Documentation for the “Pollen-Diary” App

Introduction

The Pollen-Diary is an application which is able to provide data on pollen pollution in specific regions located in Germany. That data is published by the “Deutscher Wetterdienst[1]” as part of their engagement in open data on a daily basis.

Data is provided in the form of a JSON-file, which can be downloaded here:

https://opendata.dwd.de/climate_environment/health/alerts/s31fg.json

A description of the structure of the JSON file is given here (in German):

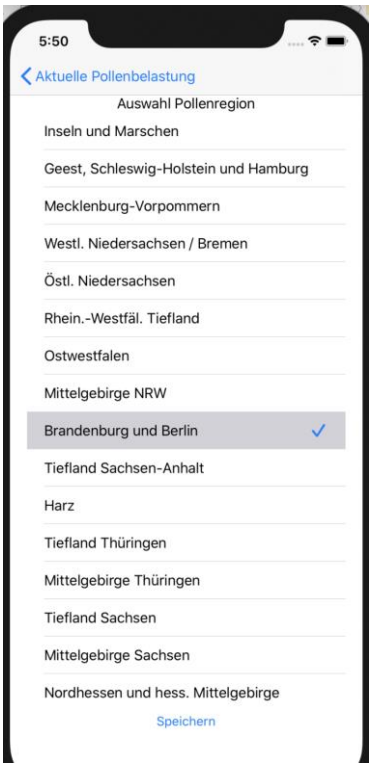
https://opendata.dwd.de/climate_environment/health/alerts/Beschreibung_pollen_s31fg.pdf

The app can download the file with the pollen data and displays measures for various types of pollen. The user can save these measures and add physical symptoms he / she experiences due to the pollution.

The app also gives the opportunity to get statistics out of the recorded data: which symptoms were experienced how often, which types of pollen were recorded.

Selection of the Region

The app requires the selection of a region in Germany for which the pollen data will be presented. This selection is mandatory for the app to function. Therefore the app automatically presents the user a screen with the available regions. One can only choose a single region. The selection is indicated by a checkmark next to the region.



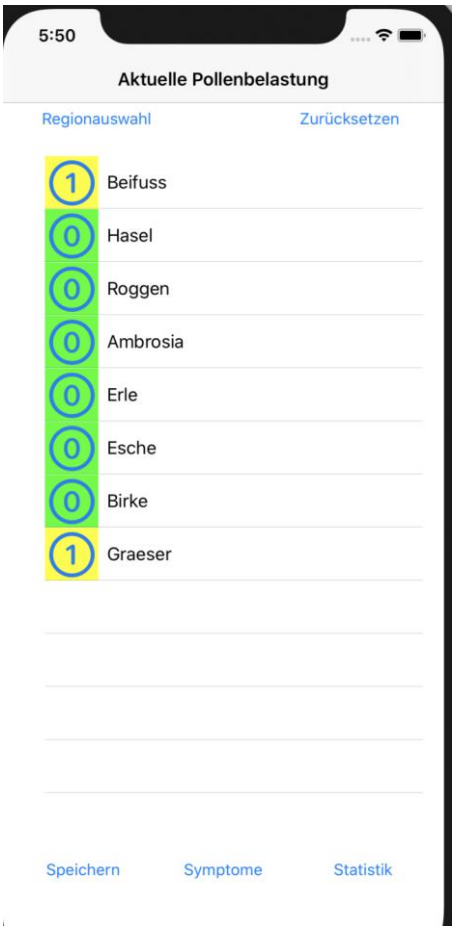
[1] https://www.dwd.de/DE/Home/home_node.html

Once a region is selected the user won't be asked to repeat the selection again. However the user has the possibility to change the region at any time.

Presentation of the Pollen-Data

The main screen of the app displays the pollen data downloaded for the current day. For each type of pollen 8 different intensities are provided from the data provider, however for presentation purposes these intensities are condensed into 4(5) levels – indicated by different colors:

- A grey color signifies no data available and is represented by a "0"
- A green color signifies no pollution with the particular pollen, also signified by a "0"
- A yellow color signifies a week pollution, signified by a "1" (this encompasses 2 levels provided by the DWD, namely "0-1" and "1")
- An orange color signifies a moderate pollution, signified by a "2" (this encompasses the levels "1-2" and "2"
- Finally a red color signifies a strong pollution, signified by a "3" (encompassing the intensity levels "2-3" and "3")



Since the pollen data is provided only on a daily basis a download only happens if no current pollen data has already been downloaded and saved. So if the app is opened multiple times on the same day the data is only downloaded once (if it is saved) – after that the previously downloaded data will be loaded from local storage.

At the bottom of the screen 3 buttons are located to perform:

- Saving the current pollen measure to local storage (=> "Speichern")
- Adding physical symptoms experienced in consequence of the pollen (=> "Symptome")

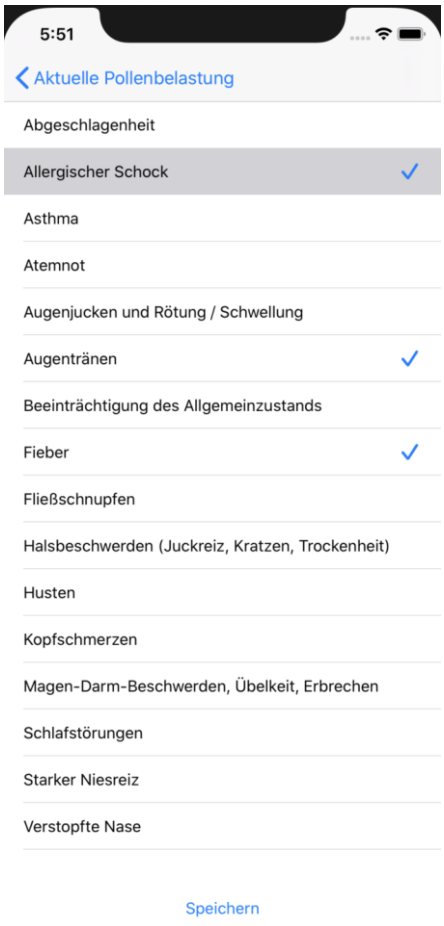
- Presentation of statistical data regarding symptoms and pollen (=> “Statistik”)

At the top of the screen 2 buttons are located to perform:

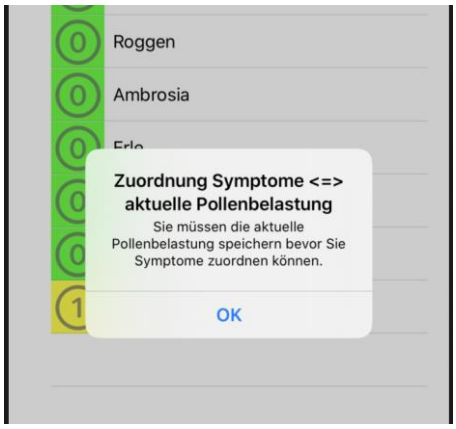
- Changing the selected region (=> “Regionauswahl”)
- Clearing all stored pollen and symptoms data from the local store (=> ”Zurücksetzen”)

Selection of Physical Symptoms

The user can select multiple symptoms he / she experiences due to the current pollen situation (by tapping the “Symptome” button). The available symptoms are presented in list form. Selections are indicated by checkmarks.



It is only possible to save symptoms accompanying the current pollen occurrence if that pollen occurrence has been saved in the step before. If this is not the case an alert will pop up to indicate to the user that a previous save is required.

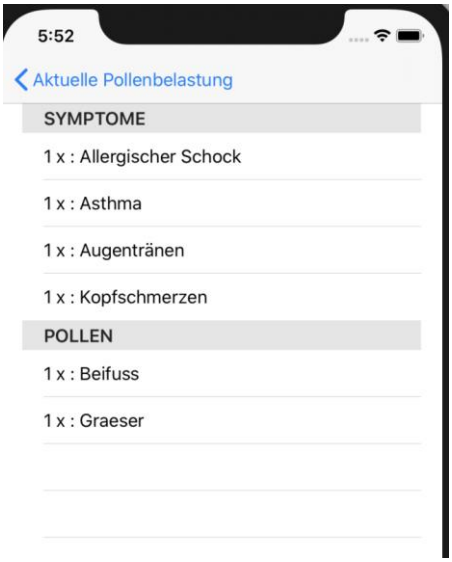


Symptoms can be updated as long as the current date matches the date of the current pollen measurement. When the symptoms page gets loaded all previously marked symptoms are indicated via checkmark.

Overall Statistic Data

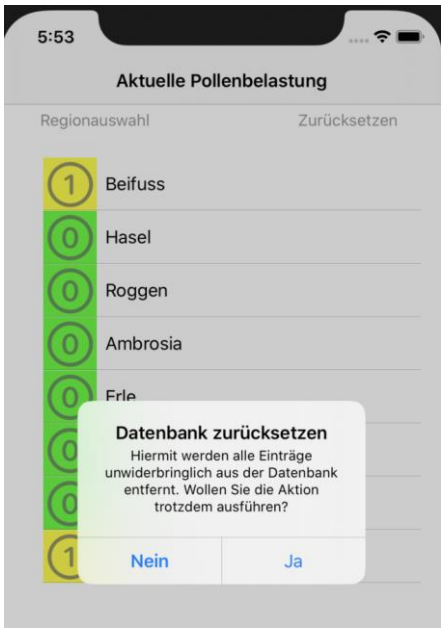
If the user taps the “Statistik” button he / she is presented with an overview of all the data that has been gathered so far. The data is presented in a table with 2 sections. The first one covers the symptoms: here the frequency of each symptom that has previously been indicated is presented.

The second section shows the frequency of all the different pollen types that have occurred whose intensity is / was higher than “0”.



Clearing the Local Storage

If the user wants to reset the local storage this can be achieved by hitting the “Zurücksetzen” button at the top of the screen. Upon tapping the button an alert is presented to the user indicating that this process is irreversible and whether that action should be executed. Upon approval the data is removed from the local storage.


5:53
Aktuelle Pollenbelastung
Regionauswahl
Zurücksetzen
1
Beifuss
0
Hasel
0
Roggen
0
Ambrosia
0
Erle
Datenbank zurücksetzen
Hiermit werden alle Einträge unwiderbringlich aus der Datenbank entfernt. Wollen Sie die Aktion trotzdem ausführen?
Nein
Ja