Documentation

Project Name: FinnFlux

Class Diagram and Descriptions:

#Application Overview

Our app has a simple and easy to use design that grabs attention right when users visit the main page. Users can pick a Finnish city or any place in the world, like a city, country, or state. The interface is split into two main parts, weather, and statistics. The weather part gives up to date and future weather details and useful climate information for the chosen place. For users interested in Finnish details, our app provides deep statistics only for Finnish cities. It includes yearly population numbers and has a quiz to help users learn. The quiz asks good questions and gives quick feedback to help users understand more about Finnish people. Our app mixes detailed data and an easy-to-use interface, which help users easily learn about and explore places near and far while learning more about different climates and people.

 # Main Activities and Fragments

- `MainActivity`: Manages the main screen of the application and the navigation menu below it.
- `FragmentQuiz`: Presents true/false questions to the user.
- `FragmentTilastokeskus`: Displays population statistics and retrieves data from an API.
- `FragmentWeather`: Displays weather information and retrieves weather data from an API.
- `FragmentWikipedia`: Retrieves and displays information from the Wikipedia API.

 # Data Retrievers

- `WeatherRetriever`: Retrieves weather data from the OpenWeatherMap API.
- `WikipediaRetriever`: Retrieves summary information from Wikipedia's REST API.
- `CitizenshipRetriever`: Retrieves and processes population data from an API.

 # Interfaces

- `WeatherInterfaces` : Used to transmit weather data to the fragment.

- `WikipediaInterfaces` : Used to transmit data retrieved from Wikipedia to the fragment.

- `CitizenshipInterface` : Used to transmit population statistics to the fragment.

 # Models

- `WeatherModel` : Stores weather data.

- `WikipediaModel` : Stores information retrieved from Wikipedia.

- `CitizenshipData` : Stores population statistics data.

- `TrueOrFalseModel` : Stores true/false questions.

 # Utilities

- `JsonUtils` : Reads and processes JSON files.

 # Installation and Configuration

1. Open Android Studio.

2. Download the project.

3. Open the project in Android Studio using the `Open an Existing Project` option.

4. Install all necessary dependencies and build the project.

5. Run the project on an emulator or a real device.

 # Features

- Display a variety of information: weather, Wikipedia summaries, population statistics, and quizzes.

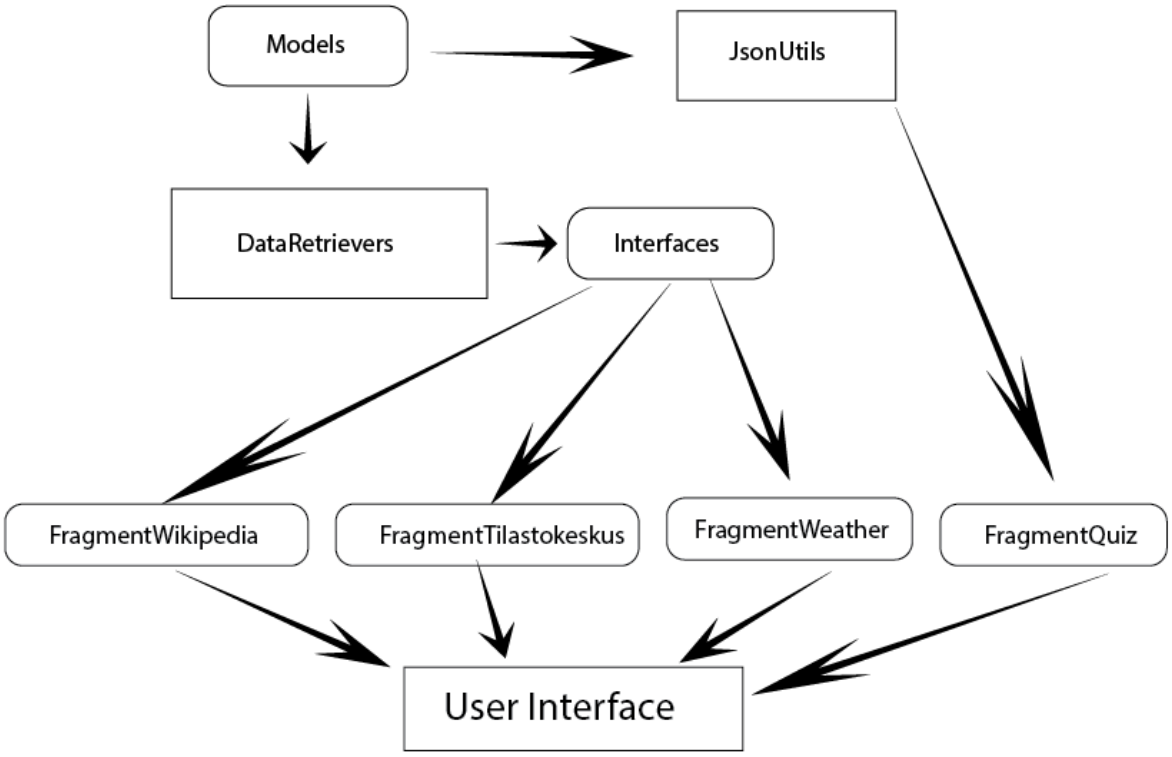
- Dynamic data infrastructure with API integration.

- User-friendly interface and navigation.

#Developer Notes

- Update your API keys in the `Configs` class.

#Class Diagram



#Features implemented:

All the Mandatory features as well as most of the optional tasks are done very well.