

# Tufts Clinical and Translational Science Institute

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## REDCap Feature Spotlight

### EXTERNAL MODULES: StringUtils and Date Calculated Fields

November, 2019



Tufts Clinical and Translational Science Institute



- Tufts CTSI is committed to providing the best expert advice and user experience to investigators who use our services.
- As a part of this commitment, we will now be providing you with the frequent ***REDCap Feature Spotlight***.
- In November 2019, ***Feature Spotlight*** brings you two new **External Modules, StringUtils** and **Date Calculated Fields**, which are feature additions that extend REDCap's functionality without changing the core REDCap workflow.

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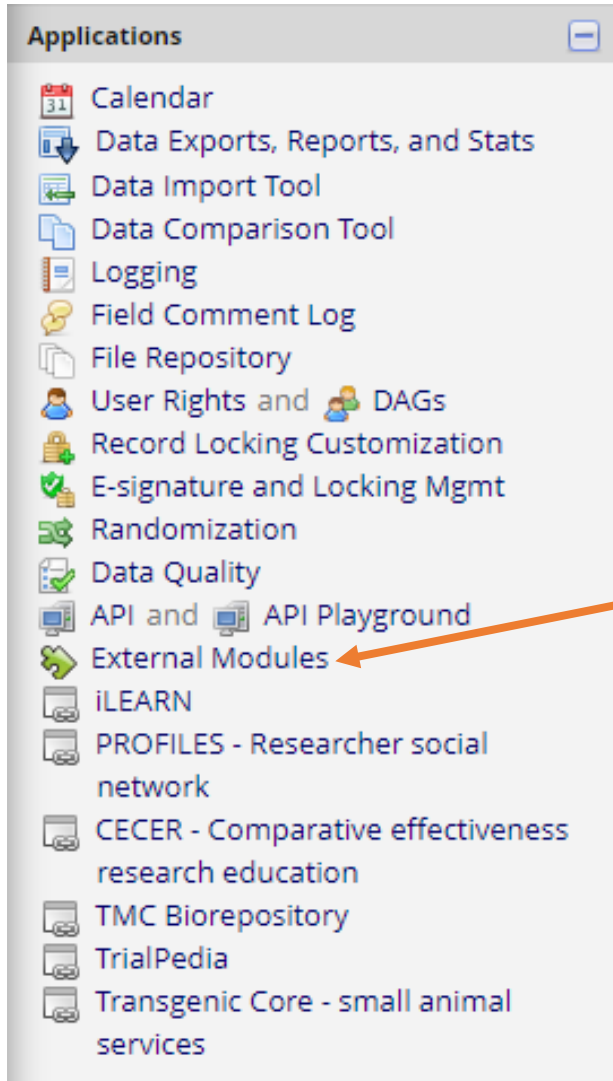
# Accessing External Modules in REDCap

November, 2019

# External Modules

REDCap now offers access to **External Modules**. These are not developed by the REDCap development team at Vanderbilt, but are instead contributed by members of the REDCap consortium. When enabled, external modules add options to your projects to enhance the look, feel and customizability, and some are quite powerful!

You can access external modules via the button on the **left-hand column**; clicking it allows you to **view modules in use**, and **view available modules administrators can set up**.



 View available modules

**Currently Enabled Modules**

Search enabled modules

# View Enabled Modules


Once on the External Modules page, you can see what modules you have enabled for the project.

The **View Available Modules** button shows modules that an administrator can add per request.

## Currently Enabled Modules


### Field Notes Display - v1.1.2

Provides alternative display modes for field notes. This module adds an action tag @FIELD-NOTES-DISPLAY that accepts the following inputs: 'hover' - displays the text when the field is hovered over; 'tooltip' - places a help icon, which displays the text in a tooltip when hovered over; 'popover' - places a help icon, which displays the text in a popover when clicked. See the complete **documentation** at [https://github.com/ctsit/field\\_notes\\_display](https://github.com/ctsit/field_notes_display).

 [View Documentation](#)


### QR Code Shortcut - v1.1.1

Provides a shortcut to generate a survey QR code for a new data entry. **See full documentation here.**

 [View Documentation](#)

### Sticky Matrix Headers - v1.2.0

Makes the matrix header for a matrix of fields always visible (as long as the matrix is visible) - for surveys only.

 [View Documentation](#)

## Available Modules



### Instant Field Concatenation v1.2.1

This module concatenates fields and places the result in another field instantly. It uses JavaScript and not PHP. It happens upon the user leaving the field.

 [View available modules](#)

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# Global vs. Discoverable

## Global external modules:

When an external module is determined to provide utility for a large portion of REDCap users it will be **enabled by REDCap administrators**, meaning the improvements they bring will be activated **for all projects**

## Discoverable external modules:

These modules are only applicable for a small number of users. Once implemented they become **discoverable**, and a REDCap administrator can add it **to your project**

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### Currently Enabled Modules

#### Field Notes Display - v1.1.2

Provides alternative display modes for field notes. This module adds an action tag @FIELD-NOTES-DISPLAY that accepts the following inputs: 'hover' - displays the text when the field is hovered over; 'tooltip' - places a help icon, which displays the text in a tooltip when hovered over; 'popover' - places a help icon, which displays the text in a popover when clicked. See the complete **documentation** at [https://github.com/ctsit/field\\_notes\\_display](https://github.com/ctsit/field_notes_display).

[View Documentation](#)

#### Instant Field Concatenation - v1.2.1

This module concatenates fields and places the result in another field instantly. It uses JavaScript and not PHP. It happens upon the user leaving the field.

[View Documentation](#)

Configure

#### QR Code Shortcut - v1.1.1

Provides a shortcut to generate a survey QR code for a new data entry. **See full documentation here.**

[View Documentation](#)

#### Sticky Matrix Headers - v1.2.0

Makes the matrix header for a matrix of fields always visible (as long as the matrix is visible) for all projects.

[View Documentation](#)

**This module had to be added by an administrator before being visible with the rest**

# Previously Released Modules

The following modules were added in previous months and are available to be used; check out the [Tips and Tricks page on our website](#) for details

- **Global** external modules that were **already** enabled for all projects
  - **Sticky Matrix Headers** – Allows matrix headers to follow a page as it scrolls
  - **Field Notes Display** - Provides alternative display modes for field notes
  - **QR Code Shortcut** - Provides a shortcut to generate a survey QR
- **Discoverable** external modules
  - **Instant Field Concatenation** – Concatenates multiple fields into another one



# November 2019 New External Modules

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# New Global Module: StringUtils

The **StringUtils** module allows you to use action tags to transform text.

The action tags it provides are:

- **@TOLOWER**: Makes text lowercase
- **@TOUPPER**: Makes text uppercase
- **@STRLEN**: Gets length of text
- **@TRIM**: Removes whitespace around text
- **@LTRIM**: Removes whitespace on left
- **@SUBSTR**: Gives only a segment of text

1) Text Box	This Is A Test ← Whitespace
2) Lowercase	this is a test
3) Uppercase	THIS IS A TEST
4) Text Length	20
5) Trimmed Text	This Is A Test
6) Left Trimmed Text	This Is A Test ← Whitespace
7) Substring	Test

Starting from position 13, returning 4 characters

# New Global Module: StringUtils

- All **StringUtils** tags must be placed in new fields (they cannot modify the field they are in)
- The two fields (the source and the one with the tag) must be on the same instrument.
- In the example shown, “text” is the field the user will be entering data into, so the syntax is **@TOLOWER=text** – this applies for all the tags
- For **@SUBSTR**, the syntax **@SUBSTR=text,start,num** specifies the starting position of the segment returned, and the number of characters returned

### Edit Field

You may add a new project field to this data collection instrument by clicking the **Add Field** button at the bottom. When you add a new field, it will be assigned a default field type. If you want to use a different field type, you may view the [Field Type](#) page.

**Field Type:**

**Field Label**

**Action Tags / Field Annotation** (optional)

Learn about [@ Action Tags](#) or [using Field Annotation](#)

# New Global Module: StringUtils

A few things you should know before using:

- Fields using **StringUtils** tags will be populated **instantly**, however, you cannot use these fields in piping or calculations immediately – they must be saved first
- The module works in both **forms** and **surveys**
- **StringUtils** tags can be used in combination with other action tags on the same field, such as **@HIDDEN** and **@READONLY**, but **not** with each other

**Field Label**

Read-Only Lowercase Field

**Action Tags / Field Annotation** (optional)




@READONLY @TOLOWER=text

Learn about [@ Action Tags](#) or [using Field Annotation](#)

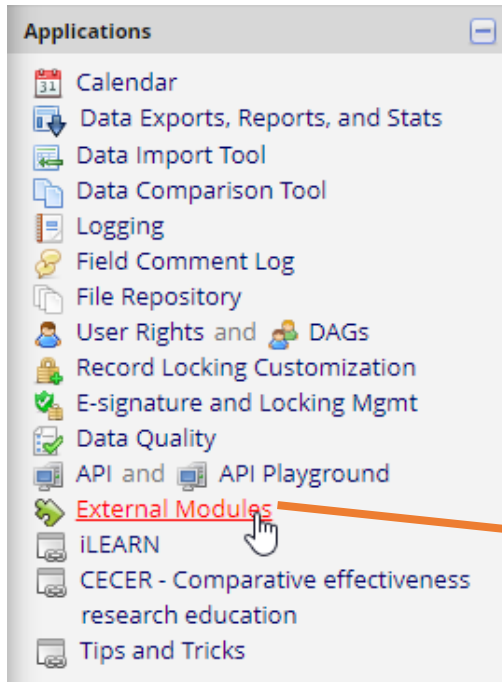
- 1) Text Box
- 8) Read-Only Lowercase Field

# New Discoverable Module: Date Calculated Fields

- The **Date Calculated Fields** module allows you to instantly pipe dates between fields, adding or subtracting days or months in the process
- It also allows you to easily convert between dates of different formats (ie M-D-Y to D-M-Y, etc.)

<b>Base Date</b>	<input type="text" value="11-14-2019"/>		<input type="button" value="Today"/>	M-D-Y
<b>Three Days Before</b>	<input type="text" value="11-11-2019"/>		<input type="button" value="Today"/>	M-D-Y
<b>Piped to D-M-Y Format</b>	<input type="text" value="14-11-2019"/>		<input type="button" value="Today"/>	D-M-Y

# New Discoverable Module: Date Calculated Fields



- An administrator must enable the module for you
- Once enabled, to set it up go to **External Modules**, and select the **Configure** button next to it.

## Currently Enabled Modules

Search enabled modules

### Date Calculated Fields - v1.6

Allows for piping from date fields to other date fields, regardless of format. Can pipe data across events within a REDCap project.

[View Documentation](#)

Configure

Disable

- This will bring you to the setup page for the module
- Only people with Project Design and Setup permission will have access

# New Discoverable Module: Date Calculated Fields

- This page will have numerous settings, including **source field**, **destination field**, and **addition / subtraction**
- The module will pipe into the date format selected for the destination field, regardless of the source field's format
- There are also numerous options to control which events it works in (for longitudinal projects); you can leave these blank if you don't need them

1. Piping Field List: +

1. Field to Read Date From: basedate - Base Date  
\* must provide value

1.1. Details of Where to Pipe: +  
-

1.1. Destination Field: basedate\_minus3 - Three Days Before  
\* must provide value

1.1. Adjust dates by days or months (Default: Days): Days

1.1. Value To Add/Subtract from Source Date (to Subtract, use a -), Leave Blank to Use Event 'Days Offset' Settings: -3

1.1. Pipe Dates to Other Events: ▾

1.1.1. Event(s) to Pipe To: ▾ +

1.1. Event To Start Piping From (Leave blank if need to have all events pipe to other events): ▾

1.1. Start Date Range Field to Pipe To (if applicable): ▾

1.1. End Date Range Field to Pipe To (if applicable): ▾

1.1. Days to Add to Start Date Range (leave blank to use event definition):

1.1. Days to Add to End Date Range (leave blank to use event definition):

# New Discoverable Module: Date Calculated Fields

- Remember to always test a calculation before using it in a project, and to back up data before changing settings, as this module can overwrite data
- Be aware that you should always do addition / subtraction in **days, not months** (months are not exact, and have technical issues)
- To read the module's user guide, which explains how to use an event's date offset (if using the Scheduler module in a Longitudinal project) and other advanced features, follow [this link](#)
- As more advanced features have not been tested extensively, always use them with caution and report any issues to [informatics@tuftsctsi.org](mailto:informatics@tuftsctsi.org)



# A Note of Explanation on Module Restrictions

- While both of these modules do transforms on text fields, **Date Calculated Fields** actively places the result of the calculation into a field, meaning it has the potential to **overwrite data** (this is why we require an administrator to add it)
- The action tags in **StringUtils**, by contrast, can only modify **the fields they are in**
- As modules are **not a core part of REDCap**, they may have issues. If you encounter any, **do not hesitate to contact us!**

# Best Practices

- Always test changes on a copy of your project before implementing them on the in-production version
- Back up your data often, particularly before making changes / enabling a module
- If there's a simple way to do something, try that before increasing the complexity
- When in doubt, ask for help!

# Contact Us

**To request the addition of an External Module to your project, please contact us and identify the project you would like to apply it to.**

**For questions, concerns, or external module requests, please contact us at:  
[informatics@tuftsctsi.org](mailto:informatics@tuftsctsi.org)**