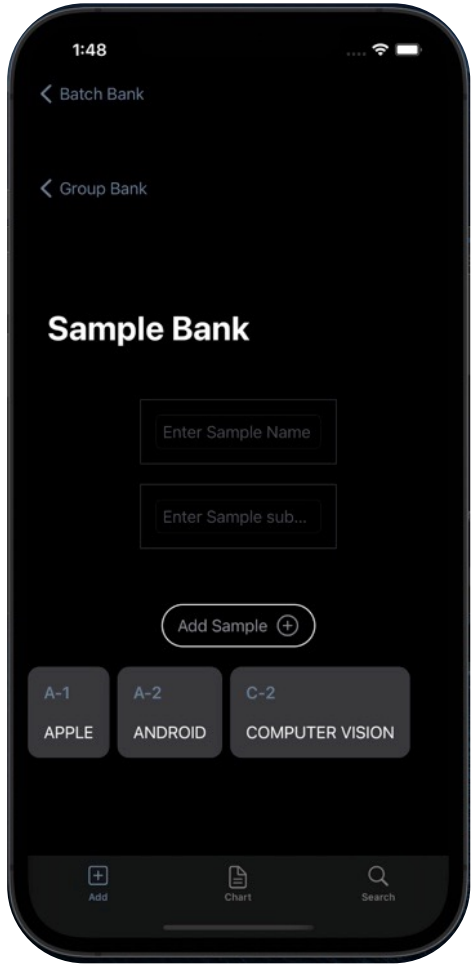
Prototype Snapshots

Addition Tab View

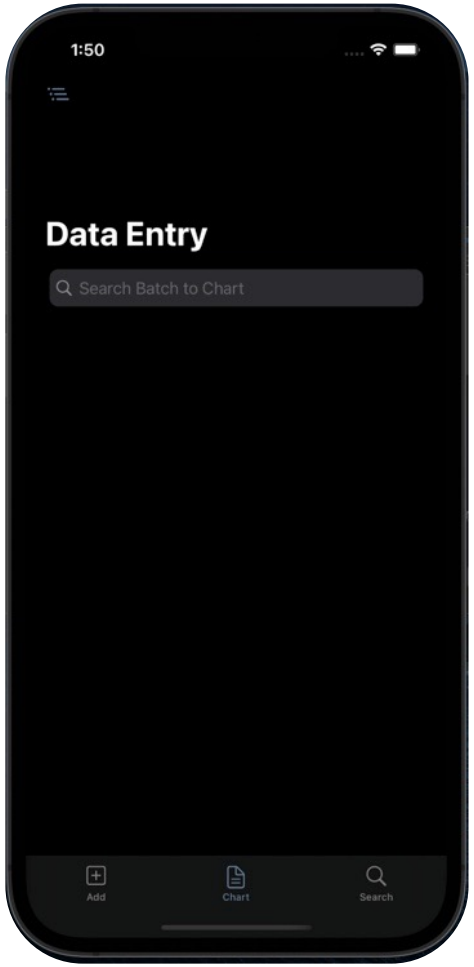


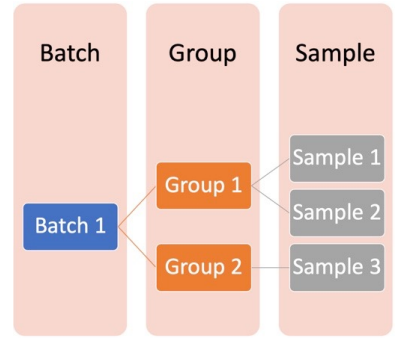


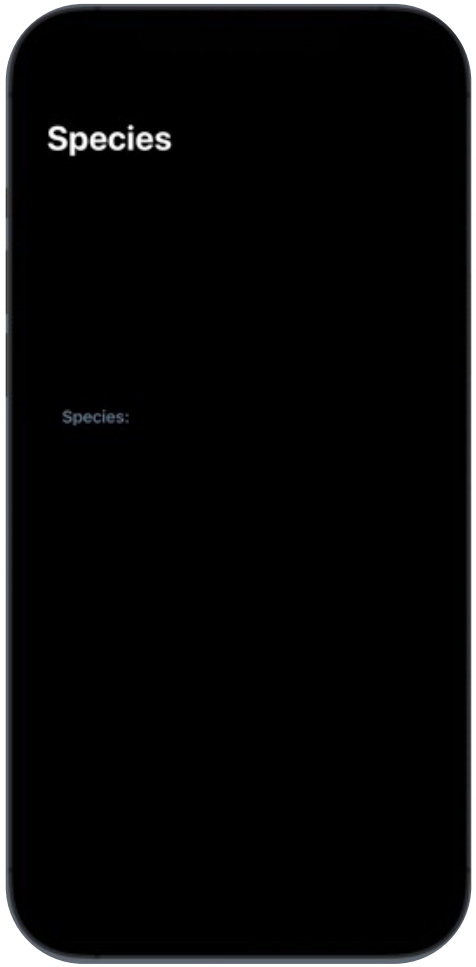


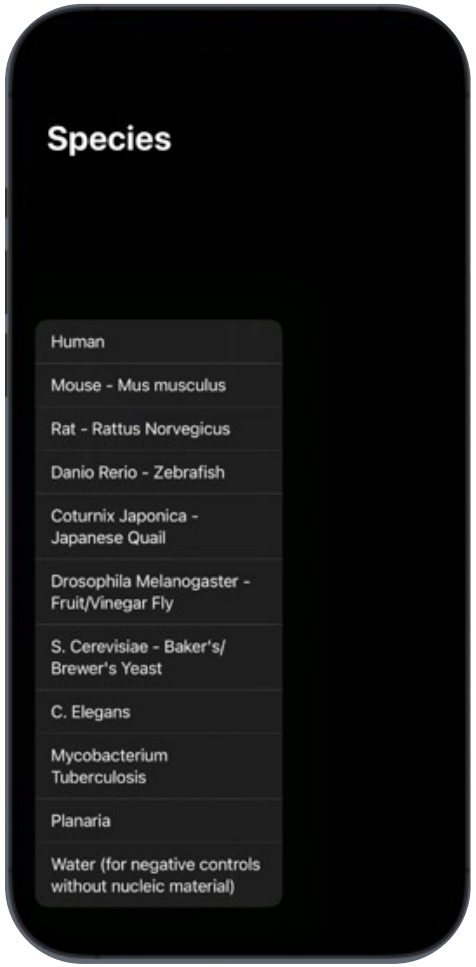


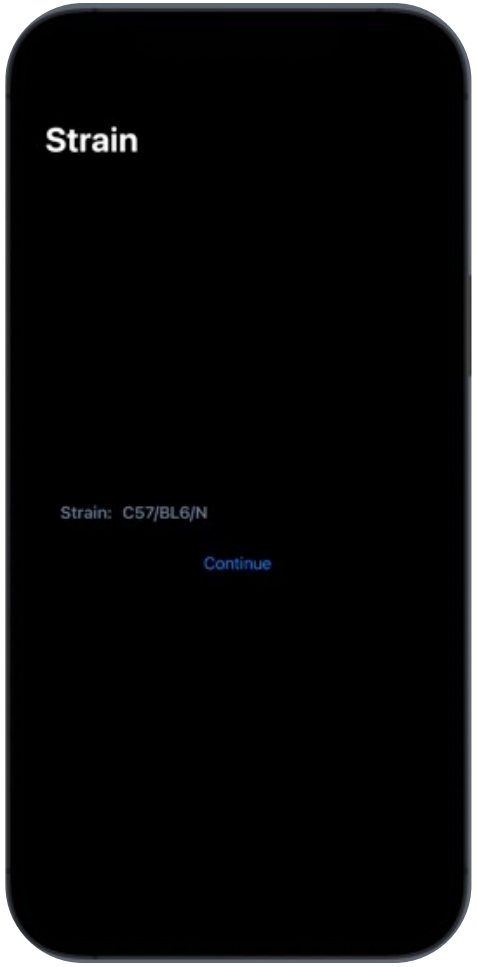
Data Entry Tab View

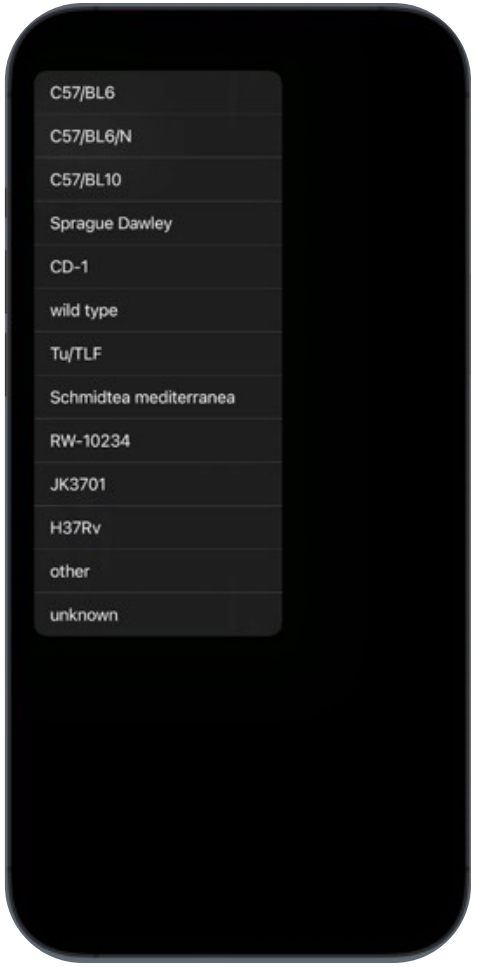


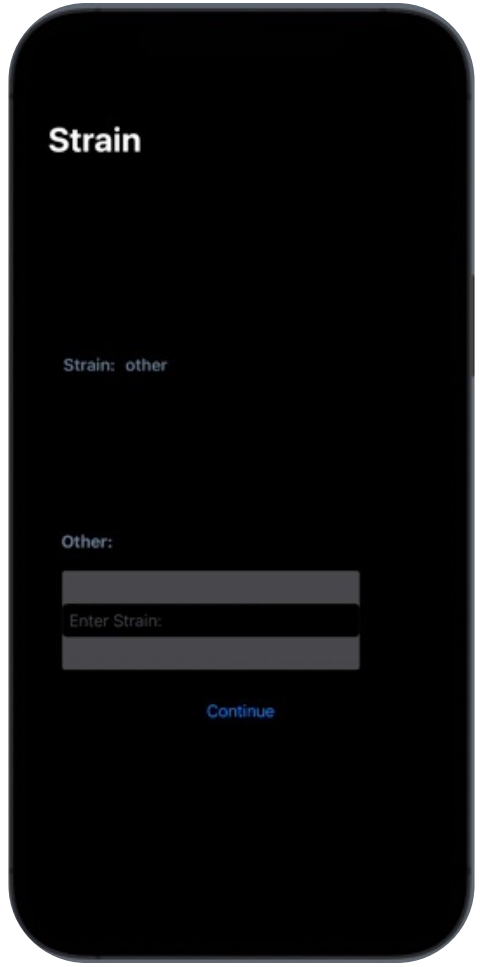







Strain
Strain: C57/BL6/N
Continue


C57/BL6
C57/BL6/N
C57/BL10
Sprague Dawley
CD-1
wild type
Tu/TLF
Schmidtea mediterranea
RW-10234
JK3701
H37Rv
other
unknown


Strain
Strain: other
Other:
Enter Strain:
Continue

App Structure

App Structure – iOS Core Data

Object Graph and Persistence Framework

- ” Persist or cache data on a single device, or sync data to multiple devices with CloudKit.” – Apple
- Core Data allows temporary or permanent caching of data locally offline
- Entities, relationships, and class definitions defined and generated through Core Data’s Data Model editor

Persistence:

- A high-level abstract mapping of objects to a store

Acknowledgements

- NHGRI
- NIH
- Dr. Junhyong Kim
- Dr. Stephen Fisher and Dr. Erik Nordgren
- The Kim Lab