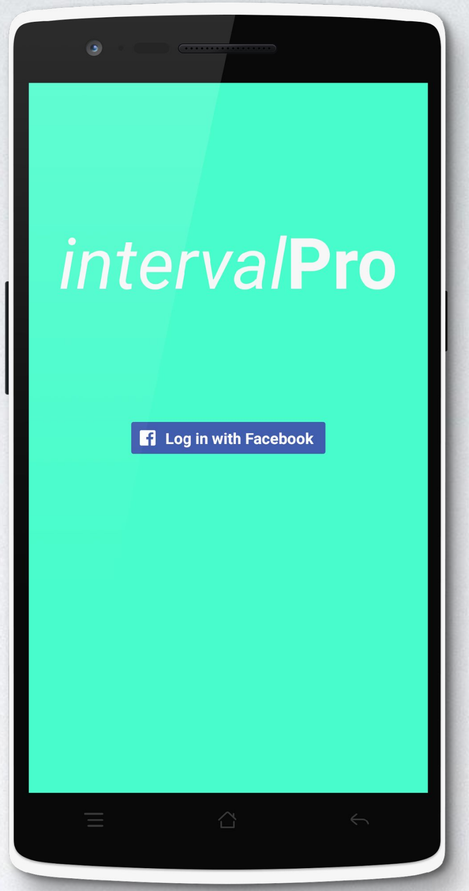


INTERVALPRO

A personal exercise tracker for interval training

WHAT IS INTERVAL TRAINING

- this is an intensive physical training consisting of alternating periods of high- and low-intensity activity (designed for cardio training).
- The runner's velocity should be defined according to user's *velocity at maximal oxygen uptake* (vVO2max)
- For example, a beginner session could be: alternate 10 times
  - high intensity running for 30s (running at vVO2max)
  - low intensity running for 30s

BASIC USER'S NEEDS

- a timer to manage the training session (display the number of remaining rounds, indicates when the users must run at a high intensity or not.
- the possibility to track position and speed in real-time and save the data for further performances analysis.

MAIN FEATURES

- Interval training support with a timer widget designed for interval training
- Personalise the sessions(number of rounds, duration)
- Access to all the previously logged sessions
- Get an overview of the user’s activity during the last month
- Track and log activities using the GPS
- Start/stop logging activity tracking
- Share activity on Facebook

ACTIVITIES

LOGIN SCREEN

The app starts with the login screen.

user should identify himself with Facebook in order to access other activities.

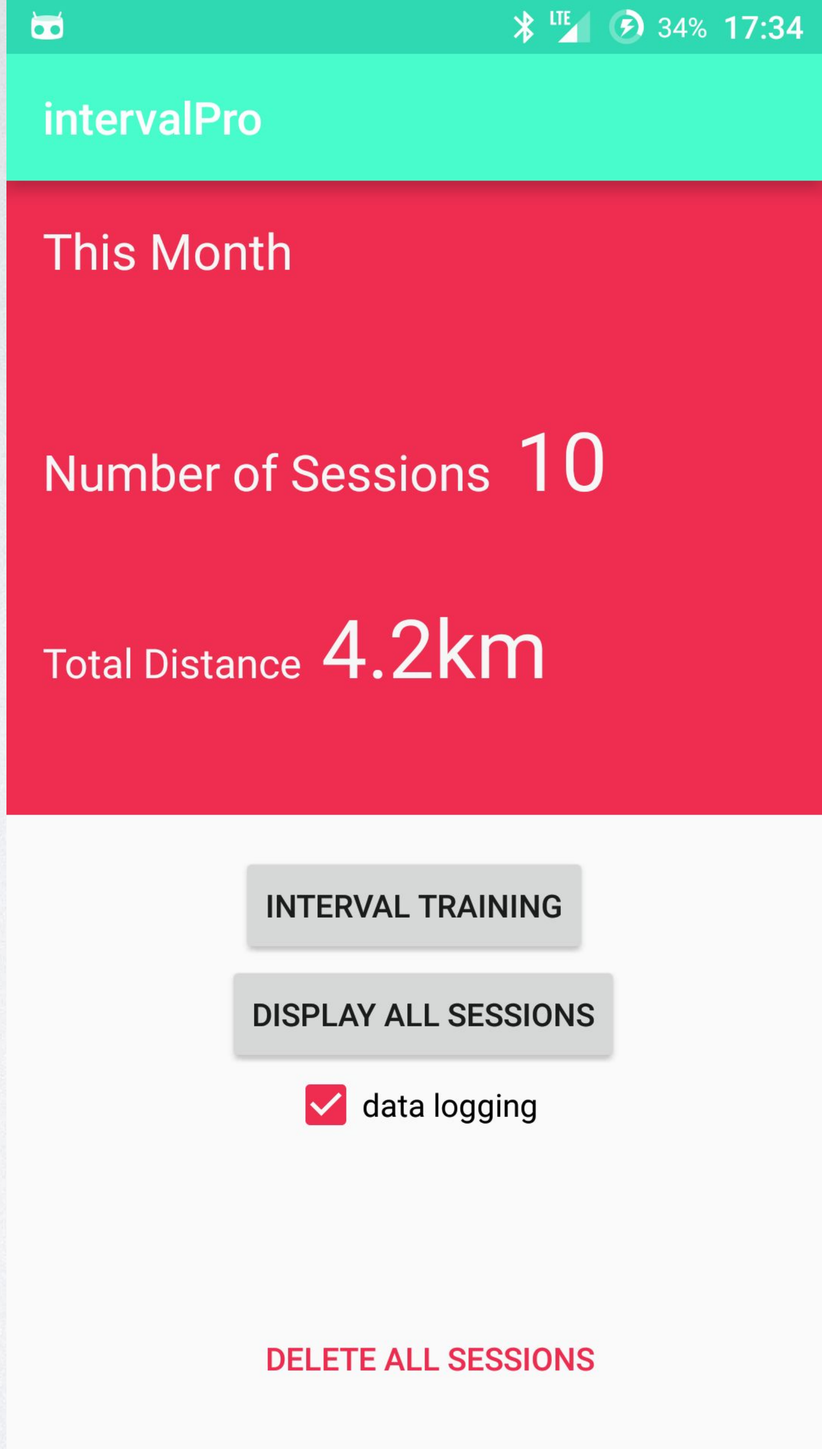
As the app data is stored locally, the identification is not really useful but it shows how to use the Facebook SDK.

login
activity

HOME SCREEN

From this screen, the user can access several activities:
- interval activity
- display all logged sessions

The user can perform multiple actions:
- enable/disable data logging (sessions are not stored if the checkbox is not checked)
- delete all the sessions (for debugging purpose)



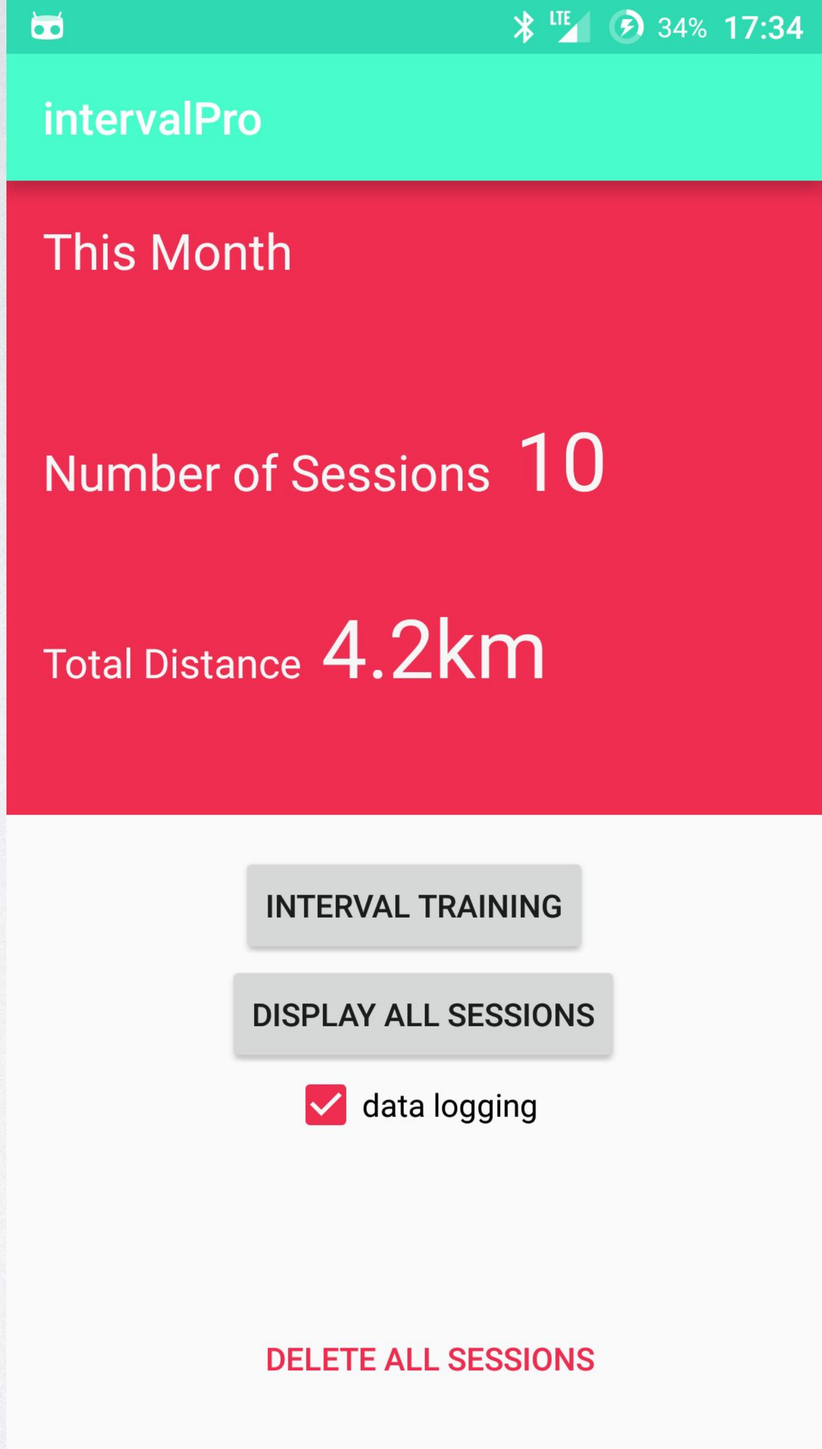
home activity

MONTHLY SUMMARY

In order to keep the user motivated and help him to monitor his progress, the app provide the user with an overview of his monthly activities:

- number of sessions
- total distance

home activity



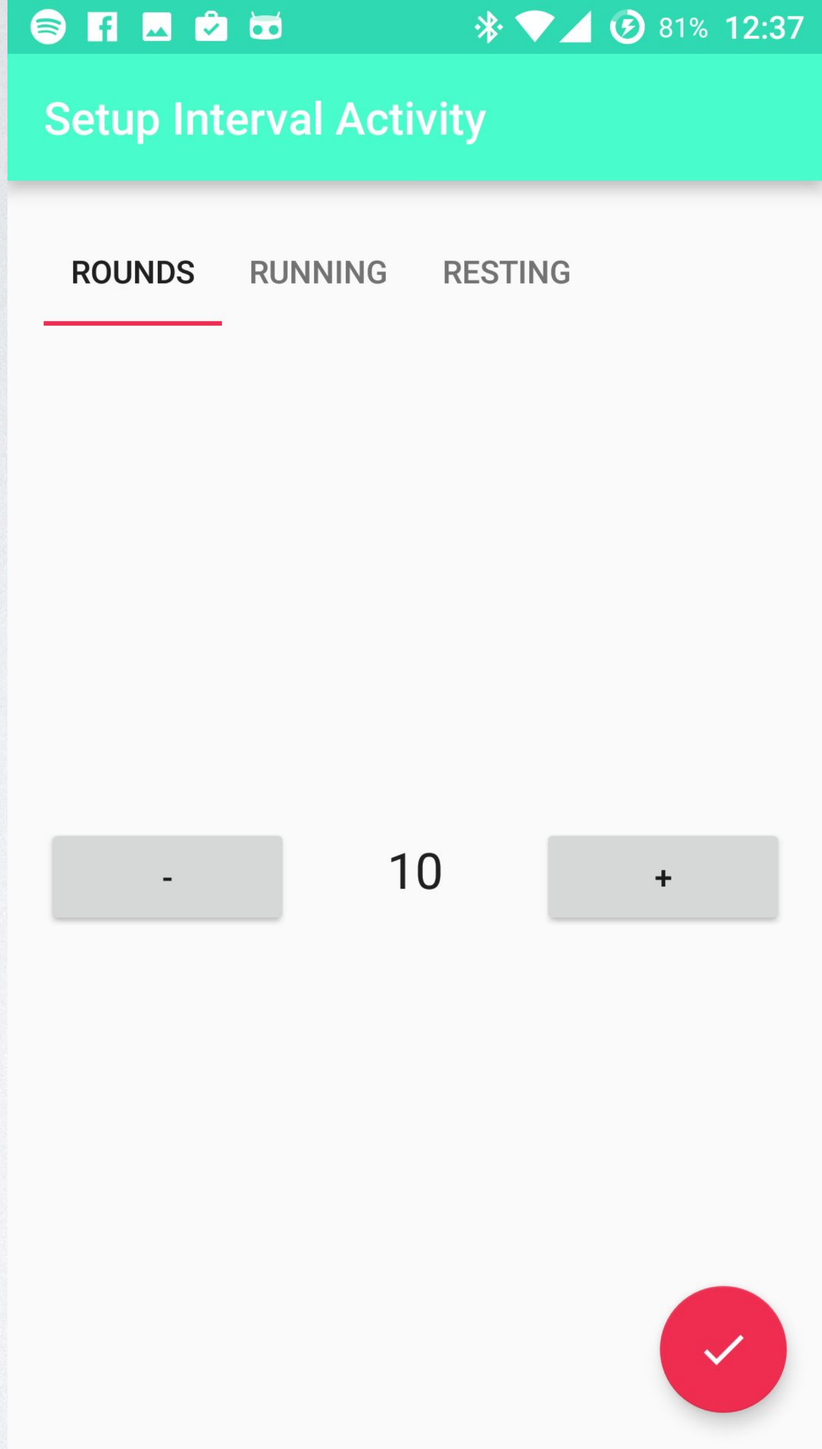
SESSION SETUP

When the user starts a session, he must first setup the activity.

- this activity is made of 3 fragments placed in a PageViewer (enable the user to slide between fragments)
  - rounds: select number of rounds
  - running: duration for each running round
  - resting: duration for each resting round

- the default values are the values defined during the previous sessions
- activity state is stored if the activity is paused.

setup activity



INTERVAL ACTIVITY

Overview

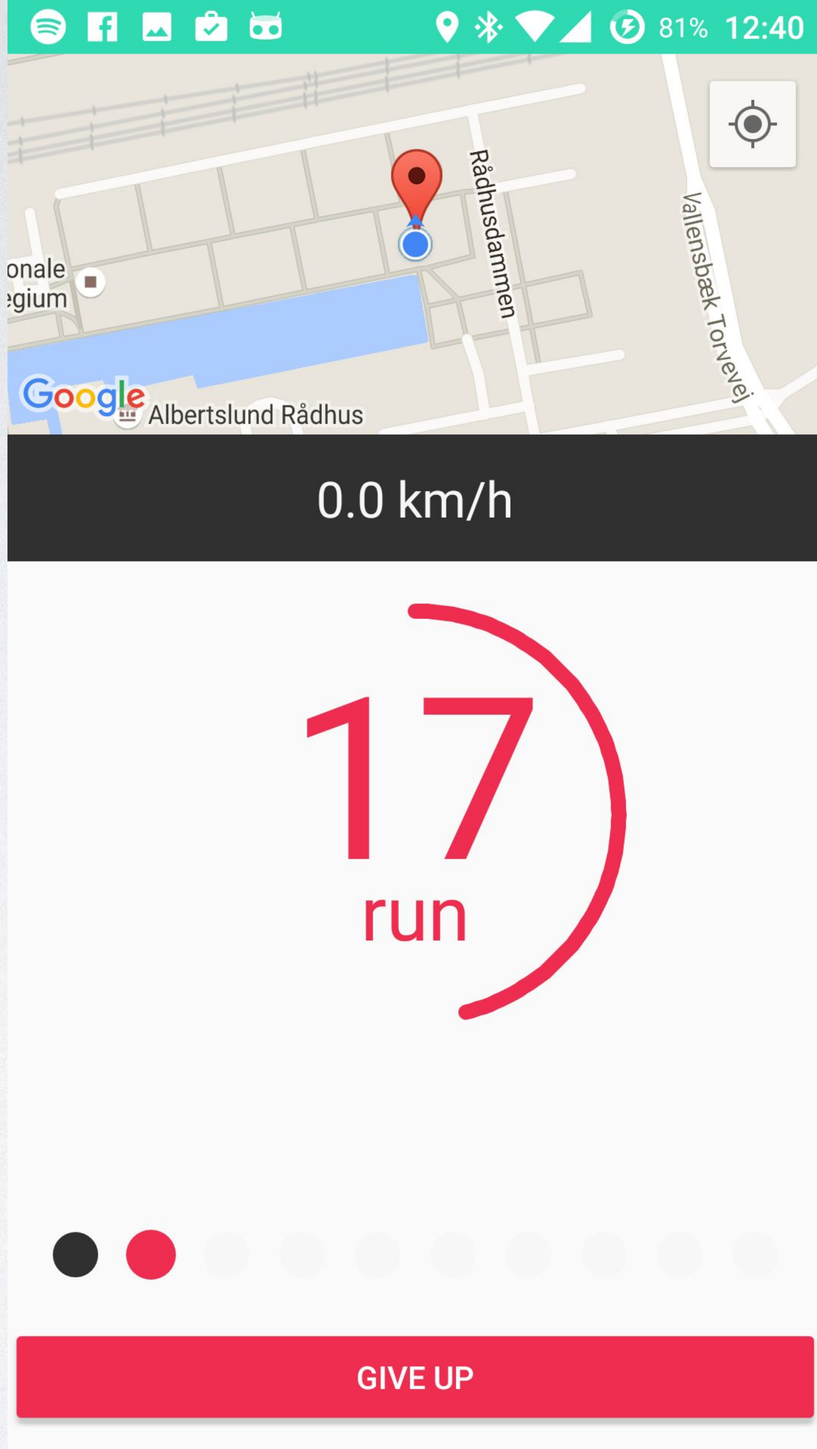
This is activity enable the user to manage his time and to track his position during an interval activity.

The position, the speed and running durations of the user are continuously tracked at a constant rate.

At the end of the session, the data is stored to the app data and a summary of the activity is provided.

The screen is kept on during this activity: we assume that the user needs to see the timer.

interval activity

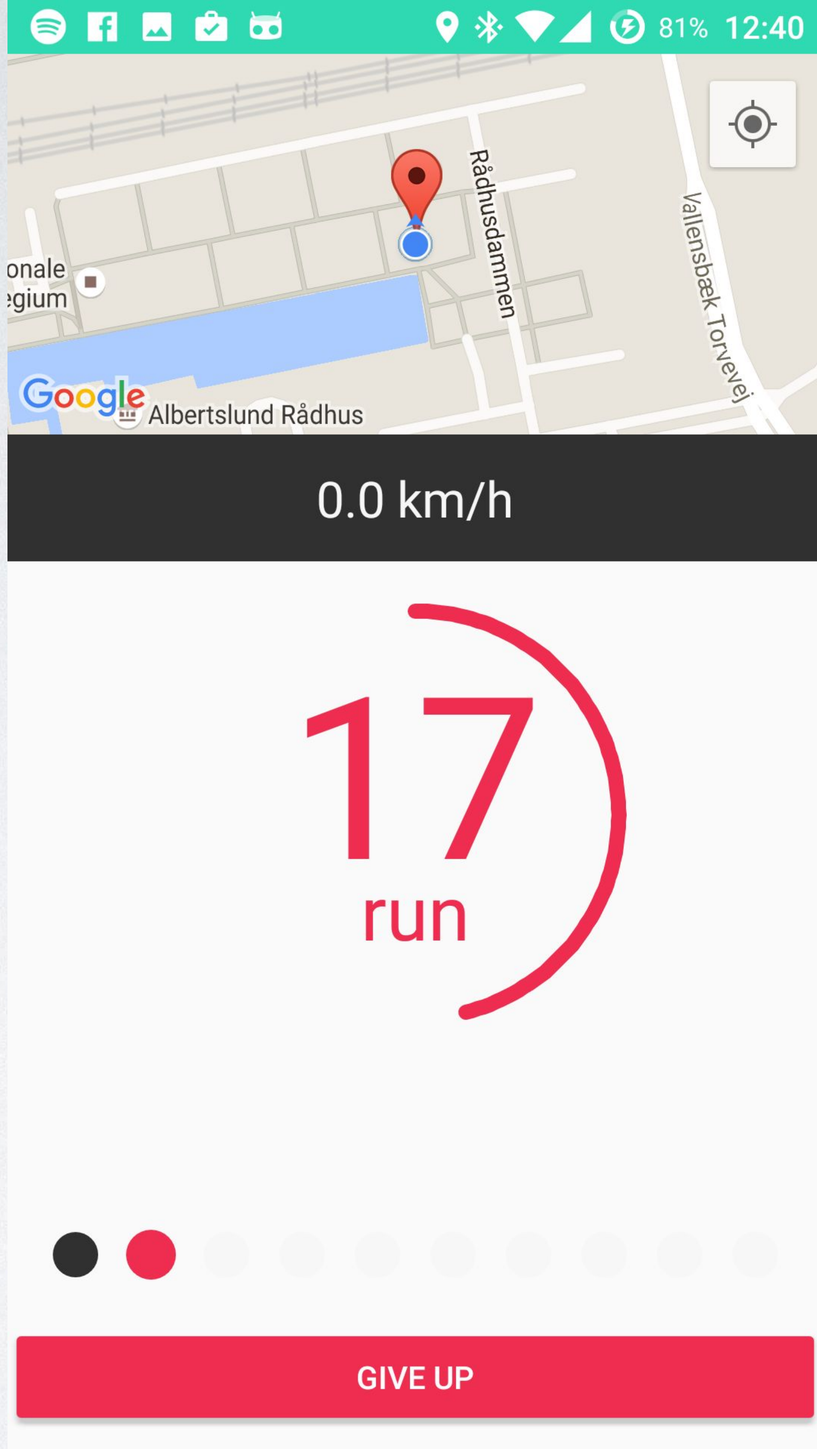


INTERVAL ACTIVITY

Position and Speed

The current and previous positions of the user are displayed using a google Maps fragment.

The position and the speed of the user are displayed in real-time thanks to the Android API.



interval

activity

INTERVAL ACTIVITY

Timer

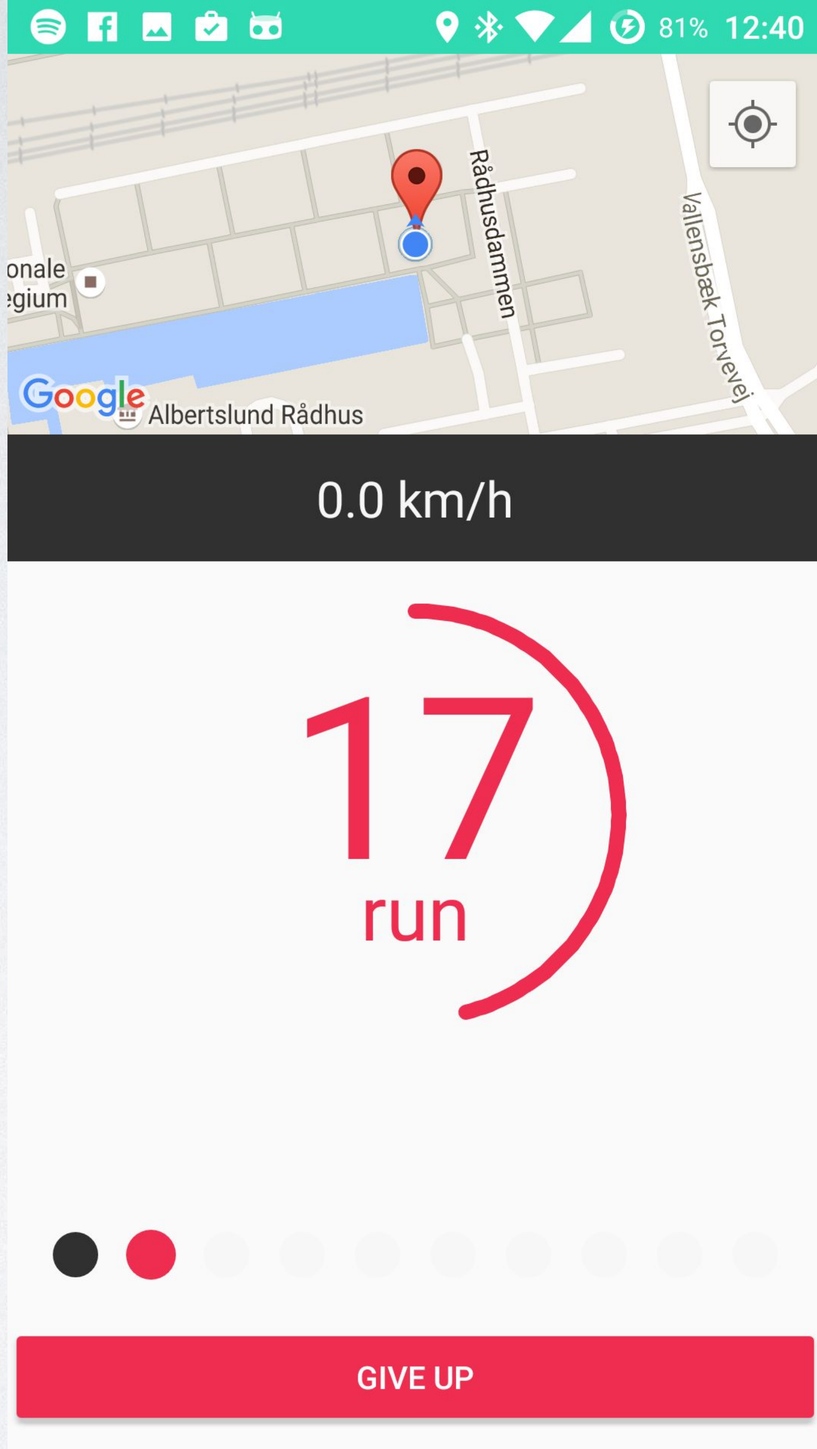
The timer is a custom fragment which displays the remaining time for each round and the number of achieved rounds (here, the black dot corresponds to an achieved round, the red one corresponds to the current round).

The whole fragment is drawn using the canvas.

The fragment communicates with the activity when the timer is finished using an intent. The activity receives the signal using a broadcast receiver.

interval

activity



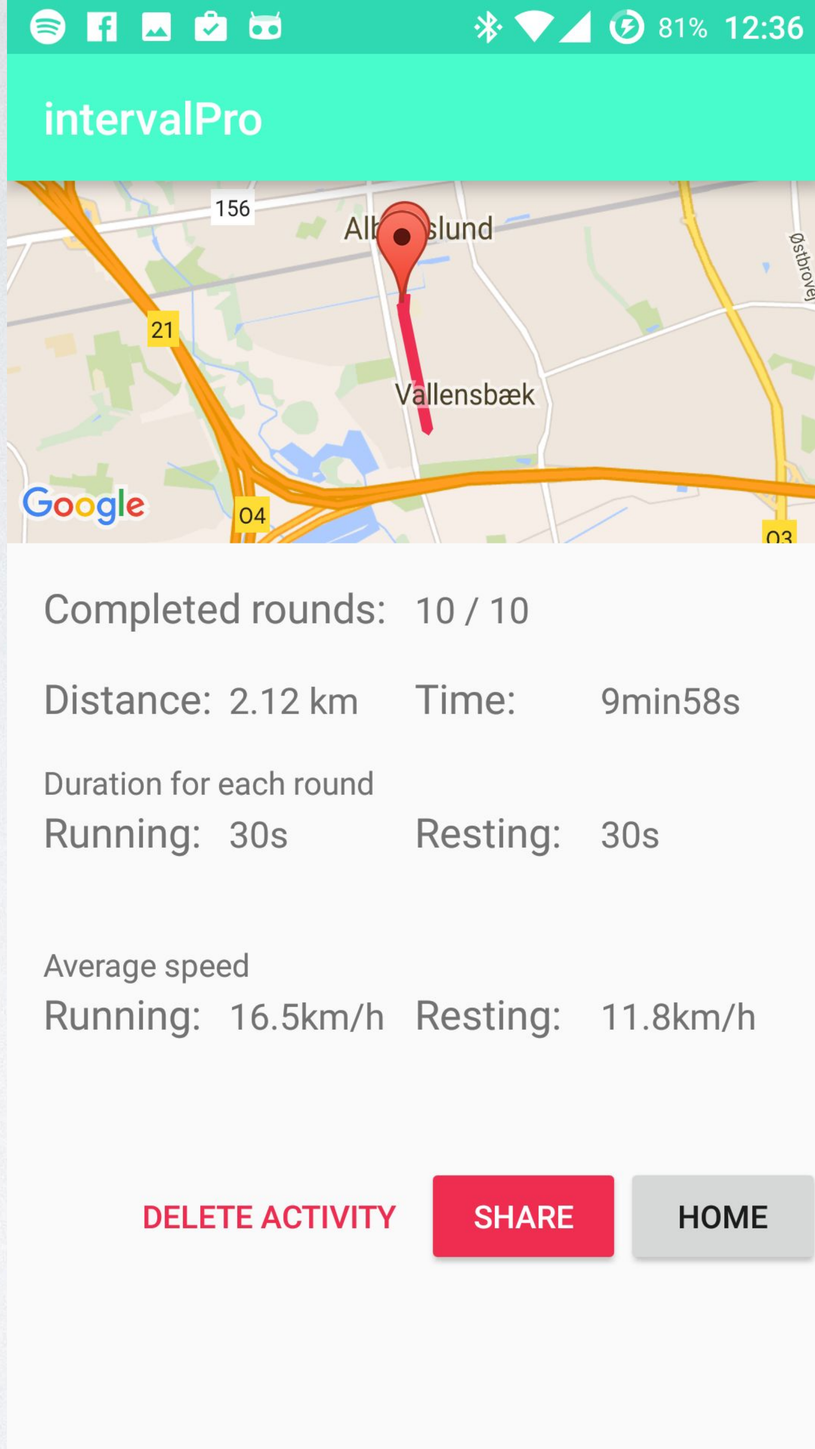
SESSIONS OVERVIEW

At the end of the session, the user accesses to the overview screen. This screen is also accessible through the sessions navigation screen.

This screen provides interesting data about the session including the average speeds for the different states in order to compare it to the target speed (K*vVO2max).

From this screen, the user can delete the activity or share it using Facebook.

session overview activity

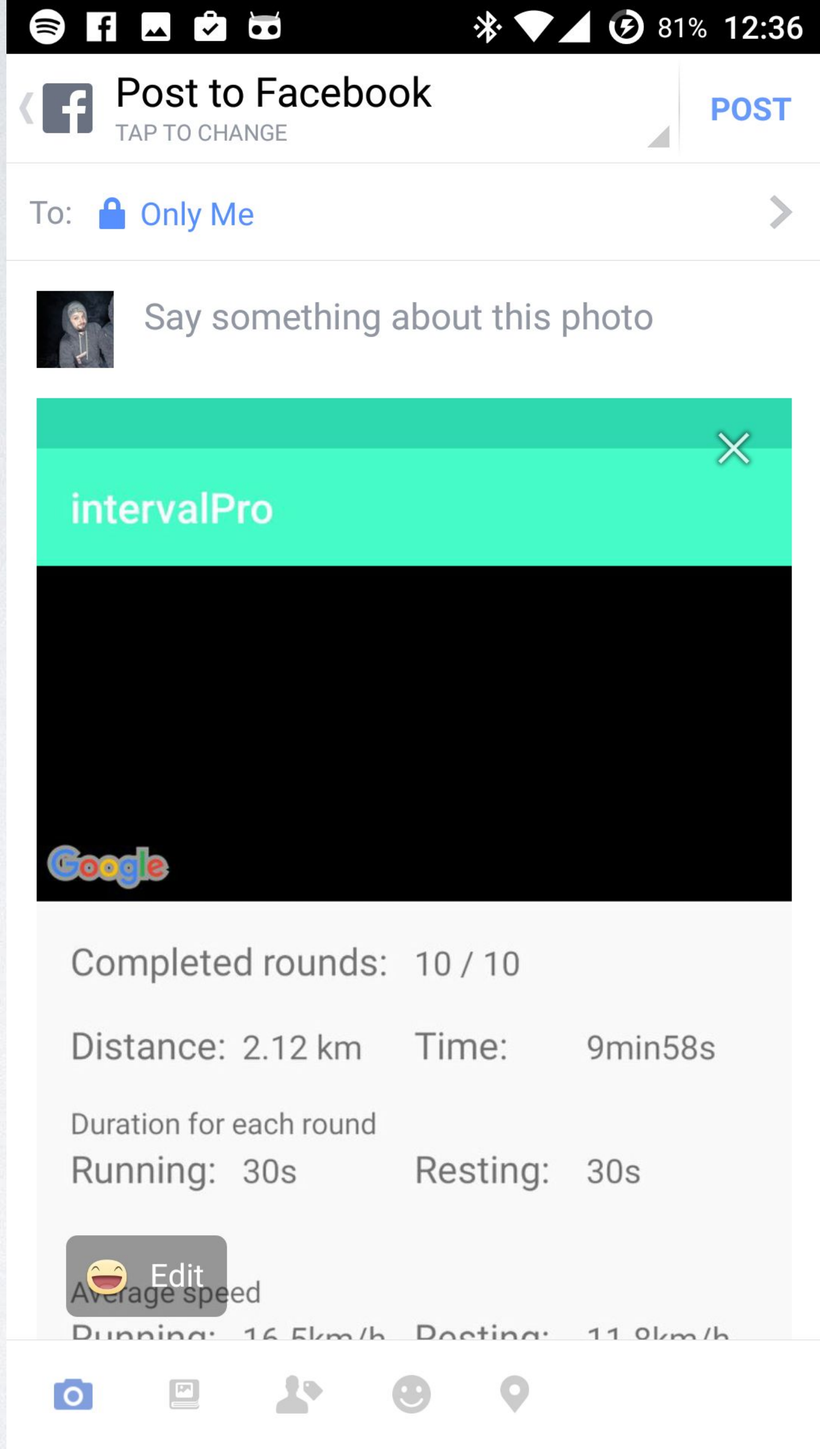


LOGIN AND SHARING

the app use the Facebook SDK to manage login and sharing.

The user can share a screenshot of the activity overview using Facebook.

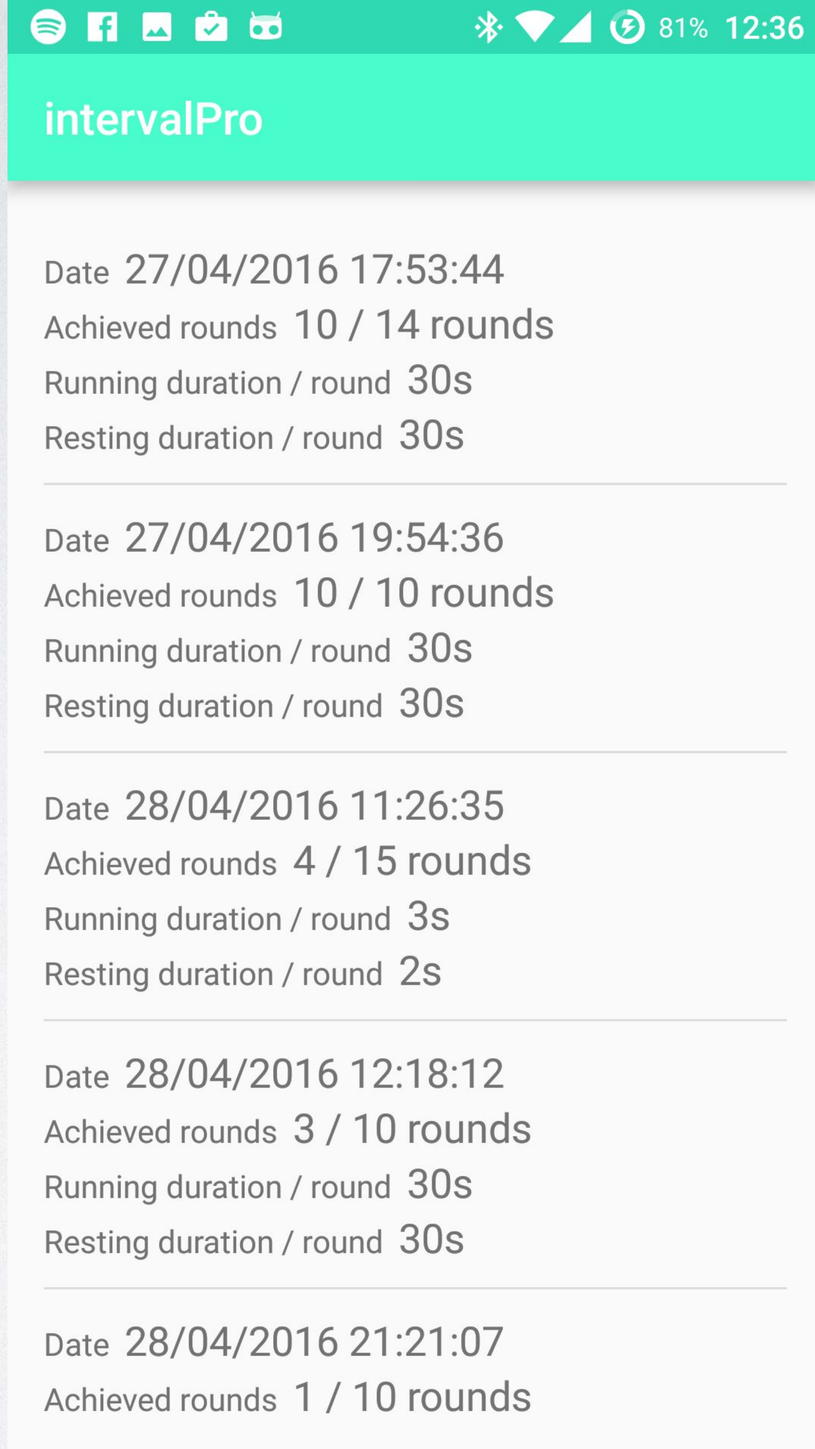
sharing activity



PREVIOUS SESSIONS OVERVIEW

This screen use a ListView in order to display all the previous activities.

The user can access any activity overview from this screen.

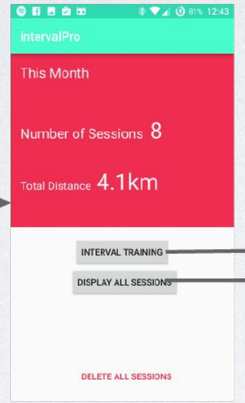


sessions overview activity

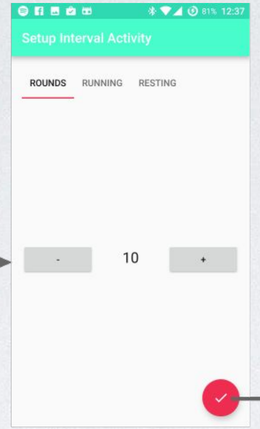
ARCHITECTURE

FLOW CHART

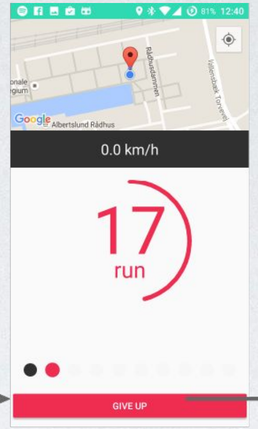
ActivityLogin



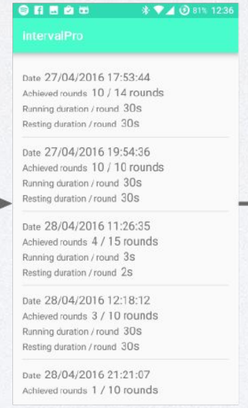
Activity
HomeScreen



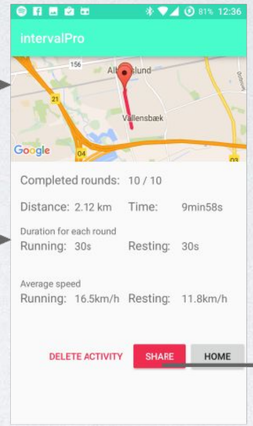
Activity
IntervalSetup



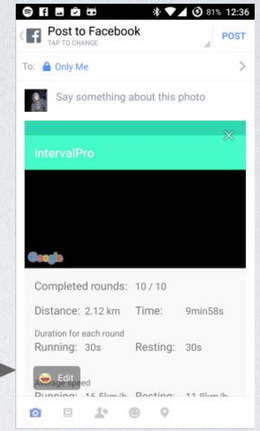
ActivityInterval



Activity
DisplayAll
Sessions



Activity
IntervalOverall



Facebook
sharing activity
(facebook SDK)

DATA STRUCTURES

The data is stored using the JSON format (and the GSON library) into a string in the sharedPreferences.

The data is modelled with 2 classes:

- DataAppSaving: model all the data of the app (contains a list of session's data)

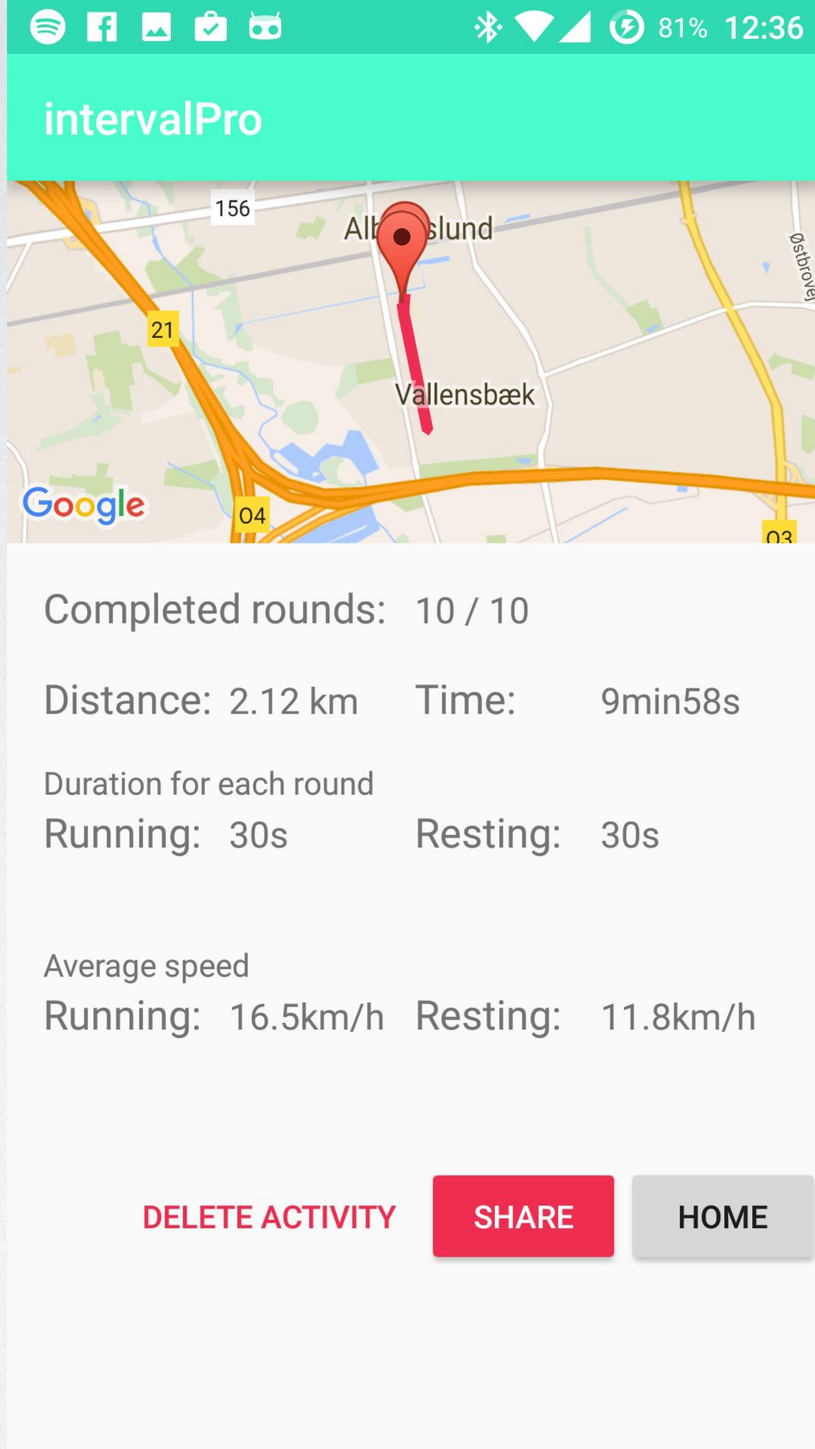
- DataIntervalSession: model all the data for a session (positions, times, speeds, number of rounds, durations for each round)

TESTING

REAL-WORLD TESTING

The app has been tested in real-world contions with a small session (10*(30+30)).

The app has successfully logged all the positions, speeds and times. The data provided in the overview activity corresponds to my real velocities.



WHAT COULD BE IMPROVED

WHAT COULD BE IMPROVED

Design and UX For this first iteration, the design was not the priority given it was my first Android app. However, the user experience could be greatly improved. For a second iteration of this app, I would follow the material design guidelines and set the interval screen as the home screen, then all the others activities would be found within a navigation drawer.

Sounds Adding audio feedback would be a great improvements to help the user to manage his session without to have to look at the screen.

Android Wear Start an android wear activity during the running sessions, show the remaining time on the watch and track user heart rate for a better session control.

Track location with a dedicated service I assumed that the user needs to keep the screen on given he needs the timer to manage his session. However, if sounds are added, the screen can be turned off during the session in order to reduce the energy consumption. Then, a dedicated service must be created in order to keep tracking the user's position and speed while the activity is paused.

Keep the user motivated Possibility to set monthly goals and use notifications to help him to reach his goals

THANK YOU