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An API (Application Programming Interface) is a set of rules for how different software applications communicate with each other. It is a four-step process. The first step is the client makes a request through the API. The second step is the API sends the request to the server. Next the server processes the request and sends a response back to the API. Finally, the API delivers the servers response to the client. JSON is a format for sending and receiving data. In the context of an API the requested data gets sent in JSON format. This data is then parsed and used by the application requesting the data.

One example is the OpenWeather API. It delivers reliable weather data collected from trusted sources. It provides updates every 10 minutes to allow for uptodate and precise forecasts. Some of the available options provided by OpenWeather are current weather forecasts. This provides real time data for the specified locations. Historical Weather data. This allows users to search through past weather data for comparison. Another option is weather maps. These are interactive maps which can provide visual features like temperature, wind and rain. Another option is air quality data. This delivers information about local air quality by measuring pollutants.

Features of the current weather data include forecasts by minute for the next 60 minutes. They also provide hourly forecasts for the next 48 hours. Additionally, they provide daily forecasts for the next 8 days. Another feature is government alerts such as state of emergency. They also provide an easy to read summary of the weather.

OpenWeather API began in 2014 with a goal of providing reliable weather data. At first it only offered information for cities and over time was able to expand not only the regions it provided data for but also the information it was able to provide. It is popular because it supports free versions for limited use and also can support a large number of requests for its paid versions. They continue to perfect their forecast models and deliver new products.

To use OpenWeather API in a java program it requires the use of a http library instead of using a jar file. One source for a http library is: <https://square.github.io/okhttp/> The http library can send a get request to OpenWeather. You will receive a JSON response which then needs to be parsed to display the desired data. Additionally, OpenWeather requires making an account and receiving an API key. It requires the use of this key for every call. They recommend preventing calls for the same location to once every ten minutes as that is their update frequency and this would prevent unnecessary calls. There is a daily limit for the free versions which once hit will suspend your account.

References:

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