Freebase and the Google Knowledge Graph

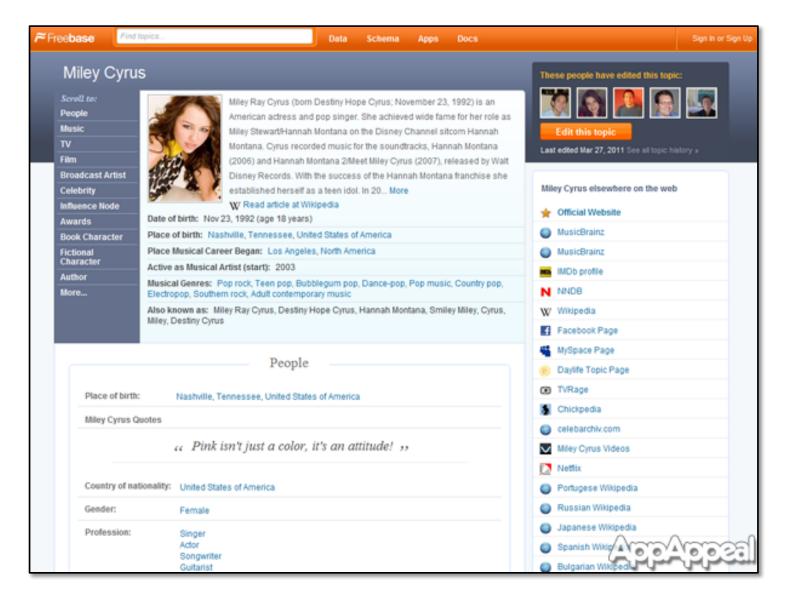
Freebase

- Started in 2005 by startup Metaweb
- Goal: create an "open, shared database of the world's knowledge"
- Freebase online in 2007
- Acquired by Google in 2010
- Readonly in 2014
- Decommissioned in 2016
- Last dump available as RDF

Approach

- Initially populated with Wikipedia data
 - Crowdsourced updates and additions to schema and data, like Wikipedia
 - Tools for uploading structured data
 of both schema and data
- Graph based schema, but syntax and semantics different from RDF
- Open source data which could be downloaded initially in a custom format, later in RDF
- Business model: sell services using their custom query engine

Screenshot



The Last Picture Show

- The final dump with 1.9 Billion triples in RDF is available from Google
- See also http://basekb.com/docs/
- Being used foR DARPA Deft program and NIT TAC as a reference KB

Google Knowledge Graph

- Freebase was the initial version of the google knowledge Graph, aka Knowledge Vaut
- You can query it in a limited way
 - Inputs: query string, types, limit
 - Outputs: ...
- See simple gkg.py example

Example

```
Query about Taylor Swift

https://kgsearch.googleapis.com/v1/
entities:search?query=taylor
+swift&key=API_KEY&limit=1&indent=True
```

```
{"@context": { "@vocab": "http://schema.org/",
  "goog": "http://schema.googleapis.com/",
  "resultScore": "goog:resultScore",
  "detailedDescription": "goog:detailedDescription",
  "EntitySearchResult": "goog:EntitySearchResult",
  "kg": "http://g.co/kg"},
 "@type": "ItemList",
 "itemListElement": [
  { "@type": "EntitySearchResult",
   "result": { "@id": "kg:/m/0dl567",
    "name": "Taylor Swift",
    "@type": ["Thing", "Person"],
    "description": "Singer-songwriter",
    "image": {"contentUrl": "https://t1.gstatic.com/images?q=tbn:ANd9GcQm...",
     "url": "https://en.wikipedia.org/wiki/Taylor_Swift",
     "license": "http://creativecommons.org/licenses/by-sa/2.0"},
    "detailedDescription": {"articleBody": "Taylor Alison Swift is an American singer-songwriter ...",
     "url": "http://en.wikipedia.org/wiki/Taylor Swift",
     "license": "https://en.wikipedia.org/wiki/Wikipedia:Text of Creative ..."},
    "url": "http://taylorswift.com/" },
```