Application Development for Mobile Devices
Analysis of iRadar CZ+ App

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1 Introduction

iRadar CZ+[3] has been on my phone's homescreen for several years now and there's a good reason for it. It is simple, fast and subtle. The app is completely free of charge and I struggle to find any other weather app which gives so much for free. In its App Store category–Weather–it ranks at 5th place for free apps.

2 History

The initial idea behind iRadar CZ+ is quite simple, display rainfall data. From this basic idea the app has grown to a much wider range of use cases.

Originally, the app was named iRadar CZ[4] (without the plus) but in course of history the original app was made only for iOS 7 and below. The new version is made for the latest iOS and devices. There were also some problems with developer licenses and the current app is released under different person.

During time multiple datasource were added and currently the app makes available more than 8 datasources. The most recent addition are METAR/TAF[2] data useful mainly for pilots.

3 Design

The app is centered around rainfall data on the area of the Czech Republic. Rainfall data are obtained via the Internet from Czech Hydrometeorological Institute and displayed over a map. The map data are default Apple Maps. There are multiple sources of data, g.e. aformentioned CHMI or Blitzortung.org.

The data processed on the server side of the app to be available in uniform format via a rigid API.

The app serves as a central point for several kinds of data. It makes available following data:

- historic and future rainfall data from CHMI in 10 minute interval

- lightning data from Blitzortung.org in 10 minute interval

- display data from professional weather stations

- display high resolution pictures taken from web cameras

- alerts from CHMI

- display wind profiles

- METAR/TAF messages parsed to readable format

- display current position on a map

- more options depending on the current version

4   User Interface

The interface is rather simple but one can be a little bit lost when they open the app for the first time. By default only rainfall radar data are displayed. The rainfall snapshots are animated in set framerate of 500ms per frame with latest 10 snapshots separated by 10 minutes interval each. The framerate and snapshot count can be adjusted in the settings.

A user can add additional data layers to the map. All options are available in the expandable side menu and by click the menu item a new layers is added. To remove the layer you click the menu item again. This feature is unique amongst other weather apps.

5   Promotion

The app is promoted on the Stormchasers webpage, specifically on the web application for rainfall data visualization[1].

5.1   Promises to Users

5.2   Problems Solved

6   Weak Points

The app focuses purely on Czech audience. Even the app description on its App Store page is in Czech. The probable reason behind it the fact, that it displays rainfall data only over the Czech Republic area. Other competing apps are usually displaying the whole Europe or the world.

If one enables all available data layers the app is incredibly slow and the data displayed are unreadable. This can be solved by limiting users to only a couple of layers but it can be considered an edge case which doesn't need solution.

7   Summary

References

[1] Prohlížeč radarových dat ČHMÚ sítě CZRAD. `http://radar.bourky.cz`. [Online; accessed December 5, 2017].

[2] *Aerodrome reports and forecasts: a users handbook to the codes*. World Meteorological Organization, 2014.

[3] L. R. et al. iRadar CZ+. `http://iradarcz.bourky.cz`. [Online; accessed December 5, 2017].

[4] L. R. et al. iRadar CZ. `http://radar.bourky.cz/iphone/`. [Online; accessed December 5, 2017].
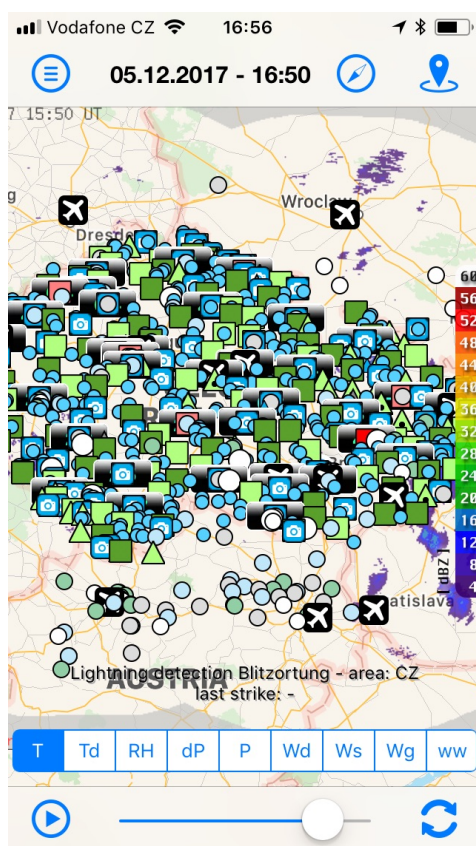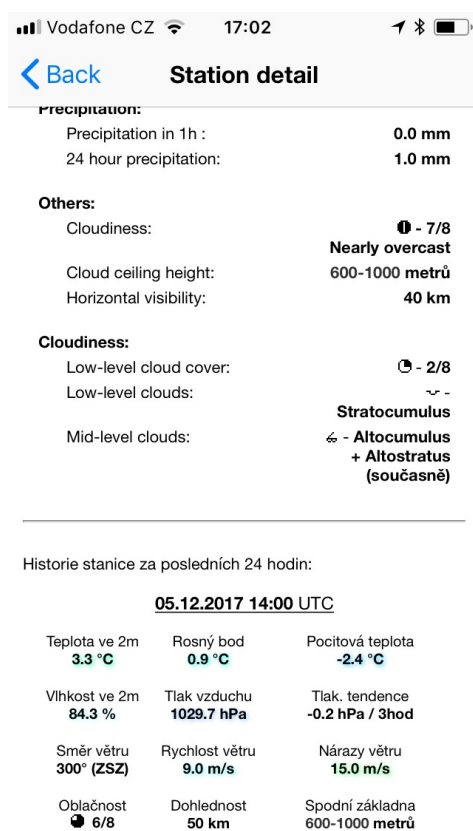
Figure 1: Map with all enabled layers.

Figure 2: Mixture of Czech and English.