



REDCap Training 201

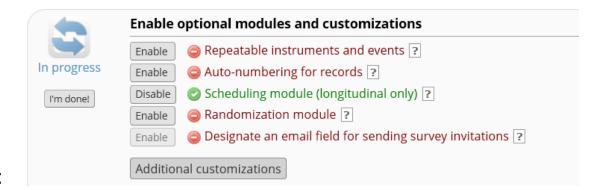
REDCap Special Features and Customization

Sui Tsang REDCap@Yale Team 11/19/2024

Introduction and Learning Objective

- Recognize the optional modules available in REDCap
- Understand alerts and notifications
- Learn how to set up custom dashboard
- Learn how to use data quality module
- Demonstrate special functions for calculation and branching logics
- Understand what external modules are

REDCap Optional Modules and Customizations



Other additional customizations:

- 1. Set a custom record label
- 2. Define a secondary unique field
- 3. Order the records by another field
- 4. Enable the Field Comment Log or Data Resolution Workflow (Data Queries)
- 5. PDF Customization
- 6. Set up Missing Data Codes
- 7. Enable the Data History widget for all data collection instruments
- 8. Enable the File Version History for 'File Upload' fields
- 9. Display the Today/Now button for all date and time fields on forms/surveys
- 10. Prevent branching logic from hiding fields that have values
- 11. Require a 'reason' when making changes to existing records
- 12. Protected Email Mode



Optional Modules: Custom Record Label, Secondary Unique Field & Custom Record Order

Set a Custom Record Label

You may append other data and/or static text to any record name (e.g., Study ID) as the record is displayed on your data collection instruments, such as inside the drop-down lists when choosing a record and at the top of the page after being selected. Simply provide the text you wish to display below, and place any variable names inside square brackets [], after which the data collected for those variables for that record will replace the variable in the text.

Custom Record Label: source id:[source_id]

Example: if ([last_name], [first_name]) where entered, then for record '102' it would display '102 (Doe, Jon)'.

Designate a Secondary Unique Field

You may designate a text field to serve as a unique constraint whose value cannot be duplicated or shared by any other record in the project. When a value is entered or imported for the secondary unique field, it will be checked in real time to ensure it is not shared by another record, and if so, it will ask the user to enter another value. Additional options exist below that dictate if and how the secondary unique field will be displayed in conjunction to a record name on various pages in the project.

u19_id - U19 ID 🔻

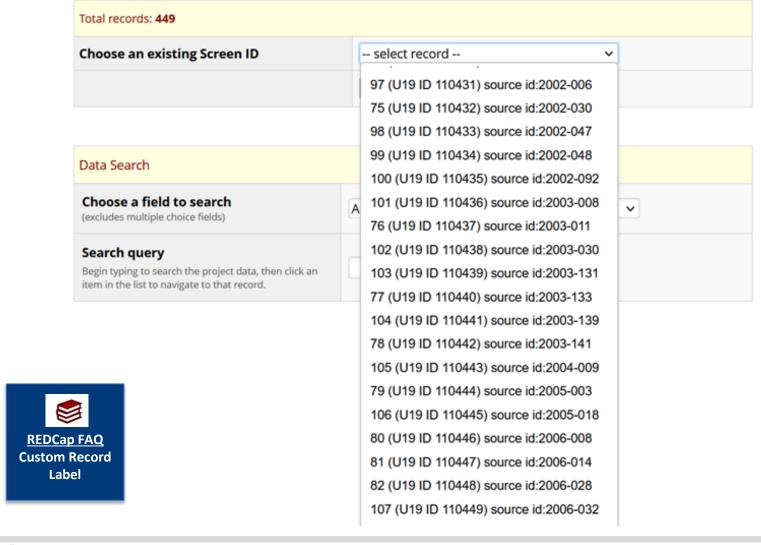
- ☑ Display the value of the Secondary Unique Field next to each record name displayed?
- ☑ Display the field label of the Secondary Unique Field when displaying the value?

Order the records by another field

The default setup is that all records are ordered by their record name (e.g., Study ID) when displayed in the drop-down lists on your data collection instruments, but you may alternatively order the drop-down lists by the values of another field in the project (e.g., last name), if desired. If you wish to order the records by another field, select the field below.

u19_id - U19 ID 🔻

Optional Modules: Custom Record Label, Secondary Unique Field & Custom Record Order







Optional Modules: PDF Customization

✓ № PDF Customizations

Downloadable PDFs of data entry forms and surveys can be customized using the options below. Note: The options will be applied to ALL instruments in the project.

1) Set custom header text to appear at top left of every PDF page (it may be left blank, if desired). Note: Only static text can be entered; thus piping cannot be utilized here.



- 2) Display or hide the REDCap logo and website URL at the bottom right of every PDF page?
 - O Display REDCap logo and website URL (default)
 - Hide REDCap logo/URL and instead display the following text: Powered by REDCap
- 3) Display or hide the Secondary Unique Field value at the top right corner of the PDF? (This option is only applicable if the Secondary Unique Field is enabled above and is set to be displayed.)



4) Hide Record ID from PDF header? (This will remove the record ID from the header of every PDF page.)



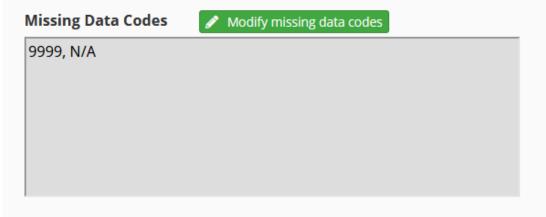


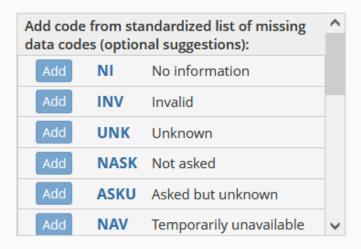
Optional Modules: Missing Data Code

Missing Data Codes: Set up your missing data codes for this project

Fields that have a blank/missing value may be marked with a custom 'Missing Data Code' to note why the value is blank. These missing codes may be used to aid in data analysis by specifying why a field lacks a value. To enable this feature below, enter both the codes AND their labels for all the categories of missing data that you wish to use in this project. The missing codes should be coded just like the choices of a multiple choice field with *code* + *comma* + *label*, in which the codes can only have letters, numbers, dots, dashes, and underscores (e.g., '-999, Not asked' or 'UNK, Unknown'). If no codes are entered, this feature will remain disabled.

Read more detailed instructions.

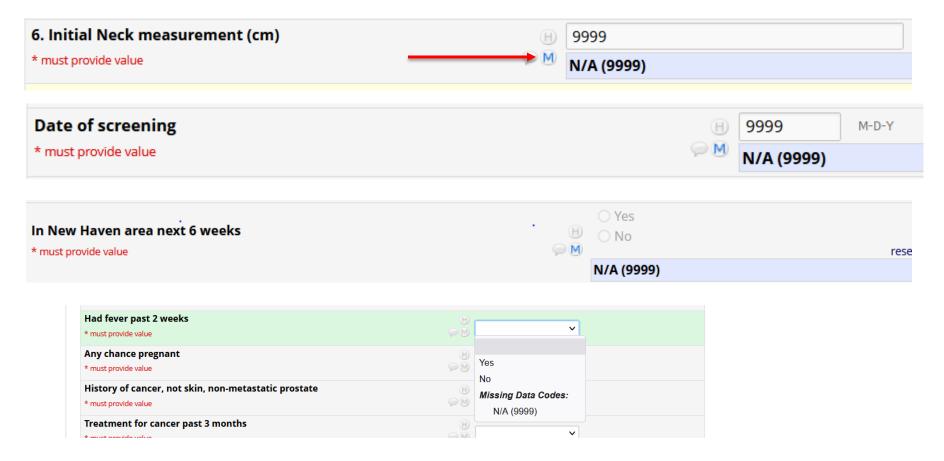






Optional Modules: Missing Data Code

Examples:

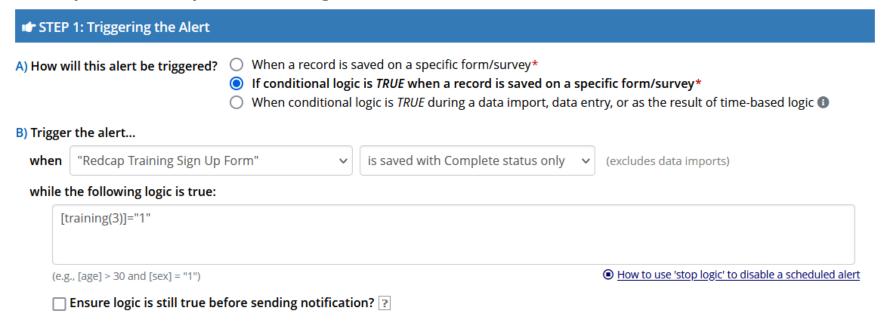






- Construct alerts and send customized notifications
- Can be sent to project users or recipients who are not REDCap users
- Can use conditional logic to trigger notifications

Example – REDCap 201 Training confirmation email:



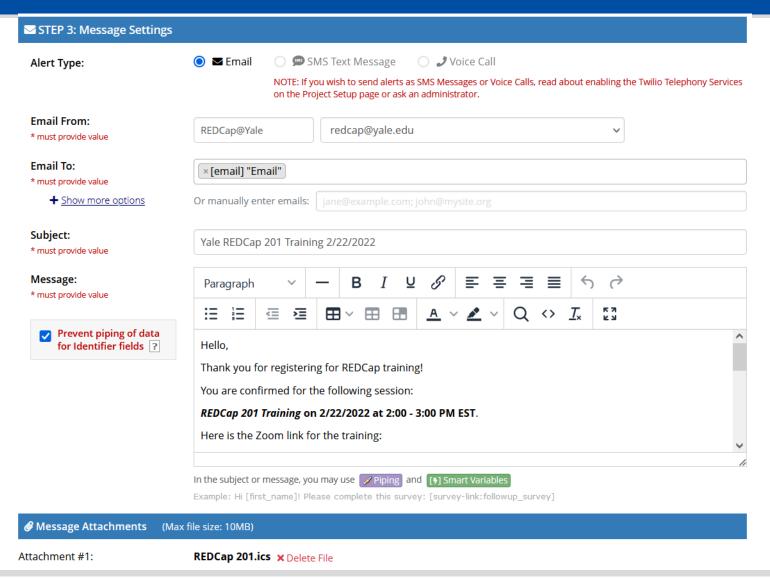


This alert will be auto-deactivated at the specified date/time above. Note: This will cause any already-scheduled

(1) STEP 2: Set the Alert Schedule Send immediately When to send the alert? Send on next Day at time H:M Send the alert after time lapse of days hours minutes Send at exact date/time: Just once Send it how many times? Every time the form/survey in Step 1B is saved (excludes data imports) Multiple times on a recurring basis: C Send every after initially being sent. days Send up to times total (including the first time sent). Leave blank to continue sending forever. Alert expiration: (optional)

notifications not to be sent after the expiration time.







Other examples of alerts and notifications:

- Enrollment notification
- Randomization notification
- Adverse Event notification
- Send survey queue link to study participants

To learn more, refer to the FAQ on our website:







Custom Record Dashboard

III Record Status Dashboard (all records)

Displayed below is a table listing all existing records/responses and their status for every data collection instrument (and if longitudinal, for every event). You may click any of the colored buttons in the table to open a new tab/window in your browser to view that record on that particular data collection instrument. Please note that if your form-level user privileges are restricted for certain data collection instruments, you will only be able to view those instruments, and if you belong to a Data Access Group, you will only be able to view records that belong to your group.

Legend for status icons:				
Incomplete	Incomplete (no data saved) ?			
Unverified	Many statuses (all same)			
Complete	Many statuses (mixed)			

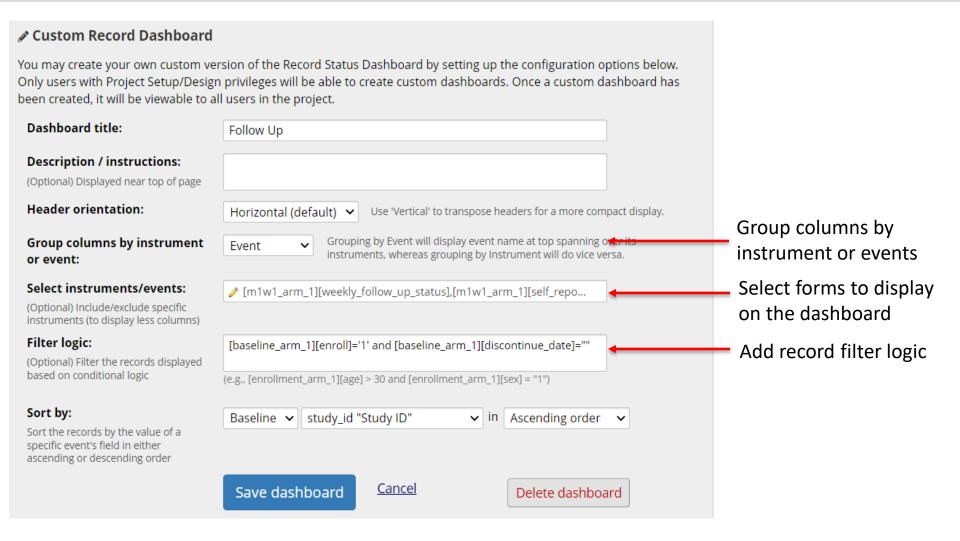
Dashboard displayed:	[Default dashboard] 🗸		
Displaying record Pag	[Default dashboard] Enrolled Participants	" 🗸 of 500 records	100 v records per page
+ Add new record	Follow Up		

Table not displaying





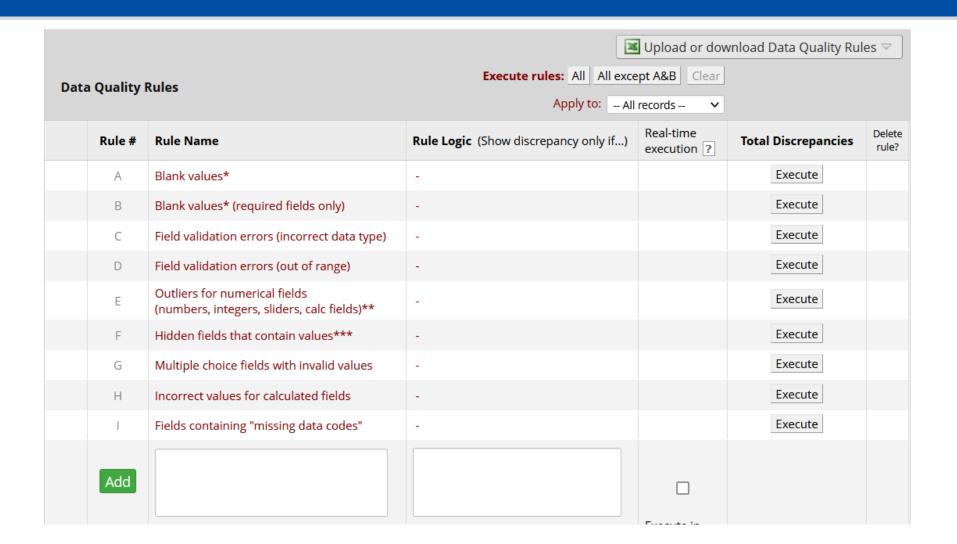
Custom Record Dashboard





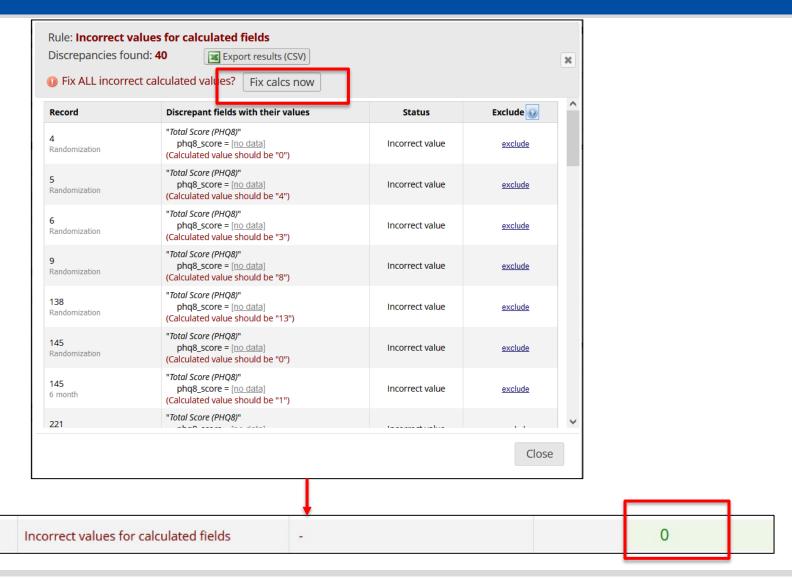


Data Quality Module





Data Quality Module – Rule H Example





Data Quality Module – Custom Rule Example

Rule #	Rule Name	Rule Logic (Show discrepancy only if)	Real-time execution ?	Total Discrepancies
1	Grip Strength 1	[screening_arm_1][screening_sex]='2' and [baseline_arm_1][gripkg1]>29 and [baseline_arm_1][gripkg1]< 96 or [screening_arm_1][screening_sex]='1' and [baseline_arm_1][gripkg1]>61 and [baseline_arm_1][gripkg1]< 96		22 export view

Rule #1: Grip Strength 1

Discrepancies found: 22



Record (Sorted by DAG)	Discrepant fields with their values	Status	Exclude 😡
100-137 Baseline (SILVER 100)	"1st Grip Strength (kg)" gripkg1: 65 "3. Sex" screening_sex:	Issue exists	<u>exclude</u>
100-137 Screening (SILVER 100)	"3. Sex" screening_sex: 1 "1st Grip Strength (kg)" gripkg1:	Issue exists	<u>exclude</u>
180-136 Baseline (SILVER 180)	"1st Grip Strength (kg)" gripkg1: 30 "3. Sex"	Issue exists	<u>exclude</u>



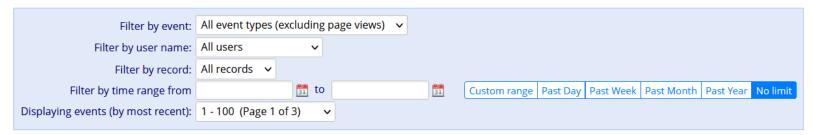


Logging



Export (CSV):	All logging	All pages using current filters	Current page
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This module lists all changes made to this project, including data exports, data changes, and the creation or deletion of users.



Time / Date	Username	Action	List of Data Changes OR Fields Exported
10/22/2021 2:52pm		Manage/Design	Copy project as PID=2139 ("Copy of eConsent Scanned Image De mo")
09/14/2021 12:54pm		Manage/Design	Download instrument ZIP file
09/09/2021 12:11pm		Manage/Design	Download instrument ZIP file
09/09/2021 11:47am		Manage/Design	Download instrument ZIP file
07/08/2021 2:53pm		Manage/Design	Edit project field
07/08/2021 2:52pm	5446	Manage/Design	Reorder project fields
05/04/2021 9:08pm	[survey responde nt]	Updated Response 224	date_signed = '2021-05-04', fname = 'aaa', Iname = 'bbb', participant_sign = '156712', participant_consent_v2_complete = '0'
05/04/2021 8:42pm	[survey responde nt]	Updated Response 225	participant_sign = '156705'
05/04/2021 8:42pm	[survey responde nt]	Updated Response 225	date_signed = '2021-05-04', fname = 'test', Iname = 'test',





Where to find help on Online Designer?

1 Field Embedding

O How to embed a field elsewhere

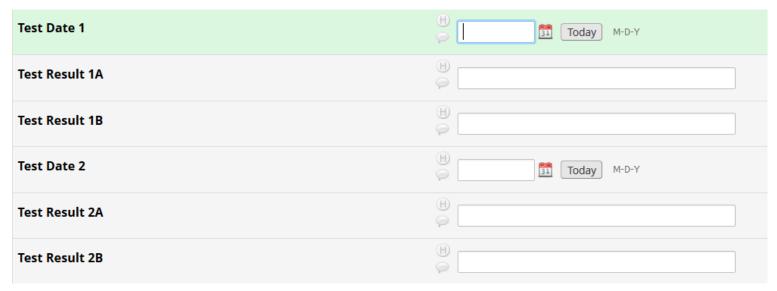
Learn how to customize your instrument or survey by using <u>Field Embedding</u>.

- What is field embedding?
 - Allow position of fields anywhere on the form
 - For example, place fields in a grid/table for a more compact user-friendly page





Without field embedding:



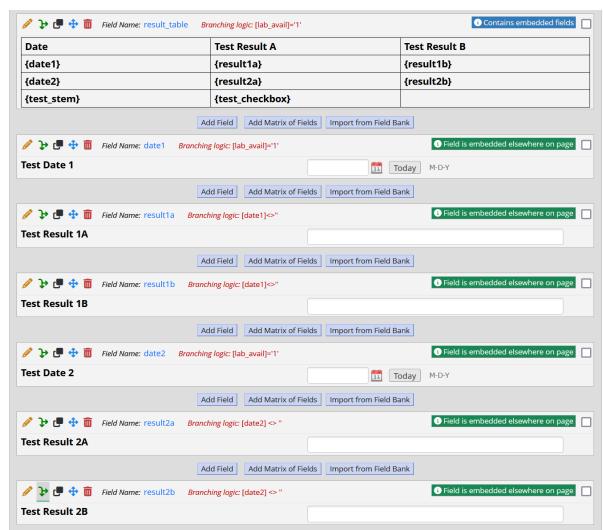
With field embedding:

Date	Test Result A	Test Result B
Today M-D-Y		
Today M-D-Y		



- Create the field(s) that will be embedded
- Create a descriptive text field
- Use rich text editor to add table to the descriptive field
- 4. Add embedded fields to the table, enclose each field with curly bracket

Pro tip: If you have branching logics set up for your tables and/or fields, position your table before the embedded fields.



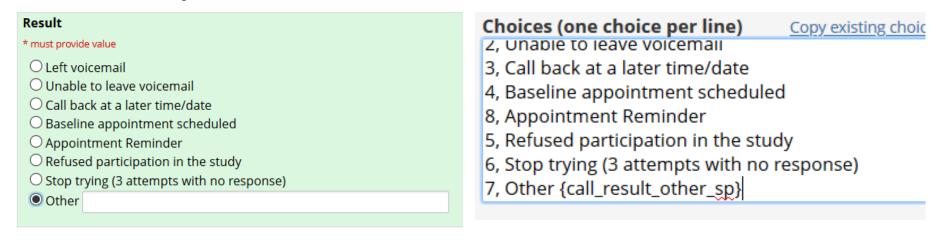


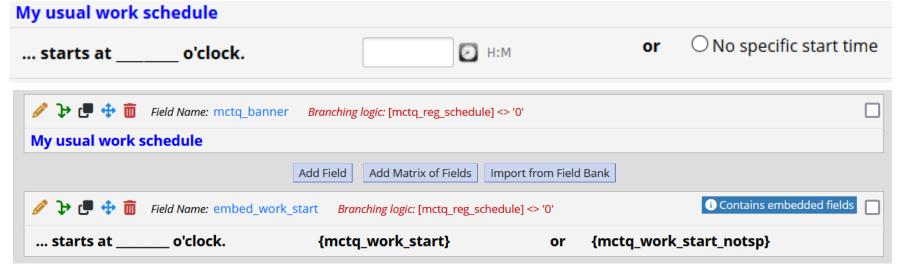
Limitations & Requirements

- The record id field cannot be embedded.
- A field cannot be embedded in itself.
- All fields involved in field embedding have to be on the same instrument/form.
- A field cannot be embedded in another field that's been embedded.
- Embedding supports branching logic.
- Field embedding only relocates the field input. The field label is hidden.
- For embedded fields, the following icons are hidden by default: *Data History*, *Field Comments*, and (if enabled) *Missing Data Codes*.
 - Display the icons by appending ":icons" to the variable name inside the braces/curly brackets - e.g., {last_name:icons}.
- For a multi-page survey, all fields in field embedding must be on the same page.



Other examples:









Special Functions for Calculation, Branching Logic

√x Special Functions

√× Special Functions

View text on separate page

List of functions that can be used in Branching Logic, Calculations, Report filtering, Data Quality Module, Automated Survey Invitations, etc.

REDCap logic can be used in a variety of places, such as Branching Logic, Calculations, Report filtering, Data Quality Module, Automated Survey Invitations, and more. Special functions can be used in the logic, if desired. A complete list of ALL available functions is listed below. Listed below are some examples of common use cases where these functions might be used.

NOTICE: Please be advised that it is not possible to pipe the choice label of a multiple choice field into any of the special functions listed below. In other words, you cannot use the ':label' option, such as [my_field:label], to output the text label into a function. **The special functions only utilize the value of a field, never its label.**

Practical examples for common use cases

- 1. Calculate the number of days separating today's date and a date/datetime field's value in the past or future.
 - datediff([date1], 'today', 'd')
- 2. Calculate a person's age based on date of birth.

```
rounddown(datediff([date_of_birth], 'today', 'y'))
```

3. Calculate a person's BMI (in metric units of 'cm' and 'kg') and rounding to the first decimal place.

```
round(([weight]*10000)/(([height])^(2)), 1)
```

4. Calculate a person's BMI (in English units of 'lb' and 'in') and rounding to the first decimal place.

```
round(([weight]/(([height])^(2))*703), 1)
```

5. Remove a prefix and dash from the beginning of a record name (e.g., convert '4890-2318' to '2318').

```
mid([record-name], find('-', [record-name])+1, length([record-name])-find('-', [record-name])+1)
```

6. Convert a person's first and last name into a username-looking format (e.g., convert 'John' and 'Doe' to 'john_doe'). We may want to trim the values just in case there were spaces accidentally entered.

```
lower( concat( trim([first_name]), '_', trim([last_name]) ) )
```

7. Add leading zeros to an integer, in which the number near the end of the equation represents the maximum length of the result after





Special Functions for Calculation, Branching Logic

Most popular functions:

Function	Name/Type of Function	Notes / Examples
if (CONDITION, VALUE if condition is TRUE, VALUE if condition is FALSE)	If/Then/Else conditional logic	Return a value based upon a condition. If CONDITION evaluates as a true statement, then it returns the first VALUE, and if false, it returns the second VALUE. E.g. if([weight] > 100, 44, 11) will return 44 if "weight" is greater than 100, otherwise it will return 11.
datediff ([date1], [date2], "units", returnSignedValue)	Datediff	Calculate the difference between two dates or datetimes. Options for 'units': 'y' (years, 1 year = 365.2425 days), 'M' (months, 1 month = 30.44 days), 'd' (days), 'h' (hours), 'm' (minutes), 's' (seconds). The parameter 'returnSignedValue' must be either true or false and denotes whether you want the returned result to be either signed (have a minus in front if negative) or unsigned (absolute value), in which the default value is FALSE, which returns the absolute value of the difference. For example, if [date1] is larger than [date2], then the result will be negative if returnSignedValue is set to TRUE. If returnSignedValue is not set or is set to FALSE, then the result will ALWAYS be a positive number. If returnSignedValue is set to FALSE or not set, then the order of the dates in the equation does not matter because the resulting value will always be positive (although the + sign is not displayed but implied).



If/Then/Else

Syntax:

if (CONDITION, VALUE if condition is TRUE, VALUE if condition is FALSE)

Example:

- Eligibility calculation
 - Initial Eligibility (1=Eligible, 0=Ineligible) if([inclu1]='1' and [inclu2]='1' and [inclu3]='1' and [inclu4]='1' and [exclu1]='0' and ([exclu2]='0' or [exclu2]='2') and [exclu3]='0' and [exclu4]='0' and [exclu5]='0' and [exclu6]='0' and [exclu7]='0', 1, 0)

Examples – If/Then/Else

Change text of field label based on event





DateDiff

Syntax:

datediff ([date1], [date2], "units", returnSignedValue)

*The parameter "returnSignedValue" is optional. The default value is false. If you do not include the returnSignedValue parameter, the datediff function will calculate the absolute difference between the two dates.

Example:

- Age at Enrollment
 - rounddown((datediff([dob],[enroll_date], 'y'),0)



Examples – DateDiff

- Number of weeks from MAT start date
 - round(((datediff([scrn_mat_start], [call_date], 'd'))/7),1)
- Branching logic to show warning
 - datediff([medical_abstractio_arm_1][hosp_discharge], [admitdate1], "d", true)<1 or datediff([medical_abstractio_arm_1][hosp_discharge], [admitdate1], "d", true)>180



Variable: warning admitdate1

Branching logic: datediff([medical_abstractio_arm_1][hosp_discharge], [admitdate...

Warning: Admission date not within 180 days of discharge date.





External Modules (EMs)

Individual packages of software that extend REDCap's functionality.

External Modules provide customizations and enhancements for REDCap's existing behavior and appearance at the system- or project- level.



Repository of External Modules

The REDCap Repo is a centralized repository of curated External Modules that can be downloaded and installed in REDCap by a REDCap administrator. External Mc add-on packages of software that can extend REDCap's current functionality, as well as provide customizations and enhancements for REDCap's existing behavior appearance, either at the system level or project level. The modules provided here were created and submitted by software developers at various REDCap institution the world.

If you have created a module and wish to submit it to be listed in the REDCap Repo, please complete the Module Submission Survey. Updated versions must als via the survey. To learn more about the REDCap Repo module review process, you may download the Module Review Guidelines (PDF).

You may search below for available modules. If you got to this site directly, you will be able to view information about each module, but you will not be able to dow modules from this page unless you arrived here from the REDCap application and are a REDCap administrator. If you have questions or are experiencing issues, predcao@vumc.org.

claimer. The modules listed in the REDCap Repo have gone through a process of testing, validation, and curation by the Vanderbilt REDCap Team with help from trusted individuals in the RI soortium. It should not be assumed that all modules are bug-free or perfect, so please be aware that the entire risk as to the quality and performance of the module as it is used in your REI orne by the REDCap administrators who download and install the modules.

Show 10 ♥ entries			Search
Module title and description	First Submitted	Most Recent Update	Downloads (Installs only - Excludes updates)
Address Auto Complete (address_auto_complete_v1.2.0) View on GitHub View Stats			Ye
Description: Please note that currently supported countries are: Switzerland, United Kingdom. Easily create Auto-Complete Address fields that fetch results from APIs. Additionally, save geo data in custom variables and adjust the format of the address label.	2021-10-14	2022-01-07	11 lo RI de
Author: Ekin Tertemiz (Swiss Tropical and Public Health Institute (Swiss TPH))			
Admin Dashboard (admin_dash_v4.0.5) View on GitHulb View Stats	*	PMC3 Login	Yo Ri
Description: Provides a sortable table view of various reports on REDCap metadata (users, projects, etc). Includes a number of built-in reports as well as support for custom SQL queries. Authors Ios Scring (Inhumer) or Iowan). Health Dayls. Chris Ortman	2018-02-27	2021-10-29	1,308 lo



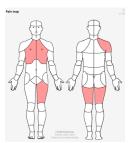
External Modules (EMs)

- Commonly used external modules
 - Instance Table
 - Embed a repeating form within a data entry form
 - Inline Descriptive Pop-ups
- *Common Beta Blockers:

 atenolol (Tenormin), metoprolol (Lopressor, Toprol XL), acebutolol (Sectral),
 bisoprolol (Zebeta, Ziac), nadolol (Corgard), carvedilol (Coreg), propranolol (Inderal,
 Innopran XL), sotalol (Betapace).

 1. Currently taking a beta blocker or calcium channel blocker ≥2
 weeks *

- Cross-project piping
 - Pipe data from one project to another project
- Image Map



Recalculate - Run recalculations for specific records, events, fields or any combination

*Contact REDCap@Yale for suitability of external modules for your project



Thank You!

Further Questions: Contact us at REDCap@yale.edu

