## Analysis of APIs

### Notes/Queries

Location data for weather & maps

* latitude & longitude required for google map api
* Obtain latitude & longitude from geolocation & if not Manchester lat & long
* Weather APIs
  + After analysis tried open weather map: free up to 1,000 api calls per day, hourly weather info

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name & documentation url** | **Location data required in api call** | **Returned format** | **Steps** | Disadv | **Adv** |
| **Ambee**  https://www.getambee.com/api-documentation | Latitude & longitude | Json | Need to get latitude & longitude for location first | 100 API calls/day on free plan - enough when developing? | Hourly data available  Icons also available in SVG or PNG  Also includes cloud cover & precipitation probability |
| **Meteomatics**  https://www.meteomatics.com | Latitude & longitude | Json, CSV & several others | Send api call with various parameters, e.g. clouds, wind, precipitation | 1,000 queries free of charge for 2 weeks. Entry Level $40/month |  |
| **Open weather api**  https://openweathermap.org/api | Options for different endpoints:  Hourly forecast for 4 days:   * City name * City id * Lat & Long * Zip code   One call for specific location (hourly forecast for 48 hours):   * Latitude & longitude | Json & Xml |  | Cannot get uk postcode to return data.  Need to use either city name or latitude & longitude  Icons are fairly simple & restricted number | Free  Icons returned  Free plan up to 1,000 api calls a day, 1m per month  Hourly calls  Simple description to display on page, e.g.  Main : “Cloudy”  Description: “Broken clouds”  Popular, established |
| **Met office api webpage**  Https://www.metoffice.gov.uk/services/data/datapoint/api-reference | siteId which can request in an initial call. | Json or XML | Can request sites for which daily/three hourly forecast available: presumably Manchester available  Can request time steps for daily/three-hourly forecast  Then request forecast for location | States only data for 3 hourly  Sitelist of up to 5,000 sites presumably Manchester included | Free service when register for api key  Clear list of text weather types |
| **Google Weather apis**  https://developers.google.com/android/reference/com/google/android/gms/awareness/state/Weather |  |  |  | Depreciated |  |
| **Visual crossing:**  https://www.visualcrossing.com/resources/documentation/weather-api/timeline-weather-api/ |  |  |  | Daily forecasts only, not hourly  Payment plan |  |
| **Dark Sky**  https://darksky.net/dev |  |  |  | No longer taking new signups |  |

### Location APIs: to get latitude & longitude

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Name & documentation url** | **url** | **Location data required** | **Returned format** | **Steps** | **Disadv** | **Adv** |
| **Google Maps Geocoding**  https://developers.google.com/maps/documentation/geocoding/overview | https://developers.google.com/maps/documentation/geocoding/overview | Full address | Json | Need to check works well with UK post codes | Free trial then billing:90 days free/up to $300 max; costs are $2 per 1,000 requests |  |
| **Open weather api**  https://openweathermap.org/current | Current weather endpoint :  Requires one of the following:   * City name * City id * Zip code   Response includes lat & long | Json & Xml |  | Get 404 using UK post codes |  |  |

### Map APIs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Name & documentation url** | **url** | **Location data required** | **Returned format** | **Steps** | **Disadv** | **Adv** |
| **Google maps** | <https://cloud.google.com/maps-platform/>  <https://developers.google.com/maps/documentation> | Latitude & longitude |  |  | Free trial then billing:90 days free/up to $300 max; costs are $2 per 1,000 requests |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Google maps**  Directions API (for planning routes using latitude and longitude points with polygon lines to draw route) | https://developers.google.com/maps/documentation/directions/overview |  |  |  | Free trial then billing:90 days free/up to $300 max; costs are $2 per 1,000 requests |  |