

Session F1/Q1

Custom Forms and JavaScript

Improved Functionality You Can Build Yourself

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What are custom forms?

csdirect.iii.com/faq/custform.shtml

csdirect.iii.com/faq/exampleforms.shtml

- Command links (/patroninfo) or command functions (modify PIN screen) are generated by a hard-coded template.
- Custom forms allow you to replace III's code with your own.

How do custom forms work?

- WebPAC checks the /screens directory for an HTML file that corresponds to the requested command
- If found, this file is used as a template, instead of the hard-coded template

How do custom forms work?

```
<!-- {token} -->
```

Tokens are placeholders that output HTML:

```
<!-- {errmsg} -->
```

becomes...

Sorry, cannot locate patron record.

How do custom forms work?

```
<!-- {token} -->
```

Tokens can be used for conditional processing:

```
<!-- {ifpinerrormessage} -->
```

```
<!-- {pinerrormessage} -->
```

```
<!-- {xif} -->
```


Custom forms let you

- Insert any additional HTML code you desire at any point within the custom form
- Match the design of system-generated pages to static pages (srchhelp, opacmenu, mainmenu)
- Improve functionality with JavaScript
- Add new functionality with JavaScript

Overview

1. JavaScript form validation & custom forms
2. JavaScript form validation & AVS forms
3. Facilitate AVS form design using JavaScript
4. Add new functionality to AVS forms
 - What if my patron doesn't have JavaScript?
 - Lots of example source code, all available in the handout, so, don't sprain anything!

[intro](#)

1. JavaScript Form Validation

- Theory
 - What is form validation?
 - Where do you put the JavaScript?
 - Pass-through JavaScript
 - What if my patron doesn't have JavaScript?
- Examples

Form Validation Theory

What is form validation?

Using JavaScript, determine whether certain fields (or combination of fields) have been completed appropriately.

- If YES, allow the form submission to continue
- If NO, alert the user, and ask them to correct the problem

Where do you put the JavaScript?

- Ask the form to use a validation function:

```
<FORM METHOD=POST  
  onSubmit="return formCheck(this)" >
```

- Place the function directly below the token that provides the HTML element you would like to validate
- Add a pass-through JavaScript function

Where do you put the JavaScript?

```
<!--{ifneedNNA}-->
<!--{needbyprompt}-->
<!--{needby}-->
<!-- javascript validation code -->
<script language="JavaScript">
<!-- hide from older browsers
function formCheck(form) {
    // add JavaScript to validate the fields here
    // for a working example, see Listing 2
    return true;
}
//-->;
</script>
<!-- NOTE: this is missing an xif, keep reading -->
```

Pass-through JavaScript

- Required if the JavaScript validation function is embedded in an `{if...}` block
- Add an `{else}` block
- Use a function with the same name, that returns true
- Having no reason not to continue, the request is submitted to the WebPAC

Pass-through JavaScript

```
<!--{else}-->  
<!-- passthrough javascript code -->  
<script language="JavaScript">  
<!-- hide from older browsers  
function formCheck(form) {  
    return true;  
}  
//-->;  
</script>  
<!--{xif}-->
```


What if my patron doesn't have JavaScript?

- Use comments to hide JavaScript
- Form validation will not interfere with patrons who do not/can not use JavaScript
- Add functionality, don't take it away
- AVS forms require more care

Example: not wanted after date input validation

Problem

The WebPAC will allow patrons to enter any date, even dates in the past, and dates that don't exist.

Solution

Validate the date entry.



Quest Library Catalog

Please enter the following information:

For example, type "Jane Smith" and press TAB

Your Name

Type your ID number plus
CMSU, MVC, SFCC, then

Campus ID

Any special instructions?

Cancel if not filled by:

Microsoft Internet Explorer

INVALID CANCEL BY DATE: are you sure there are 31 days in Feb?

Campus ID Help

- Central Methodist College - CMC
- Central Missouri State University - CMSU
- Missouri Valley College - MVC
- State Fair Community College - SFCC

Type your ID number (dashes are not necessary) plus your institution code.
For example: **99999999MVC** would be campus ID for a student at Missouri Valley College.

Listing 2

- Uses pverify3_web.html custom form
- Script is placed in the {ifneedNNA} block
 - Line 90
 - Passthrough script begins on line 404
- Script uses a browser sniffer script
 - Determine JavaScript version of patron's browser
 - Date object requires version 1.1 or higher
 - Browser sniffer code is from Netscape

Example: new PIN validation

Problem

The WebPAC allows patrons to select insecure (one-digit) PINs.

Solution

Validate the new PIN entry to ensure at least ATM PIN length (four digits).



ARCHWAY Library Catalog (All Collections)

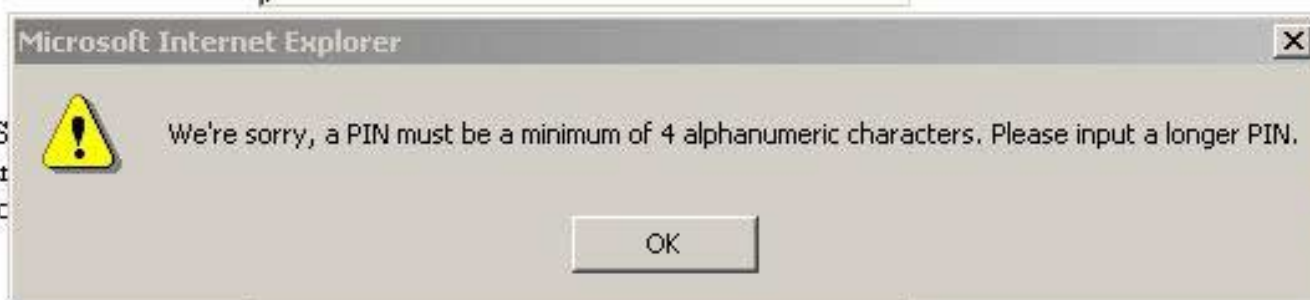
Please enter a new PIN.

Please enter the following information:

For example, type "Jane Smith"

Your Name

Your Social S
equivalent plus your
Cc



Enter Your New PIN

Enter Your New PIN Again

e
nity College
ty College

Display record for person named above

Listing 3

- Uses pverify_web.html custom form
- Is placed in the {iferrmsgisPIN} block
 - Line 49
 - Script begins on line 62
 - Passthrough script begins on line 91

2. Validating AVS Forms

- Can AVS forms be considered custom forms?
- Similarities/Differences
- Example

Similarities/Differences

- AVS forms use tokens to maintain form state
- AVS forms are much simpler
 - No complex if/else constructs
 - Few error messages
- AVS tokens usually generate more HTML markup

Similarities/Differences

- JavaScript validation is more straightforward
 - Can put code in the <head> section
 - Do not need to use pass-through JavaScript

Example: validate year after and year before

Problem

Sorting by relevance can misbehave if fed improper or incomplete data.

Solution

Validate year after and year before, if only one year is provided, fill in the other.

FIELDS

Specify fields to search, using field abbreviation. Fields available for this database are **a:** (author), **t:** (title), **s:** (subject), **c:** (table of contents), and **n:** (additional keywords.) Subjects are NOT cross-referenced.

a:twain and t:huck
(a:frost or a:whitman) and s:poet*
t:medicine and (n:research or s:information)

For a more Advanced Search, type WORD(S), select OPTIONS and click on ADVANCED SEARCH:

Language of Work:

Search and Sort:

Material Format:

or Other Format:

Scope:

Specific Library Location:

Publisher Name Keywords:

Genre/Form Keywords:

Year of Publication: After

and Before

ADVANCED SEARCH

[Return to Main Menu](#)

Listing 4

- Script is placed in the <head> section of the srchhelp_X.html file
 - Line 9
- Script is called by the form's ONSUBMIT attribute
 - Line 135

3. AVS Forms Without Tokens

- Completely control of the look of your form
 - The problem: some tokens contain markup you don't want
 - The solution: replace tokens with hard-coded HTML, and JavaScript
- Pros/Cons
- Real world: mix tokens and custom fields
- Example

Pros/Cons

- Complete freedom to design your AVS form but...
- Patrons without JavaScript must re-type criteria after clicking Modify Search button
- Any values previously determined by tokens must be re-coded by hand every time they change

Real world: mix tokens and custom fields

- **Listing 5** mixes some tokens with custom fields
 - {patron}
 - {msg}
 - {search}
- Script from **Listing 5** should work with other custom fields, but your mileage may vary

Example: radio buttons

Problem

The default presentation of sorting options and material types obscures other choices.

Solution

Use radio buttons to make choices clearer.



Keyword Search

Search: <input type="text" value="javascript"/> <input type="button" value="Search"/>	
Example: civil rights and (congress or supreme court) See Search tips below for further instructions.	
Sort Results	<input checked="" type="radio"/> By Title <input type="radio"/> By Date <input type="radio"/> By Relevance
Language of Work	<input type="text" value="ANY"/> ▾
Year of Publication	Single Year: <input type="text"/> OR Specify Range: after <input type="text"/> before <input type="text"/>
Material format	<input type="radio"/> Book <input type="radio"/> Serial <input checked="" type="radio"/> Other: <input type="text" value="ANY"/> ▾
Publisher Name Keywords	<input type="text"/>
Specific Branch	<input type="text" value="Bridges Catalog"/> ▾
OR	
Specific Library Location	<input type="text" value="All Bridges Locations"/> ▾
<input type="button" value="Search"/> <input type="button" value="Clear"/>	

Listing 5

- Script uses a GET Parsing Module from Webmonkey.com
 - Line 244
 - Maintains form state when patron selects the Modify Search button
 - Parse each value passed in the GET portion of the URL
 - Step through each form field, and if the data from the GET should be placed in that field, do so

4. AVS Forms: New Functionality

- Example: single year entry
- What if my patron doesn't have JavaScript?

Example: single year entry

Problem

The logic for selecting one single year using two year boxes can confuse some patrons.

Solution

Provide a single year entry box, which will automatically complete the after and before boxes for the patron.



Keyword Search

Search: <input type="text" value="javascript"/> <input type="button" value="Search"/>	
Example: civil rights and (congress or supreme court) See Search tips below for further instructions.	
Sort Results	<input checked="" type="radio"/> By Title <input type="radio"/> By Date <input type="radio"/> By Relevance
Language of Work	<input type="text" value="ANY"/>
Year of Publication	Single Year: <input type="text"/> OR Specify Range: after <input type="text"/> before <input type="text"/>
Material format	<input type="radio"/> Book <input type="radio"/> Serial <input checked="" type="radio"/> Other: <input type="text" value="ANY"/>
Publisher Name Keywords	<input type="text"/>
Specific Branch	<input type="text" value="Bridges Catalog"/>
OR	
Specific Library Location	<input type="text" value="All Bridges Locations"/>
<input type="button" value="Search"/> <input type="button" value="Clear"/>	

Listing 5

- Single year entry field is written out with JavaScript
 - Line 90
- Other date field related functions include
 - setDaAndDb() line 194
 - resetSylfNecessary() line 217
 - resetDaAndDbIfNecessary() line 225

What if my patron doesn't have JavaScript?

- Create new elements using JavaScript:

```
<SCRIPT LANGUAGE="JavaScript">
<!--
// single year text box for JavaScript-capable
browsers
document.write("Single Year: <input type=text
size=4 maxlength=4 name=Sy value=''
onChange='resetDaAndDBIfNecessary();'> &nbsp; OR
&nbsp; ");
// -->
</SCRIPT>
```

What if my patron doesn't have JavaScript?

- Create new elements using JavaScript
- Patrons without JavaScript won't see it
- Add functionality, don't take it away

Final Thoughts

If you have a problem that is caused by
bad data entered on a form
and...

This form can be changed by you

- Custom form
- AVS form

You can fix the problem with JavaScript

Final Thoughts

- Lots of sample form validation scripts can be found on-line
- **Listing 5's** GET Parsing Module should work with most any AVS form design, with some tweaking
- Always think about how your code will affect patrons without JavaScript

JavaScript Links

**[developer.netscape.com/
docs/examples/javascript/formval/
overview.html](http://developer.netscape.com/docs/examples/javascript/formval/overview.html)**

**[hotwired.lycos.com/webmonkey/
reference/javascript_code_library/
forms_data/?tw=reference](http://hotwired.lycos.com/webmonkey/reference/javascript_code_library/forms_data/?tw=reference)**

**[javascript.about.com/
library/weekly/aa070901a.htm](http://javascript.about.com/library/weekly/aa070901a.htm)**

JavaScript Books

JavaScript Bible (4th edition)

by Danny Goodman, Brendan Eich

Hungry Minds, Inc

ISBN: 0764533428

JavaScript Definitive Guide (4th edition)

by David Flanagan

O'Reilly & Associates

ISBN: 0596000480