



THE OHIO STATE
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CENTER FOR CLINICAL AND
TRANSLATIONAL SCIENCE

REDCap Grand Rounds Creative Uses 3.0

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REDCap Services

<https://u.osu.edu/redcap/>



- Grand Rounds
 - 2nd Tuesday of each month @ 11am
- Monthly Trainings
 - 4th Wednesday of each month @ 12pm
 - New Hire, Design 1, Design 2- Basic, Design 2- Advanced, Data Entry & Program Management, eConsent
- Office Hours
 - Mondays 11am-1pm & Wednesdays 1pm-3pm
 - Drop-in through Zoom link (on website)
- Thursday Consults
 - Form Reviews, Initial Consult, Troubleshooting, eConsent
 - Scheduled: link on website

What is a “Creative Use”?



- Using REDCap in creative ways!
 - Utilizing the existing functionality of REDCap
 - No advanced coding beyond copy/paste
 - No use of:
 - Plugins
 - Hooks
 - External modules

There are so many creative ways to use REDCap! Don't be shy in exploring its capabilities and finding your own new creative uses.

Email your CUs to ccts-informatics@osumc.edu and we can submit to the [REDCap Creative Use Repository!](#)

Aggregate Functions with Record Name

- Calculate values in repeating instances without knowing the exact number of instances
- Use Aggregate Functions with "record-name" parameter
 - [aggregate-sum]
 - [aggregate-max/min]
 - [aggregate-mean]
 - [_:record-name]



Aggregate Functions with Record Name

Calculate the totals steps from a daily repeating survey for each record.

- The aggregate-sum smart variable can be added to a calculated field.
- The parameters inside the aggregate function are [steps] variable and [record-name].

The screenshot displays a configuration window for a calculated field. The 'Variable Name' is 'countallsteps', the 'Field Label' is 'Total Steps Taken', and the 'Calculation' is '[aggregate-sum.steps.record-name]'. Below this, a 'Repeating Instruments' section shows a 'Daily Steps Log' table with 6 rows of data. A yellow box highlights the 'steps' column values, and another yellow box highlights the 'Total Steps Taken' field value of 57069. Arrows indicate the flow of data from the table to the calculated field.

Variable Name: *countallsteps*
Field Label: Total Steps Taken
Calculation: [aggregate-sum.steps.record-name]

Variable: steps

Enter the number of steps taken today:

Event: **Baseline**

Record ID

Total Steps Taken 57069

Repeating Instruments

Daily Steps Log

Baseline (6)

1	✓	9271
2	✓	7583
3	✓	11440
4	✓	6822
5	✓	13638
6	✓	8315

Aggregate Functions with Record Name

Calculate using other aggregate functions.

- Find the max/min and average number of steps from the daily repeating survey.

Total Steps Taken	calc Calculation: [aggregate-sum:steps:record-name]
Lowest number of daily steps	calc Calculation: [aggregate-min:steps:record-name]
Highest number of daily steps	calc Calculation: [aggregate-max:steps:record-name]
Average daily steps	calc Calculation: round([aggregate-mean:steps:record-name],0)

Lowest number of daily steps	6822
Highest number of daily steps	13638
Average daily steps	9512

Repeating Instruments		
Daily Steps Log		
Baseline		
(6)		
1	✓	9271
2	✓	7583
3	✓	11440
4	✓	6822
5	✓	13638
6	✓	8315

Aggregate Functions with Record Name



Aggregate Functions with record-name parameter can be piped directly to an alert to calculate the values for the record.

Message:
* must provide value

Prevent piping of data for Identifier fields ?

Paragraph

Dear [first_name],
Congratulations you have taken a total of [aggregate-sum:steps:record-name] steps!
Your highest number of daily steps was [aggregate-max:steps:record-name]
Your lowest number of daily steps was [aggregate-min:steps:record-name]
You averaged [aggregate-mean:steps:record-name] steps.

In the subject or message, you may use  Piping and 

Message:

Dear Michelle,
Congratulations you have taken a total of **57,069** steps!
Your highest number of daily steps was **13,638**
Your lowest number of daily steps was **6,822**
You averaged **9,511.5** steps.

Remember you are awesome!



Aggregate Functions with Record Name

Aggregate Functions with record-name parameter also calculate values from different events.

Values from different events and repeating instances

record_id	redcap_event_name	redcap_repeat_instrument	redcap_repeat_instance	steps	countallsteps	lowestdaily	highestdaily	avgdaily
1					43992	5	12000	4888
1	Week 1 Follow-Up			5				
1	Month 6 Follow-Up			12000				
1	Baseline	Daily Steps Log	1	5000				
1	Baseline	Daily Steps Log	2	2000				
1	Baseline	Daily Steps Log	3	3123				
1	Baseline	Daily Steps Log	4	6120				
1	Baseline	Daily Steps Log	5	7720				
1	Baseline	Daily Steps Log	6	2150				
1	Baseline	Daily Steps Log	7	5874				

Alert with Calendar Invite

- Want an alert to include a calendar invite
 - Leverage the File Repository sharing feature
- Elements:
 - .ics file
 - File Repository share link



Alert with Calendar Invite

- Getting the .ics file
 1. Create appointment on your calendar
 2. Select the appointment while in calendar view
 3. Go to File and select 'save as'
 4. File is saved as .ics file
- Upload the .ics file(s) to the File Repository
- Click the 'share' icon and copy the url



Alert with Calendar Invite

- Next, create two hidden @CALCTEXT statements that go in the instrument (in this case, where folks register for a course).
- The first @CALCTEXT field renders the file repository URL for the calendar invite pertaining to course 1.
 - You would substitute the actual URL in place of the word 'url' that's in this statement.

```
@CALCTEXT(if([course_1]='1', 'url', ''))
```

Field name: course_1_calinviteurl

Alert with Calendar Invite

- The second @CALCTEXT field you create pipes that URL into a statement, such that the URL is embedded in words.
 - If course 1 is selected, then display the sentence 'Please click here to download the calendar invite for course 1'. And in that sentence, click here is clickable and brings you to the URL.

```
@CALCTEXT(if([course_1]='1',concat('Please',' <','a  
target','=',' ','_','blank',' ','  
href','=',' ','[course_1_calinviteurl], ' ','> ','click here  
, '<','/','a','>','to download the calendar invite for course 1'),""))
```

Field name: course_1_label

Alert with Calendar Invite

- Alert and Email:
 - In an alert, you pipe in the @CALCTEXT label fields. When the person receives the email, they only see the label if they registered for the corresponding course. Since this person only registered for course 1, they only see that first piped in label.

Hello,
Thank you for registering.
[course_1_label]
[course_2_label]
You can import the calendar invites into your calendar.
Enjoy the rest of your summer!
The Registrar's Office

Hello,
Thank you for registering.
Please [click here](#) to download the calendar invite for course 1
You can import the calendar invites into your calendar.
Enjoy the rest of your summer!
The Registrar's Office

Changing Default Wording Using MLM

- Use the MLM to redefine language elements for the default language
 - Custom wording for out of validation warnings
 - Custom wording for validation types
 - Survey login instructions
 - Survey Queue renaming
 - More descriptive interface items
 - Custom wording for survey expiration/closed
 - Scarier warning messages for record deletion



Changing Default Wording Using MLM

- Navigate to the Multi-Language Management Tool
- Select + Add a new language
 - You can use your default system language
 - You can also create a language from scratch
- Make the language active
 - Also make active on all surveys/forms
- Navigate to the User Interface section
- Select the All Tab
 - Use the search box to easily find the items you would like to modify
- Don't forget to Save!

Changing Default Wording Using MLM

This approach works exactly like adding a new language!

Instead of providing wording for an alternate language, you are providing it for the default language!

Add New Language

Initialize a new language ...

from available system languages

There are no system languages available.

- or -

from a file (JSON, CSV, or INI)

Choose File No file chosen

Include the following:

- Translations of user interface items
- Translations of project-specific items*

*These include: fields, survey settings, ASIs, alerts, missing data code labels, ...

- or -

by creating the language from scratch

Cancel > Continue

Click a button below to select a language to translate:

* English

You may translate any of the REDCap's stock user interface elements seen on forms/surveys, such as field validation buttons, and other things that typically cannot be defined in a project. Please keep in mind that you probably **will not want to translate all interface items** since it is likely that many of them might not be used on your forms/surveys. Tip: Use the 'highlight all untranslated text on the page' as a quick way of determining which specific elements need to be translated.

Filter items on this page: Hide translated items

All Common Field Types Survey Data Entry Validation Protected Email reCAPTCHA

The 'Survey Queue' title:

Default text: Survey Queue

Survey Task List

The 'Close survey queue' button label:

Default text: Close survey queue

Close Survey Task List

The 'incomplete surveys' prompt:

Default text: Listed below is your survey queue, which lists any other surveys that you have not yet completed.

Listed below is your Survey Task List, which lists any other surveys that you have not yet completed.

Conditionally @SETVALUE

Need something between @DEFAULT and @SETVALUE. A template will continue to update (including new piped variables) and appear until conditions are met and then the @SETVALUE no longer overwrites the value.

Elements: @IF, @SETVALUE








Conditionally @SETVALUE


Difference between @DEFAULT and @SETVALUE


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
-  Unverified
-  Complete

Dashboard displayed: 

Displaying record  of 7 records

 [Create custom dashboard](#)

 records per page

[+ Add new record](#)

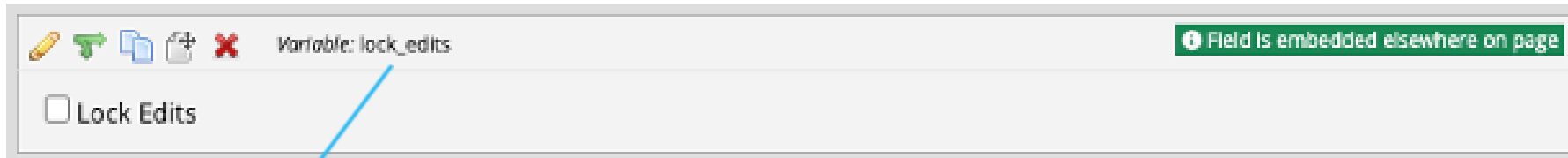
Displaying: [Instrument status only](#) | [Lock status only](#) | [All status types](#)

Record ID	Form 1
1	
2	

Conditionally @SETVALUE

Create a control variable

- Optional: use a built-in control variable such as [instrument_complete]<> '2'



In the field that you want updated, use @IF in combination with @SETVALUE to create a conditionally updating field.




```
@IF([lock_edits(1)]='0', @SETVALUE="Thank you for sharing your experience that occurred in the [incident_location]. Your case number is: CR-[record_id]. After reviewing the report, I would like to connect to hear more about how this event impacted you. This is an initial conversation to provide space for you to share more detail. In most cases, the report will then be discussed with appropriate team members to help determine the next steps. Could we find a time for a brief phone conversation in the next couple of days? What would be the best phone number to reach you?", '')
```

Conditionally @SETVALUE

Let's see the conditionally "locking" @SETVALUE in action

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 Incomp
-  Unverified
-  Complete

Dashboard displayed:

Displaying record of **10** records records per page

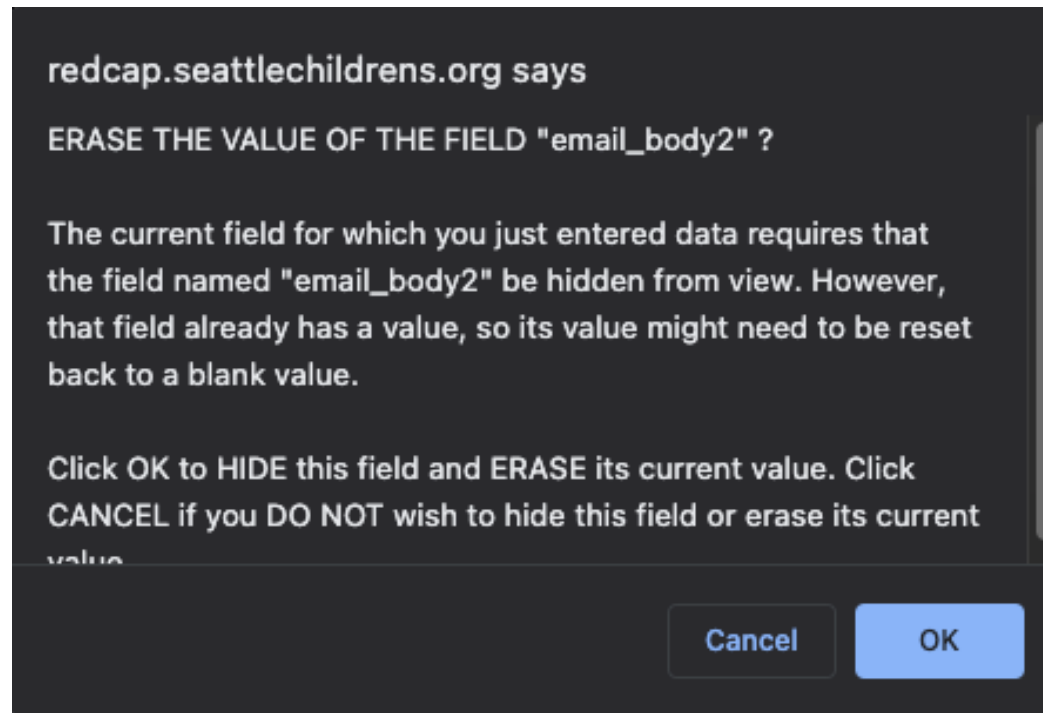
[+ Add new record](#)

Displaying: [Instrument status only](#) | [Lock status only](#) | [All status types](#)

Record ID	Form 1
1	
2	
3	
4	
5	
6	

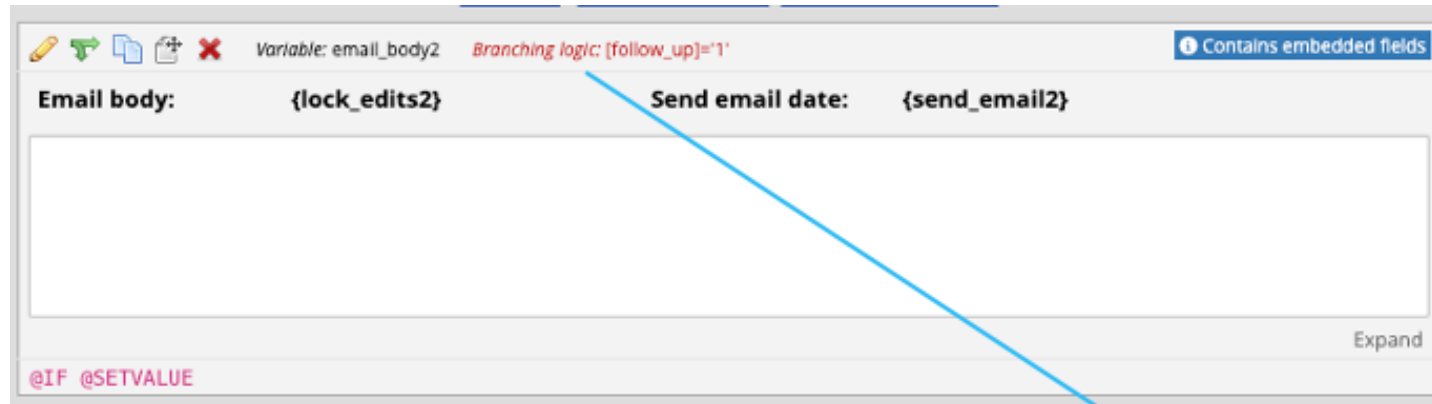
Conditionally @SETVALUE

BONUS: @DEFAULT and @SETVALUE will not function if the field is hidden by branching logic when page loads. More annoyingly – you will most likely also get this pop up if you try and @DEFAULT/SETVALUE a field hidden by branching logic.



Conditionally @SETVALUE

You can use @SETVALUE with an @IF and conditional logic so that you do not get that pesky branching logic pop up.



The screenshot shows an email configuration window for a variable named 'email_body2'. The 'Email body' field contains the placeholder '{lock_edits2}'. The 'Send email date' field contains the placeholder '{send_email2}'. A blue arrow points from the 'Send email date' field to a code block below. The code block contains the following text: '@IF([lock_edits2(1)]='0' and [follow_up]='1', @SETVALUE="I am following up on the email i previously sent about your experience that occurred in the [incident_location]. Your case number is: CR-[record_id]. I would still like to connect to hear more about how this event impacted you. This is an initial conversation to provide space for you to share more detail. In most cases, the report will then be discussed with appropriate team members to help determine the next steps. Could we find a time for a brief phone conversation in the next couple of days? What would be the best phone number to reach you?", '''). The code block is highlighted with a blue border.




```
@IF([lock_edits2(1)]='0' and [follow_up]='1', @SETVALUE="I am following up on the email i previously sent about your experience that occurred in the [incident_location]. Your case number is: CR-[record_id]. I would still like to connect to hear more about how this event impacted you. This is an initial conversation to provide space for you to share more detail. In most cases, the report will then be discussed with appropriate team members to help determine the next steps. Could we find a time for a brief phone conversation in the next couple of days? What would be the best phone number to reach you?", ''')
```

Conditionally @SETVALUE

Let's see it in action!

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
-  Unverified
-  Complete

Dashboard displayed:

Displaying record of **13** records records per page

[+ Add new record](#)

Displaying: [Instrument status only](#) | [Lock status only](#) | [All status types](#)




Record ID	Form 1
1	
2	
3	
4	
5	
6	

Reports with Inline Images

User wants to display uploaded images inline on a report

- Use the `@SETVALUE='[field:inline]'` action tag to generate a `` tag on the report
 - File Upload Field
 - "Multi-Page" form or survey
 - `@SETVALUE` action tag

Example of Normal Report

Submitter Name submit_name	Description of Image description	Please upload an image that you would find acceptable to display on a public report upload
Dan Foley	This is Champ. Champ likes to chomp on Champagne corks.	 PXI_20230122_182509011 (1).jpg
Dan Foley	This is our team in the short amount of time our organization let us use Microsoft Teams Avatars. Fun fact, the avatars are generated on each participants machine. If enough people in a meeting are using an avatar it'll use so much memory that it will crash Teams.	 team.jpg
Dan Foley	This a spooooky fact	 3e324c0b1c103b8c9e...cce3_1.jpg

Normal reports will only allow you to download files that have been placed into file upload fields



Reports with Inline Images

Using this tactic, you will be able to display the images inline in the report
This approach will also allow you to display these images on a public report



Reports with Inline Images

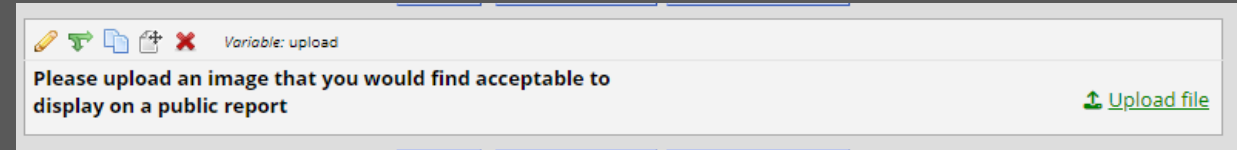
Create a form/survey with a file upload field

- Example field name: [upload]
- Non-image files will not be shown inline

Create a text field that will host the inline image display URL

- Example field name: [url_pipe]
- This field should contain the action tag **@SETVALUE='[upload:inline]'**
- Since @SETVALUE only operates on page load, it must be on a separate "page"
- If using a survey, place on a subsequent multipage section or separate instrument
- If using a form, place it on a different instrument

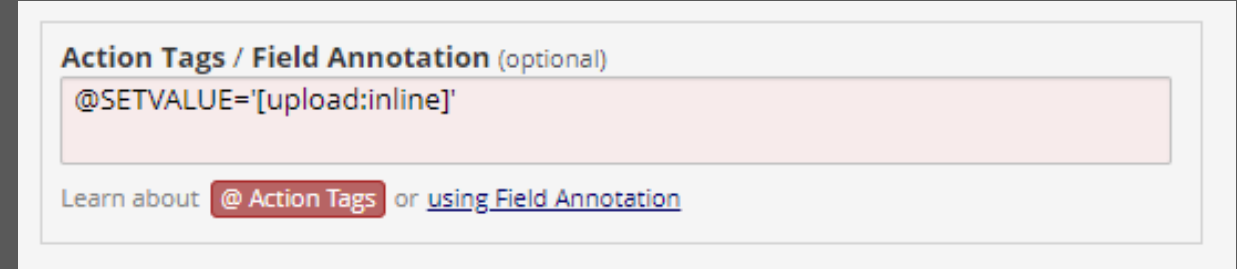
Create a report that includes the [url_pipe] field



Variable: upload

Please upload an image that you would find acceptable to display on a public report

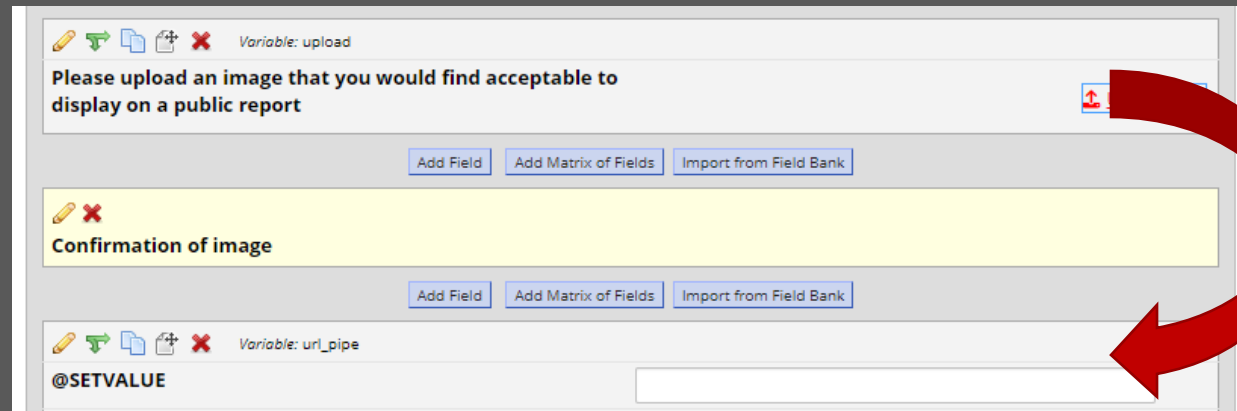
[Upload file](#)



Action Tags / Field Annotation (optional)

@SETVALUE='[upload:inline]'

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



Variable: upload

Please upload an image that you would find acceptable to display on a public report

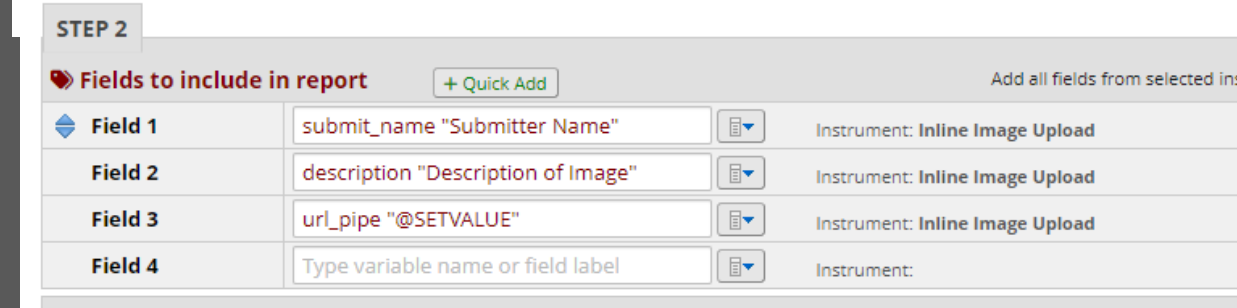
[Add Field](#) [Add Matrix of Fields](#) [Import from Field Bank](#)

Confirmation of image

[Add Field](#) [Add Matrix of Fields](#) [Import from Field Bank](#)

Variable: url_pipe

@SETVALUE



STEP 2

Fields to include in report [+ Quick Add](#) Add all fields from selected instr

Field 1	submit_name "Submitter Name"	Add	Instrument: Inline Image Upload
Field 2	description "Description of Image"	Add	Instrument: Inline Image Upload
Field 3	url_pipe "@SETVALUE"	Add	Instrument: Inline Image Upload
Field 4	Type variable name or field label	Add	Instrument:

Reports with Inline Images

Images shown in the report will be shown in their original size

@SETVALUE operates on page load

- You must develop a process that will generate the @SETVALUE='[upload:inline]' field AFTER the file upload field has been saved
- With surveys you would want to use either a multi-page or multi-instrument approach
- Forms would require a multi-instrument or a "save-twice" approach

Non-image Files

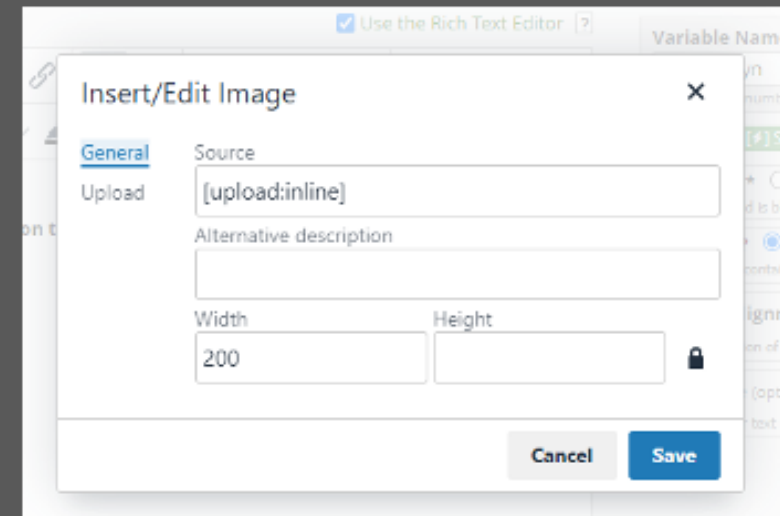


- Files with no browser display options will have the "Eye Slash" icon shown
- Files with browser display option that are not images (for example PDF files) will display text and a download link

Bonus Tip

Piping inline uploaded files into rich-text fields

- You can use the [upload:inline] piping in the "image" option in the rich text editor
- You can specify the image size as well

The screenshot shows a dialog box titled "Insert/Edit Image" with a close button (X) in the top right corner. The dialog has a "General" tab selected. It contains several input fields: "Source" with the value "[upload:inline]", "Alternative description" (empty), "Width" with the value "200", and "Height" (empty). There is a lock icon next to the Height field. At the bottom right, there are "Cancel" and "Save" buttons. The background shows a blurred view of a rich text editor interface.

DAG-Specific Email Addresses

A project with many Data Access Groups, with multiple Alerts that need to go to specific users for the appropriate sites.

- You don't want to create 20+ versions of every Alert.

Use @CALCTEXT() to create a DAG-specific email address!



DAG-Specific Email Addresses

Add an "email" validated text field

- @CALCTEXT()
- Add @HIDDEN, if desired

Edit Field

You may add a new project field to this data collection instrument by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will be added to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(4 min\)](#)

Field Type: Text Box (Short Text, Number, Date/Time, ...)

Field Label: Email Address of Study Coordinator for [surgery_hospital] Use the Rich Text Editor

Variable Name: hosp_sr Enable auto naming of variable based upon its Field Label?
ONLY letters, numbers, and underscores

How to use: Smart Variables Piping Field Embedding

Validation? (optional): Email

Required?+ No Yes
* Prompt if field is blank

Identifier? No Yes
Does the field contain identifying information (e.g., name, SSN, address)?

Custom Alignment: Right / Vertical (RV)

Field Note (optional):

Action Tags / Field Annotation (optional):
@CALCTEXT()
if([record.dag.id]='3062', 'scarzy@jhmi.edu', ...)

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

Save Cancel

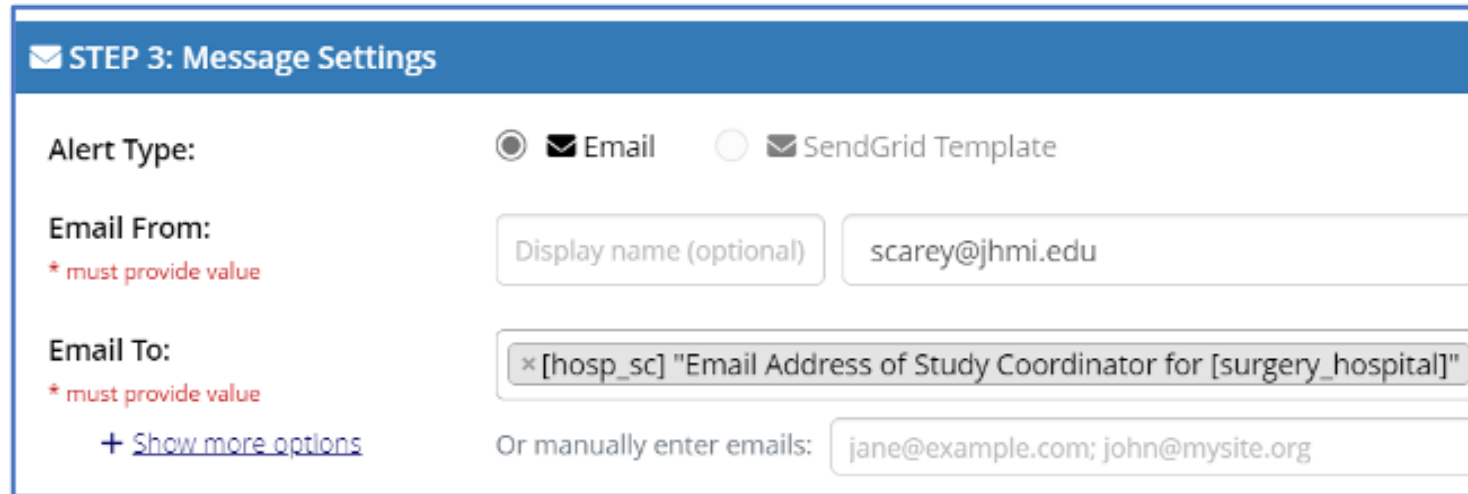
DAG-Specific Email Addresses

Using "if()" and the [record-dag-id] smart variable, calculate the target email address(es) associated w/ each DAG.

```
@CALCTEXT(  
    if([record-dag-id]='8062', 'scarey@jhmi.edu',  
    if([record-dag-id]='8063', 'scott.m.carey@gmail.com', '')))
```

DAG-Specific Email Addresses

When creating an Alert / Notification (or even an ASI), you can reference this field to ensure it goes to the site-specific study coordinator.



The screenshot shows a form titled "STEP 3: Message Settings" with the following fields and options:

- Alert Type:** Radio buttons for "Email" (selected) and "SendGrid Template".
- Email From:** A text input field containing "scarey@jhmi.edu". A sub-field for "Display name (optional)" is present but empty. A red asterisk indicates "must provide value".
- Email To:** A text input field containing a template: "× [hosp_sc] 'Email Address of Study Coordinator for [surgery_hospital]'". A red asterisk indicates "must provide value".
- Additional Options:** A link "+ Show more options" and a text input field for "Or manually enter emails:" containing "jane@example.com; john@mysite.org".

Dynamic Repeatable Instrument Limiter

Allow participants to create repeatable instances but only a dynamic number of instances determined by another field.

- @CALCTEXT & @HIDDEN-SURVEY
- [new-instance] smart variable
- Redirect to a URL



Dynamic Repeatable Instrument Limiter

DO NOT USE "REPEAT THE SURVEY" survey settings option!



Data Collection Instruments

[+ Create](#) a new instrument from scratch
[Import](#) a new instrument from the official [REDCap Instrument Library](#)
[Upload](#) instrument ZIP file from another project/user or [external libraries](#)

Form options:
[Form Display Logic](#)

Survey options:
[Survey Queue](#)
[Auto Invitation options](#)
[Survey Login](#)
[Survey Notifications](#)

Instrument name	Fields	View PDF	Enabled as survey	Instrument actions	Survey related options
Pre-Screening Survey	2			Choose action	Survey settings + Automated Invitations
Family Member	2			Choose action	Survey settings + Automated Invitations
No More	13			Choose action	Survey settings + Automated Invitations

Repeat this instrument?	Instrument name	Custom label for repeating instruments (optional) Example: [visit_date], [weight] kg
<input type="checkbox"/>	Pre-Screening Survey	<input type="text"/>
<input checked="" type="checkbox"/>	Family Member	<input type="text" value="[fam_name]"/>
<input type="checkbox"/>	No More	<input type="text"/>

Dynamic Repeatable Instrument Limiter

Create the dynamic control variable in an instrument asking the participant the number of instances they will need.

- Validation: Integer with optional Min/Max

Field Type: Text Box (Short Text, Number, Date/Time, ...)

Question Number (optional)

Field Label Use the Rich Text Editor

How many members of your family would you like to enroll?

Variable Name (utilized in logic, calcs, and exports) Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

How to use

Validation? (optional) Integer

Minimum:

Maximum:

Tip for min/max limits: You may pipe a value from another field to set dynamic range limits - e.g., `[visit_date]` or `[event_1_arm_1]age`. You may also use the word `today` or `now` (not wrapped in quotes) for date/time fields.

- OR -

Please fill out the information below.

How many members of your family would you like to enroll?

Dynamic Repeatable Instrument Limiter

On the repeatable instrument – Create a redirect URL field using the action tags @CALCTEXT and @HIDDEN-SURVEY.

The screenshot shows a configuration interface for a survey instrument. The 'Field Type' is set to 'Text Box (Short Text, Number, Date/Time, ...)'. The 'Field Label' is 'Redirect URL'. The 'Action Tags / Field Annotation' field contains the following code:

```
@CALCTEXT(if([current-instance]<[enroll_family_number], [survey-url:family_member][new-instance], [survey-url:no_more]))  
@HIDDEN-SURVEY
```

A red box highlights the code in the 'Action Tags / Field Annotation' field. A red arrow points from this box to a larger, detailed view of the code in a separate box below. The detailed view shows the code on a white background with a red border:

```
@CALCTEXT(if([current-instance]<[enroll_family_number], [survey-url  
:family_member][new-instance], [survey-url:no_more]))  
@HIDDEN-SURVEY
```

The interface also includes various other settings such as 'Variable Name' (redirect_url), 'Validation?' (None), 'Required?' (No), and 'Identifier?' (No).

Dynamic Repeatable Instrument Limiter

Details of the @CALCTEXT we are using:

```
@CALCTEXT(if([current-instance]<[enroll_family_number], [survey-url  
:family_member][new-instance], [survey-url:no_more]))  
@HIDDEN-SURVEY|
```



[current-instance]<[dynamic_control_variable]



[survey-url:repeatable_survey][new-instance]



[survey-url:alternate_survey]

Dynamic Repeatable Instrument Limiter

Under "Survey Settings" for that instrument, navigate to "Survey Termination Options" and input the dynamic control variable as a piped variable for the "Redirect to a URL"

Survey Termination Options:

Auto-continue to the next survey? Automatically start the next survey instrument after finishing this survey [?](#)

(Optional) Conditional logic for Survey Auto-Continue:
Auto-continue to the next survey ONLY if the conditional logic below is *TRUE* or if the textbox has been left blank.

e.g., [age] > 30 and [sex] = "1" [How to use this](#)

NOTICE: The Survey Queue has been enabled in this project. Please note that the Survey Queue can sometimes conflict with the Survey Auto-continue feature.

— OTHERWISE —

Redirect to a URL
(Redirect to a webpage when survey is completed)

Provide a full URL, e.g. http://www.example.com/mypage.html, [survey-url:other_survey]

[How to use Piping here](#)

Dynamic Repeatable Instrument Limiter

Let's see it in action!

Family Survey AAA
+ -

Please fill out the information below.

How many members of your family would you like to enroll?

Family Survey AAA
+ -

Please fill out the information below.

How many members of your family would you like to enroll?

The Magic Box

Use of the "embed an external video" option in a descriptive field with the inline display selected to create magical things...

Add New Field

You may add a new project field to this data collection instrument by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will be added to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(4 min\)](#).

Field Type: Descriptive Text (with optional Image/Video/Audio/File Attachment) Codebook

Field Label Use the Rich Text Editor

Variable Name (utilized in logic, stats, and exports)
 Enable auto-removal of variable based upon its Field Label?
Only letters, numbers, and underscores.

How to edit: [Smart Variables](#) [Rules](#) [Field Embedding](#)

Optional file attachment, image, audio, or video:

Embed an external video (provide video URL) ?

e.g. <https://youtube.com/watch?v=E1cCuWMupz0>,
<https://vimeo.com/62730281>, <http://example.com/movie.mp4>

Display format of video: Inline Inside popup

- or -

Attach an image, file, or embedded audio

[Upload file](#)

Display format of attachment on page:

Link
 Inline image/PDF
 Audio file (play in embedded player on page)
[Compatibility notice for embedded audio](#)

(Images wider than 600 pixels will be downsized to fit page.)

Save Cancel

Optional file attachment, image, audio, or video:

Embed an external video (provide video URL) ?

Go Nuts

e.g. <https://youtube.com/watch?v=E1cCuWMupz0>,
<https://vimeo.com/62730281>, <http://example.com/movie.mp4>

Display format of video: Inline Inside popup

- or -

Attach an image, file, or embedded audio

[Upload file](#)

Display format of attachment on page:

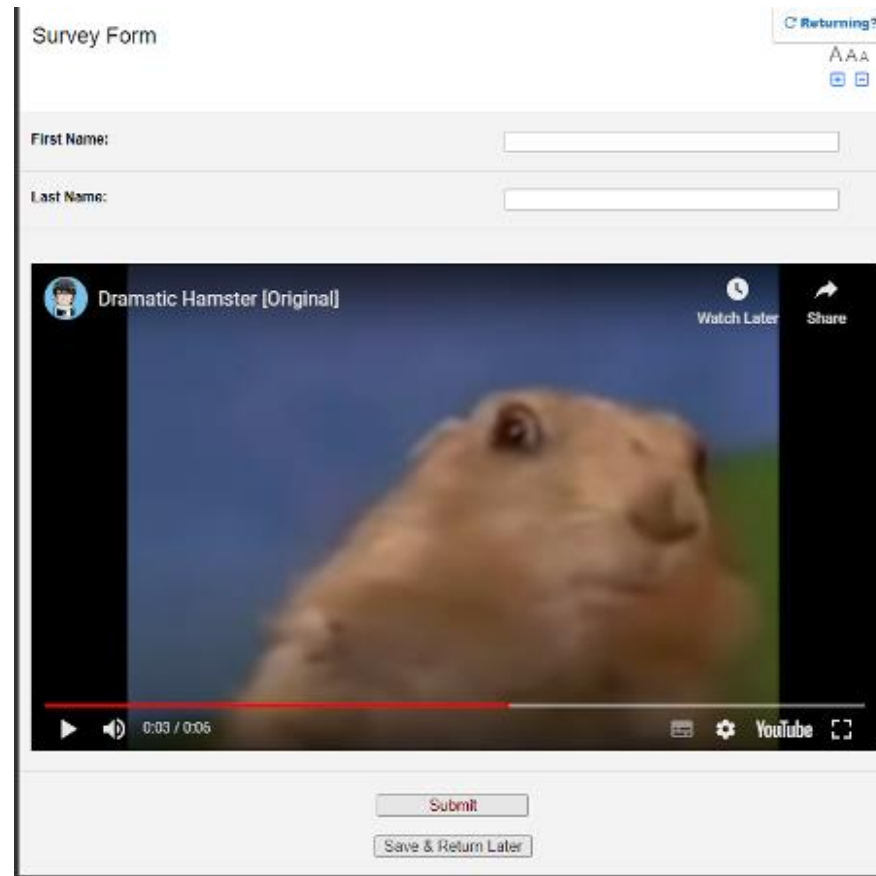
Link
 Inline image/PDF
 Audio file (play in embedded player on page)
[Compatibility notice for embedded audio](#)

(Images wider than 600 pixels will be downsized to fit page.)



The Magic Box

Typical use: external link to a YouTube video



The Magic Box

Off label uses...

Codebook

The screenshot shows a web-based interface for configuring a survey instrument. At the top, there are navigation buttons: "Return to list of instruments", "Survey settings", and "Next instrument >>". Below these, it indicates "Current instrument: Demo" and a "Preview instrument" button.

The main configuration area is divided into two sections. The first section is for the variable "record_id", which is labeled "Record ID". It includes a text input field and a note: "NOTE: The field above is the record ID field and thus cannot be deleted or moved. It can only be edited." There are also buttons for "Add Field", "Add Matrix of Fields", and "Import from Field Bank".

The second section is for the variable "desc", which is labeled "2023 CU". It features a table with 8 rows, each representing a field in the codebook. The table has columns for a field number, a variable name in brackets, a label, and a data type. The "Instrument: Demo" header is visible above the table, along with a "Enabled as survey" status and a "Collapse" button.

Field	Variable	Label	Data Type
1	[record_id]	Record ID	text
2	[desc]		descriptive
3	[firstname]	First Name:	text
4	[lastname]	Last Name:	text
5	[desc2]		descriptive
6	[desc3]		descriptive
7	[desc4]		descriptive
8	[desc5]		descriptive

At the bottom of the table, there are buttons for "Add Field", "Add Matrix of Fields", and "Import from Field Bank".

The Magic Box

Off label uses...

Events

The screenshot displays a web-based interface for configuring a survey instrument. At the top, there are navigation buttons: "Return to list of instruments", "Survey settings", and "Next instrument >>". Below this, it indicates "Current instrument: Demo" and a "Preview instrument" button.

The main configuration area is titled "Variable: record_id" and contains a "Record ID" field. A red warning message states: "This field will NOT be displayed on the survey page. You should NOT use identifiers (e.g., MRN, SSN) for the record ID field." A note below explains that this field cannot be deleted or moved.

Below the record ID field are buttons for "Add Field", "Add Matrix of Fields", and "Import from Field Bank".

The next section is titled "Variable: desc2" and shows the configuration for "2023 CU". It includes an "Arm 1: Arm 1" section with an "+Add New Arm" button and a "Rename Arm 1" link.

The core of this section is a table of events:

	Event # [event-number]	Event Label [event-label]	Custom Event Label (optional)	Unique event name (auto-generated) [event-name]	Event ID (auto-generated, unchangeable) [event-id]
	1	Event 1		event_1_arm_1	82241
	2	event 2		event_2_arm_1	82737

Below the table is an "Add new event" button and a form with two input fields: "Descriptive name for this event" and "Custom Event Label (optional)". An example of a label is provided: "[visit_date], [weight] kg".

At the bottom of the configuration area are buttons for "Add Field", "Add Matrix of Fields", and "Import from Field Bank".

The Magic Box

Off label uses...

Internal Directory

Survey Form Returning?

AAA
⊞ ⊞

Duke Internal Directory

Use of Duke University Directory results are only permitted for purposes consistent with Duke business, academic or research activities. Any other use, including without limitation the compilation or redistribution of information, is prohibited.

Find People at Duke

Search by name, phone, or email

Q

First Name:

Last Name:

Submit

Save & Return Later

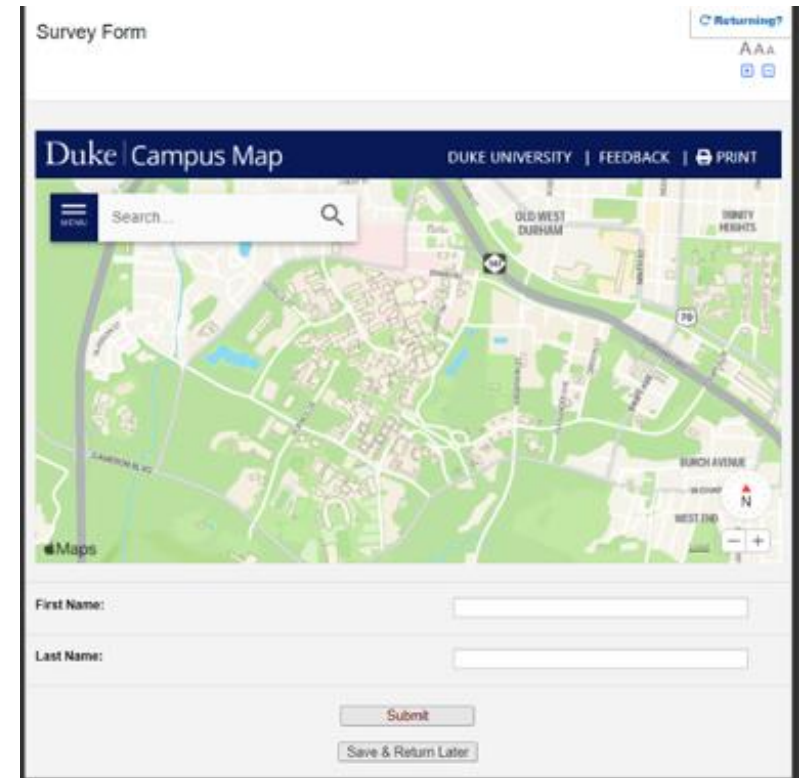
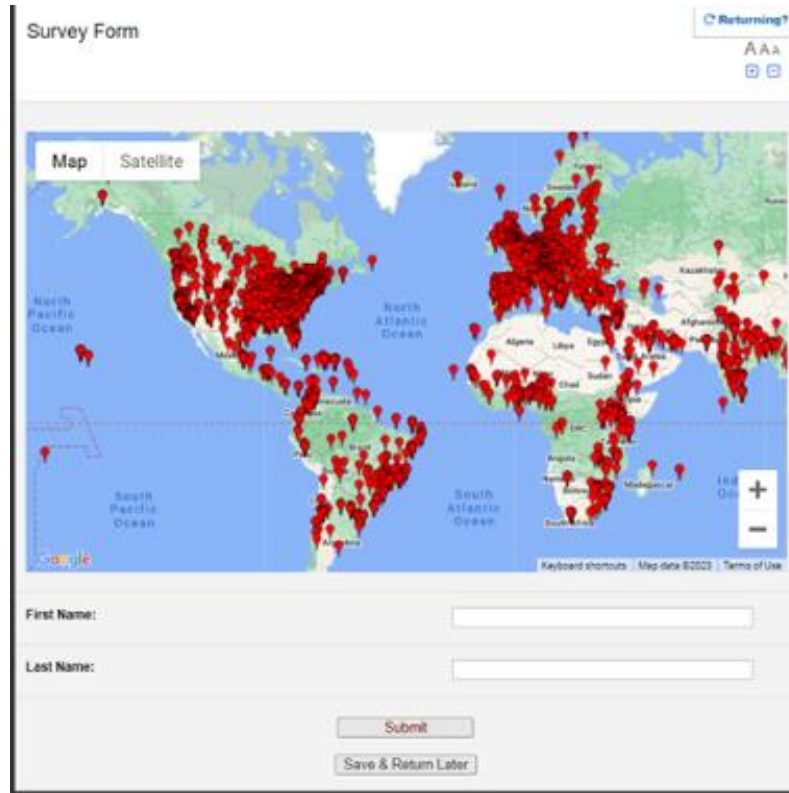
43

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The Magic Box

Off label uses...

Maps



The Magic Box

Off label uses...

Reports &
Dashboards

Survey Form Returning?

First Name:

Last Name:

Search

Session Date	Start time (Pacific US)	End time (Pacific US)	Session Location	Session Title	Session Description (Audience):
Monday, September 11, 2023	10:45	10:50	Grand Ballroom I & II 4th floor	All-Star Awards	Appreciation awards to some of our most active members (All Attendees)
Monday, September 11, 2023	10:50	11:20	Grand Ballroom I & II 4th floor	Creative Uses of REDCap I (Beginner level)	Creative and novel use of REDCap strictly with basic REDCap functionality. No external modules, no hooks, no plugins, etc. (All Attendees)
Monday, September 11, 2023	11:20	11:25	Grand Ballroom I & II 4th floor	Stretch Break	

Submit

Save & Return Later

The Magic Box

Off label uses...

Documents

The screenshot shows a Google Sheet titled "Survey Form" with a table of ideas. The table has columns for "id", "idea", "Presenter", and "Source". Below the table is a form with "First Name:" and "Last Name:" fields, a "Submit" button, and a "Save & Return Later" button.

	A	B	C	D
1	id	idea	Presenter	Source
2		Hidesubmit without EM (involves @HIDECHOICE and required fields on multiple pages) options	Ashleigh	
3		Hiding individual fields from certain users using @F(user-name)+lewis2@washington.edu,	Ashleigh	
4		Dynamic Emails without multiple alerts using Radio/Dropdown and @CALCTEXT	Ashleigh	
5		Dynamic Survey Landing Page?	Ashleigh	
6		Require watch full video (survey timestamp?) branching logic to hidesubmit	Amanda	
7		Getting rid of ___ from piping in for blank values using @CALCTEXT(@[qol_sleep_score]<=19,	Courtney H	
8		Getting Day of the Week from a date	Dan	
9		Verifiable Survey Redirect (Gift Card Confirmations)	Dan	
10		Defeating the Daylight Savings Time @CALCDATE issue	Dan	

The screenshot shows a REDCap survey form titled "SQL query for Specific Value". The form includes a scenario description: "Scenario: You have several date fields in one record and need a way to identify max/min entry from within the record". Below the text is the REDCap logo and a Google Slides interface. At the bottom, there are "First Name:" and "Last Name:" fields, a "Submit" button, and a "Save & Return Later" button.

The Magic Box

REDception: Forms within Forms

Survey Form

Returning?

Your Opinion:

Expand

Entry Form

Thank you for completing the Satisfaction Survey. If you wish to enter the drawing for a **\$100 Gift Card**, please fill out the form below. This form is not linked to the Satisfaction Survey and your entry cannot be traced to your responses. If you do not wish to participate, simply close this window. If you have any questions or concerns, please contact DOCB_helo@dm.duke.edu.

Thanks again and good luck!

Last Name:

* must provide value

First Name:

* must provide value

What is your preferred method of contact?
* must provide value

email phone

reset

Submit

Save & Return Later

Optional file attachment, image, audio, or video:

Embed an external video (provide video URL)

[survey-url: form_2][new-instance]

e.g. <https://youtube.com/watch?v=E1cCuWMupz0>,
<https://vimeo.com/62730281>, <http://example.com/movie.mp4>

Display format of video: Inline Inside popup

- or -

Attach an image, file, or embedded audio

[Upload file](#)

Display format of attachment on page:

Link

Inline image/PDF

Audio file (play in embedded player on page)

[Compatibility notice for embedded audio](#)

(Images wider than 600 pixels will be downsized to fit page.)

Form 1

Please complete the survey below.

Thank you!

1) Last Name:

2) First Name:

Form 2

Relationship:

Mother

Father

Child

Sibling

reset

Submit and

register another relative

- or -

Submit

Submit

The 'Perfect' Date

How to create a validated date when only collecting a month and year.

- @CALCTEXT
- Calculated fields
- Functions for text values
 - Concat, left, right

Often needed when a date needs to be collected from a subject and they might not recall the exact day but can recall the month and year:

- Surgery/hospitalization/vaccination dates
- Starting/stopping medication dates
- Date of most recent exam



The 'Perfect' Date

The image shows a form builder interface with three fields and their validation menus:

- First Month** (Variable: month_2): Validation menu shows options 1, January; 2, February; 3, March; 4, April.
- First Year** (Variable: year_2): Validation menu shows options 10, October; 11, November.
- First Month Calculation** (Variable: month_calc_2): Validation menu shows options 10, October; 11, November.

The 'First Month Calculation' field contains the following @CALCTEXT formula:

```
@CALCTEXT(if([month_2]='1','01',  
if([month_2]='2','02',if([month_2]='3','03',if([month_2]='4','04',if([month_2]='5','05',  
if([month_2]='6','06',if([month_2]='7','07',if([month_2]='8','08',if([month_2]='9','09',  
if([month_2]='10','10',if([month_2]='11','11',if([
```

The 'First Concat month and year' field (Variable: concat_mnth_yr_2) contains the following @CALCTEXT formula:

```
@CALCTEXT(if([month_2]="",if([year_2]="",concat([month_calc_2],'-','01','-',[year_2])))
```

The 'Perfect' Date

Please enter the month and year of your first surgery:

Month: Year:

First Month Calculation

First Concat month and year

Please enter the month and year of your second surgery:

Month: Year:

Second Month Calculation

Second Concat month and year

Datediff between two month and year calculations
Returning month(s)

Bingo

You need a fun warm-up game or exercise for (say) a conference presentation such as Bingo!

- Field Embedding
- Calculations
- Public Survey

Complete your Bingo card by mingling with others

I MET A PERSON:

From the same country	From another continent	Person called Rob	Is a New Admin
A Veteran Admin	A Bostonian	An MVP	FAQ committee Member
Presenting at 'Con	Training Committee Member	Loves Dogs AND Cats	Wrote an external module
Built a COVID project	From the Southern hemisphere	A Vandy team member	Some who loves to cook

The person who From another continent was:

The person who Person called Rob was:

The person who Presenting at 'Con was:

The person who A Bostonian was:

The person who FAQ committee Member was:

The person who Training Committee Member was:

The person who From the Southern hemisphere was:

!!!BINGO!!!



Bingo

A look at the field embedding:

Variable: bingo_card_sm Contains embedded fields

I MET A PERSON:

{bingo1}	{bingo2}	{bingo3}	{bingo4}
{bingo6}	{bingo7}	{bingo8}	{bingo10}
{bingo5}	{bingo12}	{bingo13}	{bingo14}
{bingo15}	{bingo17}	{bingo24}	{bingo19}

Variable: bingo1 Field is embedded elsewhere on page

I MET AND SPOKE TO From the same country reset

[Add Field](#) [Add Matrix of Fields](#) [Import from Field Bank](#)

Variable: bingo2 Field is embedded elsewhere on page

I MET AND SPOKE TO From another continent reset

[Add Field](#) [Add Matrix of Fields](#) [Import from Field Bank](#)

Variable: bingo3 Field is embedded elsewhere on page

I MET AND SPOKE TO Person called Rob reset

[Add Field](#) [Add Matrix of Fields](#) [Import from Field Bank](#)

Variable: bingo4 Field is embedded elsewhere on page

I MET AND SPOKE TO Is a New Admin reset

Bingo

Calculations: 4x4 Bingo requires 10 calculations!

Field Label

BinGO CALCS1

Calculation Equation [How do I format the equation?](#) Learn how to use [Special Functions](#)

[bingo1]+ [bingo2]+ [bingo3] + [bingo4]

Test calculation with a record:

Action Tags / Field Annotation (optional)

@HIDDEN-SURVEY

Ranking Checkboxes (4 Ways!)

Need the ability to dynamically filter and ask additional ranking questions about checkbox options

- @MAXCHECKED (Optional)
- Matrix Field w/ ranking (v1)
- Field Embedding (v2)
- @IF (v3)
- @CALCTEXT (v4)



Ranking Checkboxes (Version 1.0)

Backend Configuration:

- Checkbox field
- Matrix field
- Matrix ranking enabled

Ranking:

[What is a ranked matrix of fields?](#)

- Allow only 1 choice to be selected per column (radio buttons only)

- Branching logic

Variable: checktest

Contains embedded fields

Select all the elements the are important in getting a good night sleep!

- Pillow
- Blanket
- Darkness
- Temperature
- Quiet
- Other {checktest_oth}

Add Field Add Matrix of Fields Import from Field Bank

Matrix_group: checktest_matrix

Please identify the most important and second more important elements to getting a good night sleep.

	Most important	Second most important
Pillow	<input type="radio"/>	<input type="radio"/>
Blanket	<input type="radio"/>	<input type="radio"/>
Darkness	<input type="radio"/>	<input type="radio"/>

reset

reset

reset

Branching logic: [checktest[1]]=1

Branching logic: [checktest[2]]=1

Branching logic: [checktest[3]]=1

Ranking Checkboxes (Version 1.0)

Let's see it live!

Dynamic Logic With Matrix v1 AAA + -

Select all the elements the are important in getting a good night sleep!

- Pillow
- Blanket
- Darkness
- Temperature
- Quiet
- Other

Submit

Powered by REDCap

Ranking Checkboxes (Version 2.0)

Backend Configuration

- Checkbox field
- Matrix field
- Matrix ranking enabled
- Branching logic

New elements:

- Field Embedding
- Optional:
@MAXCHECKED='3'

The screenshot displays a survey configuration interface. At the top, there is a toolbar with icons for edit, save, and delete, and a label 'Variable: checktestv2'. A blue box highlights the variable name 'pillowv2' in the checkbox field configuration. Below the checkbox field, there are buttons for 'Add Field', 'Add Matrix of Fields', and 'Import from Field Bank'. The matrix field configuration is titled 'Matrix group: checktest_matrix_v2' and contains a table with three columns: 'Most important', 'Second most important', and 'Third most important'. The table has three rows: 'Pillow', 'Blanket', and 'Darkness'. Each row has three radio buttons corresponding to the columns. A blue arrow points from the 'Field Embedding' bullet point in the text to the 'pillowv2' variable name in the matrix field configuration. A green box highlights the text 'Field is embedded elsewhere on page' in the matrix field configuration.

Variable: checktestv2

Contains embedded fields

Select the top 3 elements you need to get a good night sleep. Then rank them from least important (1) to most important (3).

- Pillow {pillowv2}
- Blanket {blanketv2}
- Darkness {darknessv2}
- Temperature {tempv2}
- Quiet {quietv2}
- Other {checktest_othv2} {otherv2}

@MAXCHECKED

Add Field Add Matrix of Fields Import from Field Bank

Matrix group: checktest_matrix_v2

Please identify the most important and second more important elements to getting a good night sleep.

Variable: pillowv2 Branching logic: [checktestv2(1)]=1

Field is embedded elsewhere on page

(One selection allowed per column)

	Most important	Second most important	Third most important	
Pillow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Blanket	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Darkness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset

Ranking Checkboxes (Version 2.0)

Let's see it live!

Dynamic Logic With Matrix Embedding

AAA
+ -

Select the top 3 elements you need to get a good night sleep. Then rank them from least important (1) to most important (3).

- Pillow
- Blanket
- Darkness
- Temperature
- Quiet
- Other

Submit

Powered by REDCap

Ranking Checkboxes (Version 3.0)

Backend Configuration

- Checkbox field
- Matrix field
- Matrix ranking enabled
- Branching logic

New elements:

- Multi-page survey
- @IF & @HIDECHOICE

The screenshot displays the configuration interface for a survey question. The top section, titled 'checktestv2v3', contains a list of checkboxes: Pillow, Blanket, Darkness, Temperature, Quiet, and Other {checktest_othv2v3}. Below this is a 'Matrix Rows' section for 'sum_checks'. A table lists the rows with columns for Field Label, Variable Name, Question Number, Required, and Field Annotation. The Field Annotation column contains branching logic using @IF and @HIDECHOICE. A blue box highlights the logic for the first row, and another blue box highlights the Field Annotation column.

Field Label	Variable Name	Question Number	Required	Field Annotation ?
				@IF([sum_c] = '6', "", @IF([sum_c] = '5', @HIDECHOICE='6', @IF([sum_c] = '4', @HIDECHOICE='5,6', @IF([sum_c] = '3', @HIDECHOICE='4,5,6', @IF([sum_c] = '2', @HIDECHOICE='3,4,5,6', ""))))))
[checktest_oth]	otherv2v3			@IF([sum_c] = '6', "", @IF([sum_c] = '5', @HIDECHOICE='6', @IF([sum_c] = '4', @HIDECHOICE='5,6', @IF([sum_c] = '3', @HIDECHOICE='4,5,6', @IF([sum_c] = '2', @HIDECHOICE='3,4,5,6', ""))))))

Ranking Checkboxes (Version 3.0)

Let's see it live!

Dynamic Logic With Matrix v3 IF HIDECHOICE

AAA
+ -

Select the top elements you need to get a good night sleep. Then rank them from Most important (1) to least important.

- Pillow
- Blanket
- Darkness
- Temperature
- Quiet
- Other

Checked sum

Normally @HIDDEN or @HIDDEN-SURVEY. Showing for Demo purposes

[Next Page >>](#)

Powered by REDCap

Ranking Checkboxes (Version 4.0)

Backend Configuration

- Checkbox field
- Matrix field
- Matrix ranking enabled
- Branching logic
- Multi-page survey
- @IF & @HIDECHOICE

New elements:

- @CALCTEXT
- Optional:
@MAXCHECKED='3'

The screenshot displays the configuration for a survey question titled "Select the top elements you need to get a good night sleep. Then rank them from Most important (1) to most". The matrix has two rows: "Pillow" and "Blanket", and three columns: "First Choice", "[second_choicev4]", and "[third_choicev4]". The "second_choicev4" column is highlighted with a blue box. Below the matrix, the configuration for the "second_choicev4" variable is shown, including the code: `@CALCTEXT(if([[matrix_calctestv4]<=1, ' ', 'Second Choice'))`. A blue arrow points from the highlighted column in the matrix to the code snippet. Another blue arrow points from the "View equation" button in the configuration to the same code snippet. The code snippet is also enclosed in a blue box.

Variable: test_rankingv4

Select the top elements you need to get a good night sleep. Then rank them from Most important (1) to most

Matrix group: rank_testv4

Variable: option_1av4 Branching logic: [test_rankingv4(1)]=1'

(One selection allowed per column)

	First Choice	[second_choicev4]	[third_choicev4]	
Pillow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
@HIDECHOICE @HIDECHOICE @IF @IF				
Blanket	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
@HIDECHOICE @HIDECHOICE @IF @IF				

[test_rankingv4(99)]

View equation

Use @HIDDEN to hide. Showing for Demo purposes

Add Field Add Matrix of Fields Import from Field Bank

Variable: second_choicev4

@CALCTEXT(if([[matrix_calctestv4]<=1, ' ', 'Second Choice'))

View equation

Use @HIDDEN. Showing for demo purposes.

@CALCTEXT

Add Field Add Matrix of Fields Import from Field Bank

Variable: third_choicev4

@CALCTEXT(if([[matrix_calctestv4]<=1, ' ', 'Second Choice'))

@CALCTEXT

Ranking Checkboxes (Version 4.0)

Let's see it live!

Dynamic Logic with Matrix v4 IF HIDECHOICE CALCTEXT

Select the top elements you need to get a good night sleep. Then rank them from Most important (1) to most important.

* must provide value

- Pillow
- Blanket
- Darkness
- Temperature
- Quiet
- Other

sum(Unchecked,Unchecked,Unchecked,Unchecked,Unchecked,Unchecked)

Use @HIDDEN to hide. Showing for Demo purposes

@CALCTEXT(if(0<=1, '', 'Second Choice'))

Use @HIDDEN. Showing for demo purposes.

@CALCTEXT(if(0<=2, '', 'Third Choice'))

Use @HIDDEN. Showing for demo purposes.

[Next Page >>](#)

Thank you REDCapCon Contributors!



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Creative Use Repository



Questions? 

Thank you!

