

# Mirror SmugMug Statistics

February 6, 2022

## 0.1 Mirror SmugMug Statistics

This notebook runs queries against the `sqlite` database `mirror.db` that holds consolidated SmugMug online image metadata.

```
[1]: NB. J version - notebook runtime
smoutput 9!:14''
smoutput timestamp 6!:0 ''
```

```
j903/j64avx2/darwin/release-a/commercial/www.jsoftware.com/2021-12-16T15:26:50/c
lang-13-0-0/SLEEF=1
06 Feb 2022 12:04:41
```

```
[2]: NB. required addons - set portable box characters
load 'data/sqlite general/jod'
0 0$portchars ''
```

### 0.1.1 Load Utilities and SQLITE data

```
[3]: NB. open dictionaries and fetch
od ;:'imex smugpyter utils' [ 3 od ''
smoutput 75 list }. grp 'mirrorstats'
smoutput lg 'mirrorstats'
```

|                          |                 |                     |
|--------------------------|-----------------|---------------------|
| ALTMIRRORDBPATH          | AlbumImageCount | AlbumImageCount_sql |
| GeotaggedAlbumImages_sql | MIRRORDB        | MIRRORDBPATH        |
| MeeusHomeLonLat          | NotDivisible    | albdist             |
| albextent                | antimode        | arctan              |
| assert                   | beforestr       | charsub             |
| cos                      | dbquote         | dev                 |
| dstat                    | earthdist       | freq                |
| itYMDhms                 | kurtosis        | mean                |
| meanalbdist              | meanalblonlat   | median              |
| midpt                    | mirrorcn        | mode2               |
| nonemptyalbums           | ofreq           | pwcf                |
| q1                       | q3              | rfd                 |
| round                    | sin             | skewness            |
| ssdev                    | stddev          | var                 |
| +-+-----+                |                 |                     |

```
|1|mirrorstats group loaded|
+-+-----+
```

```
[4]: NB. set sqlite db file
(3 : 0)''
ALTMIRRORDBPATH=: ''
if. IFWIN do. ALTMIRRORDBPATH=: 'c:/pd/diaries/'
elseif. IFUNIX do. ALTMIRRORDBPATH=: '~/pd/dbs/'
end.
if. fexist dbf=: ALTMIRRORDBPATH,MIRRORDB do. dbf else. 'db not set' end.
)
smoutput dbf
```

```
~/pd/dbs/mirror.db
```

```
[5]: NB. fetch table columns
db=: sqlopen_psqliite_dbf
showpass 'Tables' ;< >sqltables__db ''
(;0{oi)=: ;1{oi=: sqlread__db 'select * from OnlineImage order by UpLoadDate_
↳desc'
showpass 'OnlineImage columns' ; 50 list ;0{oi
(;0{al)=: ;1{al=: sqlread__db 'select * from Album order by OnlineImageCount_
↳desc'
'Album columns' ; 50 list ;0{al
```

```
+-----+-----+
|Tables|Album      |
|      |ImageAlbumXr |
|      |ImageKeywordXr|
|      |LocalImage    |
|      |LocalPath     |
|      |OnlineImage   |
|      |OnlineKeyword |
+-----+-----+
```

```
+-----+-----+
|OnlineImage columns|ImageKey      OnlineImageFile ArchivedMD5 |
|                   |ArchivedSize  Latitude      Longitude   |
|                   |Altitude      OriginalHeight OriginalWidth |
|                   |RealDate      UploadDate    LastUpdated  |
|                   |Uri           ThumbnailUrl  Keywords     |
|                   |Caption       |
+-----+-----+
```

```
+-----+-----+
|Album columns|AlbumKey      LocalPathID |
|             |LocalPresent  OnlineImageCount |
|             |OnlineCreateDate LastUpdated   |
|             |ImagesLastUpdated AlbumName  |
|             |ParentFolders WebUri     |
```

|         | AlbumDescription |
|---------|------------------|
| +-----+ |                  |

### 0.1.2 Total Online Image Count

```
[6]: sqlreads__db 'select count(*) as OnlineCount from OnlineImage'
```

|             |
|-------------|
| +-----+     |
| OnlineCount |
| +-----+     |
| 4966        |
| +-----+     |

### 0.1.3 Recent Image Additions

```
[7]: NB. last 10 images loaded
; "1 ] 10 {. (10 {.&.> RealDate) ,. (<' - ') ,. OnlineImageFile
```

```
2022-01-26 - me snow shoeing ketchum hemingway.jpg
2022-01-26 - mali hemingway memorial winter.jpg
2022-01-25 - me roundhouse deck sun valley.jpg
2022-01-25 - skiing in hell.jpg
2022-01-26 - me mali sun valley lodge pool collage.jpg
2022-01-26 - me snow shoeing ketchum.jpg
2022-01-26 - cross country sun valley.jpg
2022-01-25 - roundhouse sun valley panorama.jpg
2022-01-26 - snow shoe trail bald mountain.jpg
2022-01-26 - caution snow shoeing sign.jpg
```

### 0.1.4 Album Statistics

```
[8]: NB. 10 largest albums
10 {. (>AlbumName) ,. ": ,. >OnlineImageCount
```

|                      |     |
|----------------------|-----|
| Idaho Instants       | 458 |
| The Way We Were      | 429 |
| Cell Phoning It In   | 339 |
| Weekenders           | 320 |
| Missouri Moments     | 315 |
| California Captures  | 231 |
| My Kids              | 195 |
| Montana Now and Then | 165 |
| Image Hacking        | 163 |
| Panoramas            | 153 |

```
[9]: NB. album image counts
dstat OnlineImageCount
```

```
sample size:      77
minimum:          0
```

```

maximum:      458
1st quartile:  17
2nd quartile:  48
3rd quartile: 110
first mode:    7
first antimode: 458
mean:          78.4545
std devn:      94.7238
skewness:      2.1989
kurtosis:      8.0457

```

### 0.1.5 Images per Year

My image dates are a mixture of EXIF dates and manually assigned dates. The manually assigned dates are rarely accurate and reflect my best guess as to when a picture was taken. Many images do not have dates. They show up in year 0.

```
[10]: NB. images per year - year 0 means no date
70 list ', ' ,.~ ": rf=: \:~ |: > freq 0 {"1 rdt=: itYMDhms RealDate
```

```

2022 22, 2021 163, 2020 98, 2019 446, 2018 294, 2017 227, 2016 298,
2015 207, 2014 98, 2013 172, 2012 178, 2011 217, 2010 152, 2009 144,
2008 180, 2007 284, 2006 166, 2005 120, 2004 110, 2003 79, 2002 118,
2001 135, 2000 33, 1999 6, 1996 1, 1995 19, 1994 8, 1993 8,
1992 17, 1991 12, 1990 4, 1989 14, 1988 6, 1987 10, 1986 6,
1985 4, 1984 2, 1983 42, 1982 4, 1981 37, 1980 17, 1979 90,
1978 27, 1977 10, 1976 20, 1975 8, 1974 22, 1973 4, 1972 5,
1971 23, 1970 33, 1969 22, 1968 45, 1967 32, 1966 24, 1965 5,
1964 13, 1963 8, 1962 20, 1961 6, 1960 7, 1959 15, 1958 13,
1957 7, 1956 6, 1955 11, 1954 10, 1953 4, 1952 6, 1951 3,
1950 9, 1949 17, 1948 10, 1947 3, 1946 5, 1945 2, 1944 2,
1943 1, 1942 1, 1941 7, 1940 6, 1939 2, 1938 3, 1937 2,
1936 5, 1935 4, 1934 3, 1933 1, 1932 1, 1931 4, 1930 1,
1929 1, 1928 1, 1927 2, 1925 2, 1924 1, 1920 2, 1919 2,
1917 2, 1916 2, 1914 1, 1912 1, 1910 4, 1908 3, 1907 1,
1906 2, 1905 3, 1902 2, 1901 1, 1900 1, 1897 1, 1894 1,
1880 2, 1870 1, 1864 1, 0 180,

```

Images per year statistics since the year 2000. It was around 2000 that I started saving digital image files.

```
[11]: NB. images per year statistics for years after 1999
dstat (1 {"1 rf) #~ 1999 < 0 {"1 rf
```

```

sample size:      23
minimum:          22
maximum:          446
1st quartile:     110
2nd quartile:     163
3rd quartile:     217

```

```

first mode:          98
first antimode:      22
mean:                171.3478
std devn:            94.9405
skewness:            0.9878
kurtosis:            4.3145

```

### 0.1.6 Uploads per Year

I often upload old images that get counted in prior years. These counts reflect actual database inserts. Note the count of 724 in 2019. I did not insert that many images in 2019. The upload count probably reflects reorganizing existing images. The count of 1531 in 2009 marks the year I transferred my online images to SmugMug.

```
[12]: 70 list ', ' ,.~ ": uf=: \:~ |: > freq 0 {"1 udt=: itYMDhms UploadDate
```

```

2022  27, 2021  203, 2020  109, 2019  724, 2018  352, 2017  319,
2016  362, 2015  222, 2014  102, 2013  256, 2012  233, 2011  314,
2010  212, 2009 1531,

```

```
[13]: NB. uploads per year statistics - less outliers > 600
dstat (1 {"1 uf) #~ 600 > 1 {"1 uf
```

```

sample size:          12
minimum:              27
maximum:              362
1st quartile:         156
2nd quartile:         227.5
3rd quartile:         316.5
first mode:           27
first antimode:       27
mean:                 225.9167
std devn:             104.9333
skewness:             _0.4392
kurtosis:             2.2252

```

### 0.1.7 NotDivisible counts

NotDivisible counts how many images must be added to a gallery so that the total number of gallery images is evenly divisible by 3 and 5. The iPhone SmugMug app displays images in rows of 3 (portrait) or 5 (landscape) and I like completely filled rows. When the total is evenly divisible by  $15 = 3 * 5$  both portrait and landscape rows are filled.

```
[14]: 10 {. NotDivisible dbf
```

```

+-----+--+-----+
|[Count]|3|5|15|[Album Name]      |
+-----+--+-----+
|163    |2|2|2 |Image Hacking      |
+-----+--+-----+

```

```

|458      |1|2|7 |Idaho Instants      |
+-----+-----+-----+
|7        |2|3|8 |Does Not Fit            |
+-----+-----+-----+
|7        |2|3|8 |Test Patterns          |
+-----+-----+-----+
|7        |2|3|8 |Partial Restorations |
+-----+-----+-----+
|22       |2|3|8 |To Much Information     |
+-----+-----+-----+
|7        |2|3|8 |Fake Pixels            |
+-----+-----+-----+
|64       |2|1|11|Banff and Jasper 2006|
+-----+-----+-----+
|49       |2|1|11|New York 2005        |
+-----+-----+-----+

```

### 0.1.8 Color Keywords

Keywords starting with 0\_ are dominant color keys assigned by the Python SmugPyter program.

```

[15]: db=: sqlopen_psycopg2_dbf
      (;0{kf)=: ;1{kf=: sqlread_db 'select * from ImageKeywordXr'
      'ImageKeywordXr columns' ; 0{kf

```

```

+-----+-----+-----+
|ImageKeywordXr columns|+-----+-----+|
|                      ||ImageKey|Keyword||
|                      |+-----+-----+|
+-----+-----+-----+

```

```

[16]: topbotk=: 4 : 0
      NB. topbotk v-- (x) top and bottom (y) keys
      kf=: ofreq y
      kf=: (' ' ,. >;0{kf) ,.~ ";>.,;1{kf
      (x {. kf) ,. |. (-x) {. kf
      )

```

```

[17]: NB. top/bottom 20 color keywords
      ColorKeys=: Keyword #~ ('0_'&-:.)@(>2&{.)&> Keyword
      20 topbotk ColorKeys

```

```

511 0_darkslategrey      1 0_forestgreen
370 0_black              1 0_aquamarine
244 0_darkolivegreen     1 0_magenta
229 0_dimgrey            1 0_lightyellow
224 0_steelblue          1 0_lawngreen
207 0_darkgrey           1 0_lavenderblush
185 0_rosybrown          1 0_indigo

```

|     |                  |   |                |
|-----|------------------|---|----------------|
| 177 | 0_gainsboro      | 1 | 0_lightgreen   |
| 174 | 0_lightsteelblue | 1 | 0_springgreen  |
| 171 | 0_lightgrey      | 1 | 0_cyan         |
| 168 | 0_grey           | 1 | 0_hotpink      |
| 154 | 0_tan            | 1 | 0_darkmagenta  |
| 149 | 0_cornflowerblue | 1 | 0_floralwhite  |
| 120 | 0_silver         | 1 | 0_cornsilk     |
| 118 | 0_lavender       | 1 | 0_mediumorchid |
| 86  | 0_lightslategrey | 2 | 0_greenyellow  |
| 85  | 0_sienna         | 2 | 0_lime         |
| 81  | 0_peru           | 2 | 0_limegreen    |
| 77  | 0_saddlebrown    | 2 | 0_seashell     |
| 77  | 0_skyblue        | 2 | 0_mediumblue   |

### 0.1.9 Print Size Keywords

```
[18]: NB. top/bottom 20 print size keywords
SizeKeys=: ColorKeys -.~ Keyword #~ ({.> Keyword) e.> <'0123456789'
NB. remove odd keys that do not follow name conventions
NssKeys=: <;._1 ' 0z0 0z1'
SizeKeys=: SizeKeys -. (<;._1 ' 50th'),NssKeys
20 topbotk SizeKeys
```

|     |         |   |        |
|-----|---------|---|--------|
| 939 | 4x6     | 1 | 2.25x4 |
| 847 | 5x7     | 1 | 8x32   |
| 538 | 8x12    | 1 | 10x16  |
| 274 | 5x6.7   | 1 | 8x40   |
| 259 | 10x15   | 1 | 12x30  |
| 249 | 6x8     | 1 | 6x24   |
| 198 | 3x4     | 1 | 16x24  |
| 151 | 2.5x3.5 | 1 | 3x3    |
| 133 | 4x5     | 1 | 5x8    |
| 92  | 5x5     | 1 | 5.5x14 |
| 64  | 6x10    | 1 | 9x21   |
| 60  | 3x5     | 1 | 4x5.3  |
| 52  | 2x3     | 1 | 2x2.5  |
| 50  | 8x10    | 2 | 16x20  |
| 28  | 4x4     | 2 | 12x24  |
| 24  | 3.5x5   | 2 | 6x15   |
| 23  | 8x8     | 2 | 10x13  |
| 19  | 10x14   | 2 | 11x28  |
| 13  | 6x6     | 2 | 8x10.6 |
| 13  | 5x6     | 2 | 9x36   |

```
[19]: NB. size keys that indicate not enough pixels or nonstandard aspect ratio
NssKeys ,. <"0 +/"1 NssKeys =/ Keyword
```

```
+---+---+
|0z0|258|
```

```
+---+---+
|0z1|466|
+---+---+
```

### 0.1.10 Descriptive Keywords

All keywords that are not color or size keys.

```
[20]: DescKeys=: Keyword -. ColorKeys,SizeKeys,NssKeys
20 topbotk DescKeys
```

```
1209 geotagged          1 rafting
 954 usa                1 prayer
 524 mali              1 tooth
 371 me                1 saber
 230 idaho             1 columns
 224 park              1 remnants
 202 iphone            1 pictographs
 198 helen             1 skeleton
 180 lake              1 sizes
 172 river             1 rafts
 168 missouri          1 dell
 153 canada            1 large
 150 jacob             1 josie
 141 museum            1 powers
 125 montana           1 fremont
 121 ontario           1 knife
 111 sculpture         1 hazzard
 102 canyon            1 lectern
  99 evelyn            1 bride
  87 sun               1 bedazzled
```

### 0.1.11 GPS Distances

```
[21]: NB. longitude and latitude of home decimal degrees
NB. western longitudes +, northern latitudes +
MeeusHomeLonLat=: 116.375956 43.646775
```

```
[22]: NB. distances in km from near to far excluding (0,0) lb
NB. convert to Meeus lb convention for (earthdist)
plb=: (i. #Longitude) ,. (-Longitude) ,. Latitude
plb=: |: plb #~ -.0 0 -:"1 ] 1 2 {"1 plb
plb=: /:~ (0{plb) ,.~ MeeusHomeLonLat earthdist 1 2{plb
```

```
[23]: NB. format image distance
fmdist=: {{"1 ":%> (<"0 ] 0.01 round 0 {"1 y) ,. (<' - ') ,. (1 {"1␣
→y){OnlineImageFile}}
```



```
[24]: NB. 10 nearest geotagged images km
      fmdist 10{.plb
```

```
0.11 - neighborhood intersection park.jpg
0.12 - road end promises.jpg
0.16 - not so burning bush.jpg
0.32 - meridian irrigation canal.jpg
0.51 - mashed squirrel roadkill.jpg
0.57 - school playground map.jpg
0.64 - new meridian neighborhood.jpg
0.64 - territory drive house construction august.jpg
0.64 - territory drive house building.jpg
0.85 - bogus latter day saints.jpg
```

```
[25]: NB. 10 furthest geotagged images km
      fmdist |. _10{.plb
```

```
15830.93 - pishi on pishi [47018603].jpg
15487.74 - air malawi [42502530].jpg
15477.27 - victoria falls hotel distance marker [36406766].jpg
15476.92 - me livingstone statue [19983766].jpg
15476.82 - vic falls train station [51228396].jpg
15476.62 - curio market from balloon [49529252].jpg
15476.31 - mali sprayview hotel [51064919].jpg
15467.23 - me nude kafunta chalet [1157046406].jpg
15467.23 - kafunta lodge veranda [2486888].jpg
15466.71 - me livingstone airport [47004492].jpg
```

```
[26]: NB. image distance statistics
      dstat 0 {"1 plb
```

```
sample size:      1209
minimum:          0.1089
maximum:          15830.934
1st quartile:     448.8827
2nd quartile:     1000.5581
3rd quartile:     2258.4472
first mode:       849.1692
first antimode:   0.1089
mean:             1830.7624
std devn:         2554.3229
skewness:         3.153
kurtosis:         14.7608
```

```
[27]: NB. mean album geotagged image distances
      mad=: albdist 0
```

```
[28]: NB. album "centroid" distance statistics
      dstat ;0 {"1 mad
```

```

sample size:          59
minimum:              4.051
maximum:              15482.402
1st quartile:         826.8154
2nd quartile:         2198.38
3rd quartile:         3203.335
first mode:           930.5087
first antimode:       930.5087
mean:                 3063.9695
std devn:              3385.8262
skewness:              1.8857
kurtosis:              5.9996

```

```
[29]: NB.format album distances.
fmtad={{('8.2'&(8!:2) ,. km) ,. ' - ' , "1 alb [ 'km alb'=. |: x {. y}}}
```

```
[30]: NB. 10 nearest albums
10 fmtad /:~ mad
```

```

4.05 - Improvised Imaging Devices
9.88 - Camera Tests
119.71 - Idaho Instants
305.60 - Anne and Reza Visit
371.43 - Collages
490.53 - Montana Now and Then
503.38 - Logos Screenshots Covers
535.33 - North by Northwest
546.91 - Tetons Yellowstone 2013
610.78 - From Hazel's Albums

```

```
[31]: NB. 10 furthest albums
10 fmtad \:~ mad
```

```

15482.40 - Zambia Eclipse Trip
11660.41 - Iran 1960's
11272.49 - Ghana 1970's
11225.88 - ACS School Trips 1960's
10963.97 - Beirut Lebanon 1960's
8457.47 - South America 1979
8409.77 - Enewetak Atoll 1980's
6347.19 - Diving at Bellairs Barbados BW
6346.13 - Barbados Late 1970's
6046.94 - GPS Extremes

```

```
[32]: 3 od ''
```

```

+-+-----+---+-----+-----+
|1|closed ->|imex|smugpyter|utils|
+-+-----+---+-----+-----+

```