# How It Works (Mitchell)

Non-Technical Overview

- Users create foods and save them locally to their device
- They can then log their meals by selecting what food and how much of it they ate
- Diary entries can be edited or deleted at any time
- Users receive a daily reminder notification if they don't log any meals for a day

Technical Overview

- Data is stored using the Room persistence library
  - Room acts as a layer between the app's code and a local SQLite database
  - Data is only stored on the user's device, no external databases are used
- Database operations including queries are kept off of the UI thread
  - Instead, a pool of four threads are used
  - This keeps the app running smoothly even while performing many database operations
- Data is kept independent of any UI state
  - Data is referenced using a View Model rather than making queries directly to the database
  - This design hides the threading implementation from the frontend components
- UI elements react to database changes
  - Insertions, updates, and deletions in the SQLite database notify observers of changes
  - UI elements such as Spinners (drop-down boxes) and RecyclerViews (lists) observe these changes and update themselves
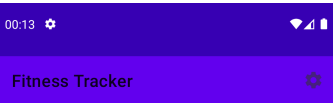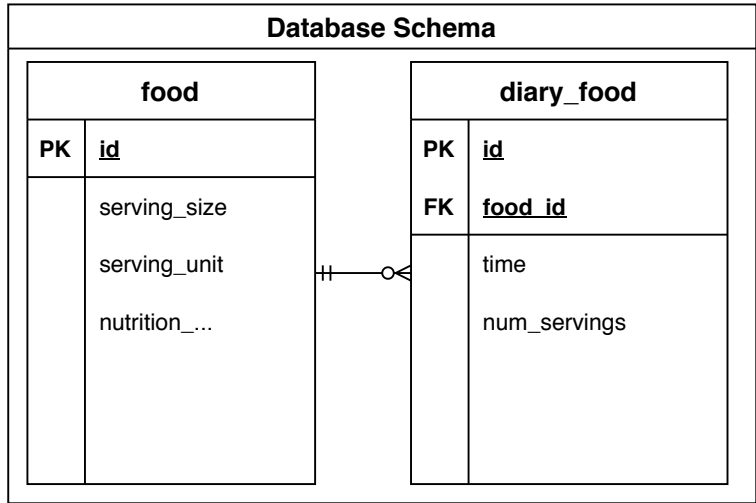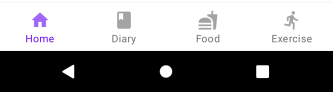
Database Schema

The Home Page

Adding a New Diary Entry

The Food Page

Data Access Pipeline

This is a code snippet demonstrating how LiveData objects are set up for observing database changes.

```
mealSearchKeyId = new MutableLiveData<>(0L);
mealById = Transformations.switchMap(
                    mealSearchKeyId,
                    foodDiaryEntryDao::getMealLD
);
```
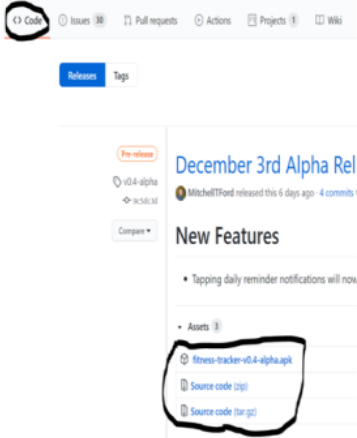
Use Cases
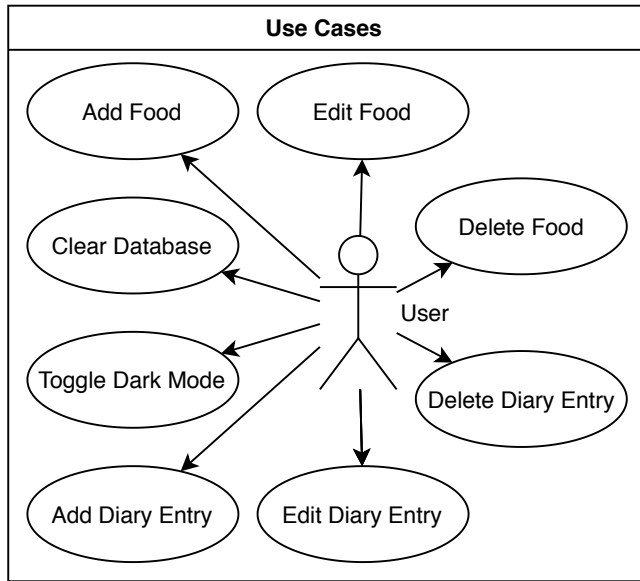
Comprehensive User Manual (Eyerusalem)

Installation Guide

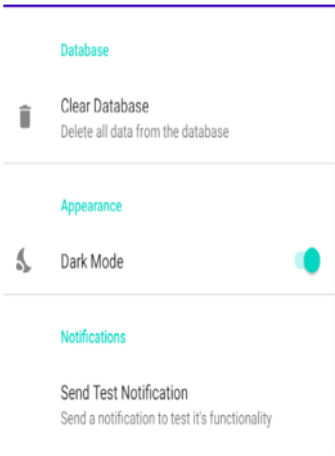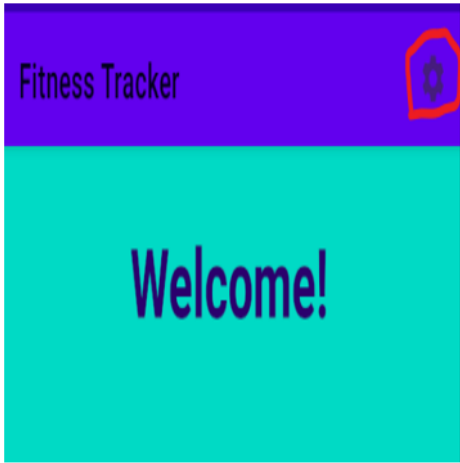Click <> code on the top of left-hand side

On the righthand side there under releases click on 4 tags.

Click the asset and install

Instructions for all Features

Run the app click the setting icon on the right side of the app

Problem Description (Why do we need your system?)

This system helps monitor your progress

It helps a person develop healthy habits by being constantly reminded to add their meals, exercises and avoid prolonged sitting or not doing anything.

Also, it keeps you motivated to complete your daily workout regimen so you can achieve your health and fitness goals.