Reducing Cognitive Load in Primo

Developers Day
IGeLU 2016

Karsten Kryger Hansen
@karstenkryger
Disclaimer

Legal and ethical issues
vs
Proof of concept
Problem

• Search results all look alike
  • Especially articles

• Users change search string – looking for different records, but might find the same.
  • Forget the loooooooooooooooooooooooooooong OR
  • Time

• Mental question: ”Have I seen this before?”

• Documentation: What did I see?

• No server side programming in Primo
PersonalPrimo

CC0: https://pixabay.com/da/p%C3%A6rer-p%C3%A6re-lys-energi-lampe-id%C3%A9-1125016/
Proces

1. Go / No go: Overcome small - but important - technical problem
2. Focus group x 2
3. Test implementation for proof of concept
4. Limbo: Waiting for new UI
Technical

• Embedded into Primo using client side scripting
  • jQuery + jQUERY.PRIMO

• Server side programming – on our servers!

• Database

• PDS+ API for confirmation
1st technical problem

- Who is the user from a client side perspective

```javascript
var obj = {
  institution: "AUB",
  id: 1,
  name: "Karsten Kryger Hansen",
  url: "https://aub-
  primo.hosted.exlibrisgroup.com/pds?func=bor-info&calling_system=primo&institute=AUB&handle="
}
```

Easy to spoof
PDS+

• Self developed login system for Primo
• Supplements PDS on verifying users identity
• Uses PDS object for storing data

Easy to extend with API

```javascript
func generate_pds_token($aleph_pid, $shared_key) {
  my $time = time();
  return sprintf("%08x", $time) . md5_hex($time, $aleph_pid, $shared_key);
}
```

```html
$response = '<bor:info>'
  . '<id>' . $xml->[z303][z303-id'] . '</id>'
  . '<institute>' . $params->[INSTITUTE] . '</institute>'
  . '<group>' . $group . '</group>'
  . '<name>' . $name . '</name>'
  . '<email_address>' . $xml->[z304][z304-email-address'] . '</email_address>'
  . '<resource_status>' . generate_pds_token($xml->[z303][z303-id'], config->[primo][shared_key]) . '</resource_status>'
  . '</bor:info>'
else {
  $response = '<bor-info><error>Unable to authenticate application for bor-info retrieval</error></bor-info>'
}
```
PDS+

• Empty field in the PDS-object: Resource-status

• Autogenerated, easy verifyable, unique key for the user session
Demo
Code client side
Code server side

• Validate user
  • Call PDS+

• Save record to database

• Return (previous) state of the record – if any
Database structure

**Search**

<table>
<thead>
<tr>
<th>id</th>
<th>userid</th>
<th>sessionid</th>
<th>projectid</th>
<th>datetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>PID000053007</td>
<td>5CA249F4BE9F61AC4744AD6B5BFF86D</td>
<td>0</td>
<td>2016-08-29 20:25:14</td>
</tr>
<tr>
<td>2</td>
<td>PID000053007</td>
<td>5CA249F4BE9F61AC4744AD6B5BFF86D</td>
<td>0</td>
<td>2016-08-29 20:24:36</td>
</tr>
<tr>
<td>1</td>
<td>PID000053007</td>
<td>5CA249F4BE9F61AC4744AD6B5BFF86D</td>
<td>0</td>
<td>2016-08-29 20:24:09</td>
</tr>
</tbody>
</table>

**Search > FacetElement**

<table>
<thead>
<tr>
<th>id</th>
<th>searchId</th>
<th>indexname</th>
<th>precisiontype</th>
<th>term</th>
<th>operator</th>
<th>exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>facet_level</td>
<td>exact</td>
<td>aub_physical_item</td>
<td>AND</td>
<td>0</td>
</tr>
</tbody>
</table>

**Search > QueryElement**

<table>
<thead>
<tr>
<th>id</th>
<th>searchId</th>
<th>indexname</th>
<th>precisiontype</th>
<th>term</th>
<th>operator</th>
<th>exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>4</td>
<td>any</td>
<td>contains</td>
<td>Discovery Tool Preferences</td>
<td>AND</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>any</td>
<td>contains</td>
<td>Discovery Tool Preferences</td>
<td>AND</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>any</td>
<td>contains</td>
<td>primo+discovery+usability</td>
<td>AND</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>any</td>
<td>contains</td>
<td>primo+usability</td>
<td>AND</td>
<td>0</td>
</tr>
</tbody>
</table>

**Search > RecordInteraction**

<table>
<thead>
<tr>
<th>id</th>
<th>searchId</th>
<th>recordId</th>
<th>interactionLevel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>TN_proquest1786779516</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>AU501_ALEPH001793607</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>TN_crossref10 1089/19322909.2016.1190678</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>TN_tayfranc10 1089/10853136 2012.695671</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>TN_proquest1640762715</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>TN_tayfranc10 1089/19322909.2014.903133</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>TN_encE992090</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>TN_tayfranc10 1089/000488523 2012.1072288</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>TN_tayfranc10 1089/19322909.2014.903133</td>
<td>0</td>
</tr>
</tbody>
</table>
Issues

• No facet’ing
• FRBR and DEDUP
• Stable record ids
• Records deleted
• Speed:
  • 2015: 12,5 million records shown – but a lot of users are not signed in
Potential

• User’s overall search history – or per record
• User’s personal settings

• Interaction level; seen, details, visited ...

• Search organized in projects

• Facilitate group work
Thank you

kkh@aub.aau.dk