8b: Custom reports - Advanced functions

Advanced topics in custom reports

Note (July 2026): the content was copied via markdown export and lost much of its minor formatting. The images in particular have been downgraded. The original source is here: https://docs.google.com/document/d/1Jyytaln1-aCm3paZ4rBKho0puXBGaJ97/edit

This chapter contains lots of undigested tips for advanced users, skip the first 10 pages or so to get to this material.

Smarty Syntax

If you are not familiar with Smarty or the Smarty syntax, the Smarty Site has a range of information and resources on using the Smarty Report Template Engine, including complete Smarty documentation.

This topic provides an introduction to some basic syntax elements when you are using the Actions Pane to create simple reports.

Advanced features

SMARTY provides a range of features that can improve your reports. For a full explanation, visit the SMARTY documentation.

Template plugins

Template plugins provide advanced template functionality. Template plugins include:

- Functions
- Block Functions
- Modifiers

Plugins are always loaded on demand. Only the specific modifiers, functions, resources, etc. invoked in the templates scripts will be loaded. Moreover, each plugin is loaded only once, even if you have several different instances of Smarty running within the same request.

Main records

The foreach statements enclose a loop which outputs information for each record in the query result. Fields can be inserted with the insert links next to each field. Use the if links to insert tests based on the value of a field (e.g.. to only output text if a field is set).

Subrecords

Further loops can be inserted to output multiple sub-records within the main record loop, using the loop link after the subrecord name. Fields within sub records can be inserted with either the in or out links; use the in link to insert a field within a loop, use the out link to insert a field outside a loop.

Comments

> Syntax: {* This is a comment *}

Comments are useful for making internal notes in your template. They are completely ignored in your template file and are invisible to public view (unlike <!-- HTML comments -->).

Variables

> Synatx: $foo

Variables allow you to dynamically replace the variable by data when the web page is created. For example, instead of writing the record title in the template, you can use a tag like {$title} in place of the title.

Variables can contain numbers, letters and underscores.

You can apply maths to variables that contain numbers. For example:

```
{$foo+1}
{$foo*$bar}
{$foo->bar-$bar[1]*$baz->foo->bar()-3*7}
```

Smarty has several different types of variables. The type of the variable depends on what symbol it is prefixed or enclosed within.

Variables in Smarty can be either displayed directly or used as arguments for functions, attributes and modifiers, inside conditional expressions, etc. To print a variable, simply enclose it in the delimiters so that it is the only thing contained between them.

Arrays in Smarty reports

- You may use arrays in smarty report easily. Access element by its index First element: {$newValue[0]}
  Or use standard array functions.

```
Print array: {print\_r($newValue,true)}\<br\>


Implode array: {implode('\*', $newValue)}\<br\>
```

Functions

Smarty has many built in functions for formatting, sorting, totalling etc.

You can also use PHP functions (built-in or ones you define in the code) in a Smarty template, for example:

{$r,fldname} will output the value of the field

{$r.fldname|upper} will output the value of the field converted to upper case (Smarty function)

{str_pad($r.fldname},10,"0", STR_PAD_LEFT) } will pad the string to length 10 with leading zeroes (PHP function)

Every Smarty tag either prints a variable or invokes some sort of function. These are processed and displayed by enclosing the function and its attributes within delimiters like so: {funcname attr1="val1" attr2="val2"}.

Smarty allows for:

built-in functions. For example, {if}, {section} and {strip}. There should be no need to change or modify them.

customer functions. These are additional functions implemented by you via plugins. They can be modified to your liking, or you can create new ones.

Built in functions include:

{assign}

This is used for assigning template variables during the execution of a template.

{assign var="name" value="Bob"}

{assign "name" "Bob"} {* short-hand *}

The value of $name is {$name}.

The above example will output:

The value of $name is Bob.

{$var=...}

This is a short-hand version of the {assign} function. For example:

{$name='Bob'}

The value of $name is {$name}.

The above example will output:

The value of $name is Bob.

{for}

The {for}{forelse} tag is used to create simple loops. The following different formats are supported:

{for $var=$start to $end} simple loop with step size of 1.

{for $var=$start to $end step $step} loop with individual step size.

{forelse} is executed when the loop is not iterated.

For example:

{for $foo=1 to 3}

{$foo}

```
{/for}

</ul>
```

The above example will output:

```
<ul>

<li>1</li>

<li>2</li>

<li>3</li>

</ul>
```

Another example using MAX attribute.

```
$smarty->assign('to',10);

 <ul>

{for $foo=3 to $to max=3}

<li>{$foo}</li>

{/for}

</ul>
```

The above example will output:

```
<ul>

<li>3</li>
```

```
<li>4</li>

<li>5</li>

</ul>
```

Example showing use of {forelse}

```
$smarty->assign('start',10);

$smarty->assign('to',5);

 <ul>

{for $foo=$start to $to}

<li>{$foo}</li>

{forelse}

no iteration

{/for}

</ul>
```

The above example will output:

```
no iteration
```

{if},{elseif},{else}

Every {if} must be paired with a matching {/if}. {else} and {elseif} are also permitted.

The following is a list of recognized qualifiers, which must be separated from surrounding elements by spaces. Note that items listed in [brackets] are optional. PHP equivalents are shown where applicable.

Qualifier	Syntax Example	Meaning
==	$a eq $b	equals
!=	$a neq $b	not equals
>	$a gt $b	greater than
<	$a lt $b	less than
>=	$a ge $b	greater than or equal
<=	$a le $b	less than or equal
===	$a === 0	check for identity
!	not $a	negation (unary)
%	$a mod $b	modulous
is [not] div by	$a is not div by 4	divisible by
is [not] even	$a is not even	[not] an even number (unary)
is [not] even by	$a is not even by $b	grouping level [not] even
is [not] odd	$a is not odd	[not] an odd number (unary)
is [not] odd by	$a is not odd by $b	[not] an odd grouping

Example {if} statements

```
{if $name eq 'Fred'}
Welcome Sir.
{elseif $name eq 'Wilma'}
```

```
        Welcome Ma'am.

        {else}

        Welcome, whatever you are.

        {/if}

{* an example with "or" logic *}

        {if $name eq 'Fred' or $name eq 'Wilma'}

        ...

        {/if}

{* same as above *}

        {if $name == 'Fred' || $name == 'Wilma'}

        ...

        {/if}

{* parenthesis are allowed *}

        {if ( $amount < 0 or $amount > 1000 ) and $volume >= #minVolAmt#}

        ...

        {/if}

{* check for not null. *}

        {if isset($foo) }
```

```
        .....

        {/if}

{* test if values are even or odd *}

        {if $var is even}

        ...

        {/if}

        {if $var is odd}

        ...

        {/if}

        {if $var is not odd}

        ...

        {/if}

 {* test if var is divisible by 4 *}

        {if $var is div by 4}

        ...

        {/if}

 {*
```

test if var is even, grouped by two. i.e.,
0=even, 1=even, 2=odd, 3=odd, 4=even, 5=even, etc.*}

```
{if $var is even by 2}
...
{/if}
```

{* 0=even, 1=even, 2=even, 3=odd, 4=odd, 5=odd, etc. *}

```
{if $var is even by 3}
...
{/if}
```

{while}

{while} is similar to {if} and takes the same set of modifiers.

Every {while} must be paired with a matching {/while}.

Example {while} loop

```
{while $foo > 0}
{$foo--}
{/while}
```

The above example will count down the value of $foo until 1 is reached.

Attributes

Most of the functions take attributes that specify or modify their behavior. Attributes to Smarty functions are much like HTML attributes. Static values don't have to be enclosed in quotes, but it is required for literal strings. Variables with or without modifiers may also be used, and should not be in quotes.

Some attributes require boolean values (TRUE or FALSE). These can be specified as true and false. If an attribute has no value assigned it gets the default boolean value of true.

Example:

{assign var=foo value={counter}}

Loops

Loop (repeat) sets of data with the {foreach} syntax.

Conditionals

Conditional statements have the typical if/else structure:

> {if $test == "1"}Yes!{else}No!{/if}.

Alternatively:

> elseif: {if $person == "Mike"}You are Mike{elseif $person == "Paul"}You are Paul{else}You are neither Mike nor Paul. Who are you?{/if}.

Variable Modifiers

Variable modifiers can be applied to variables, custom functions or strings. To apply a modifier, specify the value followed by a | (pipe) and the modifier name. A modifier may accept additional parameters that affect its behaviour. These parameters follow the modifier name and are separated by a : (colon). Also, all PHP-functions can be used as modifiers implicitly (more below) and modifiers can be combined.

Examples are:

```
{* apply modifier to a variable *}

{$title|upper}

{* modifier with parameters *}

{$title|truncate:40:"..."}

{* apply modifier to a function parameter *}

{html_table loop=$myvar|upper}

{* with parameters *}

{html_table loop=$myvar|truncate:40:"..."}

{* apply modifier to literal string *}

{"foobar"|upper}

{* using date_format to format the current date *}

{$smarty.now|date_format:"%Y/%m/%d"}
```

Modifiers

Modifiers allow you to quickly manipulate data to improve its appearance. Here is a concrete example. Let's say that your Books database has grown very large. Lots of different people have entered data, and you have imported data from many different sources. You aren't sure if all the titles of all the books are capitalised consistently. When you display the title of a Book record in your custom report, you can make sure that it is capitalised consistently by using the 'capitalize' modifier like so:

```
<p>Book Title: {$r.f1|capitalize}</p>
{* Data in the database: 'the history of Tom Jones, a Foundling. In four volumes.'
*}
Book Title: The History Of Tom Jones, A Foundling. In Four Volumes
```

As you can see, to apply a modifier, simply type the pipe "|" character after the data, and then type the name of the modifier you wish to use.

It is possible to use multiple modifiers at once, and also to change their behaviour. For example, your Books database may contain many long titles, as well as many titles that are not capitalised correctly. You can easily shorten ('truncate') the tiles *as well as* capitalising them like so:

```
<p>Book Title: {$r.f1|capitalize|truncate:25}</p>
{* Data in the database: 'the history of Tom Jones, a Foundling. In four volumes.'
*}
Book Title: The History Of Tom Jones,...
```

As you can see, to use another modifier, you can simply type another pipe "|", and put the name of the next modifier after it. If the modifier needs you to specify some settings, you can do this with a colon ":". In this case, you can tell 'truncate' how many characters to keep. By typing :25, you tell the modifier to keep just the first 25 characters of each book title. The modifier automatically adds the ellipsis characer (...) if a word is too long and gets truncated.

There is a complete list of modifiers on the SMARTY website.

The Wrap Function

Inserting text or numerical data into a Heurist Custom Report is easy. It is more complex to insert an image, video, audio file or location data. As a recap, consider the below code:

Name: {$r.f1}

This code will create a new paragraph (** **), which will begin with "Name: " and then with the text from Field 1 (**f1 **) in the relevant record (**$r **).

But what if the data you have is an image or audio file? Imagine that your custom report displays records about Persons, and you have made a recording of each Persons's voice, stored in Field 1000. You could try the following code, but it would not do the job:

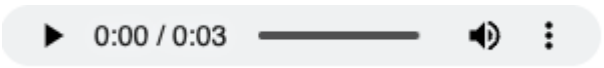
Voice Recording: {$r.f1000}

You might hope that this would provide a link or some other fuctionality, but instead, when users visit your website, they would see this:

Voice Recording: https://heuristref.net/h6-alpha/?db=example_db&file=68e8f8ce906d1ad44eb70e97ba2b37b10cb80223

To help you with situations like this, we provide the 'wrap' function. The following code would work perfectly:

Voice Recording: {wrap var=$r.f1000_originalvalue dt="file" auto_play="0"}

Voice Recording: 

The wrap function works with images, audio files, video files and also with simple links.

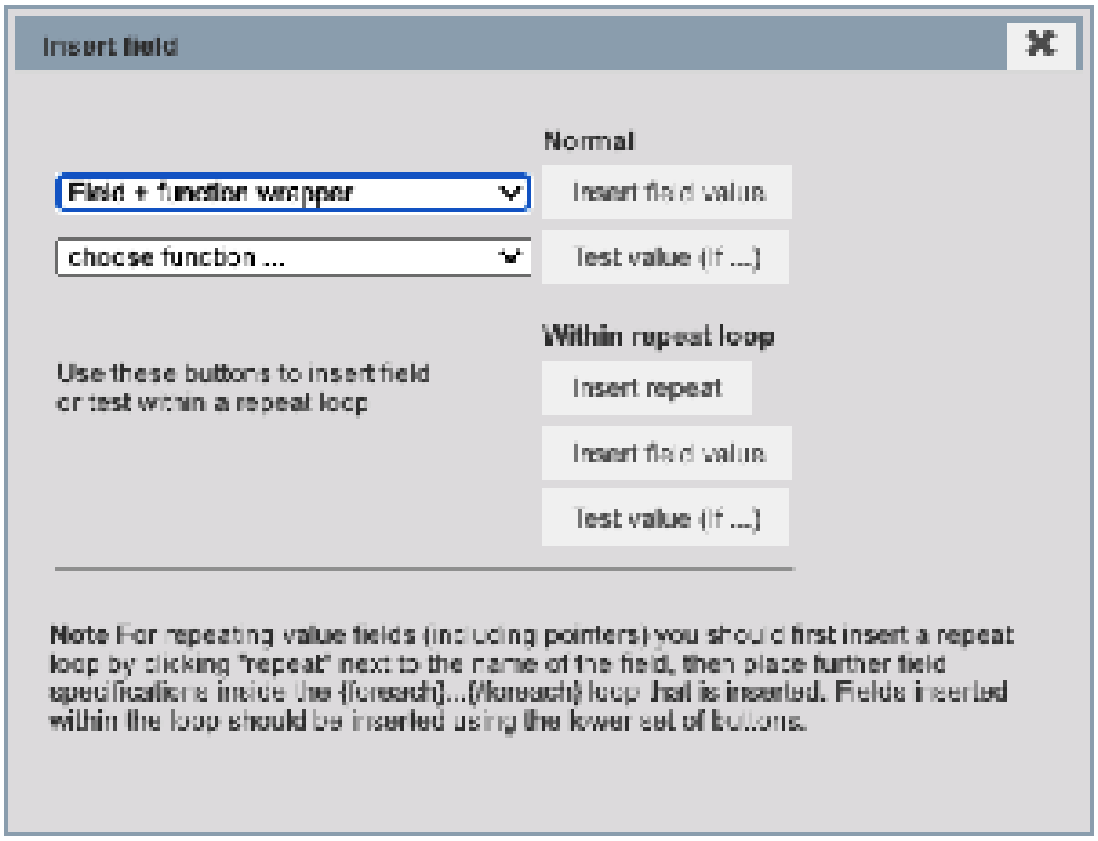
If you wish users to be able to zoom in on an image or video, then you can add a 'fancybox'. To do this, add **mode **and **fancybox **parameters to the wrap:

{wrap var=$r.f438_originalvalue dt="file" mode="thumbnail" fancybox="1" auto_play="0"}

If $r.f438 is an image, video, pdf or similar, viewers of the custom report will now be able to click on it to zoom in and explore details.

**NB: **The 'thumbnail' parameter is necessary for *videos *and *pdfs *, if you wish these to be clickable and zoomable. If you forget to write mode="thumbnail" for an image there will be no problem.

You don't need to remember how to write the 'wrap' function. When you use the wizard to insert a field into your custom report, simply choose the ' **Field + function wrapper **' option before clicking ' **Insert field value **', and the 'wrap' function will be included for you automatically.



For dates

For custom reports the wrap function allows selection of the level of detail output for dates and what calendar to use:

> {wrap var=$r.f9_originalvalue dt="date" mode="1" calendar="both"}
> {*Date mode: 0-simple,1-full, 2-all fields; calendar: native, gregorian, both *}

{$r.f9} is equivalent to {wrap var=$r.f9_originalvalue dt="date" mode="0" calendar="native"}

---

html text fields with relative paths

- Images from WYSYWIG/tinymce text field are not displayed in custom reports. Relative url may be the cause ?
  https://dicobiosport.huma-num.fr/heurist/viewers/smarty/showReps.php?db=dicobiosport&q=id:76424&template=Record.tpl
  For such cases use the internal “wrap” function that converts all relative paths to absolute ones

  ```
  {$txt=$r.f954|regex_replace:"/\r*\n+/":"</p><p>"}
  <p>{wrap var=$txt}{*Biographie*}</p>
  ```

Calculated fields

Calculated fields are updated on add/save (including other records that are in list of affected record types cfn_RecTypeIDs). . Calculated fields are updated before update of record title.

> Calculate fields are not updated on record import. You will need to rebuild calcualted fields after import with Admin > Rebuild calculation fields

- Configure a ‘Weekday’ dropdown for the Mary Hamilton Project. A simple vocabulary of the seven days of the week, then defined this formula for the field:

  ```
  {$date = $r.f9} {$date->format(‘l’)}
  {date_format(date_create($r.f9),"l")}  - for weekday as word
  {10630+date_format(date_create($r.f9),"N")} - for weekday as enum value
  ```

Bootstrap

Bootstrap is now incorporated as components in website format Vsn 3, but for older websites this may be useful.

> Is there a way of using Boostrap without messing up the CMS?
>
> CSS is not enough. Bootstrap is javascript library and affects all elements besides css. It creates its own widgets for buttons, inputs etc. Fortunately since v5 it is jquery free otherwise v4 may load its own jquery jquery-3.3.1 and it conflicts with ours
> OK. There is $.fn.button.noConflict(); in bootstrap that resets the appropriate element to original mode.

Manual rendering of file fields

You may encounter situations in which the 'wrap' function does not behave as you would wish. In such a situation, you can manually control how the file field is rendered. Click below for details.

Manually accessing data in file fields:

> A common application of this is to include information from the description of an uploaded file in the Custom Report. For example, when uploading an image, you might include image credits in the description of the file, or a caption to be displayed, or alt text for screen readers. To include this data in your custom report, you would use the 'ulf_Description' key, like so:
>
> ```
> {$r.f38_originalvalue[0]['ulf_Description']}
> ```

Linked and Related Records

There are different ways that Heurist records can be linked to one another. In the simplest case, a record can have a 'record pointer' field, which simply points to another record. For example, a book may have an author field. Rather than containing

a name, the 'author' field simply contains the id number of the Person who is the author of the book.

Using Record Pointers in the Current Record

When writing a custom report, it is easy to insert records that the current record points to, simply by using the field browser on the left of the screen. Simply choose which information you would like to include from the linked record, and use the 'insert field' tool. Heurist will insert some code that looks a bit like this:

```
{$f1000=$heurist->getRecord($r.f1000)}
```

Here is a detailed breakdown of the code:

- $f1000 ☚ The variable where you will store information about the new record. Heurist will give it a default name based on how the information is stored in the database. In this example, the book's author is stored in Field 1000, so $f1000 is used. You could change this to $author to make your code easier to read
- $heurist->getRecord ☚ Retrieve authors information from the database
- $r.f1000 ☚ The author's ID number, which is stored in Field 1000 of the book record. As the main record type in the Custom Report, the book has simply been labelled $r.

If the field is repeatable, then you should click the 'repeatable' link in the field selector tool, which will insert code that looks something like this:

```
{foreach $r.f1000s as $f1000 name=valueloop}
  {$f1000=$heurist->getRecord($f1000)}
  {* Do something with each $f1000 (i.e. author in this example *}
{/foreach}
```

This is very similar to the above code, except that there is a foreach loop, and instead of asking for the information in $r.f1000, you request information in $r.f1000s, the plural form.

Linked Records

The situation is more complex, however, if you wish to fetch information from *other *records that point to *this *one. For instance, suppose you want to display information about a Book. Part of the information you wish to display is information about the libraries that hold this Book. But in your database, information about library holdings is held in the Library record type. For instance, if you open up the 'New York Public Library' record, and look in the 'Books Held' field, you will see a list of all the books held by that library. When it comes time to display information about a particular book in a custom report, how can you retrieve information about all the Libraries that hold that book?

To solve this problem, Heurist provides the getLinkedRecords method. The code snippet below would retrieve a list of every library that holds the current book, and then put the name of each library into a bullet-point list:

```
<p>Libraries holding this book:</p>
<ul>
   {$libraries = $heurist->getLinkedRecords($r.recID, 25, 'linkedfrom')}
   {foreach $libraries['linkedfrom'] as $library}
   <li>
      {$library_details = $heurist->getRecord($library)}
      {$library_details.f1}
   </li>
   {/foreach}
</ul>
```

Feel free to copy that code into your own Custom Report and make appropriate modifications. Here is a line-by-line breakdown of the code:

- Libraries holding this book: ☚ This creates a heading for the list of libraries. You could also use a subheading element such as <h2> or <h3>
- ☚ This tag begins the bullet point list. Every item inside it will be included in the list. Every such item should be enclosed in <li> tags.
- {$libraries = $heurist->getLinkedRecords($r.recID, 55, 'linkedfrom')} ☚ This line fetches information about all the libraries linked to the current book. Here is a more detailed breakdown:
- $libraries ☚ The name of the variable where you will store all the libraries' ID numbers
- $heurist->getLinkedRecords ☚ The method for finding linked records, which is stored inside the $heurist object
- $r.recID ☚ The record ID of the current record you are looking at, which is assumed to be a book for this example
- 55 ☚ The RecordTypeID for the 'Library' type in this database. By putting this 55 here, you are telling Heurist only to look for *Libraries *that point to this book, as opposed to *Bookshops *or *Persons *or any other record type that may also point to Books in your database. To find the Record Type ID for a particular record, go to the Record Types tool in the Design Menu . If you don't provide a number, then Heurist will simply retrieve every record connected to this one. If you wish to search for multiple record types, you can provide an array in square brackets, e.g. [55, 66, 81].
- 'linkedfrom' ☚ This tells Heurist only to look for records that *point to *Books (i.e. to find records that this Book is *linked from *). You can also ask Heurist to find all records 'linkedto' this record. If you don't provide Heurist this clue, then it will simple find all records linked to this Book, whether it is the other record that points to the book, or the book that points to the other record.

- {foreach $libraries['linkedfrom'] as $library} ☚ Loop over each library that this book is linked from, and do something each time
- ☚ Create a new bullet point
- {$library_details = $heurist->getRecord($library)} ☚ Retrieve the current library's details
- {$library_details.f1} ☚ Put the library's name in the bullet point
- ☚ The bullet point is now finished
- {/foreach} ☚ That is all we want to do with this library – now go back to the start of the 'foreach' loop and do the same again for the next library, until all a dealt with
- ☚ After creating a bullet point for each library, close the list.

Related Records

A similar problem is posed by Record Relationships. These are complex interrelationships between records, and are not actually stored in the records themselves. Instead, there is a seperate table in the underlying database, which stories information about every Record Relationship. If you wish to retrieve this relationship data, we provide the $heurist->getRelatedRecords method. Let's say you are building a new custom report, displaying information about authors in your Books database. If you wished to display information about an author's relatives, you could write:

```
<p>Author's relatives:</p>
<ul>
   {$relatives = $heurist->getRelatedRecords($r)}
   {foreach $relatives as $relative}
   <li>
      {$relative.recRelationType} : {$relative.f1}
   </li>
   {/foreach}
```


This example is very similar to the getLinkedRecords example, so I will just pick out a few details that are different:

- {$relatives = $heurist->getRelatedRecords($r)} ☚ This fetches every record that is directly related to this record ($r), and stores the information in a new array called $relatives.
- {foreach $relatives as $relative} ☚ Now we loop over the array, to create a bullet point for each relative
- {$relative.recRelationType} ☚ All relationships have a RelationType, e.g. 'isMotherOf' or 'wasParticipantIn'. You can retrieve this information with .recRelationType
- {$relative.f1} ☚ Assuming that the $relative is a Person, this would insert their surname into the report
- {$relative.recRelationType} : {$relative.f1} ☚ Taken together, this would insert the type of relationship, a colon and then the surname of the relative into the report, e.g. isMotherOf : Smith.

**NB: **As you can see, there is no need to use $heurist->getRecord when using the $heurist->getRelatedRecords method. This method returns *all *the information about each related record, not just the record ID of each relative. Contrast this with the above examples of Record Pointers and Linked Records.

Examples

- I want to use the title (or the family name) of the Person who was interviewed to insert in the Interview extract (Extract is child of interview is child of person). Interview has a pointer to Person that has a title (Family Name = field #1), so you first need to load the person record, then you can access the family name or other fields in Person.

```
{$person=$heurist->getRecord($f247.f15)} {* Person *}
{$person.f1} {*Family name *}
```

- How do you retrieve fields from the relationship record (as well as the related record). getRelatedRecords returns an array of related records with additional header fields: recRelationType*, recRelationNotes, recRelationStartDate, recRelationEndDate.

```
{$rel_record = $heurist->getRecord($Relationship.recRelationID)}
{$src_info = $heurist->getRecord($rel_record.f1160)}
Source de l'Information: {$src_info.recTitle}

{* Get infromation from the relationship record *}

{$rel_record = $heurist->getRecord($Relationship.recRelationID)}
{$src_info = $heurist->getRecord($rel_record.f1160)}
Source de l'Information: {$src_info.recTitle}
Start Date: {$rel_record.f10}
End Date: {$rel_record.f11}
```

Ameline, Marius

Relation ID:811 Qualité(s) : étudiant à Faculté des Sciences
Relation ID:813 Réside au(x) : 20 rue Cujas
Source de l'Information: Registre AAM 40, BIS (1891-1893) Start Date: 1111 End Date: 9999

Sorting related records

In smarty reports, when dealing with a {foreach} loop calling child records, you may need to order the resulting set based on a specific variable/field from the child record eg. producing a list of child records ordered alphabetically by author.

```
{* Bibliographic references *}
{if ($r.f1016s)}
{$bibs=array()}
{foreach $r.f1016s as $bibRef name=bibLoop}
```

```
      {$reference=$heurist->getRecord($bibRef)}
       {$bibs[$reference.recID] = $reference.recTitle}
      {/foreach}
      {capture}{asort($bibs)}{/capture}
    <section class="references">
      <p><strong>Bibliographical References:</strong></p>
      <ul>
      {foreach $bibs as $bib_id=>$bib_title name=bibLoop2}
        <li>{$bib_title}
<a href=https://Heurist.Huma-Num.fr/judaism_and_rome/view/{$bib_id}
  target=_blank>view</a></li>
      {/foreach}
      </ul>
    </section>
    {/if}
```

V2 - > r in second for loop can be used in the same way as in any other for loops of records

```
$repeatsorted=array()}
  {foreach $repeat as $item name=valueloop}{* *}
        {$item=$heurist->getRecord($item)}
        {$repeatsorted[$item.recID] = $item.recTitle}
   {/foreach}
   {capture}{asort($repeatsorted)}{/capture}

  {foreach $repeatsorted as $itemsorted name=valueloop}{* *}
    {$r=$heurist->getRecord($itemsorted@key)}
{/foreach
```

***To get info from the relationship record ***

(I've added this to z_Ian_Text report):

Use h6-alpha

{* Get infromation from the relationship record *}

{$rel_record = $heurist->getRecord($Relationship.recRelationID)}

{$src_info = $heurist->getRecord($rel_record.f1160)}

Source de l'Information: {$src_info.recTitle}

Start Date: {$rel_record.f10}

End Date: {$rel_record.f11}

I have put in rubbish dates 1111 and 9999

getRelatedRecords returns an array of related records with additional header fields: recRelationType, recRelationNotes, recRelationStartDate, recRelationEndDate.

Note that when using getRelatedRecords and getLinkedRecords, it is not possible to detect what relationship marker field generated the particular relationship. We don't keep this info. You may filter out the required record by rectype and relation type

Detecting if a linked record is visible to public

- Detection, in a custom report, whether a linked record is visible to the public

```
**{foreach $r.f1107s as $f1107 name=valueloop}{\* Other sources \*}**
  **{$source=$heurist-\>getRecord($f1107)}**
  **{if ($source.recNonOwnerVisibility=='public')}**
```

  or: {if ($source.recIsVisible!==false)} {* Hide non-public related sources if not logged in *}

Advanced HTML, CSS and JavaScript

To unlock the full power of the Custom Report tool, you need to have CSS and JavaScript enabled for your database. To do this, please contact your server administrator. On the Sydney and Huma-Num servers, the administrator is ian.johnson@sydney.edu.au . If you are using a hosted version of Heurist at another institution, you will need to inquire there about who has adminstrative rights.

Along with HTML, JavaScript and CSS are the building blocks of the web. JavaScript is a fully-featured programming language with inbuilt tools for interacting with web pages through the Document Object Model (the DOM). CSS (or 'Cascading Style Sheets') is a simple formatting language that allows you to describe how you would like different page elements to be formatted.

There are many ways you can embed JavaScript and CSS into a Heurist website. For a full discussion, please visit the JavaScript and CSS pages of this help system.

Once you have enabled JavaScript and CSS, you can structure your reports using more advanced features.

Note that the custom JS and CSS defined at the site or page level (in CMS Home or CMS Menu_page) are not applied to custom reports. You must add the needed CSS and JS code directly in the report.

Note that you will not be able to use php code and functions within smarty on Heurist. Most php functions have been restricted for security issue. Please contact the Heurist development team should you need to use php code.

Using Advanced HTML Elements

By default, you are able to use the following tags to structure your Custom Report:

- <h1> - <h6> for headings
- <p> for paragraphs
- <a> for links

- for bullet points and <ol> for numbered lists, along with the crucial <li> tag for each item in the list
- for spans (e.g. for highlighting particular text)
- for making text bold, and for italicising it
- for divisions
- <table> for tables. There are many other tags that need to be used to make tables work. The most important are <th> , <tr> and <td> , which allow you to define table headings, rows and datapoints. Click though the link to see information about other more advanced features of html tables.
- <img> , <audio> and <video> elements introduced using the Wrap Function .

Once you have enabled JavaScript and CSS, however, you can consider using more advanced HTML tags to structure your report. Some of these elements include:

- <article> – This element is ideal for wrapping a single result. For instance, if your custom report will output a list of Persons, the results for each Person will be inside an <article> element. This helps screen readers and search engines interpret the structure of your page. NB: Each article should have exactly one <h1> element inside it, for the 'title' of the article.
- <section> – Divisions are arbitrary elements, than can serve any number of roles. If you wish to deliberatly divide the content of your report into sections, then the section tag can be a good choice.
- <details> – Using a details element, you can easily create collapsible elements on your page. To change the animation of the element, you will need to use CSS.
- <dl> – A 'description list' provides a natural way to display labelled data. For example, if you wish to elegantly display the name, age and birthplace of a person, then a description list can provide a simple solution.

Enabling JavaScript and CSS

Any script tags and inline JavaScript are stripped out by the HTML purifier by default (we currently use the HM HTML purifier). Databases can be given permission to use custom JavaScript by requesting the system administrator to add their database to the list within js_in_database_authorised (example file available within the movetoparent directory).

Style tags are also removed by the HTML purifier, but inline styling is retained. To keep style tags your database needs to be added to js_in_database_authorised.

Additional styling from the website’s home page is also added to the custom report, if allowed.

J’ai créé un custom report avec du JS/Jquery (qui a été activé - base SF_ScriptaManent_Dev).
Il comprend surtout des petites fonctions qui permettent par exemple de montrer/cacher des sections au clic sur un bouton
Tout se passe bien quand j’affiche mes résultats en mode inline (voir capture) – le JS et le CSS sont bien pris en compte.
Par contre, si je demande l’affichage sous forme de modale, le JS et le CSS ne sont plus du tout pris en compte. J'ai le même problème lorsque je clique sur un lien pour aller sur un autre fiche en relation, peu importe le mode d'affichage (sur une nouvelle page ou dans une modale).
One of THE most powerful features of Heurist is the ability to modify record structures – not just the fields being
J’ai essayé de placer mes fonctions JS au niveau du site et non du custom report, mais ça ne change rien et je ne vois pas comment résoudre ce problème. Le custom report est bien appliqué mais toute sa mise en forme n’est pas prise en compte et j'obtiens donc un affichage brut. En pièce jointe une section exemple avec le JS/CSS actifs en inline et la version non customisée sur tout autre mode de visualisation.

Merci pour votre réponse. J'ai l'impression que c'est bien le JS + le CSS qui ne sont pas

pris en compte, puisque ce sont des classes CSS qui me permettent d'avoir des résultats sur 2 colonnes.

showReps.php - smarty report page runs without loading/initialization nearly all javascripts libraries. If you need to use jquery in your reports - define them explicitly in header of smarty template. I’ve added it

<html>
<head>
<script src="https://code.jquery.com/jquery-1.12.2.min.js" integrity="sha256-lZFHibXzMHo3GGeehn1hudTAP3Sc0uKXBXAzHX1sjtk="
crossorigin="anonymous"></script>
<script src="https://code.jquery.com/ui/1.12.1/jquery-ui.min.js" integrity="sha256-VazP97ZCwtekAsvgPBSUwPFKdrwD3unUfSGVYrahUqU="
crossorigin="anonymous"></script>
<link rel="stylesheet" type="text/css"
href="https://code.jquery.com/ui/1.12.1/themes/base/jquery-ui.css" />
<script>

Merci beaucoup, ça marche. J'ai aussi dû ajouter le CSS dans le header pour qu'il soit pris en compte en dehors de la visualisation en inline.
Du coup, ça a également répondu à une autre question que j'avais, qui était comment ajouter bootstrap au projet.

Where to place your CSS

We recommend placing your custom CSS at the top of the report wrapped within style tags.

Embedding Custom CSS

To embed CSS in your custom report, you can introduce <style> tags in the head of the report. These should ideally be enclosed in a {literal} command so that the

SMARTY engine will not get confused (in fact, it only rarely gets confused, but you should make sure anyway).

If you like, you can copy-and-paste the below code snippet into your report, immediately below the first <html> tag at the top of the template:

<head>
{literal}
<style>
/* Place all custom styles here */
</style>
{/literal}
</head>

You can also embed CSS in individual elements in your report. For example, the below code will center a paragraph and turn the text yellow:

This paragraph is now centered and coloured red.

This paragraph is now centered and coloured red.

Since 'inline styling' can seem convenient, but in the long run it is better if you place all the styling infoormation in one place, and control it as an integrated whole. For a deeper introduction to CSS, please see our CSS page.

Embedding Custom JavaScript

To embed JavaScript in a custom report, you can use a <script> tag. This can be a tricky task. Generally speaking, when you are getting started with JavaScript it is a good idea to place the <script> tag at the *end* of your report. The reason for this is that you don't want the user's browser to execute the JavaScript before all the other parts of the report have loaded. If you place the <script> tag at the *start *of your

report, then the user's web browser may try to execute all the JavaScript before the rest of the report is ready. It might try to change the colour or size of a particular image or paragraph, but the image or paragraph has not been loaded yet. This will cause an error and probably prevent the JavaScript from working.

If you wish to embed some JavaScript in your page, you can copy-and-paste the below code snippet, and place it at the end of your report, just above the final <html> tag:

<script>
{literal}

// Place all JavaScript here

{/literal}
</script>

For a fuller introduction to using JavaScript in a Heurist website, visit our JavaScript page.

JQuery in reports

showReps.php - smarty report page runs without loading/initialization nearly all javascripts libraries. If you need to use jquery in your reports - define them explicitly in header of smarty template. I've added it

<html>
<head>
<script src="https://code.jquery.com/jquery-1.12.2.min.js" integrity="sha256-lZFHibXzMHo3GGeehn1hudTAP3Sc0uKXBXAzHX1sjtk="
crossorigin="anonymous"></script>
<script src="https://code.jquery.com/ui/1.12.1/jquery-ui.min.js" integrity="sha256-VazP97ZCwtekAsvgPBSUwPFKdrwD3unUfSGVYrahUqU="
crossorigin="anonymous"></script>

<link rel="stylesheet" type="text/css"
href="https://code.jquery.com/ui/1.12.1/themes/base/jquery-ui.css" />
<script>

Adding Javascript

Heurist sanitises content to remove javascript which users might have inserted in html, for security reasons.

If you need to use Javascript in your web pages, please ask you server manager to enable it
by listing the name of the database in ..../HEURIST/js_in_database_authorised.txt on the server.

Example:
// Sep 2019: This file lists databases on this server which may include JS code in the CMS Home Page or CMS Menu records
// All other databases are excluded from executing such code. Order is unimportant.
balipaintings
johns_hamburg

ExpertNation
etc.

Note:

To add Javascript to a web page you need to put it in the special Javascript field in Website Header / Layout
Javascript embedded directly in the page will be filtered out even if it is authorised through the js_in_database_authorised.txt file.

Where to put your JavaScript

We recommend placing your custom JavaScript at the top of the report wrapped within script tags.

If the JavaScript is situational or requires a specific HTML element, e.g. a button or link, then place the JavaScript within script tags at the end of the report or after the specific HTML element.

Server path and database name

You can reference the server path and the database name in a smarty report as follows (in blue):

constant("HEURIST_BASE_URL")}/heurist/hclient/framecontent/recordEdit.php?db={$heurist->constant("HEURIST_DB")}&recID={$r.recID}" target=_blank>{$r.recTitle}

Op wo 18 sep. 2019 om 14:26 schreef Artem Osmakov <osmakov@gmail.com>:

Record URL

the recURL property seems to return nothing on anything I tried it on ({$r.recURL}, {$Relationship.recURL}, {$r.Relationship.recURL})

recURL is special header field. It becomes visible if mark "Show record URL on edit form:" in record type attribute window.

In case you wish to specify url for specific record

https://heuristref.net/h6-alpha/?db=johns_hamburg&fmt=html&recid={$r.recID}

1. whereas, in a for loop, {$Relationship.recTitle} works, {$Relationship.recRelationType} doesn't work (i.e., it does not seem to return anything). On the other hand, outside a for loop, {$r.Relationship.recRelationType} does work.

   In addition, I still do not know how to access the Person record from an Event in the Report editor. Persons are connected to Events through Actor entities. I can access the Actor through the "Relationship", but I do not know how I can access the Person linked to this Actor. In particular, I'd like to add the URL of the Person, not the Actor, to the report.
   No need in {$Relationship=$heurist->getRecord($Relationship)}. each entry in Relationships array is already a record.
   I've modified your report. Persons are linked to Actors. Thus need to use getLinkedRecords.
   This method has 3 parameters
   $rec - record id or record array - record to find records linked to or from this record
   $rtyt_ID - record type or array of record type to filter output
   $direction - linkedfrom or linkedto or null to return both direcctions
   method returns array of record IDs devided to 2 arrays "linkedto" and "linkedfrom"

Actors involved in this event:

   {foreach $r.Relationships as $Actor name=valueloop}{* Relationship Events->Actors *}

```
            <li>{$Actor.recID} {$Relationship.recTitle} (url:{$Actor.recURL})
(reltype:{$Actor.recRelationType})
             {* PV: How to make this refer to Person not Actor? *}
             {$Persons = $heurist->getLinkedRecords($Actor, 10, 'linkedfrom')}
             {$Persons = $Persons.linkedfrom}
             {foreach $Persons as $Person_ID name=valueloop2}{* Link Actor-
>Person *}
                {$Person=$heurist->getRecord($Person_ID)}
            <br>Person: {$Person.recID}  {$Person.recTitle}
             {/foreach}{* Person *}
            </li>
           {/foreach}{* Actors *}
           </ul>
```

Images

Multiple images in a smarty report

$r.f8_originalvalue - is array with full info about images (names, size, ids)

$r.f8 - is just an url to an image. Or comma separated list of urls. Like:

https://heuristref.net/h6-alpha/?db=balipaintings&file=f0b08e2d6742e01315cc4adb1255dc8f712ea573, https://heuristref.net/h6-alpha/?db=balipaintings&file=a28c126e2d7b23844f8fd06e9df659a6789f8d34

Thus, to access image urls you have either split $r.f8 to array

```
{$images = explode(',',$r.f8)}

{foreach from=($images) item=$s name=images}
```


{/foreach}

Or access image ids from $r.f8_originalvalue.

{foreach from=($r.f8_originalvalue) item=$s name=images}

{/foreach}

I believe the latter is reliable.

See Bali Paintings: test_art report. It has 3 options for file field

{$r.f8}{*Images (full Resolution)*}

{wrap var=$r.f8_originalvalue dt="file" width="300" height="auto"}{*Images (full Resolution)*}

{print_r($r.f8_originalvalue,true)}

First one returns comma separated list of file urls.

Second one generates 2 img tags for this field

Third options provides you full access to file data. $r.f8_originalvalue - is array that has all file properties

Array ([0] => Array ([ulf_ID] => 35448 [fullPath] => resources/haks/336a.jpg [ulf_ExternalFileReference] => [fxm_MimeType] => image/jpeg [ulf_Parameters] => mediatype=image [ulf_OrigFileName] => 336a.jpg [ulf_FileSizeKB] => 1203 [ulf_ObfuscatedFileID] => 04310a4cfd6883d63eda46e50021b36011f8912a [ulf_Description] => [ulf_Added] => 2015-03-13 16:05:48) [1] => Array ([ulf_ID] => 43315 [fullPath] => resources/earlyFiles/Haks336.jpg [ulf_ExternalFileReference] => [fxm_MimeType] => image/jpeg [ulf_Parameters] => mediatype=image [ulf_OrigFileName] => Haks336.jpg [ulf_FileSizeKB] => 196 [ulf_ObfuscatedFileID] => 36a8179bd143e2e26fd42e6ae13bf66f5fef4b77 [ulf_Description] => [ulf_Added] => 2016-11-08 21:13:08))

Mirador

Load mirador viewer into an iframe within a smarty report:

{wrap var=$r.f38_originalvalue dt="file" height="640" width="800"}

Show thumbnail and open mirador viewer in popup (if heurist is detected) or in new tab:

{wrap var=$r.f38_originalvalue dt="file" height="auto" width="300" mode="thumbnail" fancybox="1"}

Question: How does Herist know that an IIF Manifest is a manifest rather than just any old JSon file? (in fact it currently treats it as the latter in custom reports)
We can register either info.json (reference to local or remote IIIF server that describes particular IIIF image) or manifest.json (that describes set of media and their appearance).
On registration if mime type is application/json we loads this file and check whether it

is image info or manifest. For former case we store in ulf_OrigFileName “iiif_image”, for latter one “iiif”.
Dominique Stutzman:

I confirm, the integration of a iiif manifest URL in a "File" type field works fine; sometimes you have to change the MIME type to application/json.
Then a question: is it possible to import this particular type of "File(s)" in mass in the "Populate" menu?

In the individually added data, which is used to generate the thumbnail and the call to the Mirador widget, we have the following metadata:

<origName>_iiif</origName>
<mimeType>application/json</mimeType>
<origName>_remote</origName>
<mimeType>application/json</mimeType>
sometimes
<mimeType>text/html</mimeType>

IIIF

I've tested the method for displaying a viewer in a report and it works for an IIIF image. However, I couldn't get it to work for an IIIF manifest. I imagine there are some small changes to be made, could you tell me what they are? I need to display a manifest in the registry.tpl template.

Artem says, in blue:
(please let me know if you have any problem, and which one you used in the end, as it will be useful documentation):

There are 3 ways

1. Via wrap function (preferred)

   {wrap var=$r.f1200_originalvalue dt="file" width="1200" height="800"}

   2) Via direct manifest URL

   <iframe width=1200 height=800 src="https://heurist.huma-num.fr/h6-alpha/hclient/widgets/viewers/miradorViewer.php?db=pret19_test&recID=&url={urldecode($r.f1200)}"></iframe>

   3) Via file obfuscation ID {$r.f1200_originalvalue[0].ulf_ObfuscatedFileID}

   <iframe width=1200 height=800 src="https://heurist.huma-num.fr/h6-alpha/hclient/widgets/viewers/miradorViewer.php?db=pret19_test&iiif={$r.f1200_originalvalue[0].ulf_ObfuscatedFileID}"></iframe>

Embedding Mirador for IIIF images

- *t should work with this way*

{wrap var=$f1135.f1097_originalvalue dt="file" width="1200" height="800"}

However, since media is not registered as iiif manifest it shows it as a plain jpg image.

So there is another way:
{assign var='img_id' value=$f1135.f1097_originalvalue.0.ulf_ObfuscatedFileID}
*
Obfuscation ID: {$img_id}*
<iframe width=1200 height=800 src="https://heurist.huma-num.fr/heurist/hclient/widgets/viewers/miradorViewer.php?db=pret19_test&rec_ID=&iiif_image={$img_id}"></iframe>

- ..miradorViewer.php?db=dbname&iiif_image=d252a3fe145f0f9a5514a01688454ee36d20773d

  shows this media only. ..miradorViewer.php?db=dbname&q=ids:123 shows all

media for record

Using OpenSeaDragon in a custom report/website

J'ai installé une petite visionneuse (OpenSeadragon) dans un *customreport sur https://heurist.huma-num.fr/h6-alpha/?db=GrandFichier_RB*, report name OSD, pour zoomer de façon immersive dans une image. Cette "image" est la numérisation d'une archive déposée dans la base Heurist que j'appelle depuis un record nommé "fiche". Exemple ici de ce que j'aimerais que ça donne : https://codepen.io/Mathieu-Messager/pen/oggXOBV

Voici mon bout de code sous le Smarty embarqué dans Heurist, corrected for multiple images by Maël Le Noc :

<!-- VISIONNEUSE OpenSeaDragon-->

<script>
var viewer = OpenSeadragon({
element: "openseadragon",
prefixUrl: "https://openseadragon.github.io/openseadragon/images/",
tileSources:
[
{foreach $r.f1071_originalvalue as $fid name=valueloop}
{
type: "image",
url:" https://heurist.huma-num.fr/heurist/?db=GrandFichier_RB&file={$fid.ulf_ObfuscatedFileID} "
{*numérisation de la fiche*}

},

{/foreach}

],

collectionMode: true,

sequenceMode: true,

showNavigator: true,

});

```
\</script\>
\</div\>
```

Displaying multiple files

MF: In Custom Reports when a field of base type ‘file’ is repeatable, rather than returning an array, $heurist->getRecord returns a string.

Moreover, it returns a list of heurist URLs even If the files are external links. In Vincent’s example below, all the images are hosted externally, but when you get the URL of the image in the Custom Report, you receive a Heurist URL with ?file=XXXXXX. Is this intentional? The behaviour when a file field is *not *repeatable is quite different – you receive the URL for the external file.

AO: If you add {print_r($r, true)} to you smarty you will see the output. For file fields we have 2 entries

fXXX - is just a string with comma separated urls and fXXX_originalvalue contains array with ALL fields. If you prefer use external url {$r.f39_originalvalue[0]['ulf_ExternalFileReference']}

[f39] => http://127.0.0.1/h6-ao/?db=osmak_9b&file=884071c151ae247f9b6912f5e6b5b3df5853a770,

http://127.0.0.1/h6-ao/?db=osmak_9b&file=31a7dca1c9e146f1e5c4213e89beba9ec9690926

[f39_originalvalue] => Array (
[0] => Array (
[ulf_ID] => 89
[fullPath] => file_uploads/ulf_89_IMG-ed49a7c0b77925453b7b83640ceee026-V.jpg
[ulf_ExternalFileReference] =>
[fxm_MimeType] => image/jpeg
[ulf_Parameters] =>
[ulf_OrigFileName] => IMG-ed49a7c0b77925453b7b83640ceee026-V.jpg
[ulf_FileSizeKB] => 168
[ulf_ObfuscatedFileID] => 884071c151ae247f9b6912f5e6b5b3df5853a770
[ulf_Description] => [ulf_Added] => 2022-02-11 15:46:02 [ulf_MimeExt] => jpg)
[1] => Array ([ulf_ID] => 90 [fullPath] => file_uploads/ulf_90_IMG-a3807536a83651e2bd50e88424858586-V.jpg [ulf_ExternalFileReference] =>
[fxm_MimeType] => image/jpeg [ulf_Parameters] => [ulf_OrigFileName] => IMG-a3807536a83651e2bd50e88424858586-V.jpg [ulf_FileSizeKB] => 81
[ulf_ObfuscatedFileID] => 31a7dca1c9e146f1e5c4213e89beba9ec9690926
[ulf_Description] => [ulf_Added] => 2022-02-11 15:46:14 [ulf_MimeExt] => jpg))
Besides use wrap function to output image, video or audio player

{wrap var=$r.f39_originalvalue dt="file" width="300" height="auto"}

Moreover, "wrap" function outputs ALL images. So, I've added

{wrap var=$f1145.f1122_originalvalue dt="file" width="600" height="auto" auto_play="0" show_artwork="0"}

inside "liasse" loop

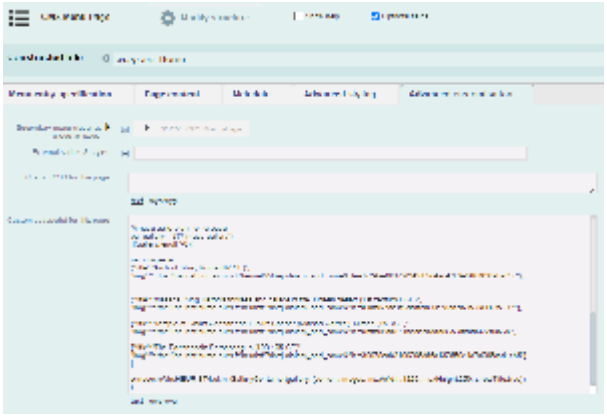
./viewers/smarty/showReps.php?db=leand_khmerman&w=a&q=ids%3A2467&publish=1&debug=0&template=manuscript%20details.tpl

If you wish to treat images just add another loop for array $f1145.f1122_originalvalue

Image carousel

Note: JS must be enabled by your system adminstrator for your database (an entry in the permit javascript file in the HEURIST root directory)

An image carousel can be added to a page in a website by placing suitable JS code in the custom JS field, as shown below.
See also https://www.w3schools.com/css/css_image_gallery.asp for an alrernative CSS method.



//image gallery on home page
var gallery = $('#image-gallery');
if(gallery.length>0){

var images = [
{"title":"Arch of Titus, Rome (82 CE)",
"img":"https://heurist.huma-num.fr/heurist/?db=judaism_and_rome&file=1c29ae0f2b3d245fb5d4ec47b9e286f9369

ba03c"},

{"title":"Masada, King Herod's fortress and palace in the Judean desert (1st century BCE)",
"img":"https://heurist.huma-num.fr/heurist/?db=judaism_and_rome&file=646583fae1f0cbafe699b78a5c62b28d4136329f"},

{"title":"Temple of Gaius Caesar and Lucius Caesar (Maison Carree), Nimes (16 BCE)",
"img":"https://heurist.huma-num.fr/heurist/?db=judaism_and_rome&file=0bff598aa8716da5cada589c2dfcbf5372f9b239"},

{"title":"The Portonaccio Sarcophagus (190-195 CE)",
"img":"https://heurist.huma-num.fr/heurist/?db=judaism_and_rome&file=30978cab2499206d66c132659e4c7a986ccd1eb5"}
];

window.hWin.HEURIST4.ui.initGalleryContainer(gallery, {content:images, maxWidth:1220, maxHeight:250, showTitle:true});
}

Exporting geo.X and geo.Y

How do I export geo.x and geo.y rather than a WKT for the locations

X, Y {$r.f134.f28_geojson['coordinates'][0]}, {$r.f134.f28_geojson['coordinates'][1]}

Video

Video can be embedded by specifying the URL as a remote file in a File field

webpage: **3D objects** *id 782*

3D objects

Heurist now provides support for 3D objects (2 Dec 2022) using 3DHOP and ???

Preliminary documentation

Obj file should be converted to nxs and compressed to nxz with Nexus utilities. Then nxz can be uploaded and registered.

Note: need to add nxz extension to the database usinf Admin > Manage Files and link at top right.
This is not yet added to all databases.

3dhop viewer requires direct access to the 3d object file. Add the following .htaccess to the upload directory containing the file (normally file_upload).

order allow,deny
<Files ~ "\.(nxz|nxs|ply)$">
allow from all
</Files>

Further documentation to be provided soon - please bug us if not updated within a month (2 Dec 2022)

3D Viewer embedding

1) To redirect to 3d viewer need to specify parameter mode=page

https://heurist.huma-num.fr/h6-alpha/?db=MBH_Manuscripta_Bibliae_Hebraicae&file=6435acd4e132673956e0962ab2

dcafe0ed0ef429&mode=page

2) In Smarty the standard wrap function {wrap var=$r.f38_originalvalue dt="file" height="640" width="800"}
should generate

<a href="
./?db=MBH_Manuscripta_Bibliae_Hebraicae&file=6435acd4e132673956e0962ab2dcafe0ed0ef429&mode=page " target="_blank" rel="noreferrer noopener"><img src="/?db=MBH_Manuscripta_Bibliae_Hebraicae&thumb=6435acd4e132673956e0962ab2dcafe0ed0ef429">

I've modified Template 3d-models-page.tpl for FBX:

```
version 1 :{wrap var=$r.f1128\_originalvalue dt="file"}\<br\>
            version 2:
          \<a

href="{HEURIST\_BASE\_URL}?db={HEURIST\_DBNAME}\&mode=page\&file={$3dObject.f1128\_originalvalue\[0\].ulf\_ObfuscatedFileID}"
                target="\_blank"\>3d viewer\</a\>\<br\>

            version 3:
          \<a
            href="{$3dViewer}{$3dObject.f1128\_originalvalue\[0\].ulf\_ObfuscatedFileID}"
                target="\_blank"\>
```

Handling 3D objects.

Heurist now provides the O3DV and 3DHOP viewers. 3DHOP is useful for nxz - since this format can be produced from obj and is ten times smaller - and will be shown for this format. For oteh formats o#DV will be used. O3DV supports nearly all known formats: 'obj', '3ds', 'stl', 'ply', 'gltf', 'glb', 'off', '3dm', 'fbx', 'dae', 'wrl', '3mf', 'ifc', 'brep', 'step', 'iges', 'fcstd', 'bim'

Preliminary documentation

Obj file should be converted to nxs and compressed to nxz with Nexus utilities. Then nxz can be uploaded and registered. nxs files can be up to 10 times smaller than obj files.

Nexus can be downloaded from
https://www.3dhop.net/download.php or from github
http://vcg.isti.cnr.it/nexus/

nxsbuild 40microns.obj -o 40microns.nxs
nxsedit 40microns.nxs -z --compress

Note: need to add nxz extension to the database using Admin > Manage Files and link at top right. This is not yet added to all databases bugt should be in all new databases in 2023.
3dhop viewer requires direct access to the 3d object file. Add the following .htaccess to the upload directory containing the file (normally file_upload).
order allow,deny
<Files ~ "\.(nxz|nxs|ply)$">
allow from all
</Files>

PDFs

To open PDFs inline in a custom report :

- Database must be in js_in_database_authorised.txt
- Need to use wrap function {wrap var=$r.f38_originalvalue dt="file" width="300" height="auto" mode="link" fancybox="1"} Mode can be “link” or “thumbnail”
- It adds all required scripts and style into <head> automatically

Date rendering

est-il possible de les afficher autrement que sous la forme "11 Apr 1916" ?

- En Record View et par defaut en Custom reports nous avons choisi ce rendement pour faire plus lisible.
- En Data entry nous préférons ISO date.
- En Custom Reports (qui utilise Smarty) on peut avoir ce qu'on veut,
  pe. {$r.f10|date_format:"%D"} --> 04/12/55
  voir: https://www.smarty.net/docs/en/language.modifier.date.format.tpl

Changing date language (discussion)

Le 21/09/2022 à 10:53, Régis Witz a écrit :

Rebonjour,

Effectivement, d'après ce que je vois des résultats de votre *facet* "Doctorants", vous utilisez bien un format du type "JJ MMM AAAA" français ; cependant, le nom des mois est anglais (par exemple "Feb" au lieu de "Fév").
De ce que j'en sais, Smarty (le langage dédié servant en grande partie au formattage des custom reports) ne permet pas ce genre de configuration, ce qui semble normal : en général, les noms de mois sont déterminés en fonction de la locale (~le langage) du système, qui est actuellement en anglais.

Hors Heurist, je vous dirais "utilisez une directive PHP" (voir cette discussion ; en résumé rajouter quelque chose du genre setlocale(LC_TIME, fr_FR.utf8);), mais je ne suis pas sûr si Heurist vous laisse la main là-dessus. À tester ou attendre une réponse de quelqu'un de plus éclairé que moi ... :/ ;)

Une alternative à votre disposition (pour "cacher la poussière sous le tapis") peut être d'utiliser un pur format numérique, genre JJ/MM/AAAA, comme ça votre "18 Feb 1780" deviendrait "18/02/1780" et hop, ni vu ni connu □□ ...

Cordialement, Régis

Le 9/21/22 à 10:13, Sébastien Clément a écrit :

Bonjour Régis,

Merci pour cette réponse rapide !

On utilise déjà les reports : https://eslettres.bis-sorbonne.fr/?db=eslettres&website&id=18050&pageid=36122 mais ça ne fonctionne pas...

J'ai raté une étape ou c'est plus compliqué qu'il n'y parait ?

Bien cordialement,
Sébastien

Le 21/09/2022 à 10:08, Régis Witz a écrit :

Bonjour Sébastien,

Une possibilité est d'utiliser un *custom report*, que vous pouvez configurer dans l'onglet *report* de la vue détaillée correspondant à votre recherche (zone toute à droite).
Ça vous permettra ainsi de configurer non seulement la manière dont vous affichez vos dates, mais aussi la manière dont vous affichez ... ben, tout ce qui concerne un type de donnée particulier.

Cordialement,

Régis

Le 9/21/22 à 07:19, Sébastien Clément a écrit :
Bonjour,

Je n'ai pas trouvé à quel endroit paramétrer l'affichage des dates ?

Elles s'affichent sous la forme 1 May 1900, nous aimerions les afficher en français...

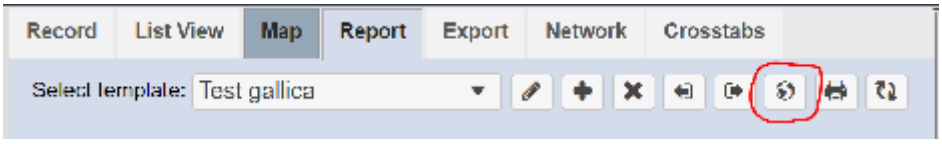
Merci et bonne journée à tous,

Sébastien

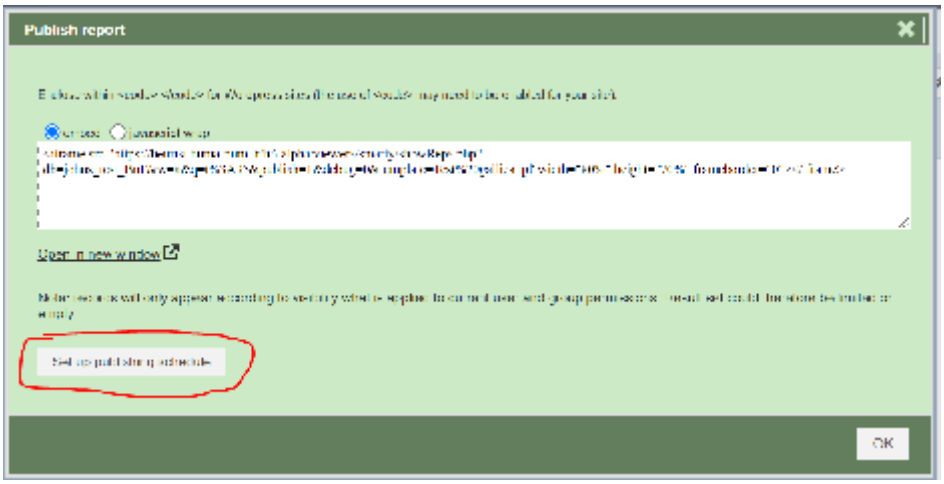
Publishing: report (re)generation

The Smarty report formatter can be quite slow for large and complex reports. However, where these reports are generated repeatedly one has the option to generate the result and save it so that it can simply be loaded from html.

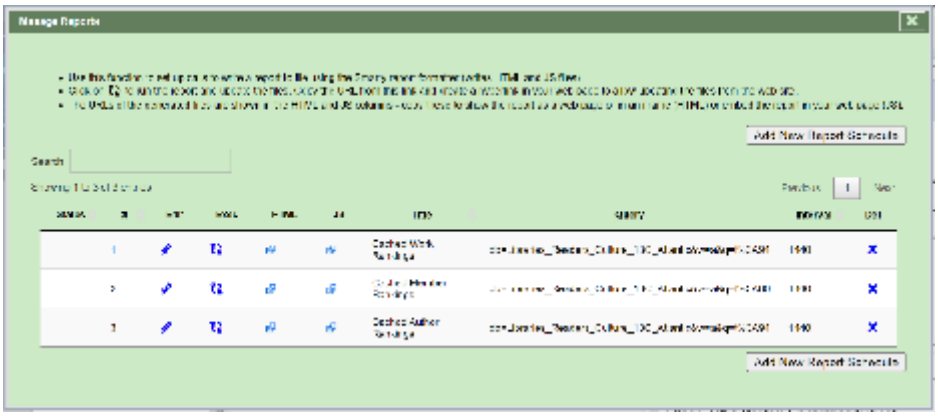
First set up the report you want, the click on the globe icon above the report:



Then click on Set up publishing schedule:

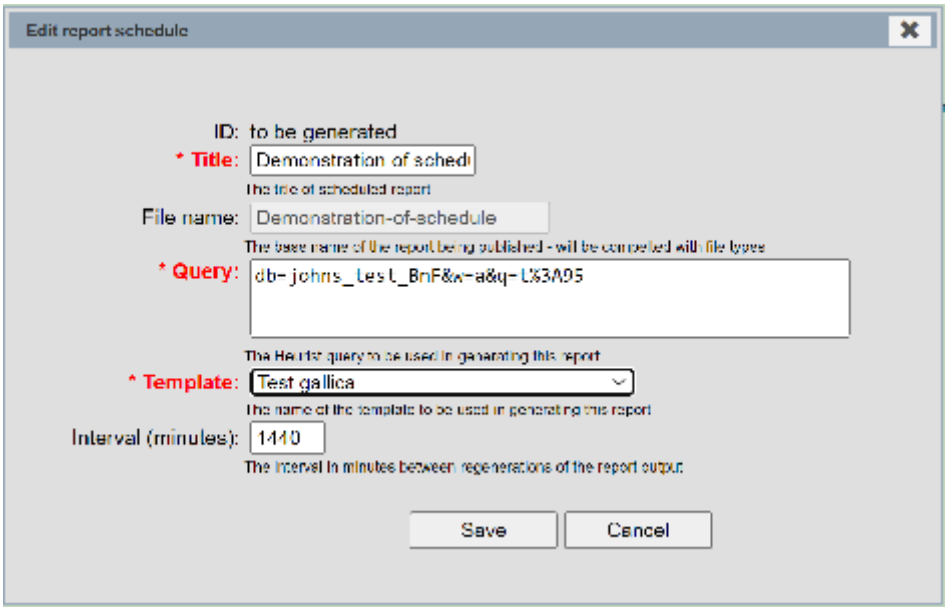


Finally, add a new report schedule:



and set the values (file name is provided automatically)

1440 minutes corresponds to a daily update



Note: as of 19/5/2022 this function, developed many years ago and relatively little used, works well but the automatic triggering of the file refresh is not operational. If you require this, please send us an email (support at heuristnetwork dot org).

What is the methodology on creating saved custom report output?

- ~~Michael thinks the custom report output is cached, so it can take 2 or 3 minutes to generate (for some reports on Libraries database on Huma-Num) the first time it is called but then will load from the saved version.~~

- ~~But my memory is you have to manually generate a saved version and then reference that version, and it is only updated on a manual request like the one below.~~
- ~~I am assuming you cannot run the update of a saved report from the command line, so it cannot be called from a cron job. Am I correct? For example this will update one of the reports for the Libraries database, but if I understand rightly must be run by a logged in user on the Libraries database: https://heurist.huma-num.fr/h6-alpha/viewers/smarty/updateReportOutput.php?db=Libraries_Readers_Culture_18C_Atlantic&publish=1&id=1~~

/viewers/smarty/updateReportOutput.php has the following parameters

ID - rps_ID from usrReportSchedule (i.e. explore tab -> report tab -> globe icon -> schedule publishing reports), if “id” is 0 it triggers sequential refreshing of all the reports

/viewers/smarty/updateReportOutput.php has the following parameters
ID - rps_ID from usrReportSchedule, if “id” is 0 it triggers sequential refreshing of all the reports
PUBLISH accepts the following values

3 - it takes the existing report from generated-reports/ folder. There is rps_FilePath, although it is not defined via UI. If report does not exist it regenerates report with value “1”

2 - regenerates report without output

1 - generates report and outputs it (DEFAULT)

0 - generates report and outputs message with links

MODE

Html - default

Js - html is wrapped into js document.write

I just read Artem’s summary – there is actually a detail that I think he may have overlooked. If you call the updateReportOutput script with publish=3, there is a little section that appears to regenerate the report in the background if the interval has elapsed:

```
if($row['rps_IntervalMinutes']>0){
        $dt1 = new DateTime("now");
        $dt2 = new DateTime();
        $dt2->setTimestamp(filemtime($outputfile));
        $interval = $dt1->diff( $dt2 );
        if($interval->i > $row['rps_IntervalMinutes']){
            $publish = 2;
        }
```

You see it changes the $publish parameter to 2, which should in principle cause it to regenerate the report – though I think it may serve the user the old version and simply save the regenerated version for the next visitor. That’s actually not a bad approach as it maintains the download speed.

Functions available from $heurist

- baseURL: Get the URL base for the current server
- getRecords: Perform a standard record search
- Parameters:
- Query => Heurist query [Required]

- Current Records => Record id or Recordset [Optional]
- Returns:
- Array of record IDs from query results
- NULL on error
- getRecord: Retrieve record metadata and field values
- Parameter:
- Record ID [Required]
- Returns:
- Array of record details
- An empty array
- NULL on error
- getLinkedRecords: Retrieve records linked to the provided record, whether by record pointer or relationship marker field(s)
- Parameter:
- Record ID [Required]
- Record Type ID: to filter by a specific entity/record type [Optional]
- Direction: retrieve only those linked from or to the provided record {‘linkedfrom’, ‘linkedto’, null} [Optional]
- Returns:
- 2D array of linked records array(‘linkedfrom’ => array(), ‘linkedto’ => array()), these returned records will only contain metadata values; e.g. ID, type ID, last modified, etc…
- getRelatedRecords: Retrieve record relationship details for the provided record (specifically the Record relationship #2-1 records)
- Parameter:
- Record ID [Required]
- Returns:
- Array of relationship details including; relation type, notes, start and end dates
- An empty array
- getRecordsAggr: performs an aggregation of record values

- Parameters:
- Functions: 2D array of field IDs and function labels, e.g. array(array(10, ‘sum’), array(21, ‘count’), …); available functions are avg, sum, and count [Required]
- Query or Record ID: Either a Heurist query or an array of record IDs [Required]
- Current Records => Record id or Recordset [Optional]
- Returns:
- Array of aggregated values
- NULL on no aggregation
- getTranslation: Get translated text values for terms, record types, and base fields
- Parameters:
- Entity: Which entity to retrieve a translation for {trm, rty, dty} [Required]
- Entity ID: Array of record type, base field, or term IDs [Required]
- Field: Which translated value would you like, e.g. for terms would you like the translated label (label or trm_Label) or description (desc or trm_Description) [Required]
- Language Code: The 3 letter ISO code identifying the desired language [Required]
- Returns:
- The translated text, or an array of translated text
- getFileField: For files, get a specific field value
- Parameters:
- File details: Array of Obfuscated File IDs (the value typically returned for File fields) [Required]
- Field: Which field to return, defaults to name {name, description, caption, copyright, owner, type} [Optional]
- Returns:
- The requested field’s value, or an array of field values

On providing a field not handled, the original provided details will be returned

Loading searches in a new web page

Heurist includes the query as a parameter at the end of the URL to allow bookmarking a page + the query carried out on that page.

If an interger number is specified as the URL, Heurist will navigate to the page identified

<a=”[int]”>It navigates to page id

<a=”q=f:1085:{$keyword.internalid}”>It executes the specified query

To execute this query on a different page you need to specify “Info directs to page” in the widget property

from public-record.tpl in https://heurist.huma-num.fr/h6-alpha/?db=judaism_and_rome

```
{$all_records_page =
"{HEURIST_BASE_URL}?db={HEURIST_DBNAME}&website&id=7&pageid=5943"}
    <p><strong>Keywords in the Original Language:</strong></p>
    {foreach $r.f1118s as $keyword name=kwLoop}
     <button>
<a href="{$all_records_page}&q=f:1118:{$keyword.internalid}"
   data-query="f:1118:{$keyword.internalid}" data-search-page="5943"
   data-search-realm="search_group_1">
        {$keyword.label}</a>
</button>
    {/foreach}


    <p><strong>Thematic Keywords:</strong></p>
    {foreach $r.f1085s as $keyword name=kwLoop}
```

<button>
<a href="{$all_records_page}&q=f:1085:{$keyword.internalid}"
data-query="f:1085:{$keyword.internalid}" data-search-page="5943"
data-search-realm="search_group_1">
{$keyword.label}
</button>
{/foreach}

List of allowed php functions for Smarty (Custom reports)

is in viewers/smarty.smartyInit.php

// disable PHP functions except listed, set to null to disable ALL
public $php_functions = array('isset', 'empty', 'constant', 'count', 'escape',
'sizeof', 'in_array', 'is_array', 'intval', 'implode', 'explode', ...

Custom report display size

- JS for avoiding multiple scroll bars (resizing of the iframe for reports) -
  <11/5/23: Maël to supply, or Michael's version, but Maël specifying the issue for Artem to look at, so may have been centrally fixed>
  To automatically resize iframes (especially custom reports, which are rendered in an iframe) rather that having a fixed height, here are two options :
  1) The one developed by Michael
  Add the following script to “customization javascript” of the CMS_Home record AND add the css class “auto-resize-custom-report” in the site editor to each of the custom report widgets you want ot resize
  // RESIZE EMBEDDED CUSTOM REPORTS BASED ON CONTENT
  const mainContentNode = document.querySelector("#main-content");
  const observerOptions = {

```
childList: true
};
function resizeIframe(elem) {
$(elem).css("height", elem.contentWindow.document.body.scrollHeight+100);
}
function attachCustomReportListeners() {
// Find embedded custom reports in new page
let customReportContainers = $(".auto-resize-custom-report");
// Attach onload and resize listeners to each one to resize
if (customReportContainers.length > 0) {
customReportContainers.children("iframe").each((idx, elem) => {
$(elem).on("load", () => {
resizeIframe(elem);
});
$(elem).on("resize", () => {
resizeIframe(elem);
})
});
}
}
function refreshIframeResize(mutationList, observer) {
mutationList.forEach((mutation) => {
switch (mutation.type) {
case 'childList':
attachCustomReportListeners();
}
});
}
// reapply custom report resizer each time new page is loaded
const customReportObserver = new MutationObserver(refreshIframeResize);
```

customReportObserver.observe(mainContentNode, observerOptions);

attachCustomReportListeners();

2) the one I’ve used

Add the following script to “customization javascript” of the CMS_Home record

function ajdustIframeH() {

setTimeout(() => {

$('.autoiframe iframe').height($('.autoiframe iframe').contents().find("body div").height()+50);

$('.autoiframe iframe').attr("scrolling", "no");

$(window).scrollTop(0);

}, 50);

};

$(document).on('iframeready', ajdustIframeH);

And add the following script in each of the custom report template you want to resize

<script>

window.onload = function() {

var w = window;

if (w.frameElement != null

&& w.frameElement.nodeName === "IFRAME"

&& w.parent.jQuery) {

w.parent.jQuery(w.parent.document).trigger('iframeready');

window.parent.scrollTo(0,0);

}

};

</script>

The report formatter in use = Examples

@todo: find some good examples

Developing a WYSIWYG version

We hope to introduce a (semi-) WYSIWYG report formatter in 2026. It will most likely be based on the current TPL report format to avoid migration difficulties, but will replace many of the obscure code snippets with a clickable widget marker which will pop up a form with all the settings currently embodied in a section of code.

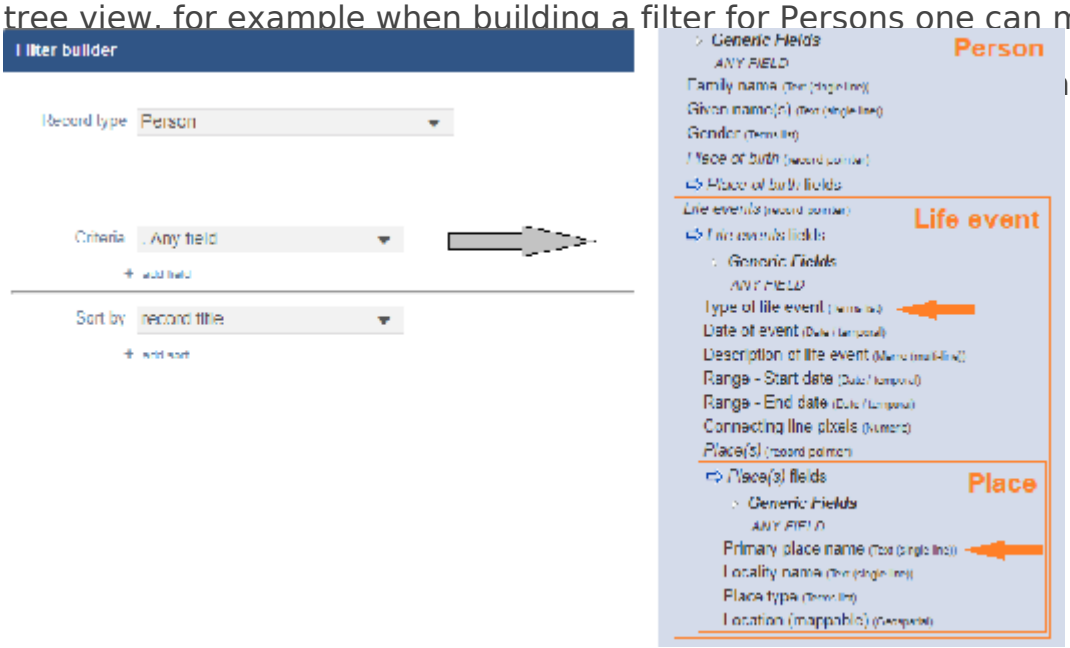
This will not be entirely WYSIWYG due to the difficulty of rendering loops, conditionals, lists and so forth, but will make the editing much easier and more or less foolproof.

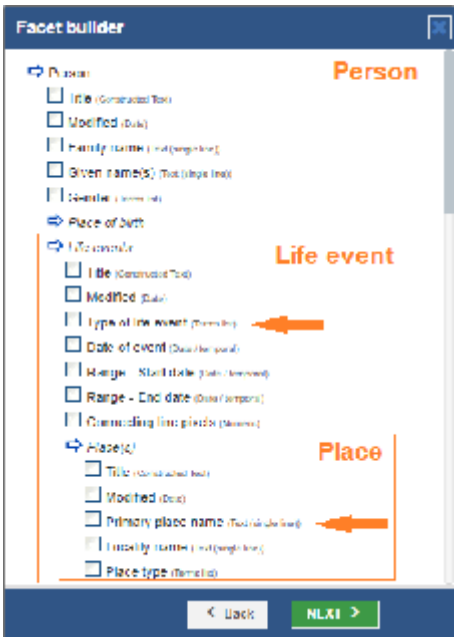
Watch this space (or at least, the interface!).

Media rendering

webpage: **Adding Javascript** *id 664*

When building these we will be able to select the fields in connected entities from a tree view, for example when building a filter for Persons one can make selections of their Life Events (left).





Note: the simple filter builder (left), facets builder (right), calculated field and custom reports editor each use a slightly different form of tree, due to slight differences in requirements (eg. multiple selection in the facets builder), but the principle is the same.

Custom Reports Cookbook

On this page, we introduce a number of 'recipes' for commonly-requested features in Custom Reports, and also provide some 'recipes' for writing clearer, cleaner, easier-to-maintain reports.

- Create a 'detail' or 'single record' view
- Create a custom 'display' function
- Limit the number of reports
- Eliminate annoying whitespace
- Create an interactive table view
- Link multiple reports together
- Reuse code in a systematic way

Create a 'detail' or 'single record' view

There are two main ways you can display records: you can display many at once, or you can display one at a time. A Custom Report can be used for either purpose. In the website editor, you can control whether a custom report will display one or many records by setting the 'display selected record only' option in the custom report widget .

If you are designing a custom report to display a single record only, you can remove the {foreach} loop that is included by default in the custom report widget. This can make your code easier to understand, and can also ensure that the report doesn't accidentally show many records when it is only designed to show one at a time.

If you wish to do this, you can delete the {foreach} loop and repalce it with the following code:

{$r = $heurist->getRecord($results[0])}

Now the $r variable just contains the information about the first record in $results, and there is no need for the {foreach} loop.

Create a custom 'display' function

You may find as you build a report that you wish many fields to be displayed in the same way. Perhaps you would like each field to have a heading in bold. Perhaps when you display a dropdown field, you want to use the whole 'term' (e.g. 'Fiction.Detective Novel' or 'Poetry.Epic'), or you wish simply to use the 'label' ('Detective Novel', 'Epic') every time. Perhaps you want each field to be in its own paragraph (<p>), so that it appears on its own line, or by contrast you would like all the fields to appear stacked next to each other.

In such cases, it can be useful to define your own {display} function which you use to display fields each time. Below is an example you can work from:

```
{function display sep="," suffix="" lineBreak=False}
  {if ($r.$field)}
   <p><strong>{$label}:{if ($lineBreak)}<br>{/if}</strong>
   {if ($r.$field|is_array)}
     {if (array_key_exists("label", $r.$field))}
       {$r.$field.label} {$suffix}
     {else}
      {foreach $r.$field as $item name="fieldLoop"}
         {if (array_key_exists("label", $item))}
           {$item.label}{else}{$item}{/if}{$suffix}{if
(!$smarty.foreach.fieldLoop.last)}{$sep}
         {/if}
      {/foreach}
     {/if}
   {elseif ($r.$field)}
      {$r.$field} {$suffix}
   {/if}
  {/if}
{/function}
```

Once you have defined a function like this, you can use it throughout your report like so:

```
{display field="f1" label="Name"}
```

Name: John

```
{display field="f4" label="Description" lineBreak=True}
```

Description:
A description of John contained in the field #4.

There are multiple ways of finding out the number of each field you wish to insert:

- you can insert the field into the report using the 'insert field' tool in the Custom Report builder, or
- in a seperate tab, open a record of the relevant type and enter 'Modify Structure' mode. When you hover over a field in the treeview to the left, the field's number will appear in a tooltip.

Limit the number of reports

Even if you follow best practices, custom reports can be difficult to read and maintain. It is often a good idea to limit the number of reports that you write for a particular database. In the most common case, you will be using a custom report with the 'custom report' widget to display a single record at a time. In this case, it is a good idea to write a single custom report, perhaps called 'public-view', which will be used to display all records in the database when you want to view them one-at-a-time. You may also have a report at displays multiple records at once. You might like to call this one 'public-list'.

When creating a new custom report, consider carefully whether it would be easier simply to extend an existing report. Of course, this relies on the idea that you have made your reports *extensible*. If reports are difficult to extend, then it will be difficult to limit the number of reports you need to maintain.

One advantage of the {display} function shown above is that it displays *nothing *if the relevant field does not apply to to the record. That is the purpose of the {if ($r.$field)} ... {/if} tags. This means that you can safely use {display} to try and display fields from many different record types, even if the record types have different fields. For example, imagine you had the following code in your Smarty report:

```
<p><strong>Name:</strong> {$r.f1}</p>
<p><strong>Age:</strong> {$r.f1000}</p>
```

If this code were used to display information about a Person, it might create generate the following html code:

```
<p><strong>Name:</strong> John</p>
<p><strong>Age:</strong> 22</p>
```

This html would look like this on the web:

Name: John

Age: 22

Now imagine the same code were used to display fields from a Film record. Films do not have any 'age' data in your database, so the report would output the following:

```
<p><strong>Name:</strong> Agnatuk</p>
<p><strong>Age:</strong> </p>
```

This html would look like this:

**Name: **Agnatuk

**Age: **

If you had instead used the above {display} function, it would look like this:

**Name: **Agnatuk

Using the {display} function means that you can mix and match fields from many different record types in a single report. Making the report work for a new record type can be as simple as adding a few more fields to display. If you would like the label to change based on the record type, then you can add some {if} tags as required using the handy 'if' feature in the 'insert field' menu to the left of screen. So, for example, let's say that for all your

***Date rendering ***

Date values are already in human readable format. To render BCXE and CE use the following example:

{$r.f10} {((strpos($r.f10,'BCE')>0)?'':'CE')}

Smarty: testing values

Term fields have five components which can be referenced - the ID (.id), the term label (.term), the standard code (.code), the description (? .description, but might be .info or .label TBV) and the semantic URI (? .URI or ? .semanticURI tbc)). The last three are optional and most often blank. For example:

{if ($ref.f1002.id) == 9412} {* Type of publication.id *}

{if ($ref.f1002.id) != 9412} {* Type of publication.id *}

Detecting visibility of records

{if ($source.recIsVisible!==false)} .... {* record is visible to public *}

Getting records which link to current (linkedfrom)

This will get type 64 records which link to the current record:

```
{$linked\_ed\_events \= $heurist-\>getLinkedRecords($e\_id, 64, 'linkedfrom')}
```

This will get and display titles of all records which point to current item (see also **linkedto**):

Linked from:

{$linked_items = $heurist->getLinkedRecords($rec_id, null, 'linkedfrom')}

{$linked_items = $linked_items['linkedfrom']}

{foreach $linked_items as $rec_id2}

{$r2 = $heurist->getRecord($rec_id2)}

{$r2.recTitle}

```
    {/foreach}
```

A more compact version

```
{* This is an example of getting records which point to the current record *}
{* Change to an approriate type. You can also use 'linkedto' *}
{* You can also use the record type ID, in this case 102, in place of Notices *}

  {$recs = $heurist->getLinkedRecords({$r.recID}, 'Notices', 'linkedfrom')}
  {$recs = $recs.linkedfrom}
  {foreach $recs as $id}
    {$rec = $heurist->getRecord($id)}
    <a href="https://wherever you want this to go">{$rec.recTitle}</a><br>
    {/foreach}
```

Getting linked records (linkedto)

Simply replace the *linkedfrom* keyword with *linkedto*

Displaying image credits

```
 {$r.f38_originalvalue[0]['ulf_Description']}
```

See https://HeuristRef.net/ Heurist_Help_System/web/39/737

Eliminate annoying whitespace

If you find that whitespace is being created in your report, you can wrap the entire report in {strip} tags. The {strip} tag tells Heurist to delete whitespace from the code of the report when the report is 'compiled' (i.e. translated into a more basic computer language that Heurist can understand). Simply add {strip} to the very start of your report, above every other line of code, and then place the closing tag {/strip} at the very end:

```
{strip}
```

{* Entire report here *}

{/strip}

**NB: **If you do this, it will change the look of error messages when you save/compile the report. Since the entire report takes place inside a {strip} block, all error messages will say that the error took place within a 'strip'. This is not a problem, but may be confusing the first time you see it.

Create an interactive table view

You can create a basic tabular view of records in your database using the List View pane. The List View is quite powerful, and allows you to visualise records in a table, including data from linked records. For example, you can display a table of 'books', but include the first name and last name of the linked 'person' records for the authors.

Some users, however, wish to display a table that can aggregate data (e.g. show the number of books per author), or want to control the layout and formatting of the table. This requires a custom report.

To create a table in a custom report, you need to understand html table syntax. In your custom report, delete the 'records loop' and insert the following snippet. You will see that the 'foreach' loop occurs *inside* the <tbody> element, which is the body of the table. Each record in the 'foreach' loop will create a new <tr> or 'table row' element. Each piece of data about the record should sit within a <td> or 'table data' element. Generally speaking, you need to make sure that the number of <td>'s for each record is equal to the number of <th>'s in the <thead> element—that is, you need to keep track of how many columns your table has, and structure it accordingly.

The 'class="display"' code is *only* necessary if you are using the datatables package to create an interactive table. If you do not plan to use datatables, then 'class="display"' can be omitted.

```
<table class="display">
   <thead>
      <tr>
        <th>{* Heading for first column *}</th>
        <th>{* Heading for second column *}</th>
        <th>{* etc. *}</th>
      </tr>
   </thead>
   <tbody>
   {foreach $results as $r}
   {$r = $heurist->getRecord($r)}
      <tr>
        <td>{* Data for first column, e.g. $r.f1 for name *}</td>
        <td>{* Data for second column, e.g. $r.f9 for start date *}</td>
        <td>{* etc. *}</td>
      </tr>
   {/foreach}
   </tbody>
</table>
```

Making the table interactive

If you would like to make the table interactive (e.g. allow searching/filtering/sorting), then we recommend you use the datatables package, which Heurist uses to generate its List View. To include datatables your custom report, you need to perform two steps:

1. Include JQuery in your custom report. Go to the CDN page of the JQuery site, and click on the 'minified' version of JQuuery 3.x at the top of the page. This will show you a <script> tag that you can copy-and-paste into the top of your

custom report.

2. Once you have included JQuery, you can include the datatables package. On the datatables download builder, select the options you would like to use in your table, then copy-and-paste the <script> and <link> tags at the bottom of the page into the top of your custom report.

You should do both these steps to ensure that you have the most up-to-date versions of JQuery and datatables in your report. You may wish to periodically update the software in your report by repeating steps 1 and 2.

When you are finished, the top of your custom report should look something like the snippet below, though it will look different due to your selected options and the day when you generated the code:

<script type="text/javascript" src="https://code.jquery.com/jquery-3.6.0.min.js"></script>

<link rel="stylesheet" type="text/css" href="https://cdn.datatables.net/v/dt/jszip-2.5.0/dt-1.12.1/b-2.2.3/b-html5-2.2.3/date-1.1.2/fh-3.2.4/r-2.3.0/datatables.min.css"/>

<script type="text/javascript" src="https://cdnjs.cloudflare.com/ajax/libs/pdfmake/0.1.36/pdfmake.min.js"></script>
<script type="text/javascript" src="https://cdnjs.cloudflare.com/ajax/libs/pdfmake/0.1.36/vfs_fonts.js"></script>
<script type="text/javascript" src="https://cdn.datatables.net/v/dt/jszip-2.5.0/dt-1.12.1/b-2.2.3/b-html5-2.2.3/date-1.1.2/fh-3.2.4/r-2.3.0/datatables.min.js"></script>

Finally, you need to tell the datatables software to activate the table you have created. This will make the table searchable/sortable, and apply the datatables formatting if you have included 'class="display"'. To activate the table, include code such as the following *after* the <table> element:

```
<script>
  {literal}
  $("table.display").DataTable({
    // Include options here
  });
  {/literal}
</script>
```

You need to include <script> tags to indicate that the text is JavaScript code. You need to include the {literal} tags so that SMARTY is not confused by the JavaScript. If you have not used 'class="display"', then this code won't work, and you will need to change $("table.display") to more accurately tell datatables where the table is that it should activate.

Datatables has many options you can set. You will need to investigate the option on the datatables site, and then ensure you have included the necessary plugins when you build the datatables download.

Aggregating data

Many users like to use a datatable to aggregate data, e.g. to show the number of people born in each place, or to show the average duration of films in different genres. When you aggregate data, you count records rather than displaying them individually.

There are two ways to include aggregate data in a table:

- Use a calculated field to store the aggregation information in the database. Then you can simply create a basic table (or even use the List View), and use the calculated field in the display. For example, you might add a caculated field to each Place in your database which adds up the number of Films that use that place as a location. Then if you create a table of Places, it will be easy to include the number of films as a column.

- Use the custom report to perform the calculations. This will oftem make the report slow to run, so if you are likely to be adding up many records, then you will probably want to set up a publication schedule to update the report periodically in the background, rather than regenerating it each time a visitor views it (the default).

Link multiple reports together

Reuse code in a systematic way

You can reuse the code from other reports by including a report inside another one using {include}.

eg:
{include file="./CommonScriptaJs.tpl"}
{include file="./CommonScripta.tpl"}

Note that it does not work properly if your template name contains a space character.

Using seclected facet in a connected widget

- When I select a theme from the *Interview extracts* facet search on the left I want it to trigger a search for the same theme in the *Theme descriptions* table to display as a header for the selected interview extracts, as below (at the moment it is doing a search on all theme descriptions and just rendering the first one, Christmas).
  The problem is that there is no connection between interview extracts and the theme descriptions other than that they both use the Themes field (id 1137). Interview extracts can have multiple themes, but we only want to select the one theme value that has been selected in the facet search.
  https://heuristref.net/h6-alpha/parramatta_region_food_cultures/web/68/178

Do you have any (simple, reproducible) ideas how to do this? Javascript? If there isn't a reasonably simple way of doing it we will do without the heading and simply put links to the themes for each extract and have them pop up the appropriate theme description.

I believe we can run a query through the smarty template, which returns an array of record ids. Then we can get the record details for the first result.

{* This report ONLY renders the theme description record, type 109, which is to appear at the top of the page when a theme is selected. f1137 is the field for Theme in the Interview Extact *}

{* Construct the query for a theme description record (type 109) containing the same theme field value *)

{* PROBLEM: this will get the first theme from the first record in the resultset, which may not be the one you actually selected *}

{$term_id = (isset($selected_term)) ? $selected_term : $r.f1137.id}

{$query = array("t" => "109", "f:1137" => $term_id)}

{* Get an array of Theme description records with the indicated them value - should only return one record *}

{$rec_id = $heurist->getRecords(json_encode($query))}

{* Get the record to be output *}

{$record = $heurist->getRecord($rec_id[0])}

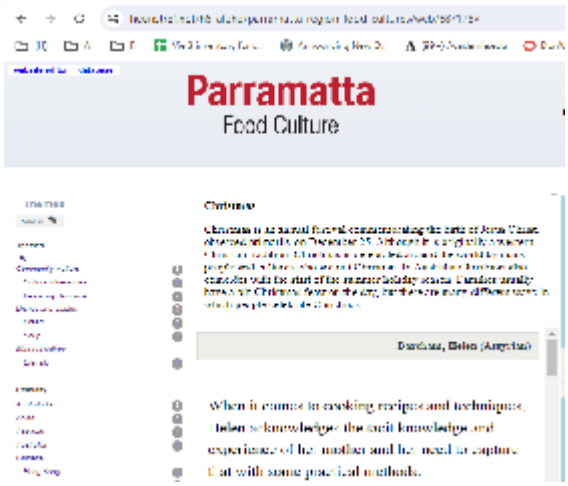
{$record.f1} {*Title*}

<p>

{$record.f4} {*Introduction/description of theme*}

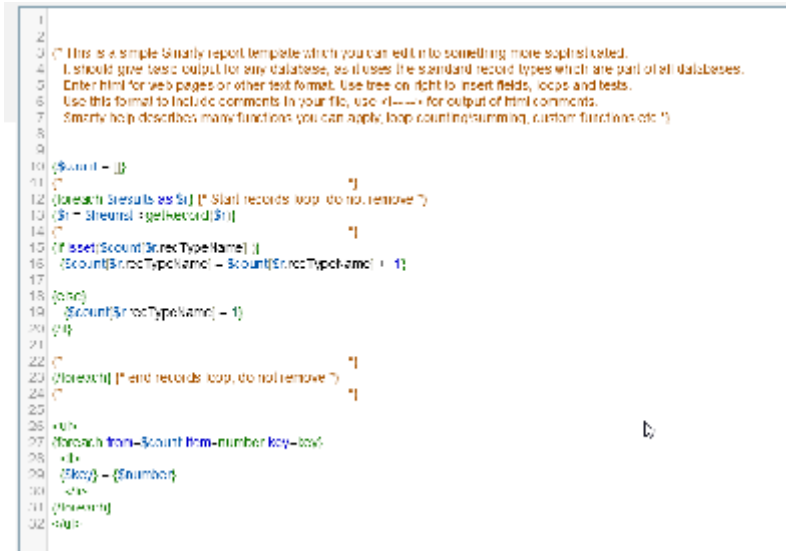
{break}

$term_id just needs to be the term id or label. The header report should be getting the resulting interview extract record, and thus the necessary term id

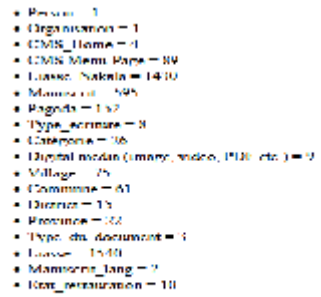


Counting records of different types:

- From Vincent Paillusson:



Ce code est complet et fonctionne avec n’importe quelle base ou set de résultats (que ce soit sur l’ensemble des record type ou seulement un seul)
Et voici ce qu’on obtient lorsqu’on ouvre le custom report dans un navigateur (Attention le nombre de résultats étant limité dans les tests et dans la visualisation des custom report via le mode Explore il ne sera pas possible d’afficher la totalité des ressources autrement qu’en ouvrant le custom report dans un navigateur):



- Adding counts for entity types to a custom report

  Ce code rendra le décompte (partie significative en **gras**).

  Total records: **{$heurist->getSysInfo('db_total_records')}**

  {$rty_Counts = $heurist->getSysInfo('db_rty_counts')}

  <table>

```
\<tr\>

        \<td\>\<b\>Entity type\</b\>\</td\>

        \<td\>\ \ \</td\>

        \<td\>\<b\>Count\</b\>\</td\>

    \</tr\>

    **{foreach $rty\_Counts as $rty\_ID=\>$rty\_Count}**
```

  <tr>

```
\<td\>**{$heurist-\>rty\_Name($rty\_ID)}** \</td\>

          \<td\>\</td\>

          \<td\>**{$rty\_Count}**\</td\>

      \</tr\>
```

```
    **{/foreach}**
```

</table>

Finer points of report formats for websites

Getting a data table loaded with JS to limit width of unimportant columns which may have a few really long meandering values ...

I've added the following mods to this report

```
.dt-wrap {
  white-space: normal !important;
  word-break: break-word;
  max-width: 300px;
}
```

And columnDefs for dataTable options:

```
  $table.DataTable({
    data: resultsData,
```

```
    fixedHeader: true,
    order: [[0, 'asc']],
    buttons: ['csv', 'excel', 'pdf'],
    dom: '<Q><"flex-spread"lrB>tip',
    responsive: true,
    deferRender: true,
  columnDefs: [
    {
      targets: 2,              // Attested Occupation
      width: "200px",
      className: "dt-wrap"
    }
  ]
  });
```

Explanation from Artem:

It is 2d for zero index based array of columns.

```
{$member_rows[] = [
  "<a href=\"{$member_url}\" target=\"_blank\">{$member_name}</a>",
  $member_data.f20.label,
  $attested_occ,
  $standard_occ,.....
```

and in table

```
    <th data-priority="1">Borrower</th>
    <th data-priority="1">Gender</th>
    <th data-priority="3">Attested Occupation</th>
    <th data-priority="2">Standard Occupation</th>
```

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