Technical Project Report - Android Module

CLIMA

Subject:	Computação Móvel
Date:	Aveiro, 19/04/2023
Students:	103325, Samuel Teixeira 105589,Adalberto Rosário
Project abstract:	Application for monitorization of the environment an share of environmental data across people

Report contents:

1 Application concept

This app was created with the purpose of giving live data about the weather in all places to the users. In a world where all we have are meteorological predictions, Clima app wants to give their costumers more credibility about the environment around the World.

2 Implemented solution

Architecture overview (technical design)

The app's architecture has components for each layout. At Register, Firebase is used to store the users data and, in login, it is used to check if the login is valid or not. When anything on the register or on the login is invalid, the user is informed of such using Snackbar.

For the sensors, we used a similar approach to what is given at sensors documentation of android (at Reference materials). The values are being read constantly and they might be changed according to the units. For this approach, we created a class called SettingsConstants, containing variables with a global scope that are altered at Settings and, according to the current value they hold, the values of the sensors are translated to the corresponding unit. When a sensor is not available on a smartphone, the app will show the default value "var".

For the Profile, the user's info is filtered from the Firebase to display at the right fields.

The app was tested on physical devices.

Implemented interactions

The App starts with the Login, where the user inserts his/her info. If the person doesn't have an account, he/she can create one by clicking on the register button, which will take them to the registering page.

After login or register, the user is sent to the Home, where he/she can go either to Profile, Search of Settings. When logging out on the profile, the user gets sent back to the login.

Project Limitations

The Searching mechanism was not done. Also, we had the idea of implementing a map where we could see people sharing the live sensorial data that they were receiving.

3 Conclusions and supporting resources

Lessons learned

A major problem that we had was working with Firebase, since we are not used to work with Databases yet. We simply had to learn how to.

Work distribution within the team

Taking into consideration the overall development of the project, the contribution of each team member is distributed as follow: Both students did 50% of the work.

Project resources

Resource:	**Available at:**
Code repository:	https://github.com/SamuTheCoder/Environmental-App (Access will be given)
Ready-to-deploy APK:	<put URL for apk, may be inside the code repo. The debug apk, automatically generated, would be Ok>
App Store page:	<put URL, only if applicable>
Demo video:	<optional: link to a video demonstration of the app. Strongly recommended if your project requires specific/complex setup, not easily replicable by others>

Reference materials

https://developer.android.com/guide/topics/sensors/sensors_overview?hl=pt-br

Material offered by the Professor at elearning