



# New Features in REDCap Version 13

Sui Tsang REDCap@Yale Team 11/7/2023

### Survey:

- 1. Repeating Automated Survey Invitations (ASIs)
- 2. New options for "When to send invitations AFTER conditions are met" when setting up ASI

# Smart Variable:

1. New smart variable [new-instance]



# **Embedding of images and file attachments:**

- 1. Images and file attachments can be embedded in text & emails
- 2. Inline PDF attachment to descriptive field can be displayed as an embedded PDF

# Action Tag:

1. @INLINE-PREVIEW



## **Project Design:**

- A link to the Codebook page now available inside the Add/Edit Field dialog on the Online Designer.
- 2. Comment lines can be added to calculations and logic
- 3. New option for Form Display Logic: "Hide forms that are disabled".



### **User Rights:**

- 1. Separate user privilege for 'Alerts & Notifications'
- 2. Assign to a DAG during user role assignment import via CSV

# **Application:**

- 1. Integration of the MyCap External Module
- 2. Mosio SMS Services



### **Report:**

1. Download all files on a report

# **File Repository:**

1. Redesign of the File Repository



# Survey



# Repeating Automated Survey Invitations (ASIs)

 If a survey is a repeating instrument or if it exists on a repeating event, then you will see a new section "How many times to send it" in the ASI setup popup in the Online Designer.

C <sup>e</sup> STEP 4: How ma	C STEP 4: How many times to send it (repeating surveys only)				
O Just once	O Just once				
O Multiple times on a recurring basis:					
C Send every	C Send every 1 days v after initially being sent.				
Tip: A monthly recurrence can be approximated as 30.44 days.					
Send up to 5 times total (including the first time sent).					
Leave blank to continue triggering and sending forever.					
Learn about Data Collection Strategies for Repeating Surveys					

*Note: If an instrument is <u>not a repeating survey</u>, then this new section will not appear in the ASI setup dialog.* 



# Repeating Automated Survey Invitations (ASIs)

#### **Data Collection Strategies for Repeating Surveys**

Collecting survey data in a repeating fashion can be done efficiently and with minimal setup by using a repeating survey, which is a survey that is enabled as a repeating instrument or (if a longitudinal project) a survey instrument utilized on a repeating event. However, it can sometimes be difficult to know which features to use with repeating surveys to collect repetitive survey data most effectively. The information below presents multiple data collection options for repeating surveys. Each option has its own pros and cons that should be weighed carefully based on your situation. It is important to point out that the options below are not mutually exclusive and can be used in combination together for multiple surveys within a project.

#### C "Repeat the survey" button Automated Survey Invitations Alerts & Notifications at end of survey (ASIs) Utilize the "Repeat the survey" button that Utilize an alert that will be repeatedly sent can be enabled to appear at the end of the Utilize an Automated Survey Invitation that at an a recurring interval, in which the alert Description survey to allow participants to keep adding will be repeatedly sent at an a recurring will contain a specially-formatted survey new repeating instances over and over interval. link for the repeating survey. again for the survey. Create an alert on the Alerts & Notifications page, and then fill out the 'Send it how Enable the "Repeat the survey" option on many times?' section in the alert popup to the Survey Settings page, and participants designate how often and how many times will be able to enter multiple instances' the notifications should be repeated. The worth of data in a back-to-back fashion (i.e., Click the 'Automated Invitations' button for message of the alert must contain the in one sitting), in which the "Repeat the the repeating survey in the Online Designer, Smart Variable [survey-link] and \*MUST\* Activation process and survey" button will be displayed at the end and then fill out the 'How many times to be appended with [new-instance]. For usage of the survey. Additionally, if you are send it' section in the ASI popup to example, if the unique instrument name of utilizing the Survey Queue feature, and the designate how often and how many times your repeating survey is "daily\_survey", then participant has been given their survey the invitations should be repeated. you would use [survey-link:daily survey] queue link, they will be able to enter new [new-instance]. This will create a survey link repeating survey instances whenever they in the alert that will always point to a new, wish on the survey queue page. not-yet-created instance of the repeating survey.

#### Different ways to collect data for a repeating survey



 $\checkmark$ 

×

# New options for "When to send invitations AFTER conditions are met" when setting up ASI

<b>Ö</b> STEP 3: When to send invitations AFTER co	nditions are met	
O Send immediately		
O Send on next select day → at time	🕗 н:м	
O Send the invitation days hours	minutes	
after 🗸 the exact time that the automated in	Enable Send it based on	^
	the exact time that the automated invitation was triggered	
O Send at exact date/time:	the same day (beginning at midnight) that the automated invitation was trig	gered
	Or based on the time value of a field from "Screener and Eligibility"	
	"Subject date of birth" (All Events) - [dob]	
	"Subject date of birth" (V0) - [dob]	
	(e.g., [enrolln "Date of Subject Screening" (All Events) - [screen_date]	
	"Date of Subject Screening" (V0) - [screen_date]	
	Test log Or based on the time value of a field from "Opt-in Form"	
	Ensure I "Date Op-in offered" (All Events) - [opt_in_offered]	
	"Date Op-in offered" (V0) - [opt_in_offered]	
	Or based on the time value of a field from "Consent Offered"	
	<b>TEP 3: Whe</b> "If yes, date consent offered" (All Events) - [consent_offered_date]	
	O Send immed "If yes, date consent offered" (V0) - [consent_offered_date]	
	Or based on the time value of a field from "Consent Obtained"	
	O Send on nex "If yes, consent date" (All Events) - [consent_date]	
	"If yes, consent date" (V0) - [consent_date]	
	O Send the inv Or based on the time value of a field from "Final Eligibility Checklist"	$\checkmark$
	after v the exact time that the automated invitation was triggered	∨ ?
	O Send at exact date/time:	



# Smart Variable



## New smart variable [new-instance]

• Can be appended to [survey-link], [survey-url], [form-link], and [form-url] to create a URL that points to a new, not-yet-created repeating instance for the current record.

### PRO TIPS:

- Use [survey-link:instrument][new-instance] in the message of a recurring alert to allow participants to enter data easily into a repeating survey.
- No need to append [new-instance] to survey link in ASI. Configure in step 4 of ASI set up.



# Example – Participants are asked to complete a repeating survey daily for 7 days.

If using Alert to send survey link, add [new-instance] after survey link:

() STEP 2: Set the Alert Sc	hedule
Send it how many times?	○ Just once
	O Every time the form/survey in Step 1B is saved v (excludes data imports)
	Multiple times on a recurring basis:
	C Send every 1 days v after initially being sent.
	Send up to 7 times total (including the first time sent). Leave blank to continue sending forever.

STEP 3: Message Settin	ıgs									
Subject * must provide value	Test alert	Test alert								
Message: * must provide value	Paragraph	~		<b>B</b> <i>I</i>	Ū	8	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	= =	; ⊒ ≡	
		⊒ ≥	Œ	•		<u>A</u> ~ 💉	~ Q	<> <u>⊺</u> <sub>×</sub>	к Л К Л	
Prevent piping of data for Identifier fields ?	Link to the	repeating s	urvey:	[event_0_a	rm_1][	survey-link:t	est][new-in	stance]		

**REDCap** @Yale

# If using automatic survey invitation, no need to add [new-instance] after survey link:

Send test email	
Paragraph $\checkmark$ $-$ BI $\checkmark$ $\checkmark$ $\checkmark$ $\blacktriangleright$ $\blacksquare$ $\blacksquare$ $\checkmark$ $\checkmark$ $\checkmark$ $\blacksquare$ $\checkmark$ $\checkmark$ $\checkmark$ $\blacksquare$ $\checkmark$ $\checkmark$ $\checkmark$ $\blacksquare$ $\blacksquare$ $\checkmark$ $\checkmark$ $\checkmark$ $\blacksquare$ <th< td=""><td><ul> <li>STEP 3: When to send invitations AFTER conditions are met</li> <li>Send immediately</li> </ul></td></th<>	<ul> <li>STEP 3: When to send invitations AFTER conditions are met</li> <li>Send immediately</li> </ul>
Please take this survey. You may open the survey in your web browser by clicking the link below: [survey-link] If the link above does not work, try copying the link below into your web browser:	<ul> <li>Send on next select day v at time I H:M</li> <li>Send the invitation days hours minutes         <ul> <li>after v the exact time that the automated invitation was triggered v</li> <li>Send at exact date/time: M/D/Y H:M</li> </ul> </li> </ul>
[survey-url] This link is unique to you and should not be forwarded to others. <b>Q NOTE:</b> You may modify or remove any text you wish in the Compose Message text box above. Make sure you include either [survey-link] or [survey-url] in the text or else the participant will not have a way to take the survey. <b>W How to use Piping in the survey invitation</b> Reminder: Never pipe private info (e.g., PII, PHI) into emails.	<ul> <li>C' STEP 4: How many times to send it (repeating surveys only)</li> <li>Just once</li> <li>Multiple times on a recurring basis:</li> <li>C' Send every 1 days  ✓ after initially being sent. Tip: A monthly recurrence can be approximated as 30.44 days.</li> <li>Send up to 7 times total (including the first time sent). Leave blank to continue triggering and sending forever.</li> <li>I Learn about Data Collection Strategies for Repeating Surveys</li> </ul>



# Embedding of images and file attachments



# Embedding of images in field label, alert or survey message

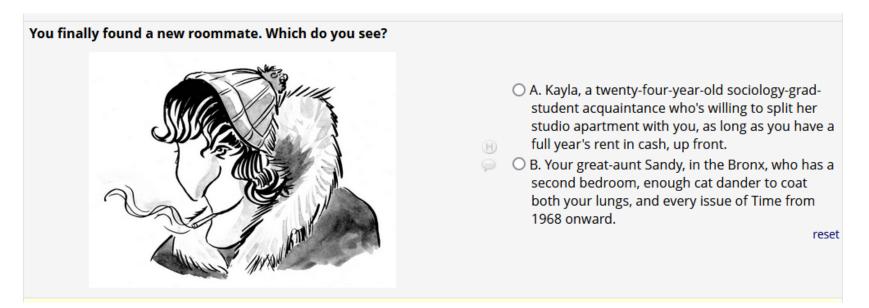
 Check 'Use the Rich Text Editor' next to field label, click is to insert image or *insert* to attach file.

Field Label	?
Paragraph $\checkmark$ - <b>B</b> $I \lor \checkmark \checkmark$ <b>B</b> $I \lor \checkmark \checkmark$ <b>B</b> $I \lor \checkmark \checkmark$	Outing
	Online Designer
You finally found a new roommate. Which do you see?	^
SUCCESS	
2 Contraction	
And And And	



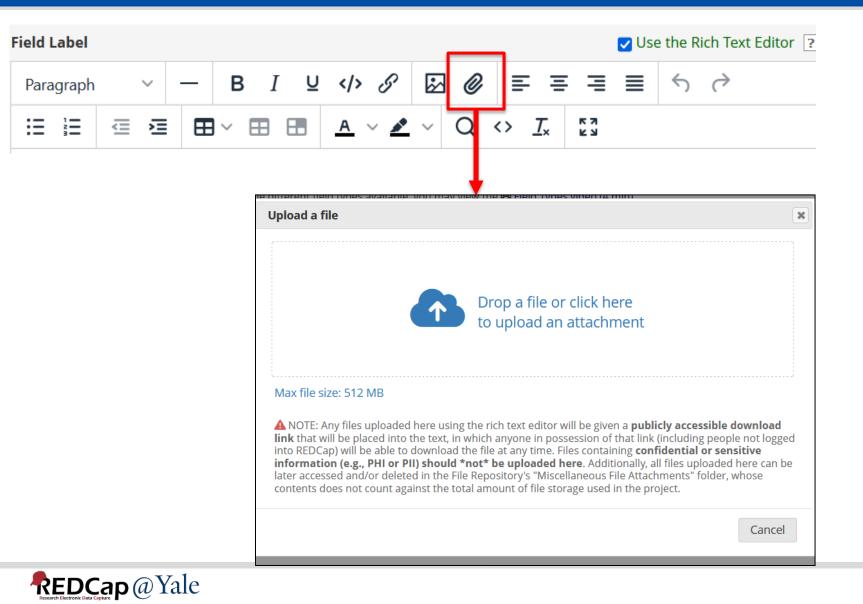
# Embedding of images and file attachments in field label, alert or survey message

### **Data Entry Form:**





# Embedding of file attachments in field label, alert or survey message



Embedding of file attachments in field label, alert or survey message

Example:

Attach a consent form file to a descriptive field. A link will be shown on the form/survey for user/participant to download the file.

Click here to download the blank consent form:

2022JAN28 Circadian Rhythm consent.pdf



### PDF attachment to descriptive field

 Attach PDF file to descriptive field -> PDF file will be displayed inline as embedded PDF

Field Type:         Descriptive Text (with optional Image/Video/Audio/File Attachment)	v	🖪 Codebook
Field Label         Action Tags / Field Annotation (optional)	Use the Rich Text Editor ?	Variable Name (utilized in logic, calcs, and exports)         consent       Enable auto naming of variable based upon its Field Label?         ONLY letters, numbers, and underscores         How to use [✔] Smart Variables       ✔ Piping         ✓ 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
Learn about @ Action Tags or using Field Annotation		<ul> <li>Attach an image, file, or embedded audio <u>MoCA-BLIND-8.1- English-Instructions-05-2020.pdf</u> [X] Remove</li> <li>Display format of attachment on page:</li> <li>Link</li> <li>Inline image/PDF</li> <li>Audio file (play in embedded player on page)</li> <li><u>Compatibility notice for embedded audio</u></li> </ul>



₪

Montreal Cognitive Assessment (MoCA) BLIND - Version 8.1

#### Administration and Scoring Instructions

The Montreal Cognitive Assessment (MoCA)- BLIND is an adapted version of the original MoCA, a rapid screening instrument for mild cognitive dysfunction. The MoCA-BLIND assesses different cognitive domains: attention and concentration, memory, language, conceptual thinking, calculations, and orientation. It contains the same items as the original MoCA except those requiring visual abilities have been removed. Time to administer the MoCA-BLIND is approximately 5-10 minutes. The total possible score is 22 points; a score of 19 or above is considered normal. This cutoff score is suggestive, as it has not been validated thus far.

#### 1. Memory:

Administration: The examiner reads a list of five words at a rate of one per second, giving the following instructions: "This is a memory test. I am going to read a list of words that you will have to remember now and later on. Listen carefully. When I am through, tell me as many words as you can remember. It doesn't matter in what order you say them." The examiner marks a check in the allocated space for each word the subject produces on this first trial. The examiner may not correct the subject if (s)he recalls a deformed word or a word that sounds like the target word. When the subject indicates that (s)he has finished (has recalled all words), or can recall no more words, the examiner reads the list a second time with the following instructions: "I am going to read the same

On survey or data entry form, the attached PDF file will be displayed as embedded PDF.

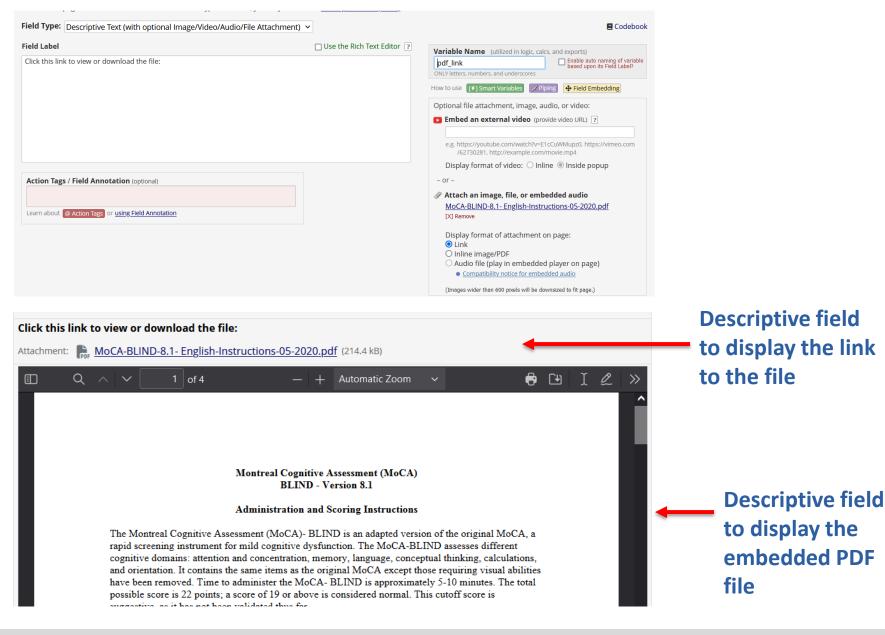
Click here to expand the PDF frame

### Note:

- When viewing multi-page inline PDFs using certain devices, such as iPads or smart phones, only the first page of the PDF might be viewable on the webpage. Test before implementing!
- If your users or participants will be using mobile device, you can add another descriptive field to display the link of the PDF file so the users or participants can click the link to view the entire PDF file.



Add another descriptive field with the uploaded file and display option= link



**REDCap**@Yale

# **Action Tag**



### **@INLINE-PREVIEW Action Tag**

 When this action tag is added to File Upload fields or Description Text fields, a preview button will be displayed next to the field on survey pages and data entry forms if the uploaded file is an image or PDF file.

Edit Field		*
You may add a new project field to this data collection instrument by com form on this page. For an overview of the different field types available, y		on at the bottom. When you add a new field, it will be added to the
Field Type: File Upload (for users to upload files)	~	E Codebook
Field Label Upload your file here	Use the Rich Text Editor ?	Variable Name (utilized in logic, calcs, and exports)         upload       □ Enable auto naming of variable based upon its Field Label?         ONLY letters, numbers, and underscores       ■ Field Embedding         How to use [*] Smart Variables  Piping  Field Embedding         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)           Align the position of the field on the page
Action Tags / Field Annotation (optional) @INLINE-PREVIEW Learn about @ Action Tags or using Field Annotation		Field Note (optional) Small reminder text displayed underneath field
		<b>Save</b> Cancel



## @INLINE-PREVIEW Action Tag

• Clicking the preview button will immediately display the image/PDF inline on the page, after which it can be closed again, if desired.

This allows users/participants to view the file without having to download it to their local device.



\*Supported file type: PDF, BMP, GIF, JPG/JPEG/JFIF/PJEPG/PJP, PNG, SVG, and TIF/TIFF.



# **Project Design**



## Online Designer – Link to codebook page

Add New Field		×
You may add a new project field to this data collection instrument by completing the f form on this page. For an overview of the different field types available, you may view		at the bottom. When you add a new field, it will be added to the
Field Type:       Text Box (Short Text, Number, Date/Time,)	v	Codebook
Field Label	Use the Rich Text Editor ?	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 [≯] Smart Variables         ✓ Piping         ✓ Field Embedding         ✓ validation? (optional)         - or -         - select ontology service         ✓ Required?*         ④ No         ④ Yes
Action Tags / Field Annotation (optional) Learn about @ Action Tags or using Field Annotation		* Prompt if field is blank     Identifier?    ● No

Save Cancel



# Comment lines can be added to calculations and logic

- Logic and calculations may now contain comments, which are not evaluated but serve as annotations to help document or explain what the calc/logic is doing.
- Comments must be on their own lines and start with // (double forward slash) or # (hash sign), optionally preceded by whitespace characters (spaces, tabs). You may not append a comment to a line that is part of the logic or calc expression.

The code block below illustrates how one might use # and // as comments in your logic and calculations.



# New option for Form Display Logic: "Hide forms that are disabled".

**Optional Settings:** 

#### 🔲 Keep forms enabled if they contain data

Only disable empty forms (those with a gray form status icon).

#### Hide forms that are disabled

All forms that are disabled will also be hidden (not visible) on the Data Collection menu and on the Record Home Page.

Participant ID 5

Data Collection Instrument	<b>Baseline</b> Baseline Visit	FU 45d Follow Up Visit - 45 days	FU 6m Follow Up Visit - 6 Months	FU 12m Follow Up Visit - 12 Months	Discontinuation
Patient Screening Form	۲				
Caregiver Screening Form					
Patient Contact					
Caregiver Contact					
Patient Call Log					
Callahan Screener					
Patient Interview Start					
Patient Baseline Characteristics					
EQ5D5L					
EQ5D5L Proxy					
PROMIS SF v1.2 - Global Health					
Seattle Angina Questionnaire SAQ					
Health History					
TICS					
FRAIL Scale					
UAB Life Space					
Medications					
MMAS4					

### Hide forms that are disabled option not checked



# New option for Form Display Logic: "Hide forms that are disabled".

#### **Optional Settings:**

#### Keep forms enabled if they contain data

Only disable empty forms (those with a gray form status icon).

#### Hide forms that are disabled

All forms that are disabled will also be hidden (not visible) on the Data Collection menu and on the Record Home Page.

Data Collection Instrument	<b>Baseline</b> Baseline Visit	FU 45d Follow Up Visit - 45 days	FU 6m Follow Up Visit - 6 Months	FU 12m Follow Up Visit - 12 Months	Discontinuation
Patient Screening Form	۲				
Outcomes And Hospitalizations					
Tracking	۲				
Messaging					
Delete all data on event:	×				

### Participant ID 5

Hide forms that are disabled option checked



# **User Rights**



# Separate user privilege for 'Alerts & Notifications'

Basic Privileges	
Expiration Date (if applicable)	(M-D-Y)
Highest level privileges:	
Image: Second Secon	
Luser Rights	
🐏 Data Access Groups	
Other privileges:	
Alerts & Notifications	
🖽 Calendar	
Q Add/Edit/Organize Reports Also allows user to view ALL reports (but not necessarily all data in the reports)	
III Stats & Charts	
-🛃 Data Import Tool	
≠ Data Comparison Tool	



# Assign to a DAG during user role assignment import via CSV

new users' Giv			Upload users (CSV)		
<b>new users:</b> Give them custom user rights or assign them to a role.			<ul> <li>Download users (CSV)</li> </ul>		
Add new user + Add with c			on		
— OR —			Upload user roles (CSV)		
Assign new user to role			le 💿 Download user roles (CSV)		
			Upload user role assignments (CSV)		
ate new roles:	Add new user roles to w	hich users may be assigned.	Download user role assignments (CSV)		
Enter new role	e name	+ Create role			
(e.g., Project Mana	ager, Data Entry Person)				
	username	unique_role_name	data_access_group		
		U-265P8L3XFC	inova		
		U-265P8L3XFC	bwh		
		U-265P8L3XFC U-7628AHAJ7F	bwh		
			bwh kaiser		
		U-7628AHAJ7F			



# Applications

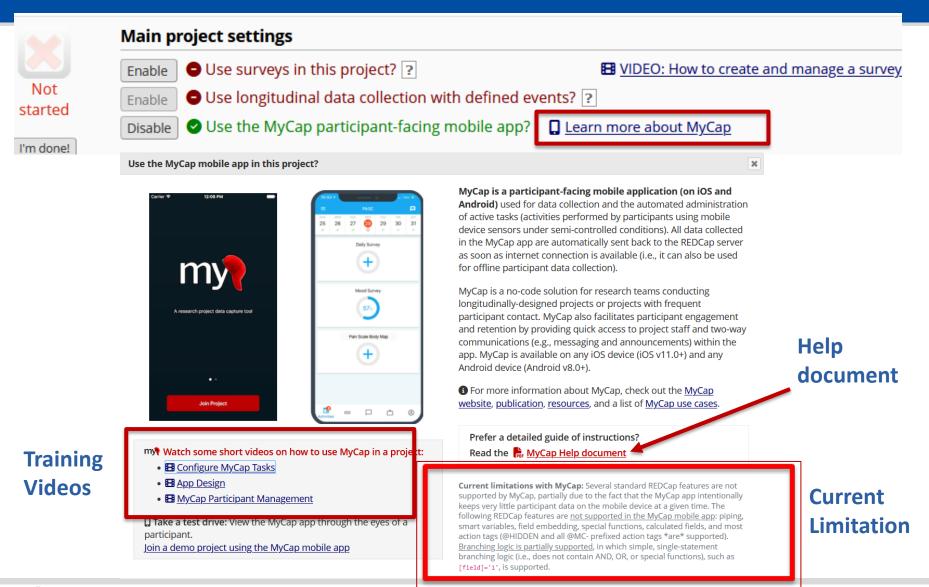


## Integration of the MyCap External Module

- MyCap is a participant-facing mobile application used for data collection and the automated administration of Active Tasks (activities performed by participants using mobile device sensors under semi-controlled conditions)
- All data collected in the MyCap App are automatically sent back to the REDCap server as soon as internet connection is available (i.e., it can also be used for offline participant data collection).
- MyCap can only be enabled in classic project in our current version of REDCap (Version 13.7.9). MyCap for longitudinal project will be available when we upgrade to version 13.10 or higher.
- To learn more: <u>https://projectmycap.org</u>



## Integration of the MyCap External Module



### REDCap @ Yale

## **Mosio SMS Services**

- REDCap has the capability to send SMS text messages for surveys and for Alerts & Notifications by using a third-party web service, Mosio (<u>www.mosio.com</u>).
- This allows you to invite a participant to take a survey by sending them an SMS message, in which the data would be collected in REDCap directly from their phone without having to use a webpage.
- There are two ways REDCap currently works with Mosio:

1. SMS Surveys – Sending questions and getting replies via text message.

2. Alerts - Sending REDCap Alerts & Notifications via text message.

Mosio automates research communications. They are HIPAA and 21 CFR Part 11 compliant and will sign Business Associate Agreements (BAAs).

For more information and to get a Mosio account, visit <u>https://www.mosio.com/redcap</u>.



# Report



### Download all files on a report

	Sea	arch	O Dow	nload Files (zip)	Tible not displaying properly ?
Participant ID 🔶 partid	Event Name redcap_event_name	Upload signed consent scrn_consent_upload	form 🎈	Upload signed Hi scrn_hippa_upload	IPAA authorization
<u>3</u>	Baseline	Livebetter Practicon	sent.pdf		
<u>4</u>	Baseline				
<u>6</u>	Baseline				
Z	Baseline				
<u>8</u>	Baseline				
<u>9</u>	Baseline				
<u>15</u>	Baseline				
<u>16</u>	Baseline				
<u>17</u>	Baseline				
<u>18</u>	Baseline				
<u>19</u>	Baseline				
20	Baseline				
21	Baseline				



# **File Repository**



## Redesign of the File Repository

#### 🗁 File Repository

The File Repository allows users to store, organize, and share files used for this project. Folders and sub-folders can be created, and there is no limit to number of folders that can be created or the number of files that can be stored within them. If you are using Data Access Groups or user roles in the project, you may limit access to a new folder so that it is DAG-restricted and/or role-restricted. All deleted files will go to the Recycle Bin where they can be restored/undeleted for up to 30 days, after which they will be permanently deleted.

NOTE: Since Data Access Groups exist in this project, please be aware that any files uploaded here will be available to ALL project users unless the files have been uploaded into a DAG-restricted folder.

Drag and drop files here to upload	
🕹 Select files to upload 🗈 Create folder 🕹 Download 🔟 Delete 💠 Move	Show 25 v entries Search in current folder
	0 MB used 🚯
All Files	
□ Name	Size Time Comments Share Delete doc_id / folder_id
* Data Export Files	0 Files
★ PDF Survey Archive	8 Files
<ul> <li>Miscellaneous File Attachments</li> </ul>	0 Files
* 📄 Recycle Bin	0 Files
Showing 1 to 4 of 4 entries	Previous 1 Next



### Redesign of the File Repository

Create Folder – options to limit access by DAG and/or user role.

Create folder				×
	w folder in the currer vigate into it and uplo			der has been
New folder name:	DAG1 Folder			]
-	Access Group? (opt	ional)		
Make folder accessib	DAG1	~		
Limit access by Use	r Role? (optional)			
Make folder accessib	le to users in all roles	~		
			Create folder	Cancel



## QUESTIONS?

