



Is IT raining?

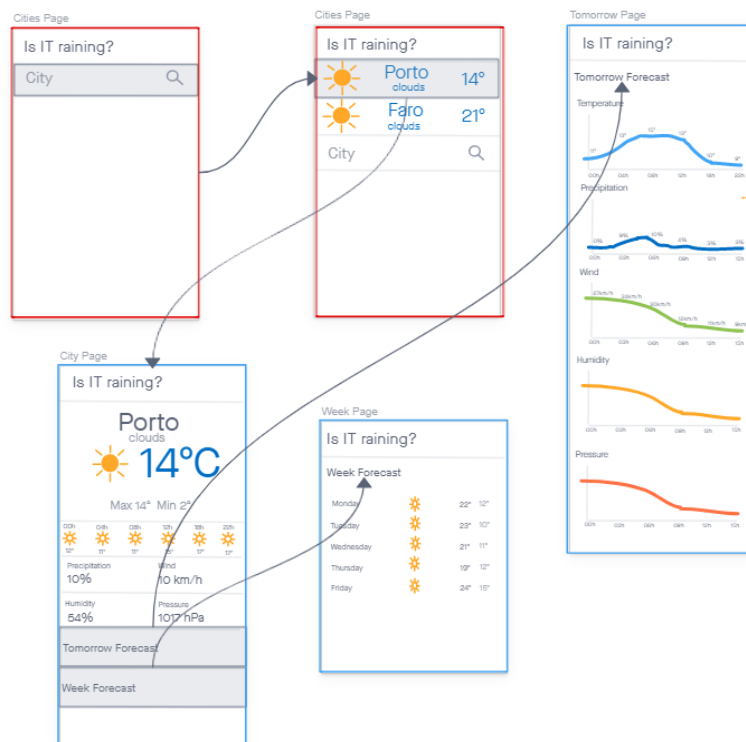
Weather Forecast Application
Mobile Computing | Assignment #2

Group 6:

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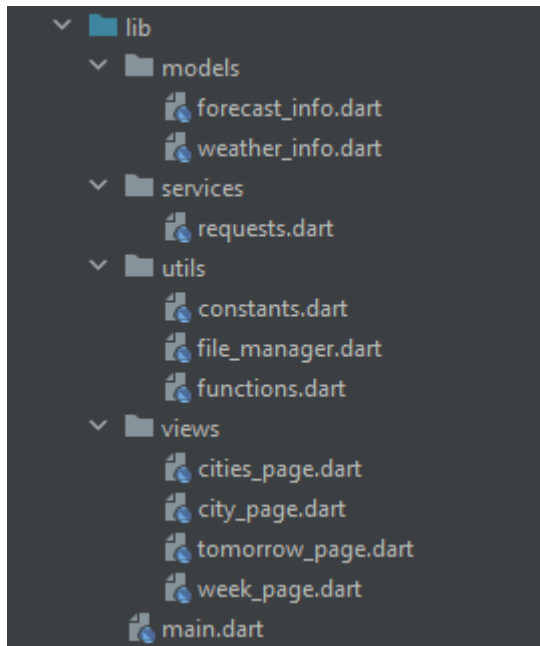
Features

- Users can search for **any existing city** in the world;
- Users can **add and remove cities** from the application cities list;
- Application **cities list are saved in a file** to guarantee they are updated when the application restarts;
- Users can see information about the **Current Weather** (actual temperature, main weather and respective description and icon, and a “funny answer” to the application name (that is a question): “Is IT raining?": “Yes, IT is!” / “No, IT's not...” (IT means Information Technology in this application context);
- When the user presses a city card, **City page** will appear showing its:
 - **Current Weather**: actual, minimum and maximum temperature, main weather and respective description and icon, pressure, humidity, wind speed, sunrise and sunset time and timezone;
 - **Next 24h Forecast**: scrollable forecasted temperature and weather;
- Inside City page, if the user presses “Tomorrow Forecast”, **Tomorrow page** will appear showing:
 - **Tomorrow Forecast**: graphic representations about forecasted temperature, precipitation, wind, pressure, humidity;
- Inside City page, if the user presses “Weekly Forecast”, **Week page** will appear showing:
 - **Week (5 days) Forecast**: each day forecasted weather, minimum and maximum temperature.
- When the user long presses a city card (for a longer period of time), an **alert dialog** will be shown and the user can choose **if he wants to delete that city from the cities list** or to cancel this operation.



Architecture

- **Models:** code folder where we put all the information (classes) read from the API requests, that will be after shown in the application;
- **Services:** code with functions to make and receive API requests from OpenWeatherMap;
- **Views:** dart Widgets that display models information and contains all the code that can be seen in the application;
- **Utils:** files containing constants, file-saving and file-reading related functions.



Dart packages used

- http package: OpenWeatherMap API requests;
- path_provider: File path for saving information about the cities list;
- syncfusion_flutter_charts: Tomorrow forecast graphics representations;
- intl: DateTime functionalities;
- collection: List sorting.

```
dependencies:  
  flutter:  
    sdk: flutter  
  
  http: ^0.13.4  
  path_provider: ^2.0.10  
  syncfusion_flutter_charts: ^20.1.58+1  
  intl: ^0.17.0  
  collection: ^1.16.0
```

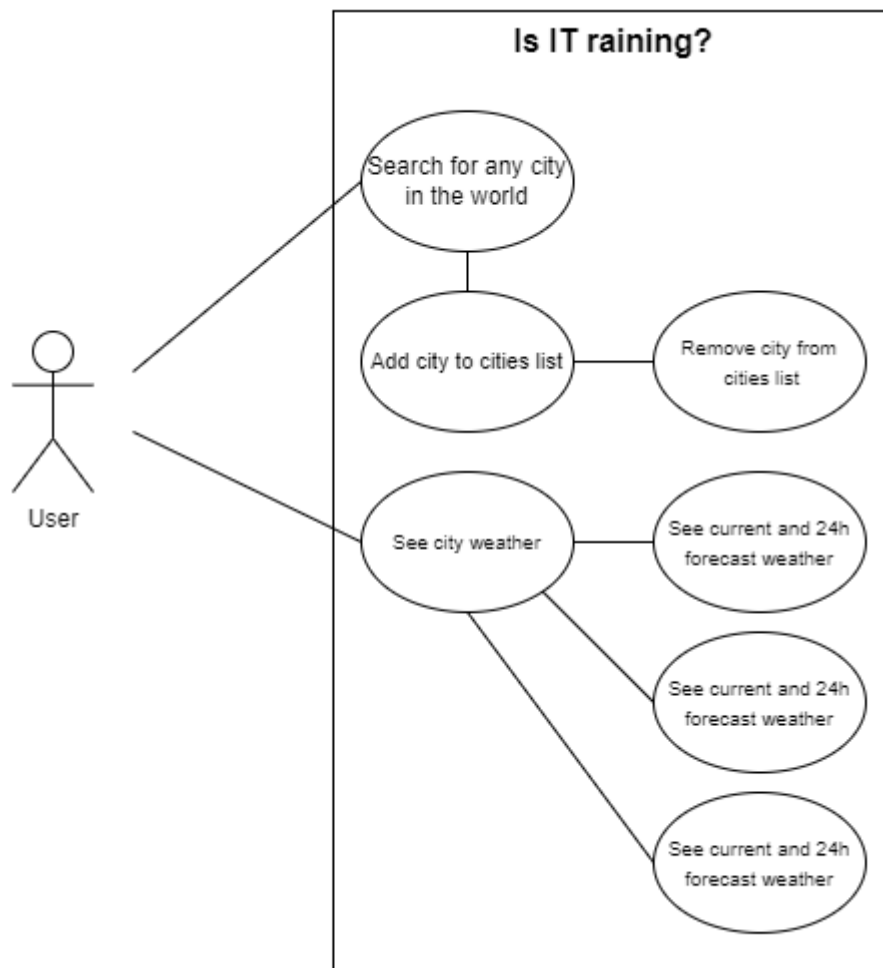
Interface



Testing

- If the user tries to add a non-existing city, the application will just “skip” that addition and show the same cities list (there is no explanation to the user that that operation failed though).

Use Case Diagram



References & Bibliography

- Slides provided by professor António Pimenta Monteiro in the Mobile Computing course;
- Flutter Tutorials - <https://flutter.dev/>
- [Current weather and forecast - OpenWeatherMap](#)
- https://javiercbk.github.io/json_to_dart/
- <https://docs.flutter.dev/cookbook/persistence/reading-writing-files>
- <https://stackoverflow.com/questions/54515186/async-await-then-in-dart-flutter>