ProcessingImages

paul

March 21, 2017

Contents

Libraries: **1**

exifTool: **1**

Libraries:

- exif library
  - Required lots of extra installations, due to not being on CRAN yet.
  - `devtools::install_github("ironholds/exif")`
  - Install "Rcpp" package is required.
  - Only returns a fraction of potential metadata.

```
library(exif)
```

```
animal= read_exif("./TestPictures/animal1.jpg")
lake = read_exif("./TestPictures/lake.jpg")
# tiger = read_exif("./Test Pictures/tiger.jpg")
```

---

exifTool:

- Another tool is exifTool
  - provides runnable application for windows.
  - orginally a PERL library.
  - exiftool Instructions.
- To use it, change the file name to `exiftool.exe`. This allows the command prompt to access its functionalities.
- FAQ.
- Note that in order to use the exiftool, the current directory needs to be where the application is at in the command prompt.
- command used to parse the meta data into JSON format:
  - `-j` specifies that the output is in json format
  - `-r` recusiviely go through all image files in the directory `TestPictures`
  - `exiftool -r -j TestPictures\> image.json`
- Supports various other output formats: php, html, csv etc... Refer to exif documentations for more details.

```
P:\University\During Uni\2nd Year\School\ottawa co-op\API Project\Instagram\Processing Images>exiftool -r -csv -fileName
-technology TestPictures/>tech.txt
    1 directories scanned
    3 image files read
```

Figure 1: Command Prompt Command

- The metadata is extracted under `images.json` file.

Reading in JSON formated data:

```
    library(rjson)
    list = fromJSON(file="image.json")

    ## Looking at one image, specifically the
    ##  file name and photography technology used.
    tech = lapply(list, function(x){
                            x$Technology
                          }
                    )
    file = lapply(list,function(x){
                x$FileName
    })

    data = cbind(file = as.vector(file),
                      tech= as.vector(tech))
    data
```

```
##      file           tech
## [1,] "animal1.JPG"  "Cathode Ray Tube Display"
## [2,] "lake.jpg"     "Cathode Ray Tube Display"
## [3,] "Stephane.JPG" NULL
## [4,] "tiger.jpg"    "Cathode Ray Tube Display"
```

Another method to do this would to select the information of interest (file name and technology used) using exif and output it to a file.

- `-r` indicates to loop through all image files in the *TestPictures* directory.
- `-csv` specifies that the output is to be comma separated.
- `-fileName`,`-technology`, specifies the desired parameters
- `>tech.text` specifies the output file.

Readig in the MetaData:

```
    data = read.table("tech.txt", header = TRUE, sep=",")
    data
```

```
##                 SourceFile    FileName               Technology
## 1 TestPictures/animal1.JPG animal1.JPG Cathode Ray Tube Display
## 2    TestPictures/lake.jpg    lake.jpg Cathode Ray Tube Display
## 3   TestPictures/tiger.jpg   tiger.jpg Cathode Ray Tube Display
```