BART THOMEE

THE TAMING OF THE SOCIAL MEDIA WILDERNESS

THE WILDERNESS

Jan Fiddler

THE RULES

- there are many different social media platforms
- there are many different terms of service
- there are many different laws and regulations

dumbonyc

THE PATH

Samir Luther

WHY YOU SHOULD CARE

- you may be breaking the law
- you may be breaking codes of ethics/conduct
- advancing science
- more citations, better reputation, etc.

COPYRIGHTED DATA

- situation: you have permission to use this amazing dataset with which you can do great research, but it's proprietary…

COPYRIGHTED DATA

- situation: you have permission to use this amazing dataset with which you can do great research, but it's proprietary…
- solution: there's no problem. just use it and do the cool research - that you can't share the data is unfortunate, but that's the way it is.

COPYRIGHTED DATA

- situation: you don’t have permission to use this amazing dataset with which you can do great research, but you already collected/used the data…

COPYRIGHTED DATA

- situation: you don’t have permission to use this amazing dataset with which you can do great research, but you already collected/used the data…
- solution: ask for permission, and stop using the data until you have received approval.

EXISTING DATA

- situation: you found a existing dataset that is almost, but not exactly, what you need.

EXISTING DATA

- situation: you found a existing dataset that is almost, but not exactly, what you need.
- solution: check if you can expand or refine the dataset, before considering collecting your own data

PERMITTED DATA

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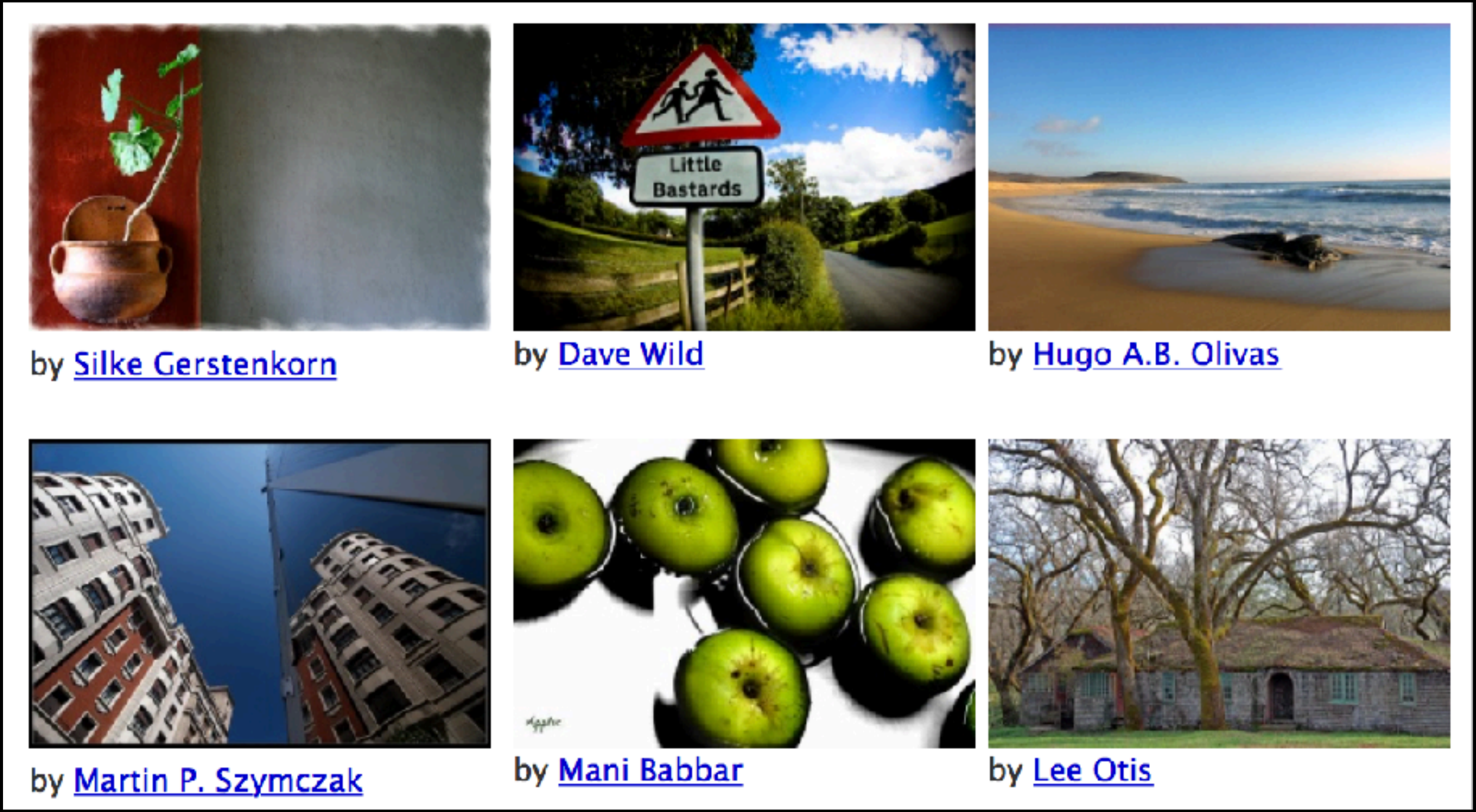
PERMITTED DATA

- situation: you have found this amazing source of suitably licensed and freely sharable data with which you can do great research.
- solution: fantastic, it looks like you’re on the right track - let’s figure out how to collect and share this data.

CASE STUDIES

- MIRFLICKR dataset
- ImageCLEF photo annotation task
- MediaEval placing task
- YFCC100M dataset

MIRFLICKR



by Silke Gerstenkorn

by Dave Wild

by Hugo A.B. Olivas

by Martin P. Szymczak

by Mani Babbar

by Lee Otis

MIRFLICKR

- the good
  - relatively large and well-annotated dataset
  - freely usable due to Creative Commons licenses
  - dataset includes images, tags, features, exif, code, tools
- the bad
  - hosting and downloading was challenging

IMAGECLEF: PHOTO ANNOTATION

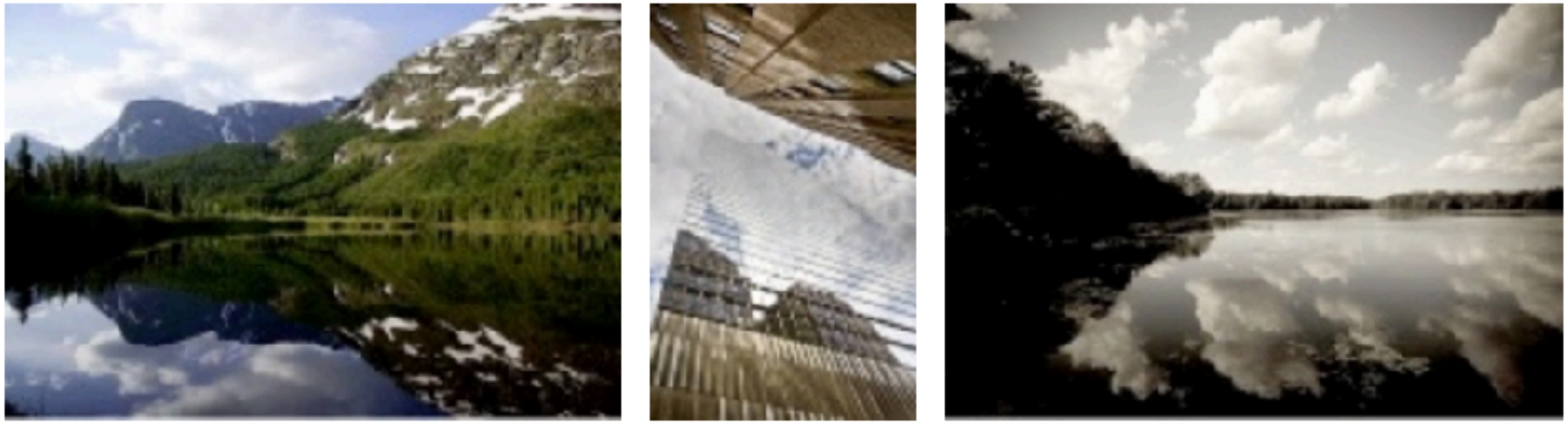


Figure 1. Images annotated with the concept 'reflection'.

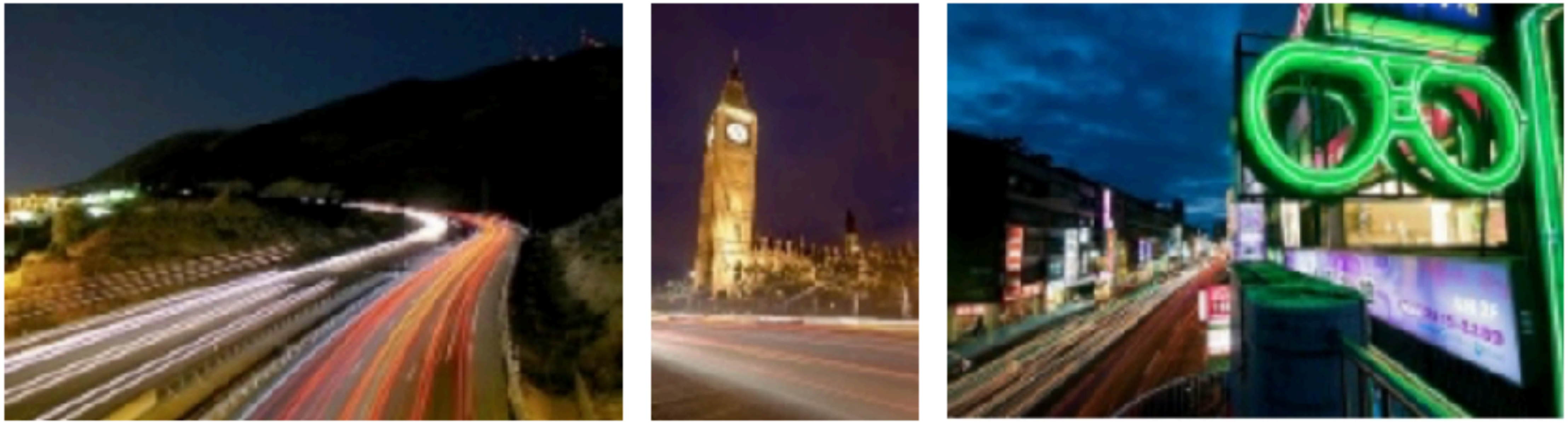
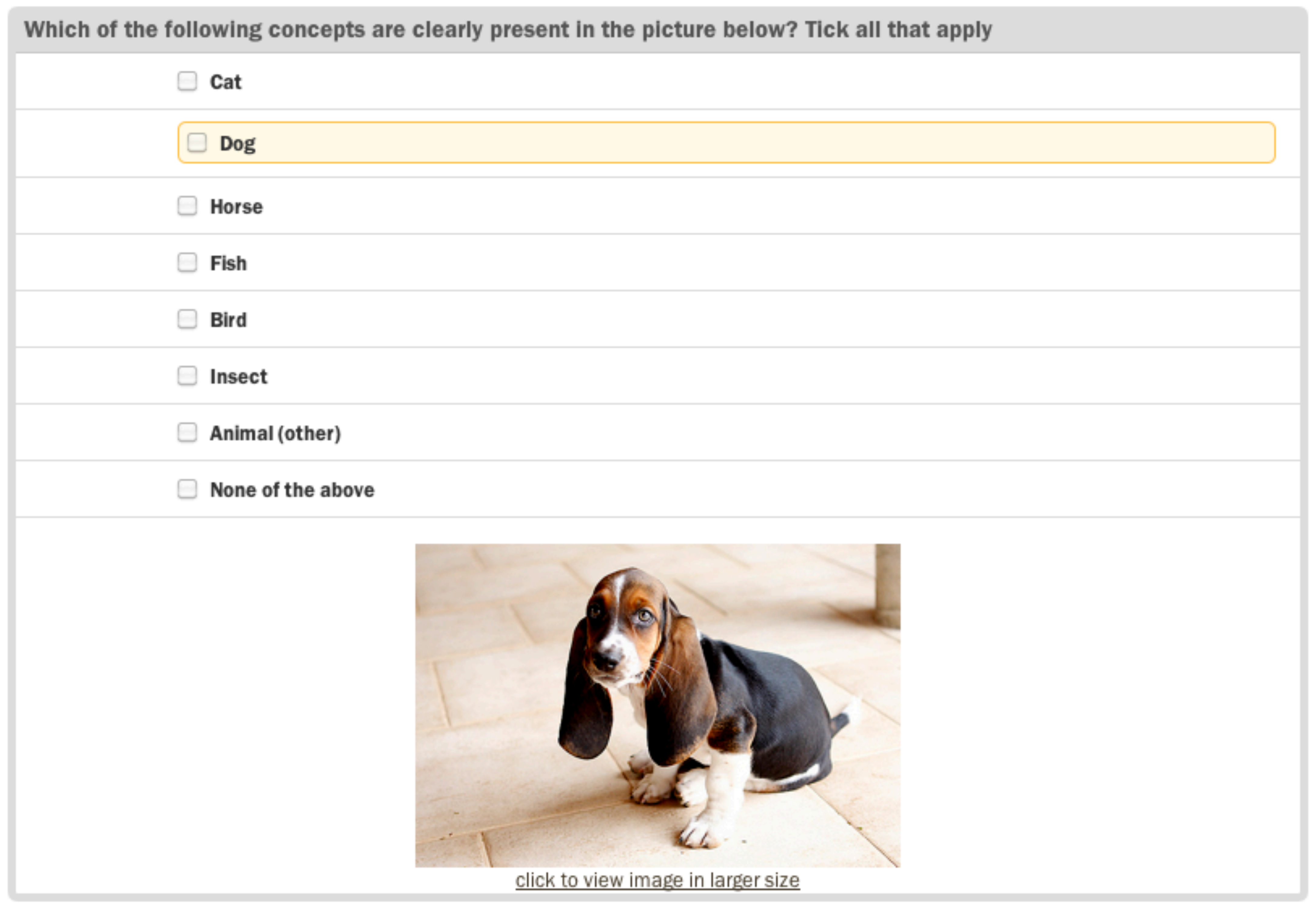


Figure 2. Images retrieved for the query 'traffic light trails'.

IMAGECLEF: PHOTO ANNOTATION



Which of the following concepts are clearly present in the picture below? Tick all that apply

□ Cat

□ Dog

□ Horse

□ Fish

□ Bird

□ Insect

□ Animal (other)

□ None of the above

click to view image in larger size

IMAGECLEF: PHOTO ANNOTATION

- the good
  - diverse and challenging concepts compared to other tasks
  - revealed trends in how participants approached the task
- the bad
  - concepts and evaluation metrics evolved over time, making year-over-year comparisons difficult
  - code of participants not shared
  - data not shared with non-participants
  - annotation funding

MEDIAEVAL: PLACING TASK

Sean Davis

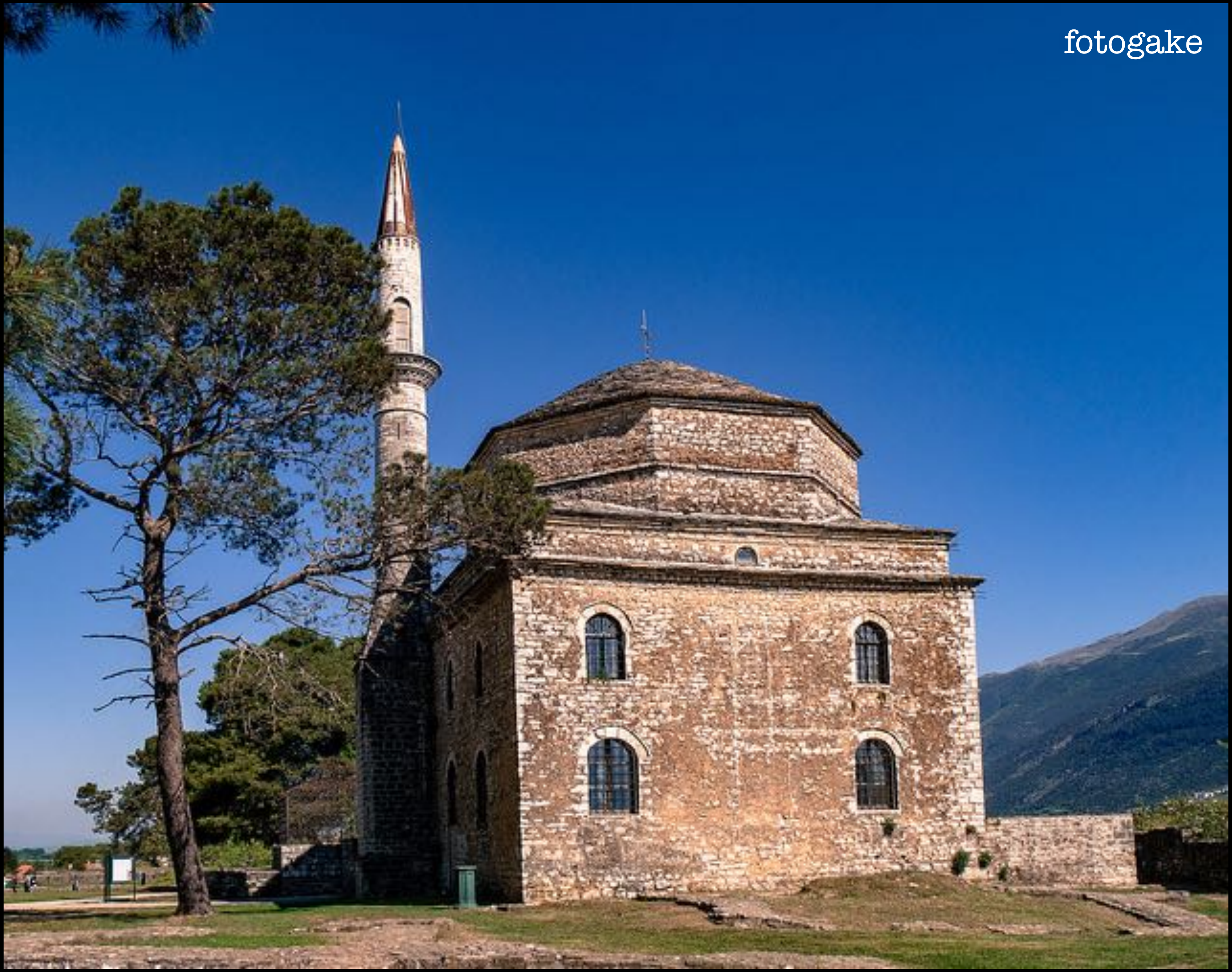
MEDIAEVAL: PLACING TASK

George Megas

MEDIAEVAL: PLACING TASK

Nikos Roussos

MEDIAEVAL: PLACING TASK



MEDIAEVAL: PLACING TASK

- the good
  - accuracy increased and then started plateauing
  - baseline methods provided some bar of entry
- the bad
  - training set grew over time, so even with the same test set year-over-year comparisons were difficult
  - participants didn’t learn as much from each other as we hoped

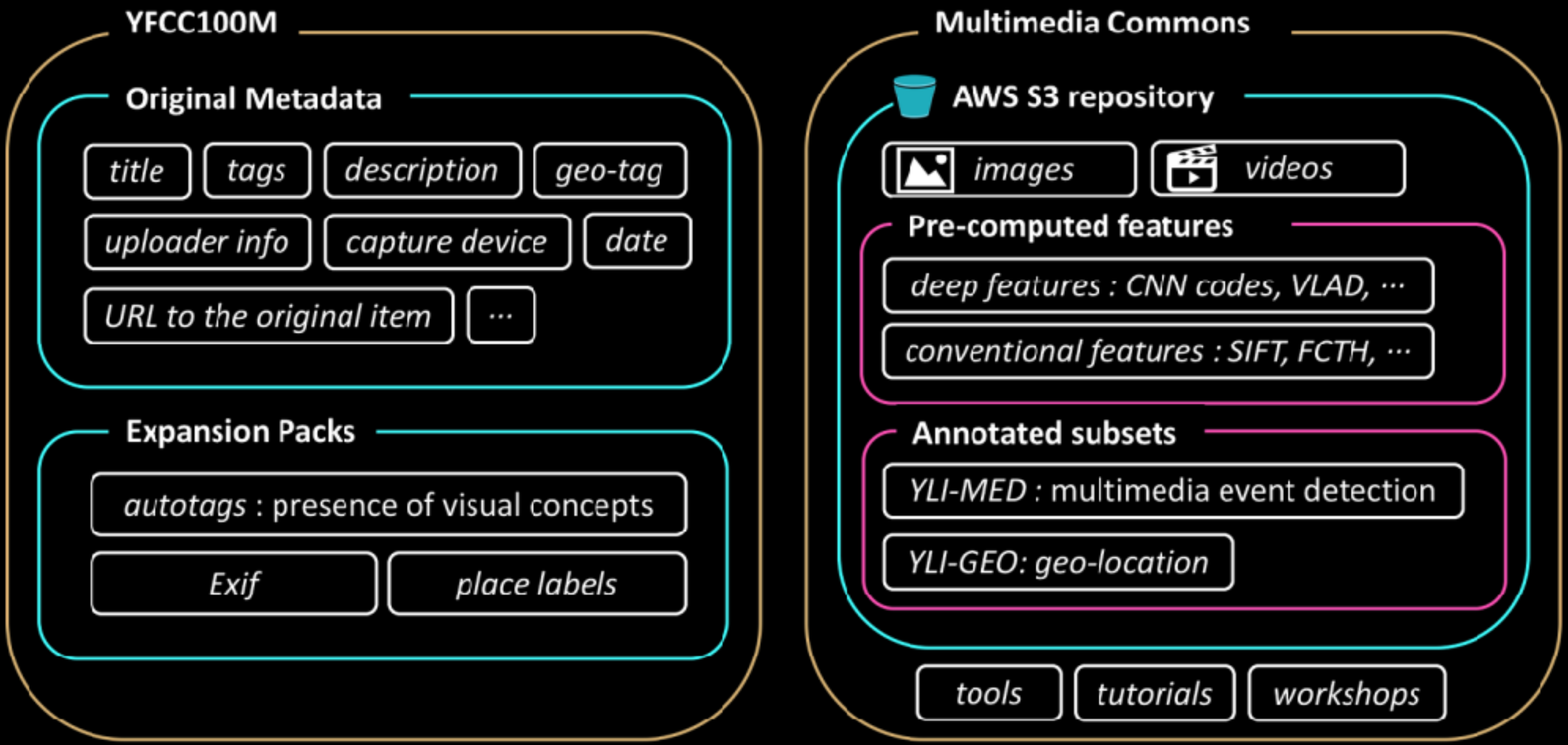
YFCC100M

Fer Montero · Flickr

Lyle Vincent · Flickr
STD
ISD
PCO

Camil Tulcan · Flickr

YFCC100M



YFCC100M

Original Metadata

title *tags* *description* *geo-tag*

uploader info *capture device* *date*

URL to the original item ···

Expansion Packs

autotags : presence of visual concepts

Exif *place labels*

Multimedia Commons

AWS S3 repository

images *videos*

Pre-computed features

deep features : CNN codes, VLAD, ···

conventional features : SIFT, FCTH, ···

Annotated subsets

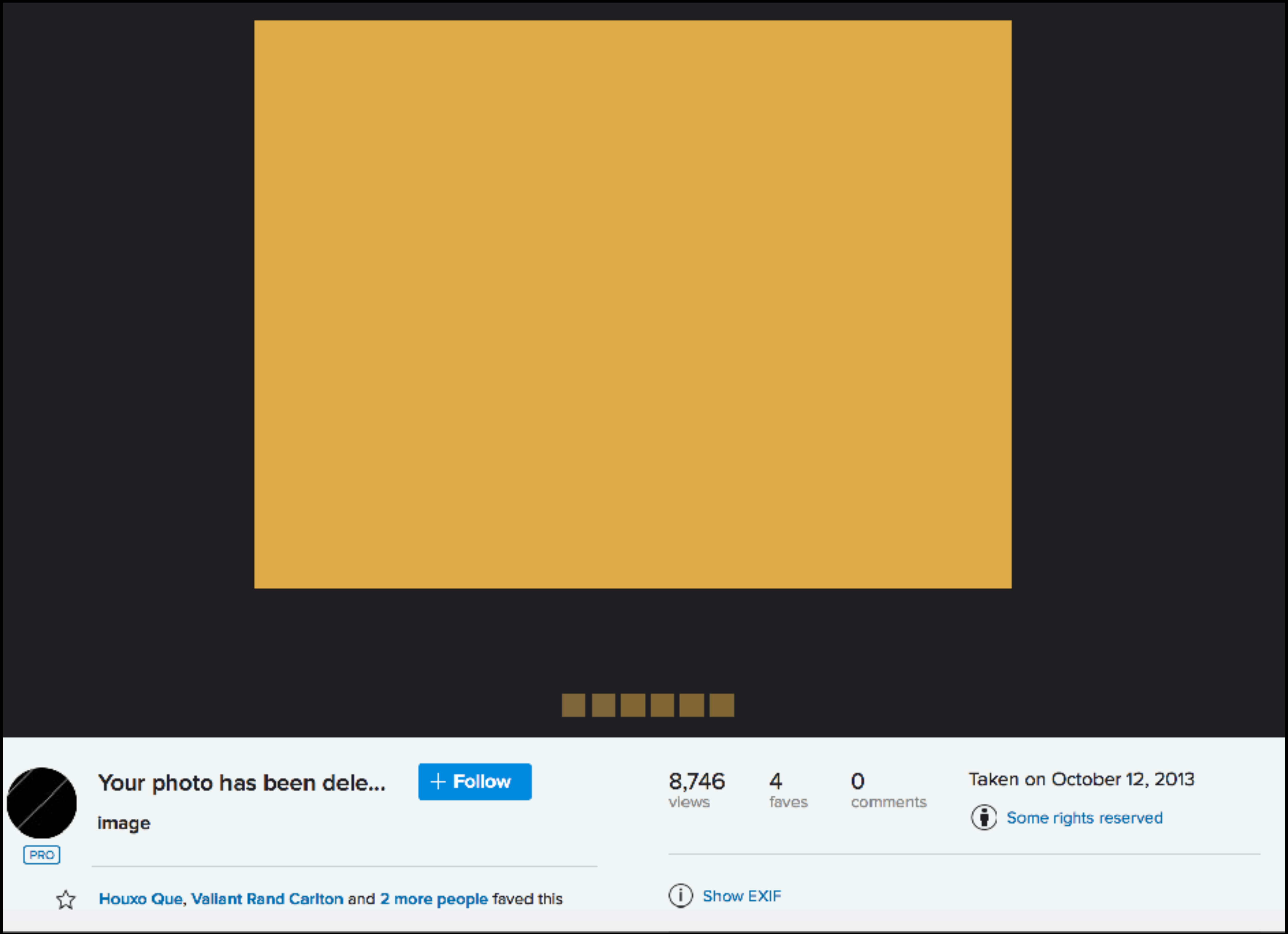
YLI-MED : multimedia event detection

YLI-GEO: geo-location

tools *tutorials* *workshops*

YFCC100M

- the good
  - large and richly annotated dataset
  - overlaps with other well-known datasets
  - images, videos, metadata, features all in the cloud
- the bad
  - photos and videos disappeared before a copy could be made of them
  - hosted across two platforms, and gaining access is not easy
  - stored in an organized yet impractical way
  - random selection biased towards prolific photographers



Your photo has been dele...

image

8,746 views

4 faves

0 comments

Taken on October 12, 2013

Some rights reserved

Houxo Que, Valiant Rand Carlton and 2 more people faved this

REFLECTING

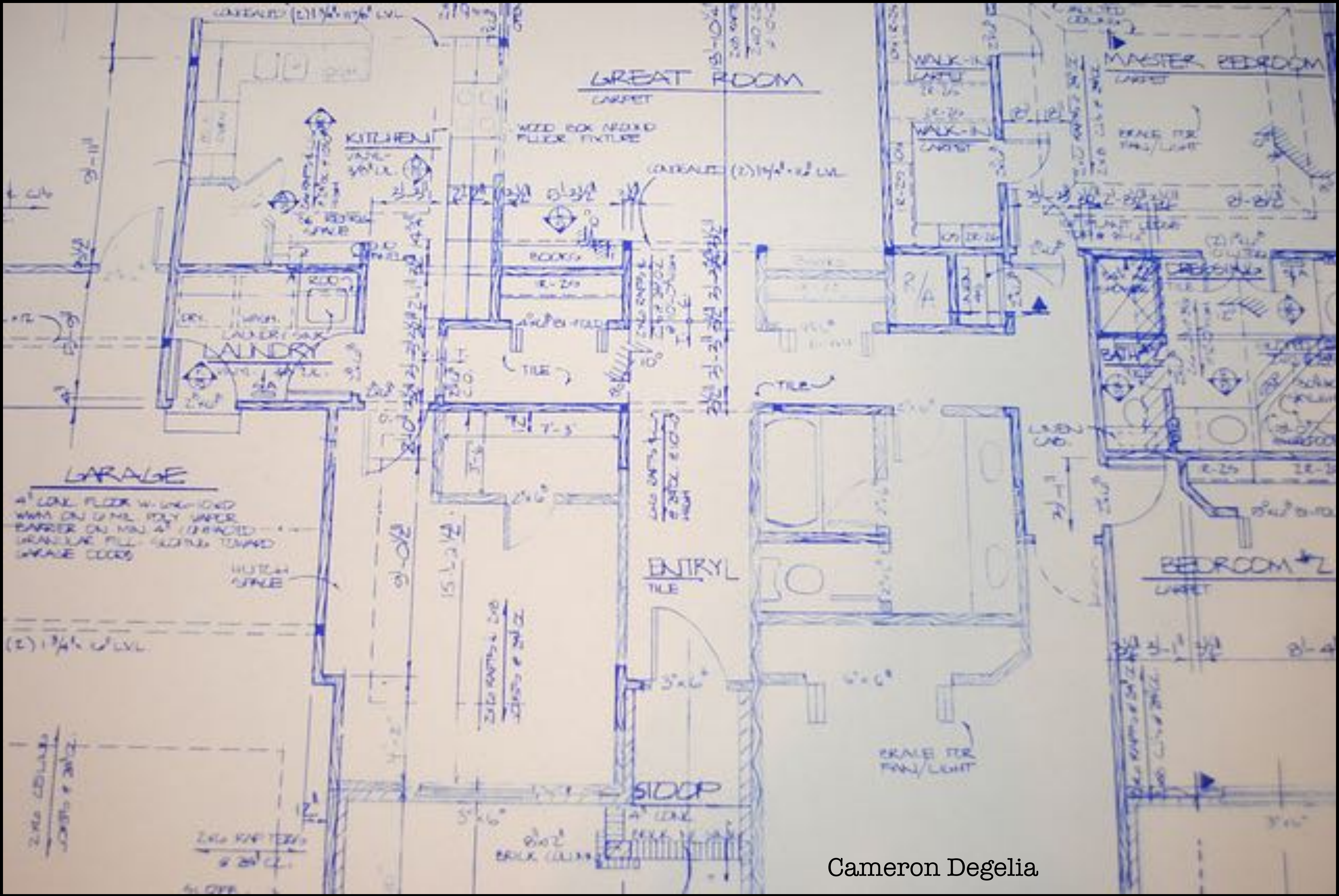
REFLECTING

- annotating, storing, hosting, serving data is not necessarily cheap
- handling large amounts of non-text data is a pain
- the format in which to store data is not obvious
- the easier you make it for the data to be used, the more it will be used and the fewer questions you get

REFLECTING

- user data requires legal and privacy considerations
- registration walls and additional license agreements make the data less free and less accessible
- no control over repository = no control over its future

PLAN AHEAD



Cameron Degelia

PLAN AHEAD

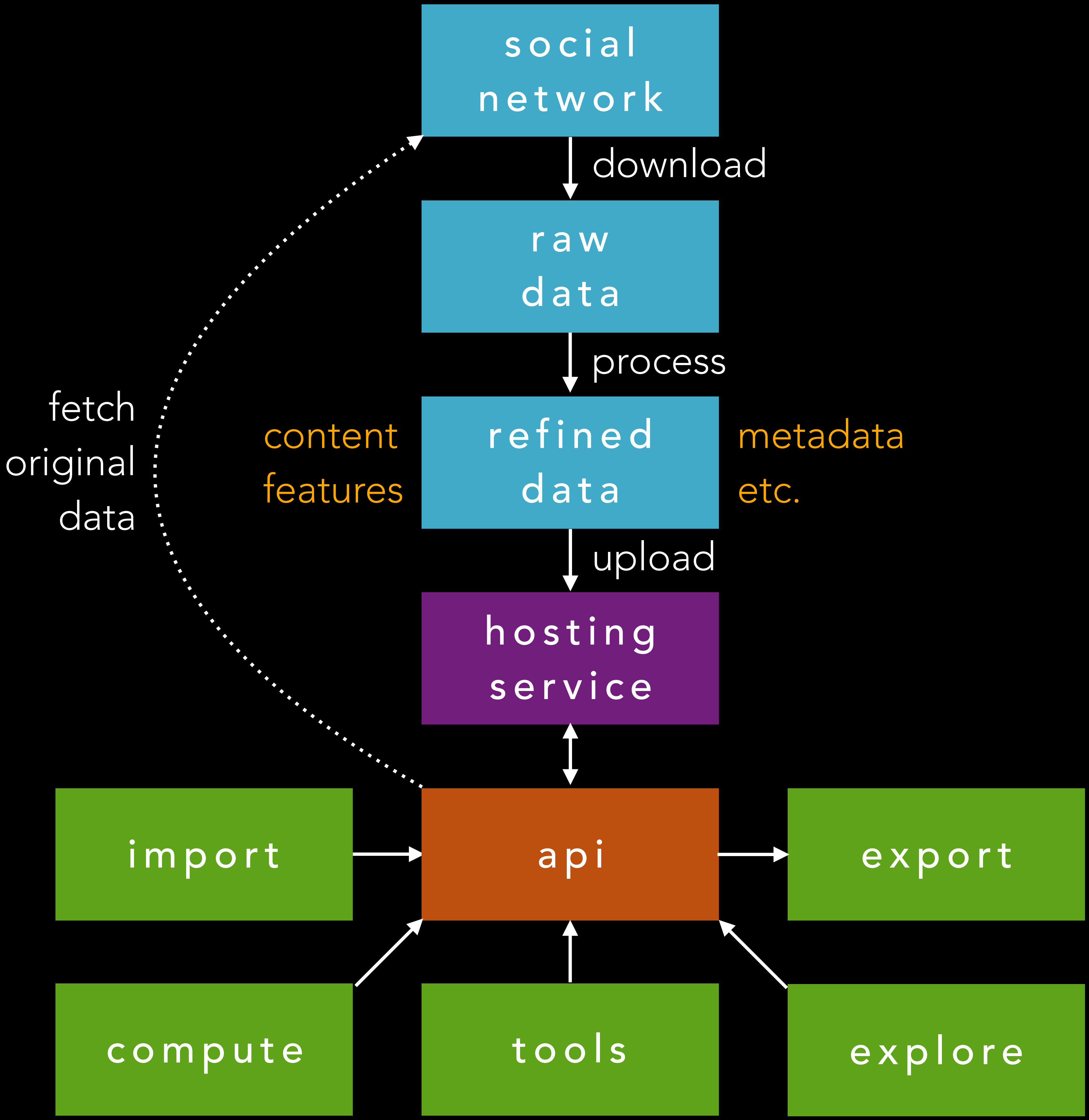
- consider what data needs to be collected
- obtain written permission from all stakeholders
- adhere to licensing, privacy & deletion requirements

PLAN AHEAD

- consider who will use your data and how
- consider how to process, format & annotate the data
- secure enough space to store all data
- be aware of platform limitations

DOs

- make it easy for people to see and use the data
- consider offering an API as single point of access
- consider offering code, features, etc.
- consider offering separate download options
- consider allowing anyone to contribute

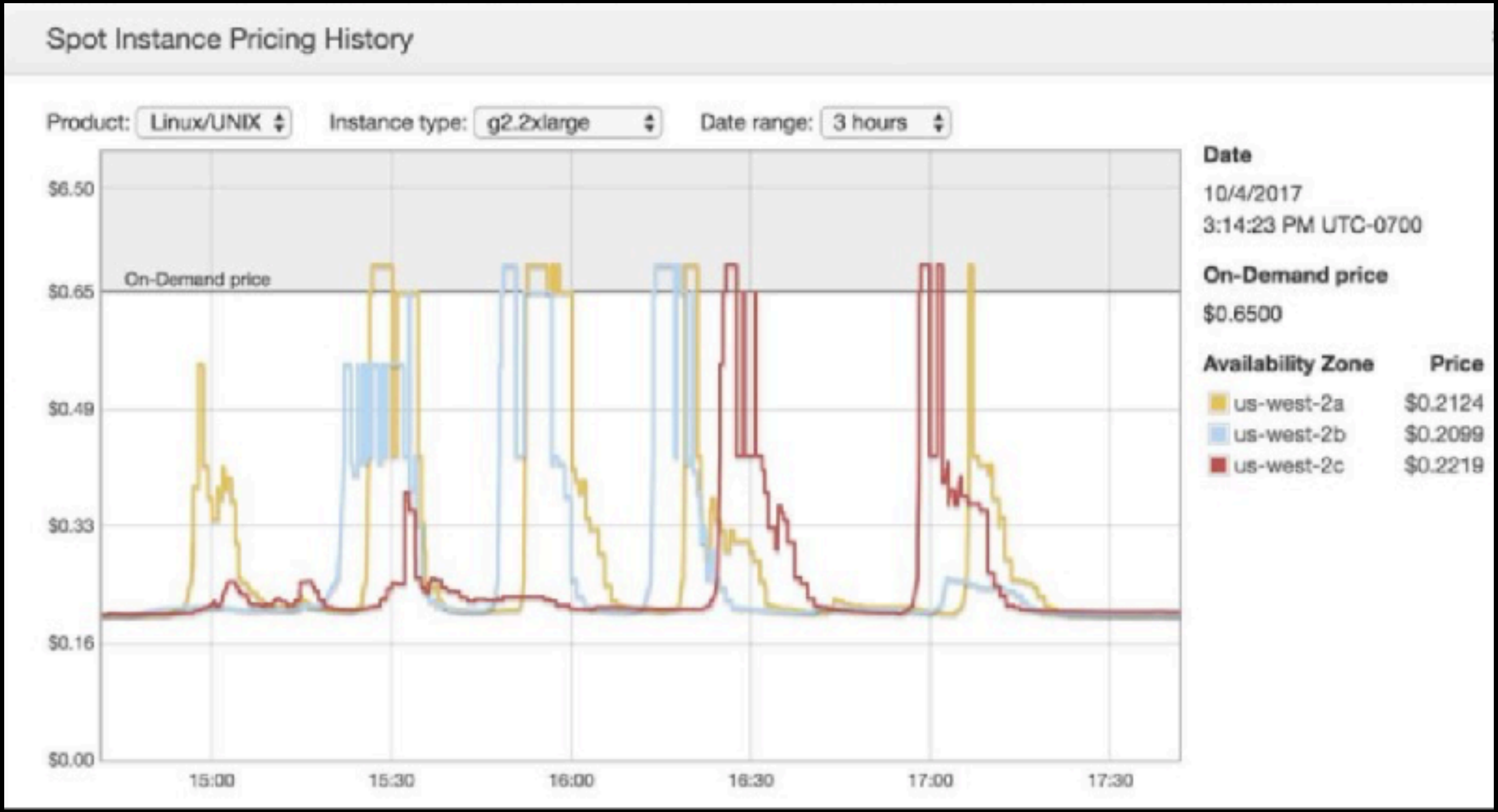

social network
download
raw data
process
refined data
content features
metadata etc.
upload
hosting service
fetch original data
api
import
export
compute
tools
explore

DO

- link-only social media platforms
  - collect more data than you really need
  - devise an approach that can deal with missing data
- full-content social media platforms
  - also collect more data than you really need
  - keep some as backup in case of mistakes or data corruption
- random sampling, but not too random

DO

- consider applying for research/academic grants/programs
- use a spot instance instead of on-demand compute



Spot Instance Pricing History

Product: Linux/UNIX

Instance type: g2.2xlarge

Date range: 3 hours

Date

10/4/2017
3:14:23 PM UTC-0700

On-Demand price

$0.6500

Availability Zone	Price
🟨 us-west-2a	$0.2124
🟦 us-west-2b	$0.2099
🟥 us-west-2c	$0.2219

FINAL WORDS

- collecting and sharing data is hard
- a well-planned approach is key to success
- make sure the data can live on even if you move on