# Key Algorithms

## Generating JSON

All relevant classes will have a toJson() method that constructs a JSON object based on the contents of the class. This includes any objects constructed by the class itself. Any photographs that we are going to use have their file path added as a component of the generated JSON objects.

## Communicating with the server

We have chosen to create JSON objects and send them as a MIME message via HTTP Post, to do this we are creating a HTTP Post object attaching our

In Android the sending of information via HTTP Post is rather simple, we create an object known as a HTTP Post object, with a URL attached to it, we then add all associated information necessary and send it to the URL previously attached

## Keeping track of locations

To keep track of the route the user is taking we are going to generate a location every few meters determined by a persistent algorithm checking the difference in the longitude/latitude and calculating if the difference equates to or is greater than the prescribed difference for adding a location. If the user adds a location within 5 minutes of the app generating one the app generated one will be removed to reduce on data transfer for the user.

## Location management

As stated above the previous location will be checked on the creation of a key location by the user if the user-generated location’s timestamp more than 5 minutes older than the previous location, just add the location to the end of the linked list; however if the previous non-user created location is less than 5 minutes old, replace it with the new user-generated location.

## Photo management stuffs

The android operating system allows us to simply store our own images that the user will create in app in our own file storage system under the images folder on the device. This will allow us to easily attach the images for the relevant key locations while being able to just reference a file path in the JSON string.