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Body tracker

Description

Body Tracker is your personal calories food tracker leading you through your dream's body available for Android devices. It will guide you through thousands of healthy recipes and suggestions to stay focus on your goal to obtain the body you want.

Intended User

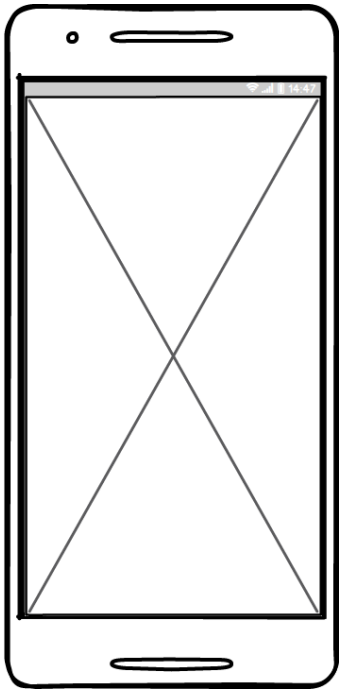
This App is designed for health enthusiast, fitness enthusiast or persons who wants to improve their dietary.

Features

- Save favorite recipes.
- Natural language translator to update your daily calories consumption.
- Bar code reader to upload groceries (UPC reader)
- Daily recipe suggestion based on your preferences to keep you on track.
- Daily and monthly graphical data of your progress with proteins, carbs, and fats.

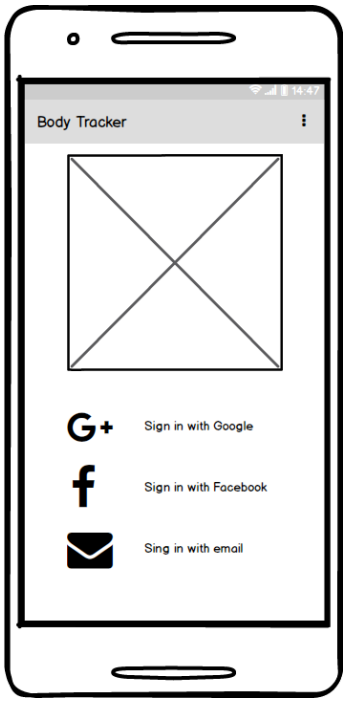
User Interface Mocks

Screen 1-Animation activity



This Activity will provide a welcome animation to the user.

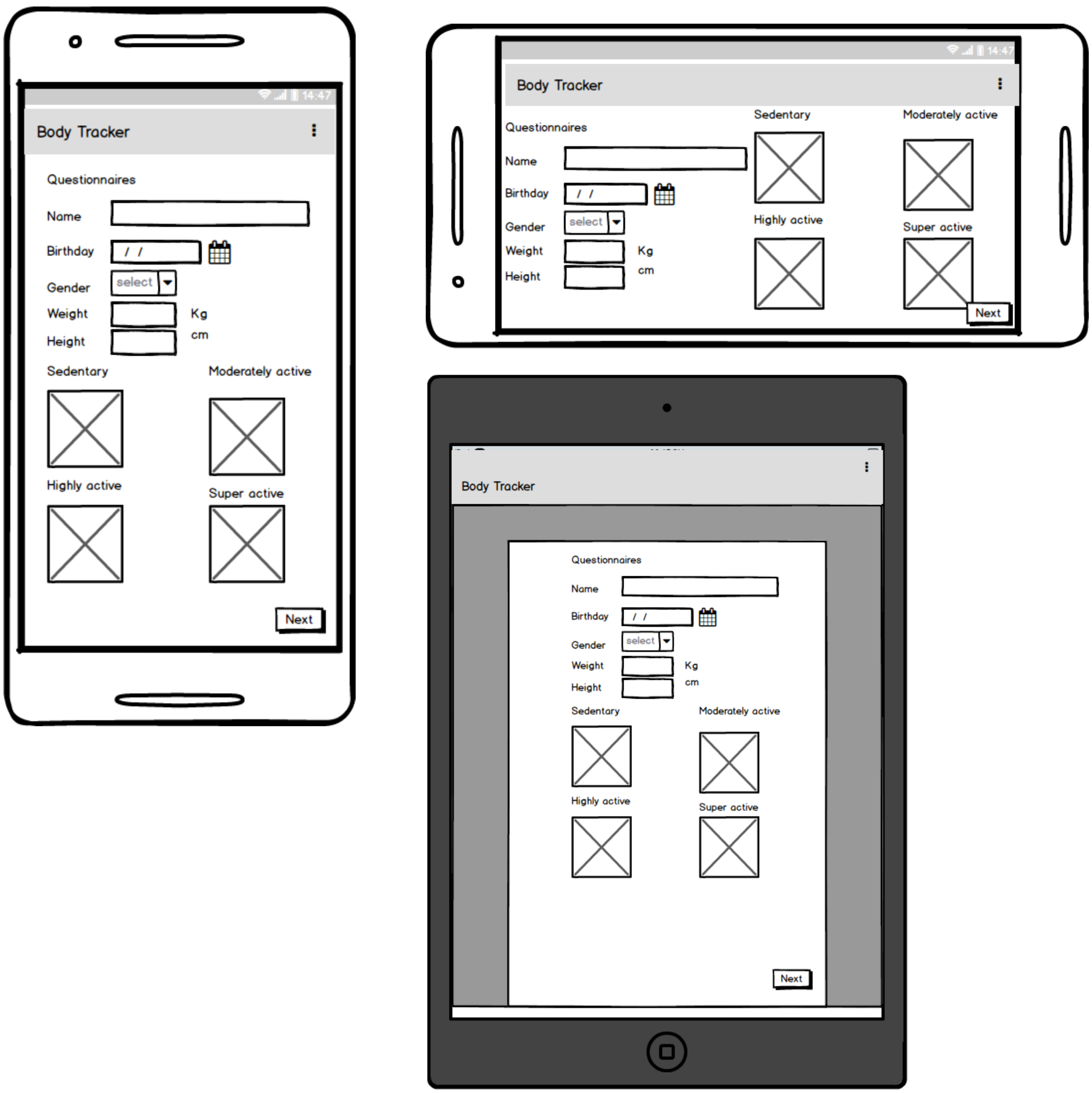
Screen 2-Log in Activity



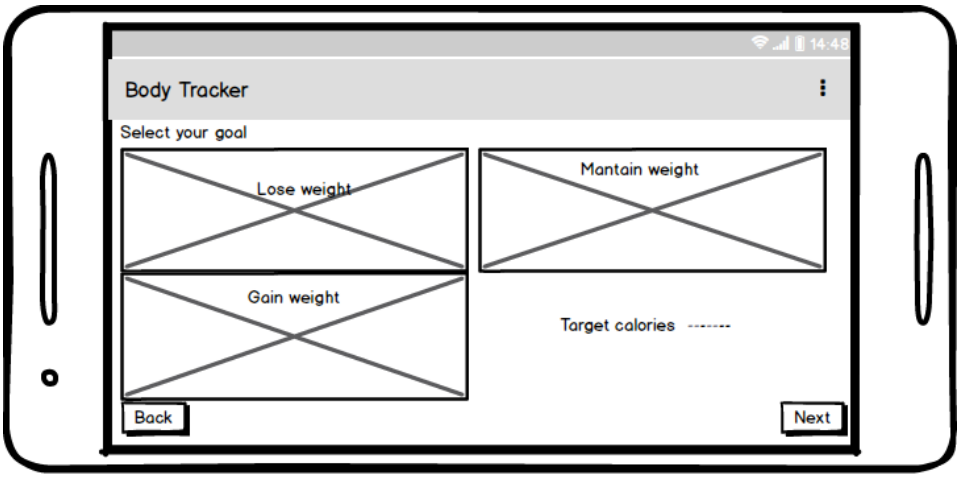
Login will be implemented in order to keep preferences from the user and his/her personal data.

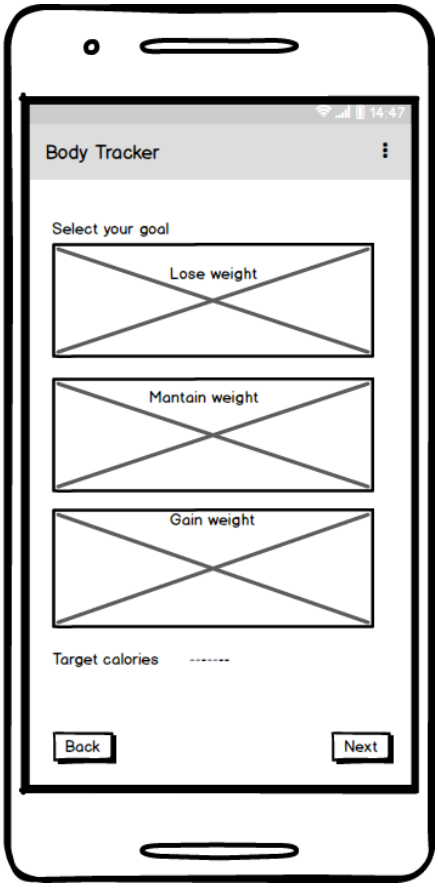
Screen 3-First time login questionnaires (Viewpager)

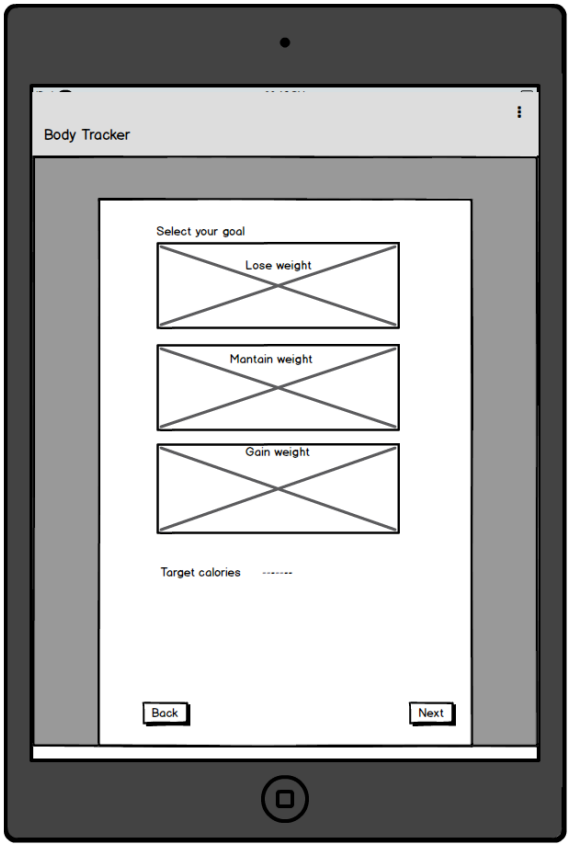
- **First page**



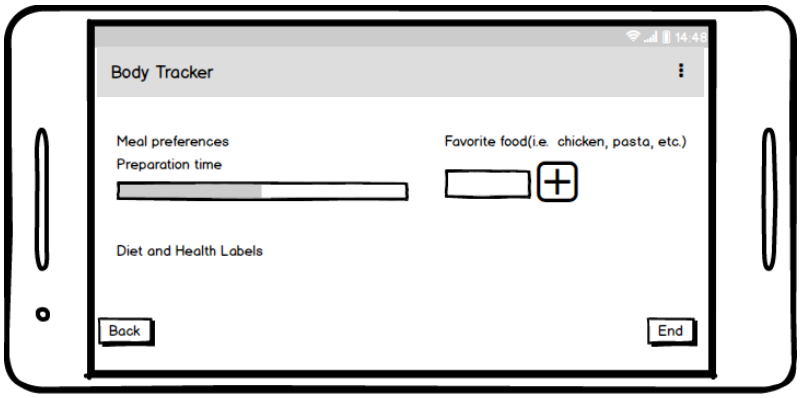
- **Second page**

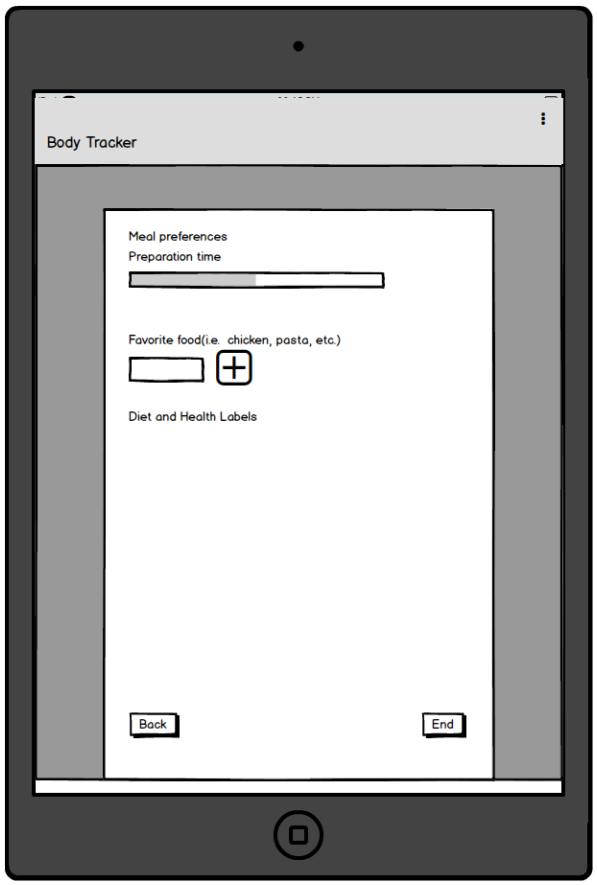

14:48
Body Tracker
Select your goal
Lose weight
Mantain weight
Gain weight
Target calories -------
Back
Next

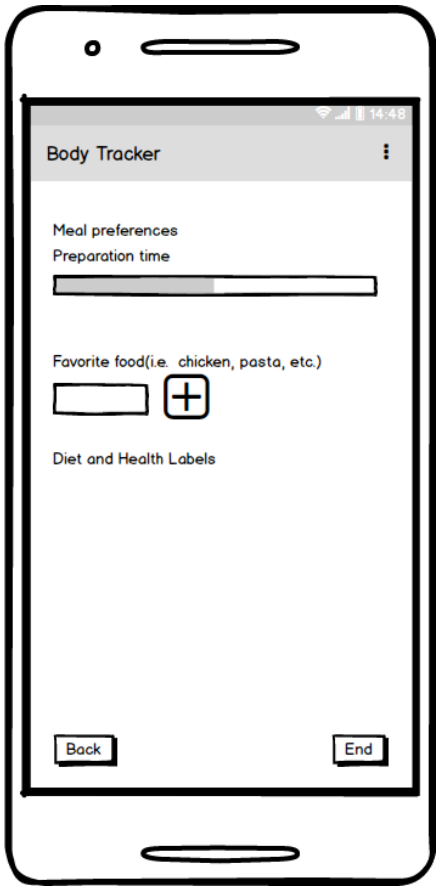

14:47
Body Tracker
Select your goal
Lose weight
Mantain weight
Gain weight
Target calories -------
Back
Next


Body Tracker
Select your goal
Lose weight
Mantain weight
Gain weight
Target calories -------
Back
Next

- Third page

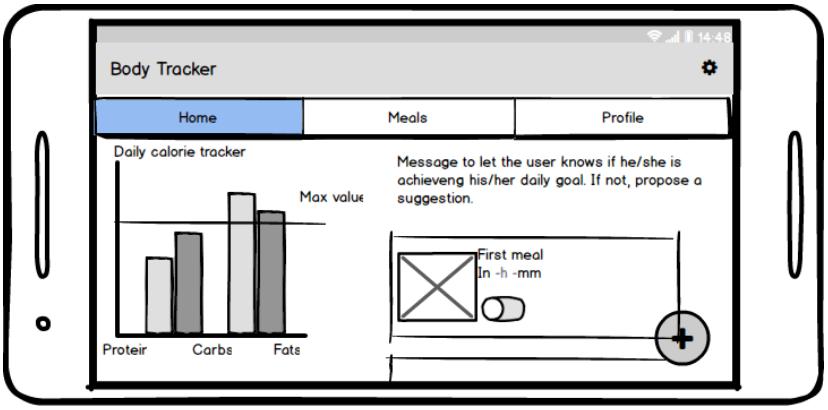


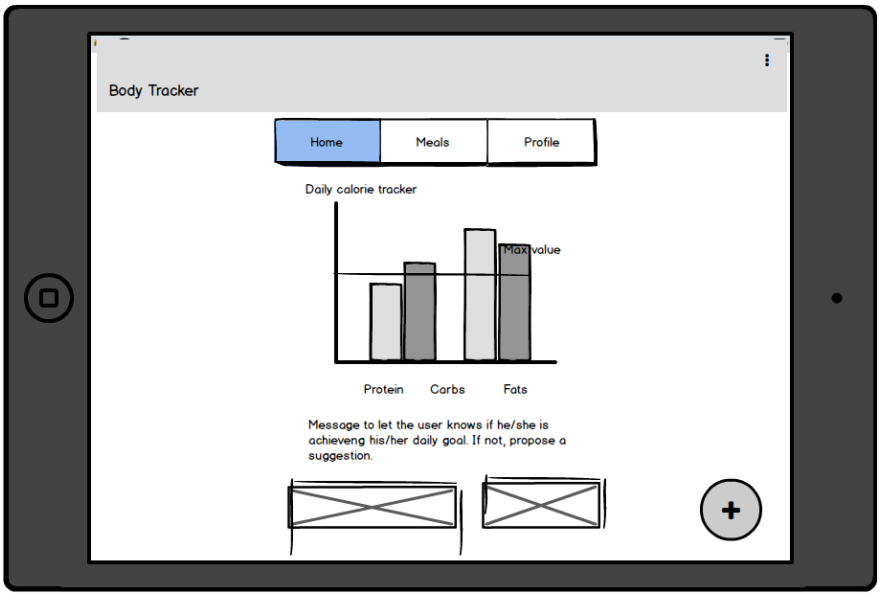




The following activity will ask for the basic data from the user and calculate his/her caloric needs based on his dietary preferences.

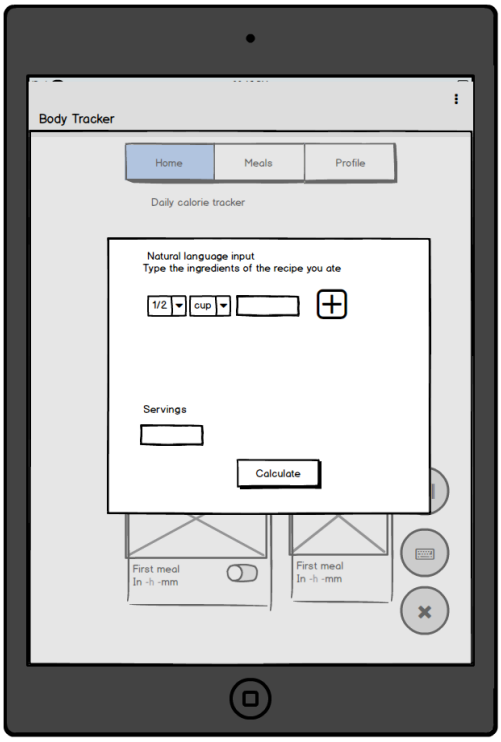
Screen 4-Home

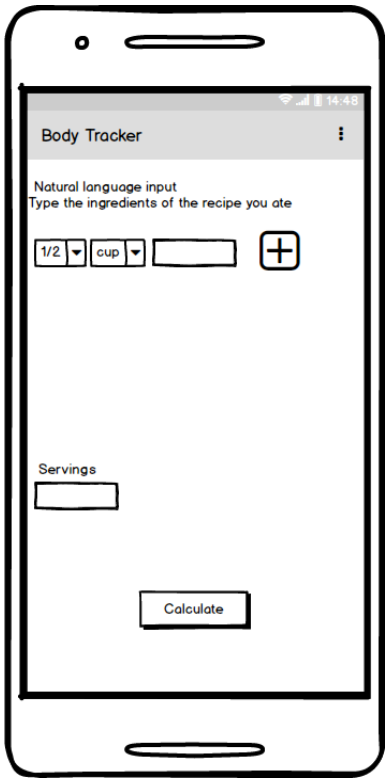




The activity will have a view pager which is going to be navigated through tabs. The home tab will provide the relevant daily and monthly data of the user's progress. In the other hand it will display the suggestions to improve the habits.
In addition, the food suggestion section will let the user add the suggested meals while the FAB will let the user to insert the unexpected food during the day. The FAB will contain two different options for two different input methods: natural language and bar code reader (UPC).

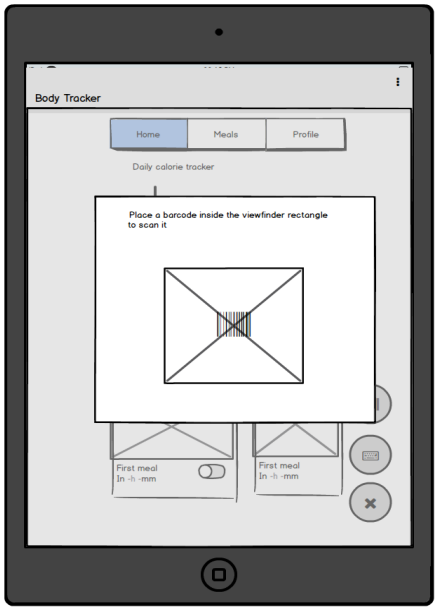
Screen 5-Natural language

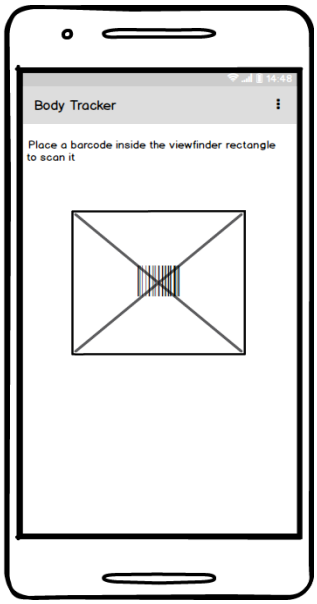




The natural language input method, triggered by the FAB, will let the user insert recipes manually to be updated and inserted by the app.

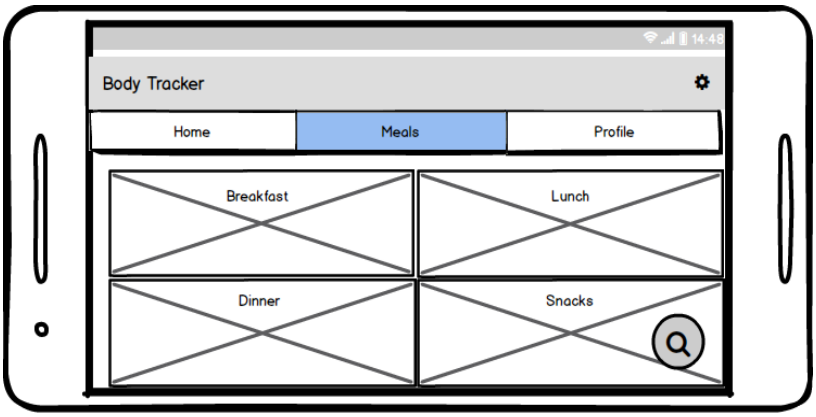
Screen 6-Bar code reader (UPC reader)

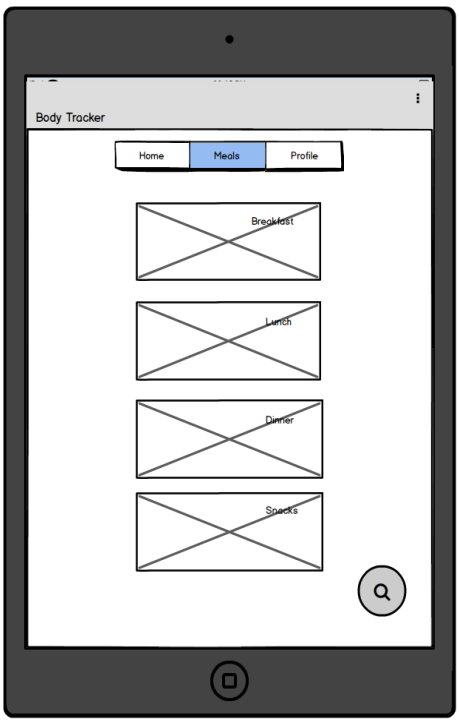


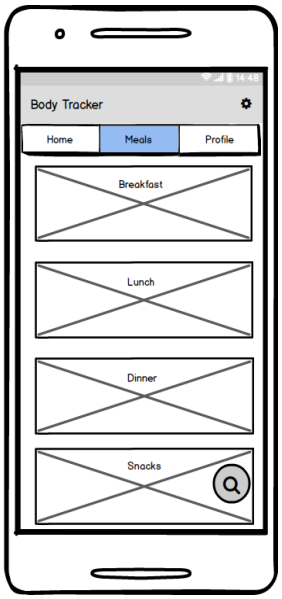


The bar code reader activity will read the UPC (Universal Product Core) from the label. If the product exists from the EDAMAN API, the product will be added automatically after confirmation. If the product does not exist inside the database, a manual input option to insert the macronutrients will be launched.

Screen 7 Meals

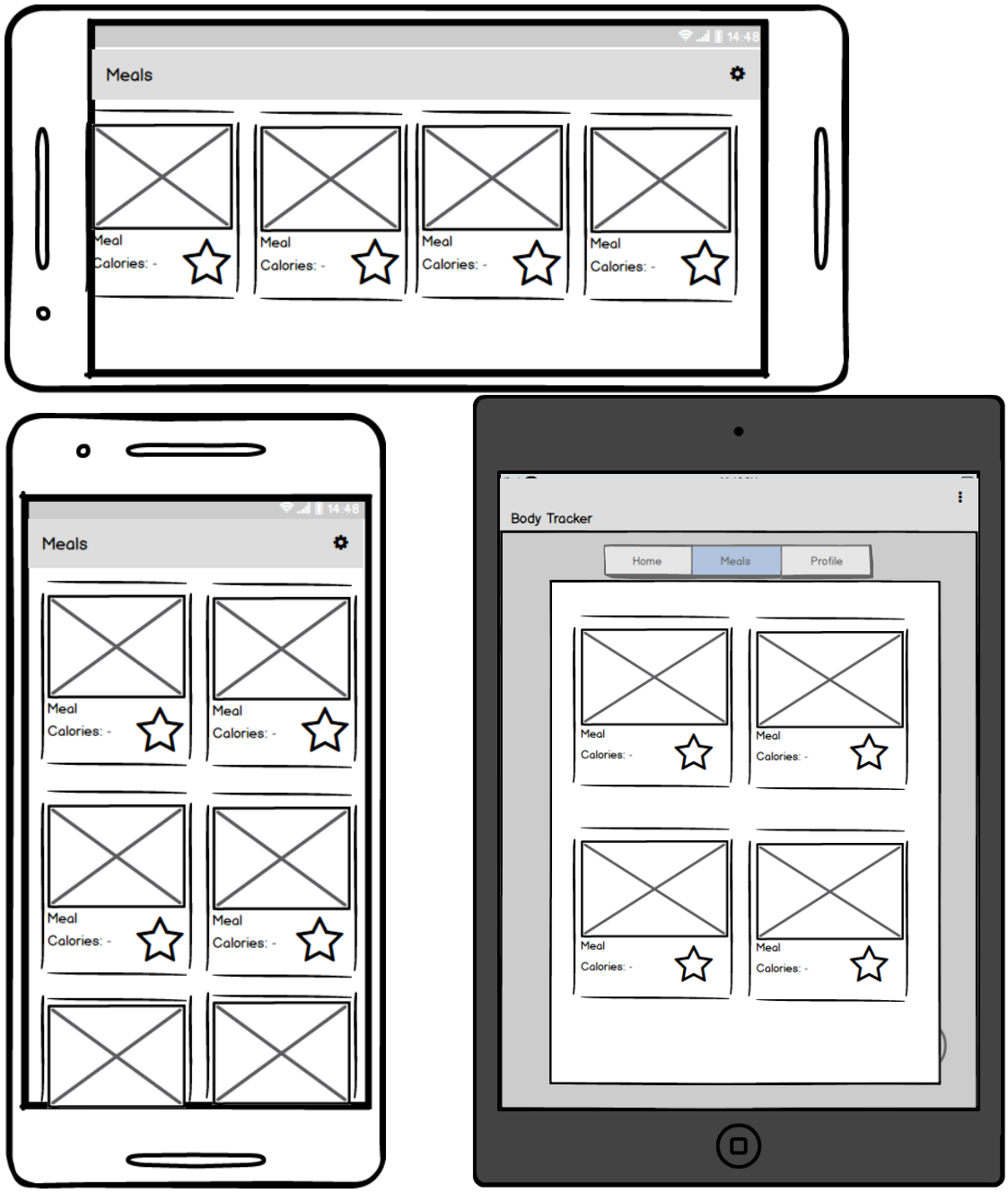






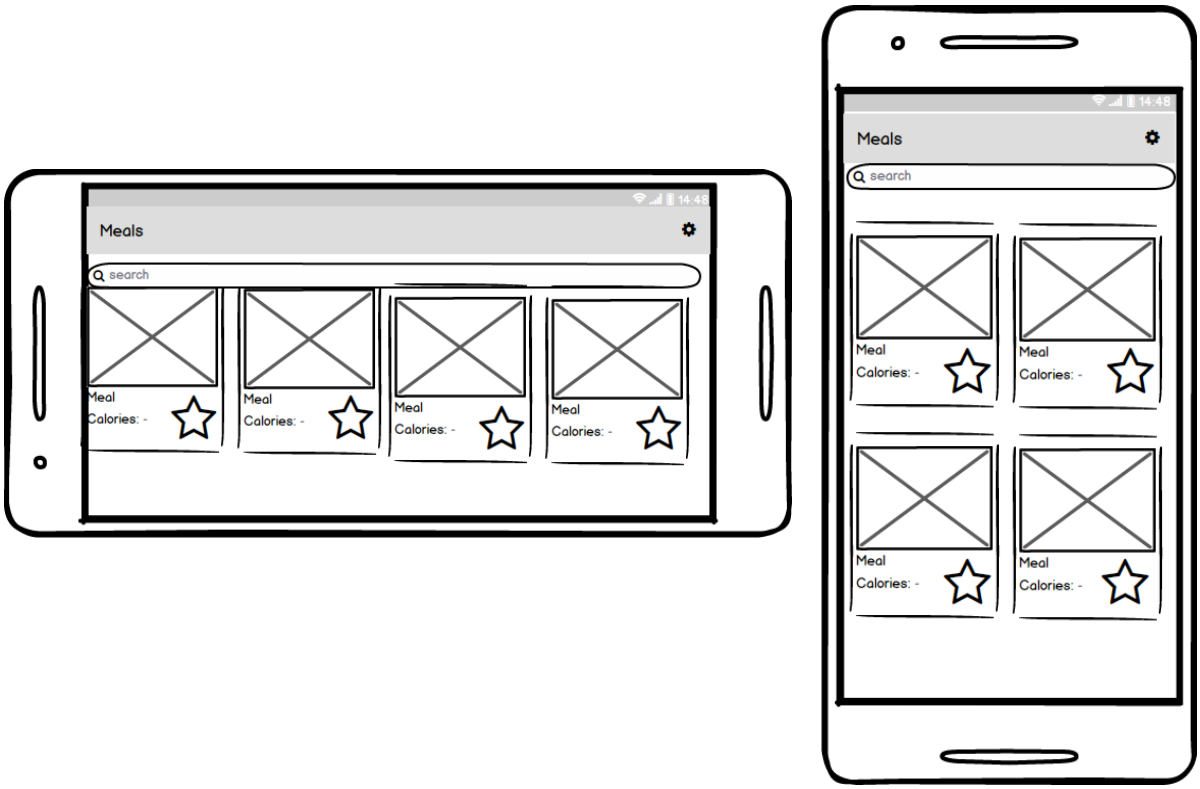
The meal tab (related with screen 4) will provide four options of meal to be selected for the personal database of the user: breakfast, lunch, dinner, and snacks . Also, it will have a FAB to lunch a finder activity (Screen 9).

Screen 8 Meals- Gridviews /breakfast/lunch/dinner/snacks



Depending of the user's choice (breakfast, lunch, dinner, and snacks) , RecyclerView will be displayed with a grid depicting all the options available based on user preferences.

Screen 9 Meal finder

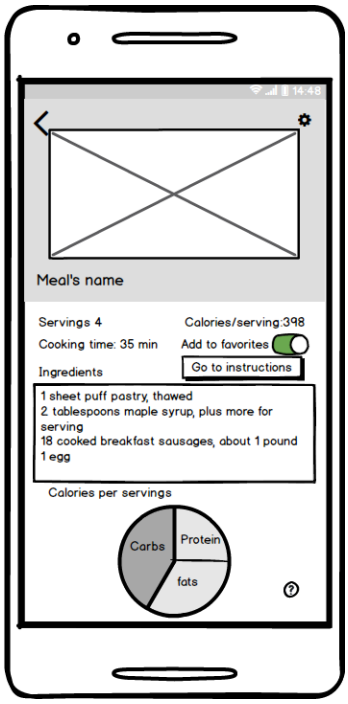


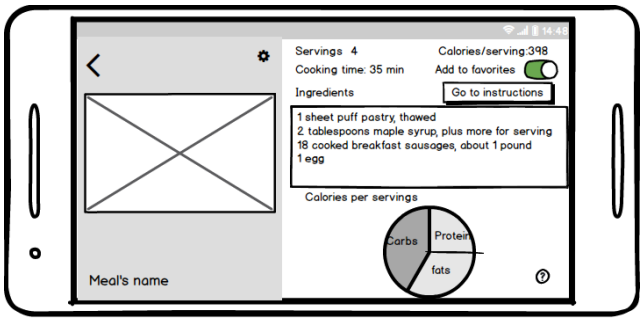
The meal finder will help the user find specific food with or without preferences. (See screen 7)

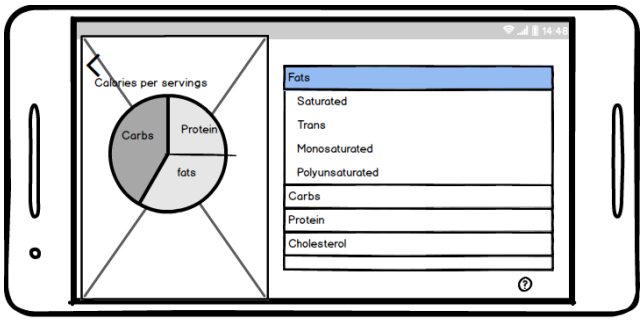
Screen 10 Profile

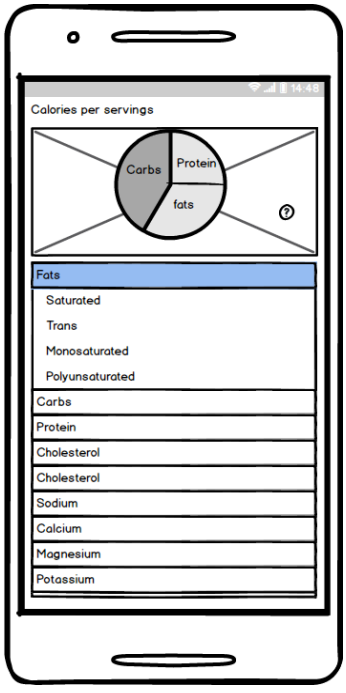
The profile section will keep the personal data of the user such: email, gender, birthday, weight, height and goals.

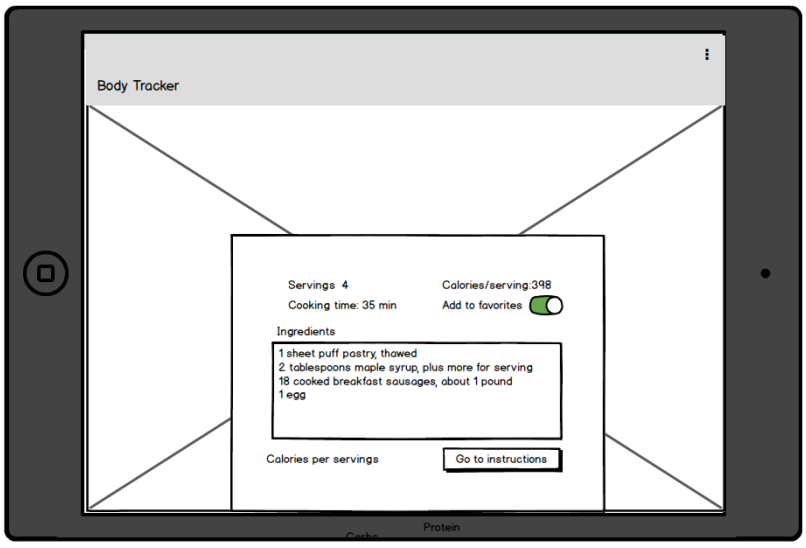
Screen 11 Recipe Details Activity

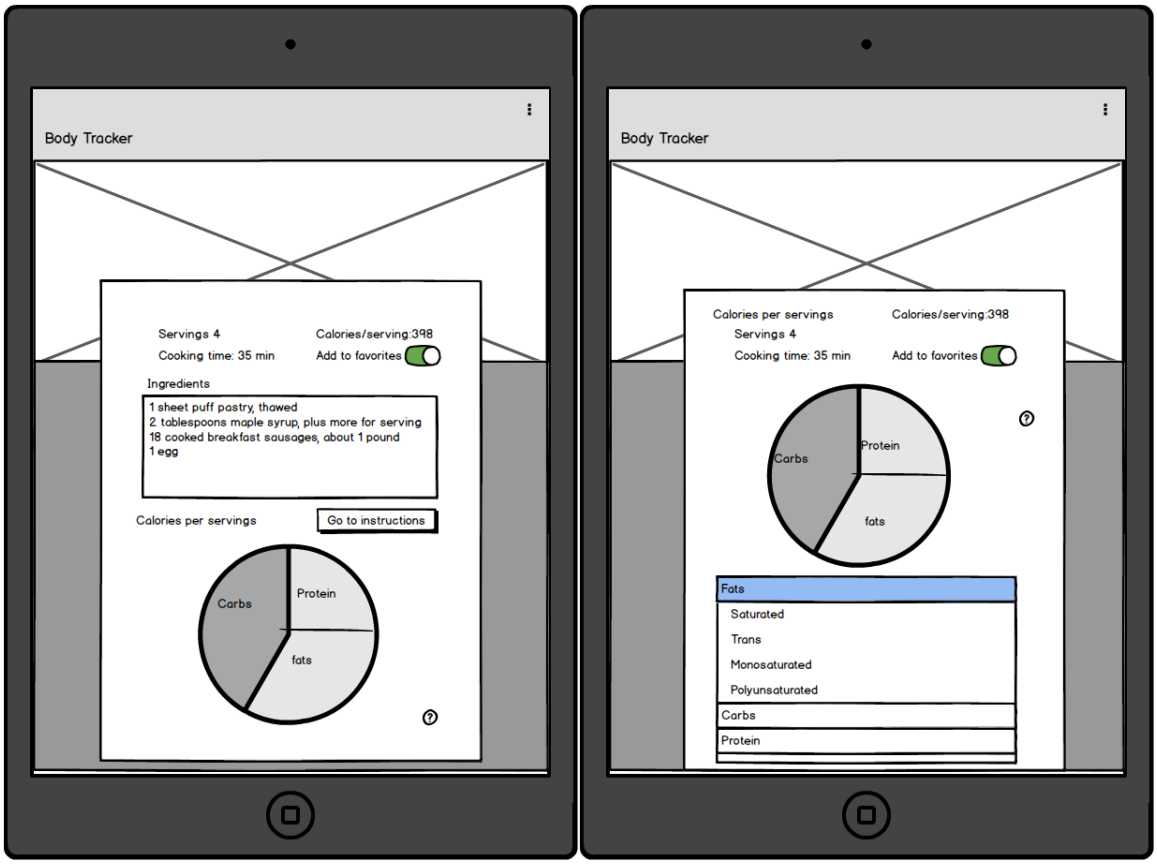






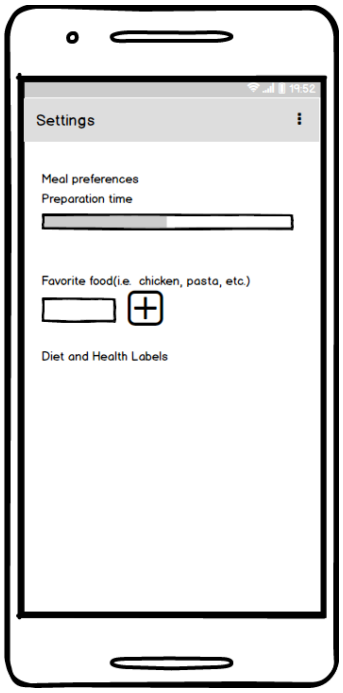






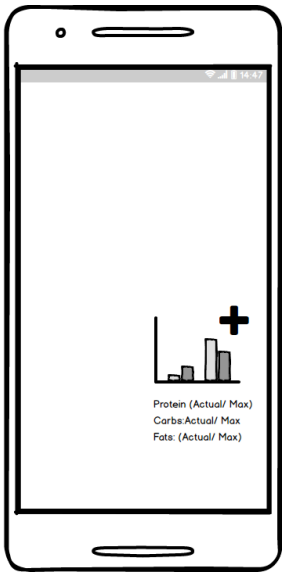
The Recipe details will depict the relevant data (servings, calories, ingredients and macronutrients) of the recipe selected by the user. The activity will be able to expand the data when a question symbol has been clicked.

Screen 12 Settings activity



Settings activity will store the preferences of the user that apply in his/her query when searching for data.

Screen 13 Screen widget



The widget will contain the daily data of the calories consumed during the day, and it will redirect to home page to add new data.

Key Considerations

How will your app handle data persistence?

The user will save the preferred recipes using a local database implemented in room when connection to internet is not available. The fields that the recipe tables will expect are: name, uri, image url, instructions url, source, servings, diet labels, health labels, ingredients, calories, proteins, fats and carbs. In the other hand, the recipes will be stored in a Firebase database when connection is to internet is granted. The local and remote database will be synchronized through background tasks.

The calories consumption table will work in a similar way. The fields needed for this will be: id, date, calories, meal's name, carbs, fats, proteins.

Describe any edge or corner cases in the UX.

- When the user generates a typo accidentally in the natural language input method, the app will ask him/her to enter the recipe again.
- If the bar code wasn't found in the barcode input method, the data will be inserted manually.
- If no recipe has been selected, a couple of suggestions will be depicted to the user.

Describe any libraries you'll be using and share your reasoning for including them.

Picasso: It will handle the loading and caching of images.
MPAndroidChart: Chart drawing to display the daily and monthly calorie tracker and the recipe macronutrients proportion .
Retrofit: HTTP client to fetch data from the API servers (EDAMAN).
Mobile Vision: The Vision library, from Google play services will help to scan the barcodes from the grocery products.
CardView: The CardView will be used to contain the view from the recipes to even relevant options.
FirebaseUI-Android: FirebaseUI allows you the user quickly connect common UI elements to Firebase APIs.

Describe how you will implement Google Play Services or other external services.

Firebase Authentication: Authentication will be required to associate the preferences and personal data of the users with their email, Facebook or Gmail accounts. All the data will be store locally and synchronized with a Database built with Firebase.
Firebase Real-time Database: The app will use Firebase database in order to save two main groups of data: favorite recipes and calories consumed by the user. The Real-time Database will store the data as follows:
The fields that the recipe tables will expect are: name, uri, image url, instructions url, source, servings, diet labels, health labels, ingredients, calories, proteins, fats and carbs. The calories

consumption table will work in a similar way. The fields needed for this will be: id, date, calories, meal's name, carbs, fats, proteins.

Required Tasks

In order to complete the mentioned App, the following task must be implemented:

Task 1: Project Setup

- Configuration needed libraries for the project in the build.gradle files
- Set API keys on build.gradle file
- Set-up Firebase project on Firebase Console.
- Enable Firebase Realtime Database
- Enable Firebase Authentication.
- Prepare and upload imagery for the project.

Task 2: Implement UI for Each Activity and Fragment

- Build UI for Animation Activity (Phone with landscape and portrait, tablet landscape and portrait).
- Build UI for Login Activity (Phone with landscape and portrait , tablet landscape, etc.)
- Build UI for First time login activity (Phone with landscape and portrait, tablet landscape, etc.)
- Build UI for Home Activity (Phone with landscape and portrait, tablet landscape, etc.)
- Build Home's FAB animation layouts (Phone with landscape and portrait, tablet landscape, etc.)
- Build UI for Home tab (Phone with landscape and portrait, tablet landscape, etc.)
- Build UI for Meals tab (Phone with landscape and portrait, tablet landscape, etc.)
- Build UI for Profile tab (Phone with landscape and portrait, tablet landscape, etc.)
- Build UI for Settings (Phone with landscape and portrait, tablet landscape, etc.)
- Build UI for Bar scanner reader Activity (Phone with landscape and portrait, tablet landscape, etc.).
- Build UI for Natural language Activity (Phone with landscape and portrait, tablet landscape, etc.).
- Build UI for Widget

Task 3: Validate and test data from API servers

Fetch data from server and validate the purpose and usage.

- Fetch data using Retrofit
- Validate mathematical operations to get the macronutrients proportions
- Filter unnecessary data.

Task 4: Implement Java code for Activities.

- Build code for Animation Activity (Phone with landscape and portrait, tablet landscape and portrait).
- Build code for Login Activity (Phone with landscape and portrait, tablet landscape, etc.).
- Build code for First time login activity (Phone with landscape and portrait, tablet landscape and portrait).
- Build code for Home Activity (Phone with landscape and portrait, tablet landscape and portrait).
- Build code for Home tab (Phone with landscape and portrait, tablet landscape and portrait).
- Build code for Meals tab (Phone with landscape and portrait, tablet landscape and portrait).
- Build code for Profile tab (Phone with landscape and portrait, tablet landscape and portrait).
- Build code Settings (Phone with landscape and portrait, tablet landscape and portrait).
- Build code Bar scanner reader Activity (Phone with landscape and portrait, tablet landscape and portrait).
- Build code Natural language Activity (Phone with landscape and portrait, tablet landscape and portrait).
- Build code for Widget
- Handle exceptions and errors.

Task 5: Material design implementation

- Build code for Home's FAB animation.
- Develop enter and exits transitions where needed
- Parallax for Recipe details activity.