

# APIs

...what they are and how they are used in digital scholarship

Owen Stephens  
British Library



# Using these slides

These slides were developed by Owen Stephens  
([owen@ostephens.com](mailto:owen@ostephens.com)) on  
behalf of the British Library.

Unless otherwise stated, all images, audio or video content are  
separate works with their own licence. Such licences are stated  
where known

This work is licensed under a Creative Commons Attribution 4.0  
International License <http://creativecommons.org/licenses/by/4.0/>.

It is suggested when crediting this work, you include the phrase  
“Developed by Owen Stephens on behalf of the British Library”



# What is an API?



Image: Key to the open door, CC-BY, <http://www.flickr.com/photos/tawheedmanzoor/>

An API is essentially an interface that can be used by a computer programme to retrieve or interact with another application. Many popular online services offer such interfaces, for example Twitter, Flickr and many Google services such as Google Maps and Google Book Search offer APIs which are used by a wide range of services.

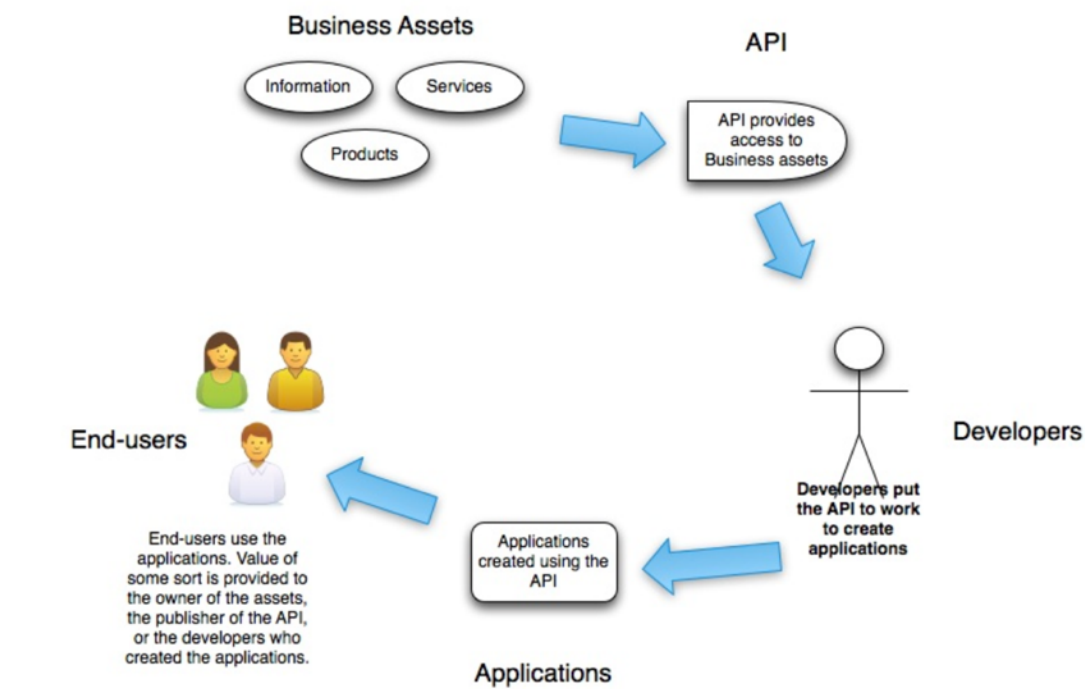
Libraries have a long history of providing API access to their catalogues - in the form of z39.50, or more recently SRU/SRW. However access to other library information has been more difficult - who has heard of DAIA?

“It’s the API designer’s  
job to make life easy for  
developers”

[http://shkspr.mobi/blog/index.php/2012/03/api-  
design-is-ui-for-developers/](http://shkspr.mobi/blog/index.php/2012/03/api-design-is-ui-for-developers/)

<http://shkspr.mobi/blog/index.php/2012/03/api-design-is-ui-for-developers/>

It’s the API designer’s job to make life easy for developers



<http://www.forbes.com/sites/danwoods/2011/12/15/explaining-the-api-revolution-to-your-ceo/>

“APIs are channels to new customers and markets: APIs used externally unlock the power of partners to use business assets to extend the reach of your products or services to customers and markets you may not easily reach.”

Need to think about what type of activity you want to enable – that’s why often the best starting point is thinking about what you’d like to be able to do yourselves

# APIs can...

- Enable new workflows
- Enable new functionality
- Allow others to build on your resources in new and interesting ways
- Make a 'contract' with developers:
  - this will work and continue to work

Unlike scraping HTML – APIs offer some amount of stability, and usually better structured data

# code.flickr.com

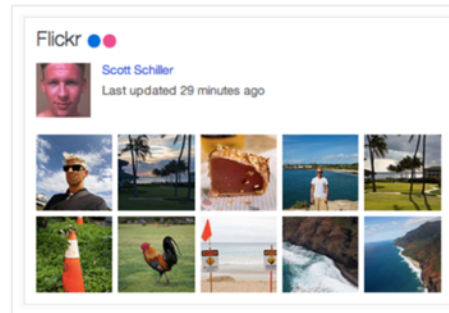
[Flickr](#) [Flickr Blog](#) [@flickr](#) [@flickrapi](#) [Developer Guidelines](#) [API](#) [Jobs](#)

## Using Redis as a Secondary Index for MySQL

Posted on [March 26, 2013](#) by [Joshua Cohen](#)

Hey, did you notice, on the brand-spanking-new [Yahoo homepage](#), right there on the side of the page, it's photos from your Flickr contacts (or maybe your groups)! No? Go check it out, I'll wait.

Ok, great, you're back! What you should have seen, assuming you have Flickr contacts (or are a member of some groups), is photos from your most recently active contact (or group!). Something like... this:



### Recent Posts

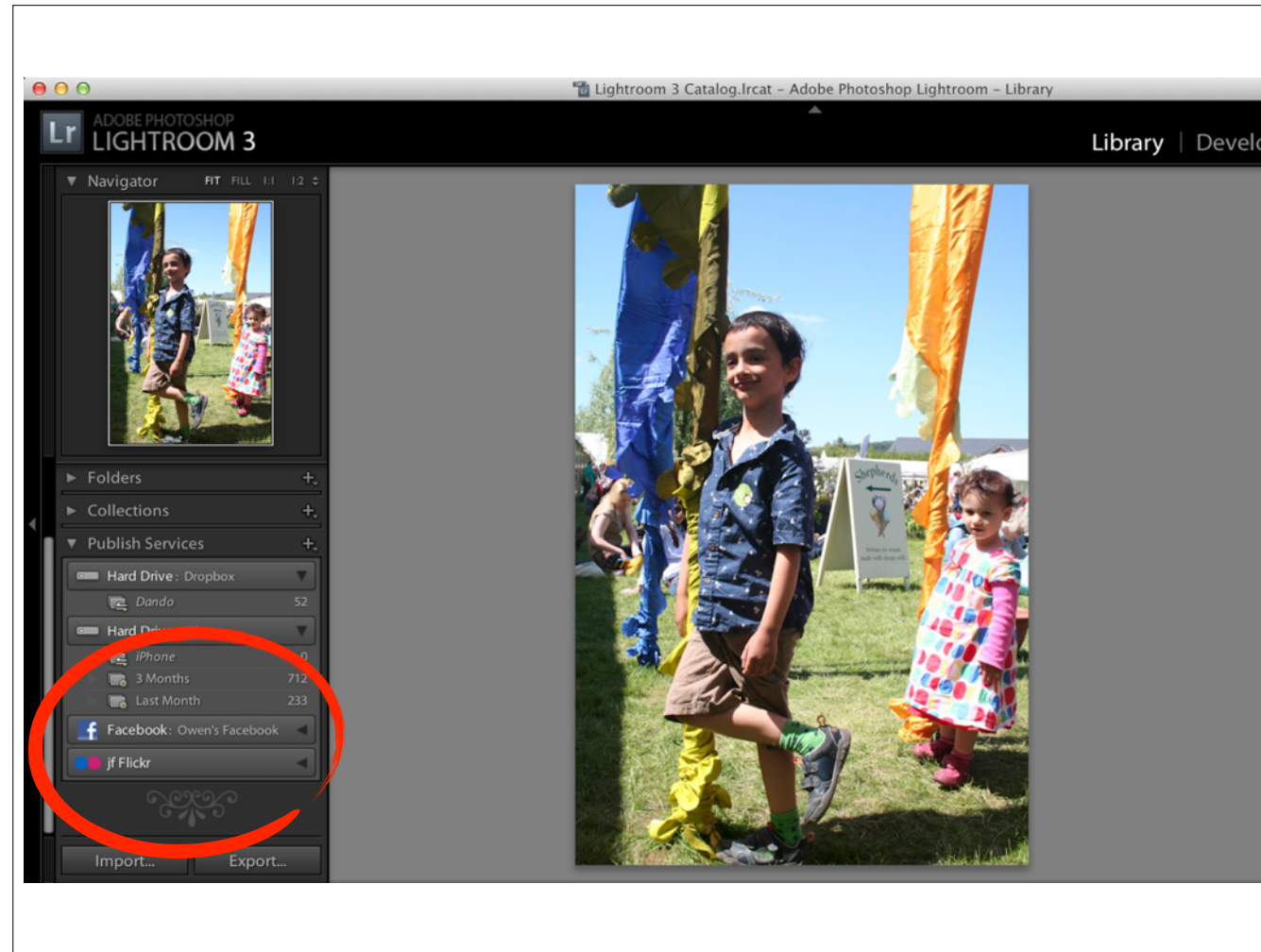
[Using Redis as a Secondary Index for MySQL](#)  
[Redis Global Locks Redux](#)  
[Highly Available Real Time Push Notifications and You](#)  
[Avoiding Dragons: A Practical Guide to Drag 'n' Drop](#)  
[Flickr at SF Web Performance](#)

### Archives

[March 2013](#)  
[December 2012](#)  
[October 2012](#)  
[July 2012](#)  
[June 2012](#)  
[May 2012](#)  
[April 2012](#)  
[February 2012](#)  
[January 2012](#)  
[December 2011](#)

<http://code.flickr.net>

<http://code.flickr.net>



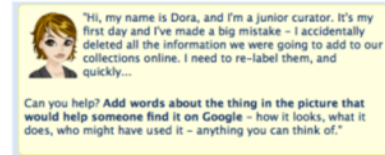
This is not an excuse to show a picture of my two gorgeous children, but to show how Flickr integrates with my photo management system



# Welcome

You have two different games that play with museum objects and images from books: [Donald's detective puzzle](#) or [Dora's lost data](#). Pick one and let's see what happens...

## Dora's lost data



## Donald's detective puzzle



<http://museumgam.es>

Museum Metadata Games – uses the Flickr API to encourage people to tag pictures from the British Library

*The Proceedings of the* **OLD BAILEY**  *London's Central Criminal Court, 1674 to 1913*

[Home](#) | [Search](#) | [About The Proceedings](#) | [Historical Background](#) | [API](#) | [The Project](#) | [Contact](#)



*Section...*

- [ground Home](#)
- [nd Punishment](#)
- [Hinterlands](#)

### Old Bailey API


[Cite this page](#)


Welcome to the Old Bailey API. This facility allows you to work directly with the text of both the individual trials and sessions published as part of the **Proceedings**. You can either use the [Old Bailey API Demonstrator](#) to build queries and export texts to [Voyant Tools](#); or else address the underlying text directly through the API.

<http://www.oldbaileyonline.org/static/API.jsp>

“cultural and educational resources tend to lock data and interface together”  
Alastair Dunning (now at TEL)

LOCATING  
LONDON'S PAST





[Home](#) [About the project](#) [Historical background](#) [Contact](#)

[Advice on interpreting results...](#)

☒ The Old Bailey Proceedings.  
Offence category: Theft, To  
year: 1774.


Display as:

[Remove](#)

[Add data](#) [Reset view](#) [Clear all data](#)

connectedhistories

Integrated search across 15 major  
electronic resources in early  
modern and 19th-century British  
history — over 50 billion words



<http://www.locatinglondon.org>

connectedhistories

Home Search Resources Guides Connections

## Search results

You searched for: Keyword:   
Found 539,773 matches across 19 resources.

Showing resources 1-10 of 19 [Next >](#)

**Document Type**

- [Newspapers](#) (346,067)
- [Images and Maps](#) (468)
- [Books, Pamphlets and Printed Ephemera](#) (11,415)
- [Parliamentary](#) (38,159)
- [National Government Records](#) (125,350)
- [Local Records](#) (19,066)
- [Secondary](#) (217)

**Date**

- [1500-1599](#) (99,579)
- [1600-1699](#) (70,412)
- [1700-1799](#) (364,008)
- [1800-1900](#) (447,459)

**Convict Transportation Records** ⓘ

123,888 results from this resource, ordered by relevance. [View more](#) [View all](#)

☐ [Robert Wilson, one of 210 convicts transported on the St Vincent, 28 December 1852.](#)

28 December 1852. Author / Creator: Great Britain. Home Office. : State **Library** of Queensland. Subjects: Wilson, Robert. ; St Vincent. (Ship) ; Convicts -- Australia -- Registers ; Australia -- Genealogy Publisher: Canberra A.C.T. : Australian Joint Copying Project

**Database of Mid-Victorian Illustration** ⓘ

127 results from this resource, ordered by relevance. [View more](#) [View all](#)

☐ ['The First Kiss', George \[Mary Ann Evans\] ELIOT, 'Romola' \(1862 - 1862\) 'Cornhill Magazine', London, Smith, Elder & Co., 289-318](#)

promenade, promenading, sauntering travelling, travels, tours, touring, tourism, tourists, trips city, urban, metropolis, conurbation, conurbations, London, community, communities.

<http://www.connectedhistories.org>



Connected histories – combines data from a wide range of sources

API architecture – aggregated search – but directed

“the API model at the heart of Connected Histories is itself an attempt to embed this idea and aspiration at the core of the design process. It assumes that new connections are there to be made, and that they will inevitably cross boundaries of form and origin to encompass an ever expanding body of inherited artefact.” Tim Hitchcock

Going to add 65,000 19th-century books from the British Library via JISC Historic Books in Spring 2013

More at [http://sas-space.sas.ac.uk/2854/1/Hitchcock\\_-\\_Towards\\_a\\_new\\_History\\_Lab.pdf](http://sas-space.sas.ac.uk/2854/1/Hitchcock_-_Towards_a_new_History_Lab.pdf)



ST84/1

Your story, our history

RecordSearch

Exit RecordSearch

View previous searches

Help

RecordSearch - Basic search

RecordSearch - Advanced search

NameSearch

PhotoSearch

Passenger arrivals index

Item details

You are logged in as guest

New search

Refine search

View selection

Print version

Displaying 1 of 1

⏮

⏪

⏩

⏭

View as: 

List report

Details report

Select

Citation for this item

Item details for: ST84/1, 1908/471-480

View digital copy

Request copy

Title	Charlie Hin, Kum Young, Ho Way, Jimmy Nor, Wing Zuin, Hin Gee, Go Gee (wife of Hin Gee), Albert Edward Hin Gee, Lucy Ellen Hin Gee and George Gee Bong [Certificate Exempting from Dictation Test - includes left hand impression and photographs] [box 23]
Contents date range	1908 - 1908
Series number	<a href="#">ST84/1</a> Click to see which government agency or person created this item.
Control symbol	1908/471-480
Item barcode	7461003
Location	Sydney
Access status	Open
Date of decision	09 Dec 2005
Physical format	PAPER FILES AND DOCUMENTS (allocated at series level)
Extent	13pp

National Archives of Australia Search, <http://recordsearch.naa.gov.au>  
Reference NAA: ST84/1, 1908/471–480



## National Archives of Australia: ST84/1, 1908/471-480

Charlie Hin, Kum Young, Ho Way, Jimmy Nor, Wing Zuin, Hin Gee, Go Gee (wife of Hin Gee), Albert Edward Hin Gee, Lucy Ellen Hin Gee and George Gee Bong [Certificate Exempting from Dictation Test - includes left hand impression and photographs] [box 23]



Tim Sherrat's alternative interface  
<http://dhistory.org/archives/naa/>

 UNIVERSITY OF  
LINCOLN

STAFF DIRECTORY

[Home](#)[Sign In](#)

Found 1 results for “stainthorp”



**Paul Stainthorp**  
Brayford Library Team, Library

01522 88 6193  
[pstainthorp@lincoln.ac.uk](mailto:pstainthorp@lincoln.ac.uk)



Search for a member of University of Lincoln staff

Search by name, phone number, id, email, department or job title.

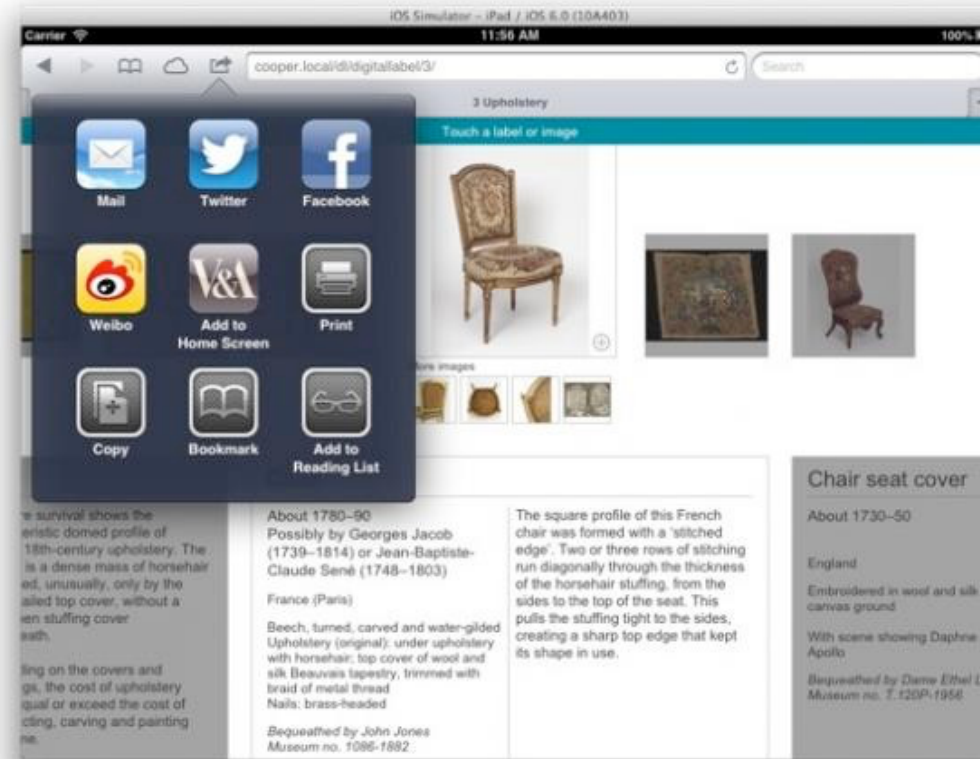
Partial searches work too, as do [operators](#).

“they were able to prototype a new staff directory in less than 48 hours, using APIs to pull data from disparate sources within the institution.”

<http://www.jisc.ac.uk/reports/the-advantage-of-apis>

University of Lincoln have invested in APIs for lots of different data sources – makes them agile and able to prototype and adapt quickly.

Quote taken from <http://www.jisc.ac.uk/guides/the-advantage-of-apis>

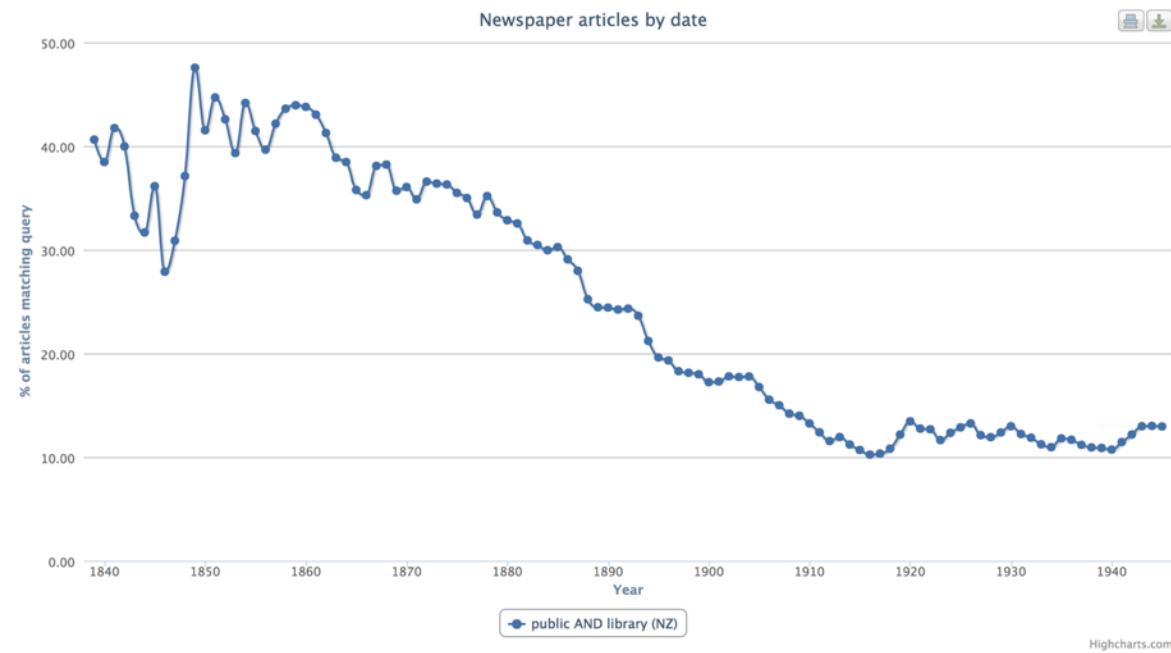


<http://www.vam.ac.uk/b/blog/digital-media-va/open-sourcing-digital-labels>

V&A created digital replacement for printed labels in their new furniture gallery – using their own API



# QueryPic



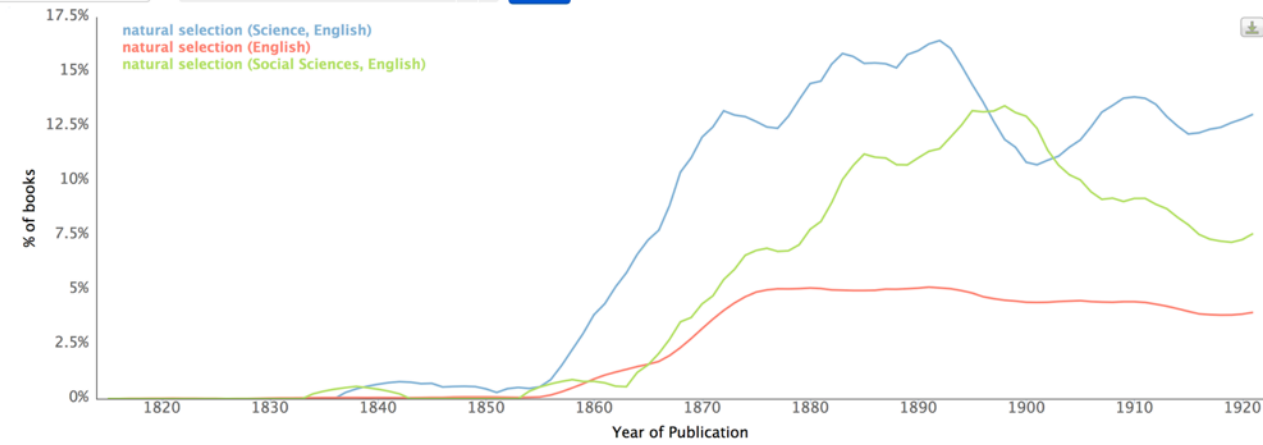
Tim Sherrat – using API to Australian and NZ newspapers – articles matching phrase search  
<http://dhistory.org/querypic/create/>

**bookworm Open Library**

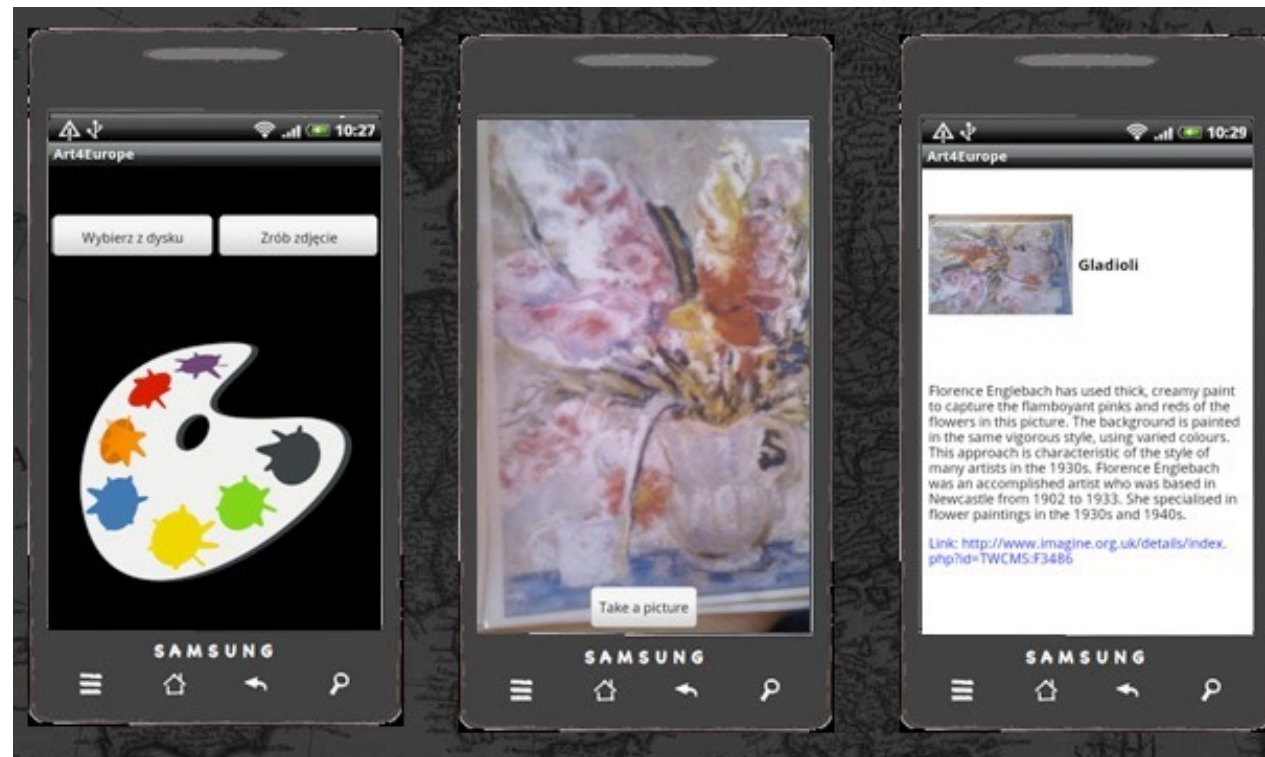
Search for trends in hundreds of thousands of books on [OpenLibrary.org](http://OpenLibrary.org)



natural selection in Subject: Science | Language: English x +  
natural selection in Language: English x +  
natural selection in Subject: Social Sciences | Language: English x + [Search](#)



<http://bookworm.culturomics.org>




<http://www.version1.europeana.eu/web/api/hack4europe>

Europeana Hackday example – take photo of picture/art, brings back data from Europeana


► [Linux in a Nutshell](#)  
 Ellen Siever; Stephen Spainhour; Jessica P. Hekman; and Stephen Figgins. O'Reilly, 2000.  
[Find It!](#)  
[Click for more...](#)

Library ▾ (c)  
 Radcliffe Sc  
 St Cross Coll

 **Sutton Bookshare**

Home Register Log In

**Play in the library!**



visit: [library.hud.ac.uk](http://library.hud.ac.uk)

 **Library Gadget**



And more ....

Bookshare <http://suttonbookshare.org.uk/>

LibraryGame <http://librarygame.tumblr.com/>

Sir Louie <http://blogs.oucs.ox.ac.uk/sirlouie/>

Cambridge iPhone App <http://itunes.apple.com/us/app/ucam-library-search/id459882806?mt=8>

Library Gadget <http://www.librarygadget.com/>

## uk library data and technology hacks

// analysing and promoting open source technology hacks and projects in libraries.

---



### APIs

open systems online to integrate into your hacks



### source code

open-source apps, and projects to explore and enhance



### data

links around the web to download reports and stats in various formats (pdf, excel...)



### hack events

past and future events to get involved in and get inspiration from



### articles

articles on relevant subjects to the site, with guest contributions



### tutorials

how-to guides and reviews of software tools and apps to use when hacking

<http://www.librarieshacked.org>

Use your own API  
Make it accessible  
Make it understandable  
Make it useful

<http://guidance.discovery.ac.uk>

<http://guidance.discovery.ac.uk/archives/casestudies/bluk>