WebVoyáge with a Wrapper

Michael Doran, Systems Librarian
The University of Texas ARLINGTON
doran@uta.edu

Ex Libris Users of North America (ELUNA) Meeting
Long Beach, CA - Session 48.2 - July 31, 2008

Once upon a time…

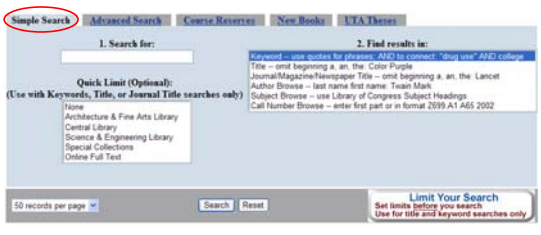
"If you will just configure me right, I will turn into a handsome OPAC."

What is a handsome OPAC?

- Aesthetically handsome
- Functionally handsome
- An OPAC is "handsome" if it
  - is simple to use
  - is intuitive to use
  - makes it easy to find stuff
- "Only librarians like to search, everybody else likes to find."
  – Roy Tennant

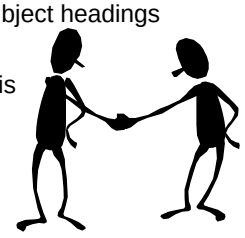
Simple searches

WebVoyáge simple search



The secret handshakes

- last name, first name for author searches
- no initial articles for title searches
- Library of Congress subject headings
- Boolean operators
- what an index browse is



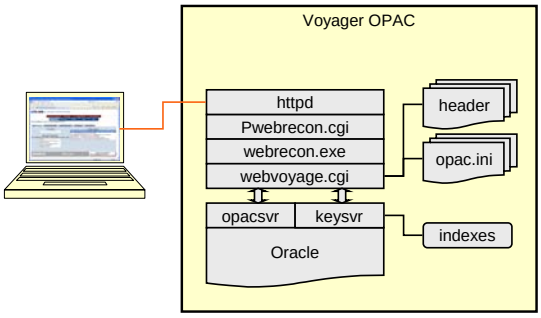
WebVoyáge simple search (after)

- keyword anywhere search
- words within quotes are treated as a phrase
- other words are automatically Boolean ANDed*
- relevancy ranked results*

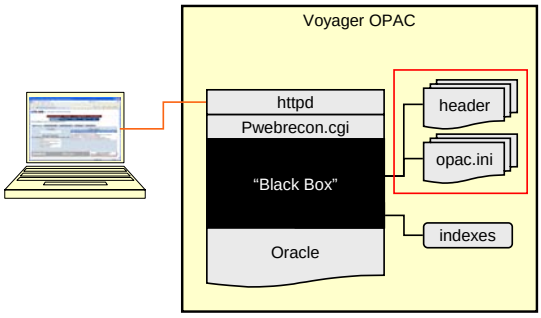
Hmmm… that's Google-like in **functionality**

Code

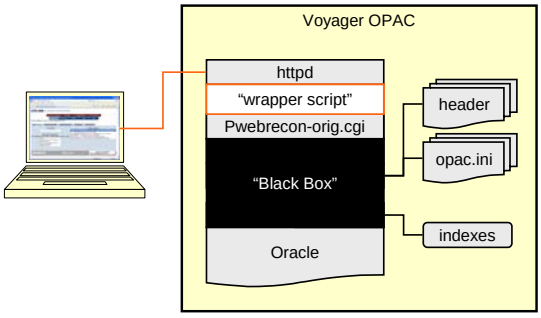
WebVoyáge server-side back end



WebVoyáge is a "black box"

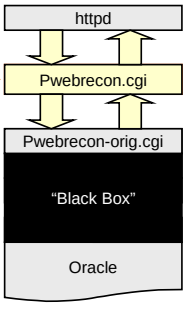


They call it a wrapper



Basic wrapper script

```
#!/usr/bin/perl
$data_stream = `./Pwebrecon-orig.cgi`;
print $data_stream;
exit;
```



Do your thing to that datastream

- aka “screen scraping”

  “A technique in which a computer program extracts data from the display output of another program. The key element that distinguishes screen scraping from regular parsing is that the output being scraped was intended for final display to a human user, rather than as input to another program, and is therefore usually neither documented nor structured for convenient parsing.” [from Wikipedia]

- text wrangling
  - add text
  - delete text
  - rearrange text

Example – adding text

- Voyager’s “header.htm” file
  - is inserted after the <body> tag
  - okay for display tags, but not for others
- Wrapper script can insert elements within the <head> tag
  - metadata
  - JavaScript
  - CSS

Example – adding text

```
#!/usr/bin/perl
$data_stream = `./Pwebrecon-orig.cgi`;
$meta_code =
  qw(<link rel="stylesheet" type="text/css" href="/css/my.css">);
$data_stream =~ s#</HEAD>#$meta_code</HEAD>#i;
print $data_stream;
exit;
```

```
<HTML>
<HEAD>
<meta http-equiv="Content-Type" Content="text/html;charset=UTF-8">
<TITLE>Library Catalog - University of Texas at Arlington</TITLE>
<link rel="stylesheet" type="text/css" href="/css/my.css">
</HEAD>
<BODY onLoad="document.querybox.Search_Arg.focus()“…
```


Example – removing text

```
#!/usr/bin/perl
$data_stream = `./Pwebrecon-orig.cgi`;
$data_stream =~ s#<TD><STRONG>.*?</STRONG>University of Texas at
Arlington Library</TD>##i;
print $data_stream;
exit;
```

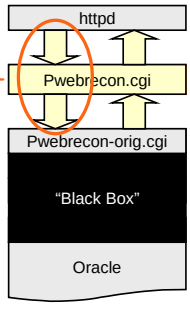
Example – rearranging text

```
#!/usr/bin/perl
$data_stream = `./Pwebrecon-orig.cgi`;
$data_stream =~ s#Search request: (.*)</TD>.*Results: (.*)
entries.#<br />$2 entries for <b>$1</b>#s;
print $data_stream;
exit;
```

Wrapper script redux

```
#!/usr/bin/perl
$data_stream = `./Pwebrecon-orig.cgi`;
print $data_stream;
exit;
```

- Read and parse form input
  - QUERY_STRING (get method)
  - STDIN (post method)



Truncation adaptation

Incoming data

```
#!/usr/bin/perl
$data_stream = `./Pwebrecon-orig.cgi`;
print $data_stream;
exit;
```

QUERY STRING

Search_Arg=samuel+clem*&Search_Code=GKEY%5E*&
PID=D3hcrVVigATy0bZXCTmXMK61orl&
SEQ=20070527145935&CNT=50&HIST=1

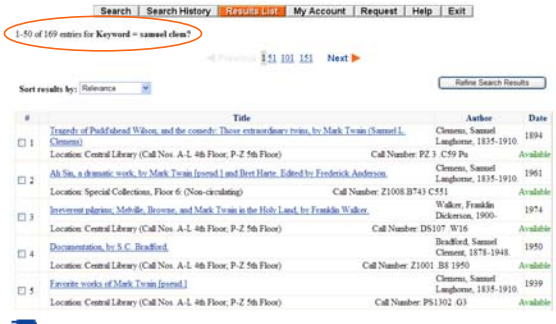
Incoming data

```
#!/usr/bin/perl
ReadParse();
$data_stream = GetOrigDataStream();
sub GetOrigDataStream {
    $data_stream = `./Pwebrecon-orig.cgi`;
    return $data_stream;
}
print $data_stream;
exit;
```


Example – truncation adaptation

```
#!/usr/bin/perl
ReadParse();
$data_stream = GetOrigDataStream();
sub GetOrigDataStream {
  $search_arg  = $formdata{'Search_Arg'};
  $search_arg  =~ s/\*/?/g;
  if ($ENV{'QUERY_STRING'}) {
    $ENV{'QUERY_STRING'} =~ s/Arg=.*?&Search/Arg=$search_arg&Search/;
  }
  $data_stream = `./Pwebrecon-orig.cgi`;
  return $data_stream;
}
print $data_stream;
exit;
```


Example – truncation adaptation



Other input data munging

- fix Voyager 6.x GKEY/TKEY/SKEY keyword “multiple spaces" no hits bug (Support Web incident #131344)
  `$search_arg =~ s/  / /g;`
- deal with “right single quotation mark” vs. “apostrophe” in search input issue
- allow for ISBNs with dashes*

* (combined output/input) data munging

Is a wrapper right for you?

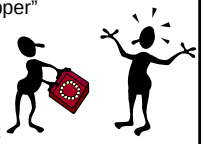
- requires some programming expertise
- requires lots (and lots) of testing
  - test platform
    - ideally a Voyager test server
    - separate WebVoyáge instance (a la preview server)
  - law of unintended consequences
- extra layer makes WebVoyáge more brittle
  - more dependencies, e.g. with opac.ini
- upgrades more complicated

Getting started

- wrappers are programming-language-neutral, however…
- Perl is good
  - designed for text processing
  - robust regular expressions
  - is already on your system
  - example wrappers available
- it's fine to think big…
- … but start small

Resources

- Michael Doran, University of Texas at Arlington
  Presentation: "WebVoyáge with a Wrapper"
  Source code:
  http://rocky.uta.edu/doran/wrapper/
- Ere Maijala, National Library of Finland
  European EndUser 2006 presentation*:
  "Enhancement scripts for WebVoyáge OPAC"
  (no longer on the web – Contact Ere Maijala)
  Source code:
  http://www.nationallibrary.fi/libraries/linnea/pwebrecon2.html



A small start

- copy original Pwebrecon.cgi

```
cp –p Pwebrecon.cgi Pwebrecon-orig.cgi
```

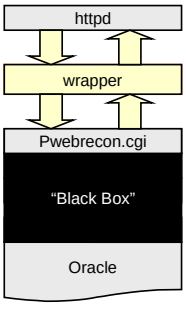
- create Pwebrecon.cgi wrapper template

```
#!/usr/bin/perl
$data_stream = `./Pwebrecon-orig.cgi`;
print $data_stream;
exit;
```

- add desired feature
- test

Will wrappers work with Tomcat?

- Is it **possible** to apply a wrapper to the Voyager 7 Tomcat WebVoyáge?
- Is it **desirable** to apply a wrapper to the Voyager 7 Tomcat WebVoyáge?
  - V7 Tomcat XML files
  - V7 Cascading Style Sheets



Will wrappers work with Tomcat?

- Is it **possible** to apply a wrapper to the Voyager 7 Tomcat WebVoyáge?
  - No "Pwebrecon.cgi" under Tomcat WebVoyáge (in fact no CGI period)
  - No one single controlling executable to wrap