Tiki Calculations started out as an advanced rating system, and has since evolved into a powerful general purpose calculations system.

## Advanced Ratings & Calculation Syntax

### Overview

Use this page to configure a “rating” system to evaluate tracker items or wiki pages. Introduced in Tiki5, the advanced rating feature allows for more control over the aggregation of scores. You will also see in this documentation page how to use the calculations syntax, which also applies at the Mathematical Calculation Tracker Field.

### To access

Click the Ratings icon on the Admin Panel or Access http://example.org/tiki-admin.php?page=rating

### Note

Tiki currently supports sorting through advanced rating in:

- Articles
- Wiki
- Comments
- See also Mathematical Calculation Tracker Field

### Table of Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global configuration</td>
<td>Enable the internal rating system, used for calculating values from trackers, articles, or other features.</td>
<td></td>
</tr>
<tr>
<td>Setting</td>
<td>Description</td>
<td>Default</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
</tbody>
</table>
| Rating recalculation mode:  | Determines when and how rating aggregates are recalculated:  
|                             | * On vote (default): indicates that the score for the object should be recalculated every time a vote is performed. This option is suitable for sites with lower volumes and relatively simple calculation methods when ratings are used.  
|                             | * Random on load: will cause a few scores to be calculated on page load on a random basis (odds and count can be configured to adapt to site load). This option is suitable for calculation rules involving time that must be recalculated even if no new votes occurred.  
|                             | * Random on vote is similar to random on load, but will recalculate multiple scores (not necessarily including the current object) when a vote is performed. It is suitable for similar situations. The best option will depend on site load.  
|                             | * Periodic: is the best option for heavy load sites, making sure all calculations are done outside the web requests. A cron job must be set-up manually by the site's administrator. A sample script is available at the end of this page.  
|                             | Depending on the site load, some options may be better than others; on large volume sites, we recommend cron job. The Recalculate on vote recalculation may be inaccurate if rating calculation depends time.  
|                             | **Before any attempt to re-index the object:** Ties into the Search and List from Unified Index and updates the calculation at index-time.                                                                                                                                                                                                 | Recalculate on vote            |
| Recalculation odds (1 in X):|                                                                                                                                                                                                                                                                                                                                                                                                         |                                |
| Recalculation count:        |                                                                                                                                                                                                                                                                                                                                                                                                         |                                |
| **Wiki**                    |                                                                                                                                                                                                                                                                                                                                                                                                         |                                |
| Simple wiki ratings         | Enable a simple rating bar at the top of each wiki page.                                                                                                                                                                                                                                                                                  |                                |
| Wiki rating options:        | List of options for the simple wiki ratings.                                                                                                                                                                                                                                                                                             | 1,2,3,4,5                      |
| **Articles**                | Enable a simple rating bar at the top of each articles page.                                                                                                                                                                                                                                                                              |                                |
| User ratings on articles    |                                                                                                                                                                                                                                                                                                                                                                                                         |                                |
| Article rating options:     |                                                                                                                                                                                                                                                                                                                                                                                                         |                                |

The feature must first be enabled through this same administration panel. Along with the feature, a few options are available. Among them, the score recalculation period must be defined. These are the available options:
• **On vote (default)** indicates that the score for the object should be recalculated every time a vote is performed. This option is suitable for sites with lower volumes and relatively simple calculation methods when ratings are used.

• **Random on load** will cause a few scores to be calculated on page load on a random basis (odds and count can be configured to adapt to site load). This option is suitable for calculation rules involving time that must be recalculated even if no new votes occurred.

• **Random on vote** is similar to random on load, but will recalculate multiple scores (not necessarily including the current object) when a vote is performed. It is suitable for similar situations. The best option will depend on site load.

• **Periodic** is the best option for heavy load sites, making sure all calculations are done outside the web requests. A cron job must be set up manually by the site's administrator. A sample script is available at the end of this page.

For the random options, the odds of recalculating must be specified as a dice roll. For each occurrence of a recalculation, a limit to how many scores can be calculated must be specified to avoid the hang-up effect on the page load.

The value ranges for each object type can also be specified through the administration panels.

The common **sort_mode** parameter to lists can be used to activate sorting using advanced ratings. To do so, the sort mode must be set to `adv_rating_X_asc` or `adv_rating_X_desc` where `X` is the ID of the rating configuration. The default sort can also be set to advanced ratings in the administration panel where applicable.

**Calculation configuration**

From the administration panel, new calculations can be added. Initially, only the name is required. When created, the calculation will contain suitable default values.

For wiki pages:

Thus, visitors can provide feedback like:

• Did this page help you solve the issue?
• Was this page easy to understand?

**Sorting items according to advanced rating**

Note that the sort mode to use when needing to sort by advanced rating is either `adv_rating_xx_asc` or `adv_rating_xx_desc`, where `xx` is the ratingConfigId.
Set-up

By default, each calculated value is kept for 1 hour (3600 seconds). This limit does not apply when recalculating on vote, but is used for every other technique to avoid recalculating the same scores over and over again.

The calculation is defined as a small piece of code, similar to functional languages, which is very close to mathematical representations. Creating custom formulas is expected to require some mathematical skills. However, this documentation should provide examples for most frequent cases.

The editor in the administration panel performs extensive validation and will make it impossible to save the formula unless it can be evaluated. Checks are performed for:

- Syntax errors
- Unknown functions
- Missing arguments
- Invalid argument values
- Unknown input variables

### Default formula

```
(rating-average (object type object-id))
```

It can be altered to limit the vote consideration to a limited time span, 30 days for example.

### Recent votes only

```
(rating-average
  (object type object-id)
  (range (mul 3600 24 30))
)
```

In the language, spaces do not matter. Only the parenthesis indicate structure. `rating-average` is a function that fetches the ratings for a given object. `type` and `object-id` are standard variables fed when calculating a rating. `object` and `range` are configuration options of the function.

`mul` is a mathematical function. `(mul 3600 24 30)` is equivalent to `3600*24*30`.

The functions can be combined in various ways. For example, we could calculate a score that considers the votes from the past month, but gives extra emphasis on the recent ones.

### Combined vote duration

```
(add
  (rating-average
    (object type object-id)
    (range (mul 3600 24 30)))
  (rating-average
    (object type object-id)
    (range (mul 3600 24 7)))
)
Even though the votes are 1-5, the final score can be on an entirely different scale. The language is also extensible if the calculation needs to be combined with other factors or weight. See Rating Language.

All available options are documented in the following section.

**Syntax**

**General Reference**

**Sample and use case**

**add (Sum)**

Performs a simple sum accepting multiple input

<table>
<thead>
<tr>
<th>Examples</th>
</tr>
</thead>
</table>
| (add 3 4)  
  -> 7 |
| (add (add 3 4) 5)  
  -> 12 |
| (add 3 4 5)  
  -> 12 |
| (add 4 0.5)  
  -> 4.5 |

**sub (Substract)**

Performs a simple substraction accepting multiple input

<table>
<thead>
<tr>
<th>Examples</th>
</tr>
</thead>
</table>
| (sub 3 4)  
  -> -1 |
| (sub (sub 3 4) 5)  
  -> -6 |
| (sub 3 4 5)  
  -> -6 |
| (sub 4 0.5)  
  -> 3.5 |

**div (Divide)**

Performs a simple division accepting multiple input values.

<table>
<thead>
<tr>
<th>Examples</th>
</tr>
</thead>
</table>
| (div 3 4)  
  -> -1 |
| (div (div 3 4) 5)  
  -> -6 |
| (div 3 4 5)  
  -> -6 |
| (div 4 0.5)  
  -> 3.5 |
(div 3 4)
  -> 0.75
(div (mul 3 10) 5)
  -> 6
(div 30 5 3)
  -> 2
(div 4 0.5)
  -> 8

**mul (Multiply)**

Performs a simple multiplication accepting multiple input values.

**Examples**

<table>
<thead>
<tr>
<th>Expression</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>(mul 3 4)</td>
<td>12</td>
</tr>
<tr>
<td>(mul (mul 3 4) 5)</td>
<td>60</td>
</tr>
<tr>
<td>(mul 3 4 5)</td>
<td>60</td>
</tr>
<tr>
<td>(mul 4 0.5)</td>
<td>2</td>
</tr>
</tbody>
</table>

**and / or**

**and**

Ensures all elements evaluate to true.

**Examples**

<table>
<thead>
<tr>
<th>Expression</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>(and 3 2 1 2 3)</td>
<td>1</td>
</tr>
<tr>
<td>(and 2 3 0 2)</td>
<td>0</td>
</tr>
</tbody>
</table>

**or**

Ensures that at least one element evaluates to true. Elements are evaluated sequentially until a false element is found. Others are left unevaluated.

**Examples**

<table>
<thead>
<tr>
<th>Expression</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>(or 3 2 1 2 3)</td>
<td>1</td>
</tr>
<tr>
<td>(or 2 3 0 2)</td>
<td>1</td>
</tr>
<tr>
<td>(or 0 0)</td>
<td>0</td>
</tr>
</tbody>
</table>
### avg

Calculates the average of multiple values. All entries in the list will be flattened if arrays are present.

**Examples**

```mermaid
gtmermaid
(avg 1 2 3)
-> 2
... given list contains [1, 2, 3]
(avg list)
-> 2
```

**Note:** Unless told otherwise `avg` treats empty values and zeros the same, but you can use `if` to check like this:

**Empty example**

```mermaid
gtmermaid
(if (not (equals calcValue_3 ""))
  (avg calcValue_1 calcValue_2 calcValue_3)
  (if (not (equals calcValue_2 ""))
    (avg calcValue_1 calcValue_2)
    (if (not (equals calcValue_1 ""))
      calcValue_1
    )
  )
)
```

avg can be used together with other fields values as well as an item-list field displaying values from another tracker.

**Calculate the average of values from a different tracker in an item-list**

The field permanameListofnumbers contains values 1 and 3 (grabbed from tracker permanameNumbersfromanother tracker)

```mermaid
gtmermaid
(avg
  (for-each
    (list permanameListofnumbers)
    (formula (concat permanameNumbersfromanother tracker))
  )
)-> 2
```

### clean

Clean accents and special characters from a string of text, replacing the accented characters with the non-accented equivalent where possible. Added in Tiki 18.2

**Examples**

```mermaid
gtmermaid
(clean (str foó barça caña))
-> "foo barca cana"
```
coalesce
Returns the first non-empty value from the list.

Examples
(coalesce 3 4)
  -> -3
(coalesce (sub 3 3) 5)
  -> 5
(coalesce 0 0 (str) -10)
  -> -10
(coalesce 0 0 0 0)
  -> 0

comment
Any comment block is stripped from the formula at parse-time.

Examples
(mul
  1
  2
  (comment Simple enough?))
  -> 2

concat
Concatenates a string of text. (new in Tiki12)

Note: The quoted string syntax was included in Tiki13.

Examples
(concat
  (str $)
  1234
)
  -> "$1234"
(concat
  14
  (str %)
)
  -> "14%"
(concat 14 "%")
  -> "14%"

contains
Searches for a value within a vector of values (new in Tiki15.0, backported to Tiki14.2 and Tiki12.5).
Note that if you are using an argument value in here, you would need to eval and then put brackets around to make it work.

**args.values_by_permname.version: 305,306**

<table>
<thead>
<tr>
<th>(contains 307 (eval(args.values_by_permname.version)))</th>
<th>-&gt; 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>(contains 305 (eval(args.values_by_permname.version)))</td>
<td>-&gt; 1</td>
</tr>
<tr>
<td>(contains 30 (eval(args.values_by_permname.version)))</td>
<td>-&gt; 0</td>
</tr>
</tbody>
</table>

**count**

Returns the total number of entries within an array passed as argument.

**Examples**

<table>
<thead>
<tr>
<th>(count results)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-&gt; 5</td>
</tr>
</tbody>
</table>

You can use it with split-list to count the number of items in a list or in an item-link (should work with item-list dynamic item-list).

**Counting item in item-link**

Let say I have an item-link permanameBooks with 12 items linked.

<table>
<thead>
<tr>
<th>(count</th>
</tr>
</thead>
<tbody>
<tr>
<td>(split-list</td>
</tr>
<tr>
<td>(content permanameBooks)</td>
</tr>
<tr>
<td>(separator ,)</td>
</tr>
<tr>
<td>(key a)</td>
</tr>
<tr>
<td>)</td>
</tr>
<tr>
<td>)</td>
</tr>
<tr>
<td>-&gt; 12</td>
</tr>
</tbody>
</table>

*Only one key need to be created it will populate properly*

**Currency**

New in Tiki21: [https://sourceforge.net/p/tikiwiki/code/71175](https://sourceforge.net/p/tikiwiki/code/71175)

Allows to convert a calculation into currency field. Expects 3 arguments. First is the calculation of the amount. Second is the source currency - i.e. which currency is the amount in? Third is the currency field.
If you use the Canadian daily exchange table from the Bank of Canada you can retrieve sourceCurrency string from currencyFieldPermName (ie: FXUSD>CAD) using this formula:

Get the last 3 char of a value in a tracker

```
(substring currencyFieldPermName -3)
```

Examples

```
(currency (cal-of-the-amount) (substring currencyFieldPermName -3) currencyFieldPermName)
```

currency-convert

New in Tiki22: https://sourceforge.net/p/tikiwiki/code/76059

This adds 2 things:

1. currency-convert math function which will allow us to convert specific math functions to CAD when you need only CAD values.
2. using default tracker for exchange rates when parsing a math function output like 123USD without a currency field context. The tracker must contain 'exchange rate' in its name in order to be found. This will be until we have a proper concept of system trackers.

date


Takes two optional arguments, format and timestamp and uses the PHP date function. See here for reference. Format defaults to "U" which is the Unix timestamp, and the timestamp defaults to "now".

Date Examples

```
(date)
> Returns "1438358437" currently

(date (str Y-m-d H:i:s))
> Returns "2015-07-31 17:00:43" currently

(date (str r) theTimeAndTheDate)
> Returns "Tue, 16 Jun 2015 09:23:09 +0100" for instance, where theTimeAndTheDate is the permanent name of a tracker field in the same tracker.
```

equals

Compares multiple values.

Examples
(equals 2 (add 1 1) (sub 4 2))
-> 1 (equivalent of 2 == 1+1 && 2 == 4-2)
(equals (add 1 1) 3)
-> 0

for-each

For a list of value pairs, such as the output of *split-list*, evaluates a formula for each set of values, returns the list of results.

Within the formula, variables coming from the list will be used first. Fallback will be on the other variables available in the execution context.

As of Tiki18, list items can be the output of ItemsList tracker field where individual formula fields are the linked fields from the other tracker. See example below.

**Examples**

... given items contains [{a: 1, b: 2, c: 3}, {a: 2, b: 3, c: 4}]
(for-each
  (list items)
  (formula (mul a b c)))
-> [6, 24]

... given items contains [{a: 1, b: 2, c: 3}, {a: 2, b: 3, c: 4}]
... and d contains 10
(for-each
  (list items)
  (formula (mul c d)))
-> [30, 40]

... given trackerDetails is an ItemsList field pointing to another tracker with a field detailsAmount
... and particular tracker item has 2 linked items with detailsAmount = 30 and 40
(add
  (for-each
    (list trackerDetails)
    (formula (concat detailsAmount))))
-> 70
This formula sums the detailsAmount column from the other tracker for all items linked from this tracker's item.

hash

Generates a hash based on multiple values. Used primarily to generate aggregate hashes in the PluginActivityStream. Note that because it is a hash, the exact value coming out does not matter. Only that given the same parameter, it will produce the same value.

**Examples**

(hash 1)
-> [sha1("1")]

if
Conditionally evaluates a branch.

Examples

(if (equals 2 2) 42 -1)
-> 42
(if (equals 2 1) 42 -1)
-> -1

You can use it with STR to apply a condition on a string within another field.
IE: if permanameFieldName contain "Bernard"

If used with a string to show another field

(if (equals permanameFieldName (str Bernard)) permanameFieldMoney (str 0))
-> Will output the value of permanameFieldMoney if true (permanameFieldName = Bernard)
-> Will output 0 if this is not true (permanameFieldName ≠ Bernard)

IsEmpty
New in Tiki14: https://sourceforge.net/p/tikiwiki/code/53588

Examples

(IsEmpty 1)
-> 0
(IsEmpty 0)
-> 1

You can also use a tracker field permaname as true or false value or as returned value from the tracker item.
Here we combine if, equals and is empty to create a different output for each case else the default output (0 or 1) will be returned.

(if (equals 1 (IsEmpty permaname)) (str empty) (str notempty))
if the field has no value (1) -> empty
if the field has a value (0) -> notempty

IsEmpty may also be used to test if an array is empty.
However in some case you may have an error. coalesce seems to work better for testing and displaying tracker field values.
less / more
less-than
New in Tiki14.1 and Tiki12.5: Checks whether the first value is less than the second.

<table>
<thead>
<tr>
<th>Examples</th>
</tr>
</thead>
</table>
| (less-than 3 (add 2 2))  
| --> 1  |
| (less-than (add 2 2) 3)  
| --> 0  |

more-than
New in Tiki14.1 and Tiki12.5: Checks whether the first value is more than the second.

<table>
<thead>
<tr>
<th>Examples</th>
</tr>
</thead>
</table>
| (more-than 3 (add 2 2))  
| --> 0  |
| (more-than (add 2 2) 3)  
| --> 1  |

lower
Converts string to lower case.

<table>
<thead>
<tr>
<th>Examples</th>
</tr>
</thead>
</table>
| (lower Foo)  
| --> foo  |

map
Generates a map (or dictionary).

<table>
<thead>
<tr>
<th>Examples</th>
</tr>
</thead>
</table>
| (map  
|  (key1 1)  
|  (key2 2)  
|  (key3 (str value3))  
| )  
| --> {"key1": 1, "key2": 2, "key3": "value3"}  |

Not
New in Tiki14: https://sourceforge.net/p/tikiwiki/code/53590

number-format
Format a number with grouped thousands. See PHP's number_format function for exact arguments. New in
Examples

(number-format 123456.78)
  -> "123,456.78"
(number-format 120.334 (str 3))
  -> "120.334"
(number-format 120.334 (str 0))
  -> "120"
(number-format 123456.78 (str 2) (str ,) (str ))
  -> "123 456,78"

pad

New in Tiki15 committed in r57094

Takes two to four arguments, input string, output length, padding string (defaults to a space) and padding type (defaults to right)

This example right pads prices in a simple products tracker for sorting and filtering

(pad
  productsPrice
  8
  (str 0)
  (str left)
)

round

Rounds to a specific number of digits (new in Tiki12)

Examples

(round 4.556234342234 2)
  -> 4.56
(round 4.556234342234)
  -> 5

str

Generates a static string when needed and the processor attempts to process the string as a variable. Any arguments will be concatenated using spaces.

Note: The quoted string syntax was included in Tiki13.
-> "hello world"
(str
  hello
  world
  foobar)
-> "hello world foobar"
(str (mul 2 3) "= 6")
-> "6 = 6"
(str some text with new line-nl-)
-> "some text with new line\n"

str-to-time
Parse about any English textual datetime description into a Unix timestamp. See PHP's strtotime function for more details on valid formats and options. New in Tiki18.

Examples

(str-to-time (str 2017-06-05))
-> "1496610000"
(date (str Y-m-d) (str-to-time (str +1 day) (str 2017-05-29)))
-> "2017-05-30"

Numbers of days between a date in a field and now
(round (div (sub (str-to-time permanameDate) (date)) 86400) 0)

str-replace
Replace substring in a string. See PHP's str_replace function for exact arguments. New in Tiki18.

Examples

(str-replace (str foo) (str bar) (str hello foo))
-> "hello bar"

preg-replace
Perform a regular expression search and replace on a field value. The preg-replace math function is available in Tiki 21+

Using preg-replace to return part of a string before a | (pipe)
The field permanameMonthAndUser contain "June | Bernard"
(preg-replace (str /\.|\$/) (str ) permanameMonthAndUser)
-> "June"

Using preg-replace to return part of a string after a | (pipe)
The field permanameMonthAndUser contain "June | Bernard"
(preg-replace (str /^.*?\|/) (str ) permanameMonthAndUser)
split-list

Produces a multi-dimensional array out of a text string. Each line is expected to be an independent value, each line will be split by a separator into the specified keys.

**Examples**

```lisp
... given str contains a list of 3 comma-separated values
(split-list
  (content str)
  (separator ,)
  (keys a b c))
-> [{a: 1, b: 2, c: 3}, {a: 2, b: 3, c: 4}]
```

subtotal

Special function to aggregate data in a table. See Report formatting for more details.

upper

Converts string to upper case.

**Examples**

```lisp
(upper Bar)
-> BAR
```

Advanced Rating-specific Reference

rating-average and rating-sum

The rating functions calculate the score from the rating history table. Each rating performed on the site is kept in the database and can be used to calculate custom ratings on. The various options allow to adapt the score calculation to reflect the importance on the site, whether it is to support quality improvement on documentation or to rank incoming data on a feed aggregator.

- object, mandatory and always (object type object-id) in this context.
- range, to limit how long votes are considered. Argument is provided as a number of seconds.
- ignore, with anonymous as an argument to only consider votes from registered users.
- keep, to only consider one vote per visitor. Unless the option is present, all of the votes are taken into account. The option can be either latest or oldest to indicate which one to keep.
- revote can be specified if keep is specified. Indicates the time period required between votes. For example, users could be allowed to vote more than once per day, but only their latest vote each day would be considered, if revote is set to mul(24 3600). If the user voted yesterday as well as today, both votes will be counted.
**article-info**

Pulls information from an article to include in the calculation. The first argument must always resolve to 'article'. If any other value, the calculation will be skipped for the evaluated object, making the formula type-specific.

Available properties:

- rating, the static rating attached to the article
- view-count
- age-second
- age-hour
- age-day
- age-week
- age-month

**Examples**

```
(article-info type object-id rating)
```

```
(article-info (str article) 42 age-month)
```

**attribute**

Pulls information from the generic object attributes.

**Examples**

```
(attribute
  (object type object-id)
  (property tiki.proposal.accept)
)
-> [value for page in a rating calculation]
```

```
(attribute
  (object (str wiki page) 14)
  (property tiki.proposal.accept)
  (default 0)
)
-> [value for page id 14]
```

**tracker-field**

Pulls information from the tracker item. The field value is converted to numeric value automatically. Zero is provided if the value is not found or unapplicable.

**Examples**

```
(tracker-field
  (object (str trackeritem) 42)
  (field priority)
)
```
You can pull the value of an item coming from an item link and an item dynamic list field type (not tested on item list). This imply using the permaname of the item link tracker field and the permaname of the field that contain the value (in the other tracker).

```plaintext
value form item link item
(tracker-field
  (object (str trackeritem) permaname_thistrackerfield)
  (field permaname_othertrackerfield)
)
```

**category-present**

Gives 1 in score of every listed category present on the object.

**Examples**

```plaintext
(category-present
  (object type object-id)
  (list 3 4)
)
```

-> [0, 1 or 2 - Depending on how many of categories 3 or 4 are on the object]

**Appendix**

When unified search is used, recalculation can be configured to be done during re-indexing, removing the need for this script.

```plaintext
Cron job
<?php
  chdir('/path/to/tikiroot');
  require_once 'tiki-setup.php';
  require_once 'lib/rating/ratinglib.php';
  $ratinglib->refresh_all();
```

**Sample and use case**

**Calculate date difference to see if tracker item is new or not**

In this use case we compare a field that contains creation date to the actual date and if the difference is lower than 7 days (604800) the field will have the value "new" else "notnew".
Examples

(if(equals (more-than 604800 (sub (add (date) 0) (add dateDeCrAtion 0))) 1) (str new) (str notnew))

Using Concat to create a reference made of month and string value from other fields

In this use case we concatenate the month as word from a date field and a value from a text field (can be a dropdown, etc) and we use to create a reference for this item. Then the result, the value, can be used for many things like populating an itemList field, filtering, searching, etc.

Filling a field with value for type and month

(concat trackerPermanameType (str " | ") (date (str F) trackerPermanameDate))

For example it will set the value of field with : "Credit | February"

Add different values from fields from a Tracker in another Tracker

In this use case we have 2 trackers. One that records time spent (permaname_timeSpent) with individuals for different interaction with an individual (tracker actions) that contain an itemLink to the other tracker. And the other tracker (tracker users) that will collect all the actions and the time spent for this user and calculate (display) the total time spent per type of actions.

We first use an itemList (permaname_listActionsAndTime) to filter all the actions made for this specific user as you will usually do : ItemList => TrackerB, TrackerB_usernameField, TrackerA_usernameField, field to display : Actions and Time, use the format that fit the fields order to display and easy to read list of actions|time.

You should have a list displaying in each tracker user items something like that:

```
Meeting | 15
Meeting | 20
Phone | 5
Administrative | 60
Documentation | 60
e.tc...
```

Anywhere after it in the list fields (orders matters with calculation fields) for this tracker (tracker users) create a mathematical field.

Now you need to check all the rows of the itemList and if it contain a specific actions add the time value from the other tracker.

We want to see the the time spent with the user so we will use a condition (if) based on the string corresponding to the action and a OR statement to collect the time spent if the permanameActions equals a specific string.

If there is no time the field output will be "0".
Assign a label to a range of values

In this case we combine less-than and more-than in a cascade of conditions to determine what value (a label) should be saved in the field based on a numerical value from another existing field. For example we have appartments and a field with their surface and we want to group them by size (less than 80m2, between 80m2 and 120m2, etc...)

If used in a search (customSearch, pluginList filter, etc) the label must be unique; Tiki search engine (tested with MySQL search) will consider characters like ",", ",", ",+" (may be more) as separators and not character of the string. For example if you search for "20" both "10-20" and "20-30" will be outputted in the results.

To add some safeties we can also test first if there is a value in the field. Here the idea is to check if the trackerPermanamePrice contain a value (price) then to group the items within the same range of prices by giving them a label.

```
(if (less-than trackerPermanamePrice (add 79 0))
  (str 79)
  (if (less-than trackerPermanamePrice (add 119 0))
   (str 80-119)
   (if (less-than trackerPermanamePrice (add 159 0))
    (str 120-159)
    (if (less-than trackerPermanamePrice (add 199 0))
     (str 160-199)
     (if (less-than trackerPermanamePrice (add 239 0))
      (str 200-239)
      (if (less-than trackerPermanamePrice (add 279 0))
       (str 240-279)
       (if (more-than trackerPermanamePrice (add 279 0))
        (str 280))))))))
)
```

```
(if (equals 1 (IsEmpty trackerPermanamePrice)) (str ))
(if (less-than trackerPermanamePrice (add 99999 0))
  (str 99999)
  (if (less-than trackerPermanamePrice (add 299999 0))
   (str 100000-299999)
   (if (less-than trackerPermanamePrice (add 499999 0))
    (str 300000-499999)
    (if (less-than trackerPermanamePrice (add 699999 0))
     (str 500000-699999)
     (if (more-than trackerPermanamePrice (add 699999 0))
      (str )))))
```
Simple Wiki Ratings

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- Rating
- Rating Revamp
- Mathematical Calculation Tracker Field
- Grouped Data

alias

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