Make Your Own API

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#CIL2013
For Today

• What is an API?
• How to make one
  – Screen Scraping & reformatting
  – Ex. Mobile Catalogue
• Another local example of an API in action
• Questions?
What is an API?

– Application Program Interface
– Programmatic way of getting information from/to a web service

Do I need one?

– Yes.
Examples Abound

Goodreads posts to Twitter using an API
Examples Abound

Google API draws the Map with the locations on it.
Roll Your Own API?

- Wrote up one to create a mobile version of our OPAC

- This was necessary since the vendor didn’t offer a straightforward way to get results/items out of the OPAC as text
HTML is mostly text

Ctrl + U will show you the skeleton of any page
HTML is mostly text

You can grab this text

Read through it and look for certain sequences of characters

Take those sequences out and do what you want with them
HTML is mostly text

Most often this is looking certain CSS markup.

```html
<div class="bibDisplayContentMain">
  <table cellpadding="10" cellspacing="0" width="100%">
  <tr>
    <td align="top">
      <table id="bibDisplayLayout" cellpadding="0" cellspacing="0" width="100%">
      <tr>
        <td align="top" align="left">
          <!-- BEGIN BIBTABLE BORDER -->
          <table id='bib_detail' width="100%" border="0" cellspacing="1" cellpadding="2" class="bibDetail">
          <tr class="bibInfoEntry"><td>
            <!-- BEGIN INNER BIB TABLE -->
            <table width="100%" cellspacing="3" cellpadding="0">
            <tr><!-- next row for fieldtag=a -->
              <td align="top" width="20%" class="bibInfoLabel">Author</td>
              <td class="bibInfoData">
                <a href="/search~S0/?aBanker%2C+Kyle./abanker+kyle/-3,-1,0,B/browse">Banker, Kyle.</a></td>
            </tr>
            </td></tr>
            <!-- next row for fieldtag=t -->
            <td align="top" width="20%" class="bibInfoLabel">Title</td>
            <td class="bibInfoData">
              <strong>MongoDB</strong> in action / Kyle Banker.</td>
            </tr>
            <!-- next row for fieldtag=p -->
            <td align="top" width="20%" class="bibInfoLabel">Imprint</td>
            <td class="bibInfoData">
          </td></tr>
        </table>
      </table>
      </td>
    </tr>
  </table>
</div>
```

Starts at `<div class="bibDisplayContentMain">`
HTML is mostly Text

Ends at <!-- close bibDisplayContent -->
As a flowchart

Catalogue

wget + grep

Homemade API

jQuery Mobile

Mobile Site
wget + grep

- **wget** – fetch web pages and stores them as text

- **grep** – a Unix style tool that will search for a specific sequence of characters
  (See Also: **Beautiful Soup**)

- Referred to as **Screen Scraping**
Homemade API

* mostly PHP Code

details here: https://github.com/elibtronic/iii_mcat/blob/master/functions.inc.php
jQuery Mobile

• A Javascript Library based on the popular jQuery

• Specially designed to be usable on any kind of mobile device with minimal effort

• Formats the results from the API into Mobile friendly display
Previous record in the Mobile Display

Notice the similarities?
One Last Local Example of APIs in Action

James A. Gibson Library

SuperSearch

Search for books, articles, and more!

Additional options:
What is SuperSearch?

TODAY'S HOURS

Library/Learning Commons
7:30A - 11:00P

Help Desk
8:30A - 7:00P

Map Library
3:30A - 9:00P

NEED HELP?
ASK THE LIBRARY

SPRING 2013 Library Workshops for Faculty & Graduate Students

MORE »
One Last Local Example
Learn More about APIs

Build real-life apps with APIs.

Want to write apps and build websites that can text your phone, pull in YouTube videos, or connect to Facebook and Twitter?

Start doing all this and more with Application Programming Interfaces (APIs).

You could learn how to...

- Search for top videos on YouTube using JavaScript
- Start accessing Twitter data from users, Tweets, and timelines using Ruby
Learn More about APIs

Put the internet to work for you.

Join IFTTT
Things to Consider

• You can spend a lifetime figuring out grep

• You can make a pretty good career for yourself screen scraping

• Screen scraping sometimes results in brittle applications. I.e. a change in the HTML breaks everything
Resources

• GitHub for Source Code of Mobile Catalogue:
  – https://github.com/elibtronic/iii_mcat

• Mobile Catalogue in Action:
  – http://m.library.brocku.ca/mcat
  – There is at least 2 other instances of this out in the wild

Happy to take questions

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