Metadata detection tool for Images

Task Brief

Images often contain lots of useful information contained within the EXIF data that is typically added automatically by the device when the image is taken. Originally this allowed photographers to review their images and determine what settings were used to take the image and details about the device used. However, the EXIF information can also contain other useful meta data such as the location (particularly since phones are now the most common camera device used).

> *One of the earliest cautionary tales about EXIF is the 2012 privacy incident involving antivirus company founder John McAfee. This was an exciting time in McAfee's life, as he was evading law enforcement while still granting exclusive, much sought-after interviews to journalists. One journalist who was lucky enough to get an interview decided to show off his good fortune by posting a photo of McAfee without first removing its EXIF data. That data gave away his location and led to his arrest.*
>
> *[source - auth0.com]*

Therefore given a folder of images / photos, we would like to identify any images that contain useful information (in particular location data) and highlight this to the user.

The tool can be a script or make use of a suitable Python GUI to allow the user to select the folder and display the results. Potentially other APIs can be used to provide look-up or display of the location based on the discovered GPS/location coordinates.

Deliverables

1. Documentation README>MD that details the target website, lists the tools/image sources (for licencing) and learning resources used.
2. Code checked into GIT repo (confirm we have one)
3. Able to demonstrate the tool from your machine (from GIT checkout)

Caveats

Please remember RTX rules for downloading/transferring images on RTX systems apply, such as use of USB devices and suitability of content browsed for and downloaded through RTX systems. Consideration should be given to Copyright and Licences (i.e. do not store Copyrighted images within your GIT repo).

Learning Outcomes

Opportunity to learn about meta data that existing within some types of files. Use of Python libraries and option to use Python GUI tools.

Suitable Tools

- Python: exif module
- Python GUI: Tkinter/GUIZero
- Web-urls for GPS coordinates for Googlemaps/Streetview

Extensions

This concept could be extended to create a web plugin that is able to highlight any images on the webpages you visit that have location information on them. See tools such as GreaseMonkey that allow webpage scripting or Chrome Extensions.