Creative Uses of REDCap Auswahl

REDCapCon 2020 Review TMF REDCap UserGroup 02.10.2020

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REDCapCon 2020 Conference Materials

Platform

Center

REDCapCon 2020 was held online September 22-24. We thank all of the presenters who shared their time and knowledge with us during the conference.

Please find below the general and breakout session slides and videorecording links. Please feel free to contact the presenters directly with any questions. While we are not providing their contact information on this page, you can connect with most folks via the Community website.

Quelle

alle Beispiele kopiert aus REDCapCon 2020 Creative Uses 1-3

Total downloa	ds: 1,415	filter by da	y 💙 filter by track type 💙	filter by session type	🖌 <u>reset</u>				
Session title	Sub-title:	Track type:	Leader name/institutional affiliation	Download slides	Video recording link:	Videorecording Passcode:	Length (in minutes):	Session Description:	<u>Views /</u> Downloads
Introductory Remarks & Why This Matters	REDCap 2020 + REDCap Consortium + MVP Award		Paul Harris/Vanderbilt University	🛓 Download	<u>Video link</u>	YdT.316+	23	REDCap 2020 + REDCap Consortium + MVP Award	80
Inspiring Use Case	A real-time registry to track breast cancer patients across Boston	Admin	Amy LeClair/Tufts Medical Center Clara Chen/Boston University School of Public Health	🛓 Download	<u>Video link</u>	YdT.316+	25	A real-time registry to track breast cancer patients across Boston	58
Panel: Informative Session	on Training and Support: Innovative Scalable Models	Both Tech & Admin	Scott Carey/Johns Hopkins University Leila Deering/Marshfield Clinic Research Institute	🛓 Download	<u>Video link</u>	YdT.316+	26	Training and Support: Innovative Scalable Models	39
Panel: Hot Topic session	eConsent	Admin	Colleen Lawrence/Vanderbilt University Medical Center Sue Lowry/UMN	🛓 Download	<u>Video link</u>	YdT.316+	27	What you should know about using the REDCap eConsent Module.	48
Creative Uses of REDCap - Day 1		Both Tech & Admin	Amanda Miller/University of Colorado Ashleigh Lewis/University of Washington	🛓 Download	<u>Video link</u>	YdT.316+	25	Daniel Foley/Ascension (with content from Leila Deering and Pamela Marples) joins Amanda and Ashleigh in presenting these Creative Uses: -Unique Audio Files per Record - Conditional Piping - Gift Card Randomization Model - Creating Dynamic URLs to link across projects - Custom QR Codes	75
VUMC Presents What's New,	The REDCap	Both Tech &	Rob Taylor/Vanderbilt University Medical	🛓 Download	<u>Video link</u>	YdT.316+	29	REDCap	58

Quelle: https://redcap.vanderbilt.edu/plugins/redcap consortium/redcapcon materials.php





Creative Use

Amanda Miller, University of Colorado Denver | Anschutz Ashleigh Lewis, ITHS - University of Washington Greg Neils, Columbia University Dan Foley, Ascension Health





Creative Use

Creative Use ground rules:

- Use existing functionality in REDCap
- No advanced coding outside of copy/paste You can't use:
- Plugins
- Hooks
- External modules
- Other "Andy Martin" shenanigans (dt. Streiche, Spielereien)



Creative Uses of REDCap - Auswahl

- Creative Uses 1
 - Conditional Piping
 - Custom QR Codes Using & Generating them within REDCap
 - Random Number Generator
- Creative Uses 2
 - Piping [record-name] into URLs for alert
 - Password Locking Public Surveys
 - Rotate Matrix Headers with HTML
 - Field Notes in Matrices
 - Recursive Branching Logic
- Creative Uses 3
 - Create a Custom Image Map
 - SQL with Action Tags

Creative Uses of REDCap 1

Leila Deering, Marshfield Clinic Research Institute Pamela Marples, University of Alberta From the Community Site





Problem:

There is a survey where both parents and children will be responding. Questions should ask "your" or "your child's," depending on the child's age



Solution:

- Page 1 of the survey asks who is completing it
- Page 2 has a hidden field with the same coding, but with the labels "your and "your child's" instead. @DEFAULT pipes the correct value and @HIDDEN-SURVEY hides the field
- Pipe the label of the hidden field into
- the rest of the questions

REDCap

	Add Field Add Matrix of Fields	
🥜 🛅 💎 🚰 🚳 💥 🛛 Variable: who		B How to embed a field elsewhere
Who is completing the survey?	 Parent Child 	reset
	Add Field Add Matrix of Fields	
🖉 🗙 Main Survey		
	Add Field Add Matrix of Fields	
🥜 🛅 💎 🚰 🎟 💥 🛛 Variable: who2		B How to embed a field elsewhere
Who is completing 2	○ your child's ○ your	
		reset

Image: I					
1 record_id Record ID text 2 Who Section Header: Who is completing the survey? I Parent 2 Text 3 Who2 Section Header: Main Survey Who is completing 2 Section Header: Main Survey Who is completing 2 Text Text V 3 Who2 Section Header: Main Survey Who is completing 2 Text Text V 1 Journ Line Section Header: Main Survey Who is completing 2 Text Text V 1 Vertex Section Header: Main Survey Who is completing 2 Who is completing 2 Text V 1 Vertex Vertex Vertex Text Text V 1 Vertex Vertex Vertex Text Text V 1 Vertex Vertex Vertex Text Text Text V 1 Vertex Vertex Vertex Text Text Text V 1 Vertex Vertex Vertex Text Text Text V 1 Vertex Vertex Vertex Tex<	Ins	trumen	t: Conditional Piping Page1 (con	nditional_piping_page1) 🛛 🖅 Enabled as survey	▲ Collapse
2 who Section Header: Who is completing the survey? 1 Parent 2 Child Child Child Child Child Image: Section Header: Main Survey Section Header: Main Survey Image: Sect	6	1	record_id	Record ID	text
3 who2 Section Header: Main Survey radio 1 your child's your 2 your 2 your 4 age What is [who2] age? text (number)	 <!--</th--><th>2</th><th>who</th><th>Section Header: Who is completing the survey?</th><th>radio 1 Parent 2 Child</th>	2	who	Section Header: Who is completing the survey?	radio 1 Parent 2 Child
4 age What is [who2] age? text (number)	1	3	who2	Section Header: <i>Main Survey</i> Who is completing 2	radio 1 your child's 2 your Field Annotation: @DEFAULT="[who:value]" @HIDDEN-SURVEY
	<i>⊘</i> ₹	4	age	What is [who2] age?	text (number)

Question Display Format

One page or multiple pages? Section headers, which begin new sections on the instrument, will serve as the page break in a multi-page survey, in which each page will begin with a section header. Display page numbers at top of survey page

Hide the 'Previous Page' button (i.e., Back button) on the survey page (prevents respondents from going back to previous pages)

1) Who is completing the survey?	ParentChild	reset
Main Survey		
2) What is your child's age?		
3) What is your child's favorite color?	RedBlueYellow	
		reset

Custom QR Codes

Using & Generating them within REDCap

Daniel Foley BA



Problem

Solution

Survey participants incorrectly filling out surveys that originate with a touchless QR code



Generate a custom QR code that fills out field data automatically.



Generating multiple custom QR codes to "pre-fill" survey data is time consuming



Use REDCap to generate custom QR codes via API call to a QR code web service



Why would I use this?

Touchless surveys are helpful in many situations.

Custom QR codes allow your participants to enter in data that they may not know off hand

Examples

Patient/Visitor Check-in Patient Experience surveys at physician offices Hand Hygiene observations Patient rounds tracking Inventory tracking



Problem 1

Open REDCap survey Collects location & opinion data

Issue: Survey participants often get location data wrong

Ascension

Location Dependent Opinion Surv	ey Resize font: ⊕ ⊕
Please tell us your location and opinion	
Location	
Where are you	Earth
	The Moon
	(
Opinion	
How do you like it here?	It's great
	reset
S	ubmit

Location field: [place]

Survey URL QR Code

https://redcap.ascension.org/ahnat/surveys/?s=FJ3KH7EKYN REDCap



Solution 1

Open REDCap survey URL Collects location & opinion data

Location [place] is a dropdown or radio field

Solution: Create a custom QR code with location data in URL to pre-fill [place]=Earth

Website: https://www.qr-code-generator.com/

Custom Survey QR Code for Earth

Location Dependent Opinion Survey	
Please tell us your location and opinion	
Location	
Where are you	Earth
	The Moon
	Mars
Oninian	reset
Opinion	
How do you like it here?	lt's great
	Lt's not so great
	reset
Submi	t





Problem 2

REDCap

Example: A medical group would like to perform satisfaction surveys at all 50 of their clinics.

Issue: Generating and delivering custom QR codes for each clinic would be time consuming



Solution 2		Location Satisfaction Survey
User Experience		Your input is very helpful to our project Location: Earth
QR Code Generator	Kesize font:	
Please select your location to generate your smart custom QR code		
Location Select		25-14-14-14-14-14-14-14-14-14-14-14-14-14-
Please select the facility you would like to generate a QR code for		ia - 322
Next Page >>		
Powered by REDCap		Submit



A custom QR code is generated for the satisfaction survey which is associated with that clinic location.

This QR code would be printed and posted

Solution 2

Solution:

the Online Designer or Data Dictionary.

Question Display Format

One page or multiple pages? Section headers, which begin new sections on the instrument, will serve as the page break in a multi-page survey, in which each page will begin with a section header.

One section per page (multiple pages) 🗸

Display page numbers at top of survey page

Hide the 'Previous Page' button (i.e., Back button) on the survey page (prevents respondents from going back to previous pages)

- Create a separate REDCap survey to generate a custom URL and QR code for the satisfaction survey
- Select survey option for Question Display Format to be one section per page
- Create identical dropdown or radio field [place_select] as the first projects [place] field followed by a page separation header
- Create a text field [qr_img] to generate custom QR code image HTML element via @DEFAULT action tag
- Use Descriptive field to display image using [qr_img] piping
- Instruct offices to fill out survey and print QR code



Solution 2

Solution Detail: [qr_img] field Action Tag

@DEFAULT=''

API Target Syntax

REDCap Elements & Syntax

Custom Location Data

HTML

Notes

- QR Code API requires URL encoding of Survey link data
- Url encoding example: & = %26
- If you want to encode multiple fields separate with %26
- Dropdown Raw values must be in compatible URL

• Dropdo **REDCap** Ascension format

• Numeric Raw Values work best

Example with project XML

https://redcap.ascension.org/ahnat/surveys/?s=R33LMRF7XP



Random Number Generator





Random Number Generator

Admins Only!

Generate a single random number: if([rnd]='', Math.random(), [rnd]) Generate a number in a range: rounddown([rnd] * ([max] - [min] + 1) + [min], 0)

Copy and paste the fields; courtesy of Luke Stevens



Random Number Generator For ranges, hardcode or specify in project

	🥜 🛅 🐨 🚰 💥 🛛 Variable: min		
	Lower bound		
	* must provide value		
		Add Field Add Matrix of Fields	
	🥜 🛅 🐨 🚰 💥 Variable: max		
	Upper bound		
	* must provide value		
		Add Field Add Matrix of Fields	
	🥜 🛅 🐨 🚰 💥 🛛 Variable: calcrnd		
	Random integer between [min] and [max]	View equation
		Add Field Add Matrix of Fields	
REDCap			

Creative Uses of REDCap 2





Problem:

In a longitudinal project, the research wants an alert to go out when a survey is complete and it is a certain number of days after the appointment to remind them to fill out a data entry form in a different event



Solution:

Create an alert to go out when the logic is true. In the "message" section, create a link with the URL for proper form in the proper event. Replace id=### in the URL with id=[record-name]





Record ID 1

Data Collection Instrument	Visit 1	Visit 2	Visit 3
Demographics			
Chart review			\bigcirc
Visit survey (survey)	۲		
Delete all data on event:	×		



Title of this alert:

Visit 2 Chart Review Reminder

STEP 1: Triggering the Alert

A) How will this alert be triggered?

- When a record is saved on a specific form/survey*
- \bigcirc When a record is saved on a specific form/survey with conditional logic*
- Using conditional logic during a data import or data entry

B) Trigger the alert...

REDCap

when the following logic becomes true:

datediff([visit_1_arm_1][visit_date],"today","d",true)=10

(e.g., [enrollment_arm_1][age] > 30 and [enrollment_arm_1][sex] = "1")

Ensure logic is still true before sending notification? ?

How to use 'stop logic' to disable a scheduled alert

C) Trigger Limit: Trigger the alert... only once per record (i.e., never re-trigger)

 \sim

(The trigger limit determines where and to what extent within a record that the alert will be triggered.)

Email To: * must provide value	× [visit_1_arm_1][email] "Email" (Visit 1) Or manually enter emails: jane@example.com; john@mysite.org				
★ Show more options					
Subject: * must provide value	Chart Reminder				
Message: * must provide value	Paragraph \vee B $I \mathscr{S} \equiv \Xi \equiv \Xi \Leftrightarrow \overleftrightarrow$				
Prevent piping of data for Identifier fields ?	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				
REDCap	URL: https://redcap.ucdenver.edu/redcap_v10.0.15/DataEntry/index.php?pid=19345&id= [record-name]&event_id=198384&page=chart_review				

Password Locking Public Surveys





Password Locking Public Surveys

Problem:

You need to use the public survey link, but you want to make sure only your participants can access the survey





Solution:

Use a public survey landing page and use the survey queue to require a password to access the rest of the queue

Don't forget to mask the password!

Activated?	Survey Title	Display survey in the Survey Queue when	Auto start?
Not activated	"Welcome: Login"	When the following survey is completed:	
Activated	"Actual Survey"	When the following survey is completed: "Welcome: Login" ▼ AND ▼ When the following logic becomes true: How to use this [password]="password" (e.g., [age] > 30 and [sec] = "1") Test logic with a record: select record ▼	8
Deactivate		[password]="password" (e.g., [age] > 30 and [sec] = "1") Test logic with a record: → select record → ▼	

Password Locking Public Surveys

Don't forget to password mask!

Field Label	Use the Rich Text Editor ?
Please enter the password:	
Action Tags / Field Annotation (optional)	
@PASSWORDMASK	
Learn about @ Action Tags or using Field Annotation	on



Rotate Matrix Headers with HTML





Rotate Matrix Headers with HTML

Matrix Column Choices

Choices (one choice per line)

1, <div style="transform: rotate(-90deg); webkit-transform: rotate(-90deg); -moztransform:rotate(-90deg); -mstransform:rotate(-90deg); white-space: nowrap; position: relative; top: -40px; left: -7px; margintop: 50px;"> Like very much</div>

How do I manually code the choices?

REDCap

<div style="transform: rotate(-90deg); -webkit-transform: rotate(-90deg); moz-transform:rotate(-90deg); -mstransform:rotate(-90deg); whitespace: nowrap; position: relative; top: -40px; left: -7px; margin-top: 50px;"> </div>

You may have to play with the margins!

Rotate Matrix Headers with HTML

What direction do you like your matrix headers?					
Variable: vert	Like very much	Like a little			
Vertical	\bigcirc	\bigcirc			
Variable: horz					
Horizontal	\bigcirc	\odot			
Variable: diag					
Diagonal	0	0			

Field Notes in Matrices

Joe Wick from Rob's Corner

Problem:

Sometimes you want to clarify your matrix variables with field notes but the REDCap user interface doesn't allow this.



Solution:

REDCap

You can add fields notes in matrices if you use the Data Dictionary instead of the UI.

	Α	В	С	D	E	F	G	
1	Variable /	Form Nam	Section He	Field Type	Field Labe	Choices, C	Field Note	T
2	record_id	field_note	es_in_matr	text	Record ID			
3	wski	field_note	How awes	radio	Skiing	1, Not awe	Water Skiing	
4	sski	field_note	es_in_matr	radio	Skiing	1, Not awe	Snow Skiing	
5	soccer	field_note	es_in_matr	radio	Football	1, Not awe	Soccer	
6	usfoot	field_note	es_in_matr	radio	Football	1, Not awe	American Football	
7	ausfoot	field_note	es_in_matr	radio	Football	1, Not awe	Aussie Football	
8								

🥜 🕂 🗶 🛛 Matrix group	: sports									
How awesome is each	sport?				ĺ	How awesome is each sport?				
www.voriable:wski						T Variable: wski				
*	Not awesome at all	Kind of awesome	Definitely awesome	Totally awesome!			Not awesome at all	Kind of awesome	Definitely awesome	Totally awesome!
Skiing	0	0				Skiing	0	0	0	0
		_	_	resec		Water Skiing				reset
📢 Variable: sski						🐨 Variable: sski				
Skiing	0	0	0	0		Skiing	0	0	0	0
				recet		Snow Skiing				reset
Variable: soccer						Variable: soccer				
Football	0	0	0	0		Football	0	0	0	0
				reset		6				reset
Variable: usfoot						Variable: usfoot				
Football	•	0	0	0		* Football		0		0
				reset) 1 .		Ŭ	0	0	reset
Variable: ausfoot						American Football				
Football	0	0	0	0		Tarathall	-		-	
				reset		FOOTDAIL	0	0	0	0
						Aussie Football				reset



Irma CU

Recursive Branching Logic

When does it makes sense for a field to have branching logic that includes itself?

credit: Andy M on Rob's corner





Recursive branching logic: ingredients

- 1. A project with existing data
- 2. A newly implemented branching logic statement
- 3. "hidden" field that already contains data (that you don't want to lose)

The Obvious...



The log...

	Snack	Date
Day 1		D-M-Y H:M
Day 2	H M M	D-M-Y H:M

🥜 🛅 🐨 🚰 🗶 🛛 Variable: snacks		B How to embed a field elsewhere
	Snack	Date
Day 1	{snack1:icons}	{snack1date:icons}
Day 2	{snack2:icons}	{snack2date:icons}
	Add Field Add Matrix of Fields	
🥜 🛅 🐨 🚰 💥 🛛 Variable: snack1		Field is embedded elsewhere on page 🕽
Snack 1		
	Add Field Add Matrix of Fields	
🥔 🛅 🐨 🚰 💥 🛛 Variable: snack1date		Field is embedded elsewhere on page 🕽
Snack 1 Date		Now D-M-Y H:M
	Add Field Add Matrix of Fields	
🥜 🛅 🚏 🚰 💥 🛛 Variable: snack2		Field is embedded elsewhere on page 🕽
Snack 2		
	Add Field Add Matrix of Fields	
🥔 🛅 🐨 🚰 💥 🛛 Variable: snack2date		Field is embedded elsewhere on page 🕽
Snack 2 Date		Now D-M-Y H:M

Embedding inside of embedding



🥔 🔄 🐨 🚼 Variable: like	How to embed a field elsewhere
	🗌 lce Cream
	{flavor}
	Pastries
	{pastry}
what types of dessert do you like?	Cakes
	{cakes}
	Pies
	{pies}
Add Field Add	d Matrix of Fields
✓ In String logic: [like(1)] = '1'	Field is embedded elsewhere on page
Best flavor	
	Other {ic_oth}
Add Field Add	d Matrix of Fields
🥜 🛅 🐨 🚰 X Variable: ic_oth 🛛 Branching logic: [flavor]='99'	Field is embedded elsewhere on page
Other ice cream	
Add Field Add	d Matrix of Fields
Variable: pastry Branching logic: [like(2)] = '1'	Field is embedded elsewhere on page
	○ Eclairs
	○ Croissant
Best Pastry	Cannoli
beet wery	Cream horn
	Other (nastry oth)

Specifying Units

Preferred cake size

B B Centimeters

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	ike size	Use the Rich Text Editor ?	Variable Name (utilized in logic, calcs, and exports) cake_size Enable auto naming of variable based upon its Field Label?
			How to use [F] Smart Variables Piping Field embedding
			Validation? (optional) None ~ - or - select ontology service ~
			Required?* No Yes Prompt if field is blank
Action Tage	s / Field Annotation (optional)		Identifier? No O Yes Does the field contain identifying information (e.g., name, SSN, address)?
Learn about	@ Action Tags or using Field Annotation		Custom Alignment Right / Vertical (RV) ✓ Align the position of the field on the page
			Field Note (optional) {unit} Small reminder text displayed underneath field

Creative Uses of REDCap 3

Create a Custom Image Map

(without Andy Martin or Philip Chase)





Problem:

A study team wants to create their own image map. Either this image map is not in the external module and they can't wait for you to submit a request or you are not able to use external modules.



Solution:

You can create a simple scale type image map using the survey to host the hidden image and HTML to build the source into your answer choices.



Create descriptive fields for all of your images with the option to display the inline image





Enable the instrument as a survey to allow for URL. Go to the public URL or a test record and inspect the image to get the source URL HTML



*Edit as HTML will allow you to copy the HTML

REDCAD ITHS Institute of Translational Health Sciences Accelerating Research. IMPROVING HEALTH.

Use the source HTML and enter that into the choices for the field you want to have the images appear



Use the action tag @HIDDEN to then hide the descriptive images from the survey, form, and PDF

 ✓ ✓ 	6	not_enough_swag_2		descriptive Field Annotation: @HIDDEN	
 ✓ ✓ 	7	ask_after_lunch_2		descriptive Field Annotation: @HIDDEN	
 ✓ ✓ 	8	still_in_pajamas_2		descriptive Field Annotation: @HIDDEN	
1	9	how_you_like_2	How are you liking virtual REDCapCon?	radio 1 2 3 Custom alignment: LV	



Options:

Enhanced Radio Buttons



Regular Radio





4	4	males_count	Male SQL Query	sql select 'males', count(*) from redcap_data where project_id='286' and field_name='choice2' and value='1' Field Annotation: Tags: @DEFAULT='males'
4	5	females_count	Female SQL Query	sql select 'females', count(*) from redcap_data where project_id='268' and field_name='choice2' and value='2' Field Annotation: Tags: @DEFAULT='females'
4	6	max_weight_query	Max Weight SQL Query	sql select 'max_lb', max(value) from redcap_data where project_id='286' and field_name='weight' Field Annotation: @DEFAULT='max_lb'



<i>⊘</i> ₩	4	males_count	Male SQL Query	sql select 'males', count(*) from redcap_data where project_id='286' and field_name='choice2' and value='1' Field Annotation: Tags: @DEFAULT='males
4	5	females_count	Female SQL Query	sql select 'females' count(*) from redcap_data where project_id='268' and field_name='choice2' and value='2' Field Annotation: Tags: @DEFAULT='females'
4	6	max_weight_query	Max Weight SQL Query	sql select 'max_lb', max(value) from redcap_data where project_id='286' and field_name='weight' Field Annotation @DEFAULT='max_lb'



1	4	males_count	Male SQL Query	sql select 'males', count(*) from redcap_data where project_id='286' and field_name='choice2' and value='1' Field Annotation: Tags @DEFAULT='males'
1	5	females_count	Female SQL Query	sql select 'females', count(*) from redcap_data where project_id='268' and field_name='choice2' and value='2' Field Annotation: Tags: @DEFAULT='females'
۲	6	max_weight_query	Max Weight SQL Query	sql select 'max_lb', max(value) from redcap_data where project_id='286' and field_name='weight' Field Annotation: @DEFAULT='max_lb'
<i>⊘</i> ₹	7	males	Section Header: Current count of males	text Field Annotation: @DEFAULT='[males_count]'
 ✓ ✓ 	8	females	Current count of females	text Field Annotation @DEFAULT='[females_count]'
 ✓ ✓ 	9	max_weight	Max Weight	text Field Annotation @DEFAULT='[max_weight_query]'

REDCap

Introduction		
Hit submit to continue.		
Male SQL Query	5 🗸	
Female SQL Query	0 🗸	
Max Weight SQL Query	150 🗸	
	Next Page >>	



Current count of males	5
Current count of females	0
Max Weight	150
<< Previous Page	Next Page >>







Vielen Dank!