Energy Tracker

An application by Jack Gates

Description

The amount of calories a person should eat on a daily basis is dependant on many different variables, including mass, age, activity level etc. This makes keeping track of caloric intake quite tedious.

This application will be a fitness app, designed to make this process much easier. It will keep track of how many calories a person should be eating daily to achieve their fitness goals.

It does this by performing calculations on the data which the application has stored on the user. All the user has to do, is to set up their details for the first time, then enter the calories that they consume during every meal.

The application will also keep track of how many steps that the user has taken throughout the day, and add the calorific cost to the remaining calories they have left.

Features

- Notifications

These will be used to update the user on application events. When certain events are triggered, a notification will be sent to the user.

- Sensors

Sensors will be used to detect every step the user takes with their android phone in their pocket.

- Data storage

All of the details entered by the user will be saved and stored internally on the device. This means that a user doesn't need to keep entering their details daily, it also means that when a user breaks a record in number of steps taken, it can be saved.

- Timer

A timer will be used to reset the calories added every day. It will also be used to trigger certain notifications.

The Main Screen

This screen is the parent of all other screens.

Contains

It displays how many calories are left at the top of the application, the metabolic rate of the user is also displayed at the bottom.
The screen also contains buttons which allow navigation to all of the child screens.

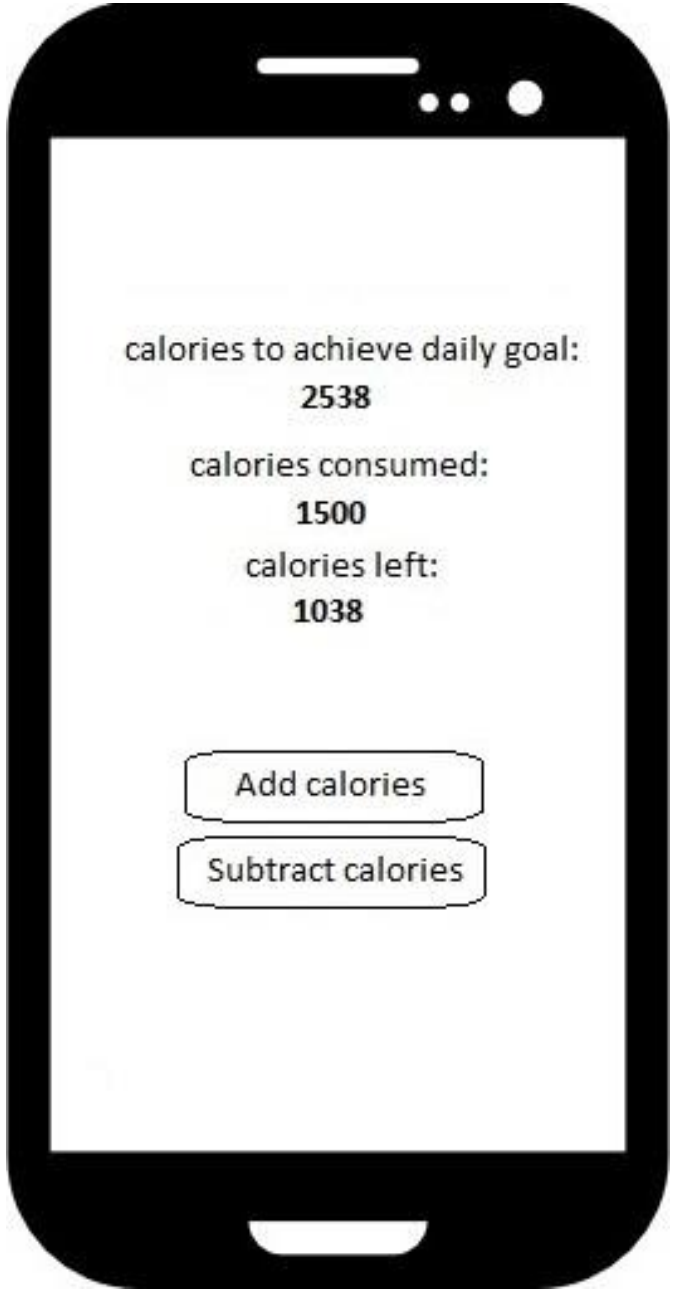
User Information Screen

This screen will be displayed the first time the application is launched, this is because the application only works from calculations made from the data entered by the user.

Contains

Check boxes for the gender, and the activity level of the user.
Text forums for the height, weight, and age of the user.
A drop down box for the users fitness goals.

Selecting the button at the bottom will update the stored user details (also resets steps/caloric intake).



Calories Screen

Excluding the main screen, this is where the user will spend most of their time entering the estimated amount of calories they consume throughout the day.

Contains

This screen displays the users daily caloric goal, the amount of calories they've entered, and the amount of calories that they have yet to consume.

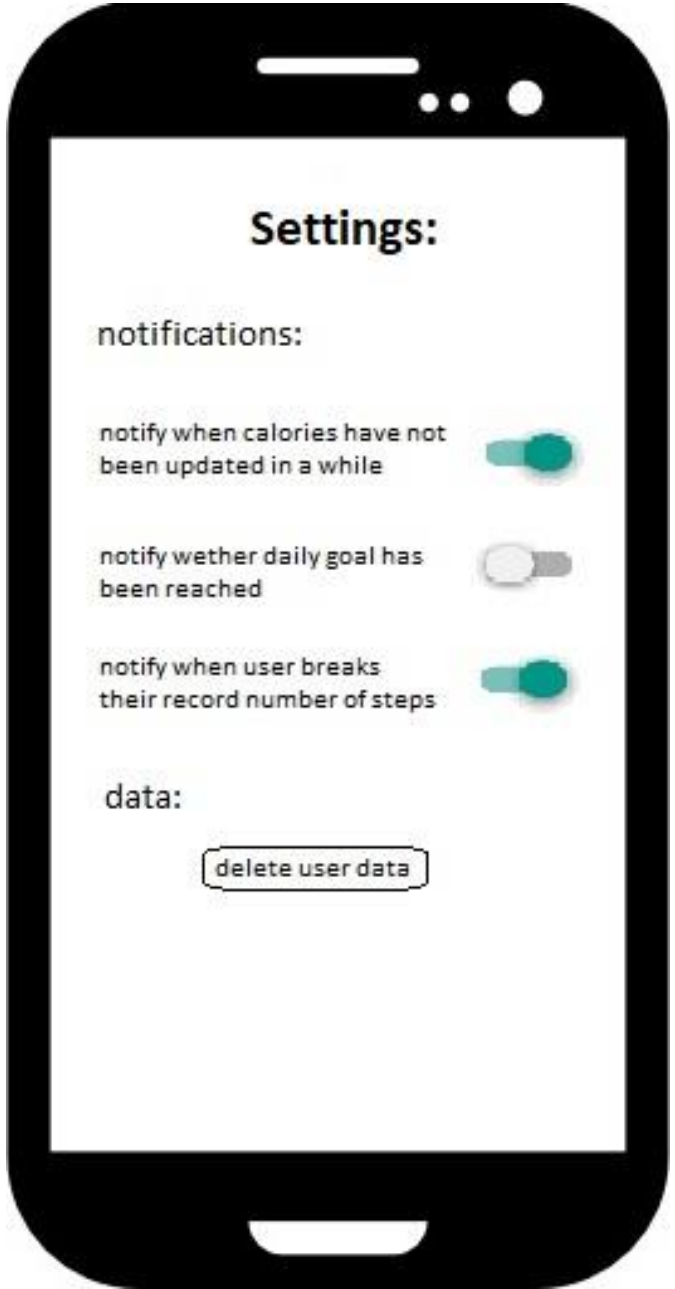
The buttons at the bottom allow for simple addition and subtraction of the calories they have consumed.

Steps Taken Screen

This screen shows off the other feature the app has, which is calculating the amount of steps the user takes daily. It does this using sensors.

Contains

The large number is the counter which is incremented with every step you take.
The largest recorded steps from a user in a day is stored at the top.
The amount of calories burned from walking is also displayed underneath.



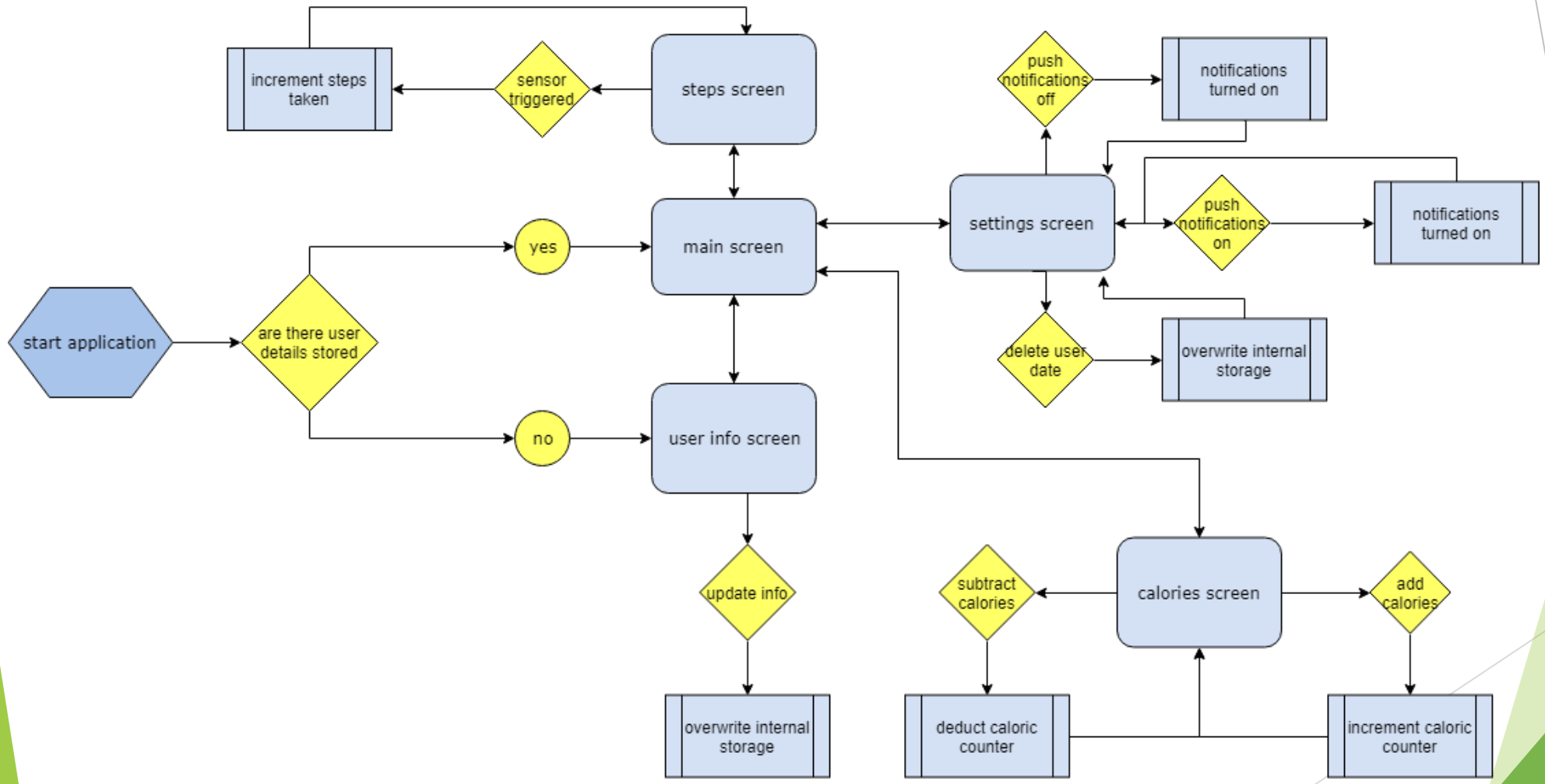
Settings Screen

This page allows the user to customise the settings of the application. It's main function is to choose which notifications to allow.

Contains

There are 3 sliders on the page, turning them on, turns notifications on for when the specified event is triggered.
The button at the bottom also allows for a user to erase all of their data stored on the app.

Work flow


start application
are there user details stored
yes
no
main screen
user info screen
steps screen
sensor triggered
increment steps taken
update info
overwrite internal storage
settings screen
push notifications off
notifications turned on
push notifications on
notifications turned on
delete user date
overwrite internal storage
calories screen
subtract calories
deduct caloric counter
add calories
increment caloric counter

Analysis of potential problems

- Getting the sensor to work accurately may be a challenge for this application. To prepare myself for the creation of the app I will attempt to get this aspect working in a separate application first.

- Testing if the notifications with timed events are working correctly could be tedious as it means that the app will have to be running for hours. I could possibly manipulate the time of the phone to see if this works.

- I will need to make sure that the ‘steps taken’ activity runs in the background when the application is closed. I will look into the activity lifecycle of android applications in more detail to achieve this.