Vanderbilt/Meharry REDCap Mobile App Manual

Contents

REDCap Mobile App – what it is	. 3
REDCap Mobile App – why you would use it	. 3
Use Cases	. 3
REDCap Mobile App – what it isn't	. 3
REDCap Online vs Offline Comparison	. 4
Supported Devices	. 5
Compatibility	. 5
Security	. 5
Definitions	. 5
Features	.6
Mobile App Users	. 6
Admin Users	.6
User Rights in Main REDCap Project	. 7
User Rights in Mobile App	. 7
RECOMMENDATIONS:	.8
App Workflow	.8
Getting Started	.8
Procedure	.8
Download the app	.9
Using Mobile App1	10
Data collection (OFFLINE – NO INTERNET CONNECTION)1	12
Sending Data1	13
Send Emergency Data Dump1	16
Remote Lockout	16
Mobile App Activity Log1	17
REDCap Mobile App in REDCap database, or online on a device (not in App)1	17
Reporting a bug/problem1	19

Translate the Mobile App Interface	19
Current interface translations	19
Action Tags	20
Best Practices	20
In-Depth Manual in the App	21
Frequently Asked Questions	22
МуСар	24
REDCap vs. MyCap comparison	24
Resources	24
Acknowledgements	25

REDCap Mobile App - what it is

The REDCap Mobile App is an application that gives your study team the capability to collect REDCap data in an offline (without internet) environment. They can then sync the data back to the REDCap project on the REDCap server when they have access to the internet.

REDCap Mobile App – why you would use it

You might use the REDCap Mobile app if you have a study that takes place in an area with unreliable internet connectivity. You would have data collectors (study team members) who are in the field, entering data on behalf of study participants.

Use Cases

To give you an idea of when it might be helpful to use the REDCap Mobile app, here are some reallife examples of how it has been used by Vanderbilt/Meharry users as well as users from other institutions with REDCap:

- Rural/remote settings
 - o Breast-feeding project in rural Guatemala
 - o Mobile skin cancer project in Brazil
 - o Data collection in refugee settlement in Uganda
 - Population health studies
- Home care surveys
- Health fairs

REDCap Mobile App - what it isn't

The REDCap Mobile App is not an app that you would add to your smart phone to access your REDCap projects. When designing your project and viewing data, you would use the online version of REDCap.

The REDCap Mobile app is not an app that a study participant downloads on their phone. If you want study participants to provide information themselves, you might consider <u>MyCap</u>.

The REDCap Mobile app is not a survey tool. This means that it will not support survey features.

REDCap Online vs Offline Comparison

You DO NOT need to use the Mobile App to enter data into REDCap from a device. If you have an internet connection, you can simply use a browser to collect data through surveys or data entry forms.

Below is a comparison of the two options:

REDCap Online	Mobile App
Web-based application	Native Application
Runs in browser	Runs on iOS and Android devices
Needs and internet connection to work properly	Does not require an internet connection
Use if there is a reliable and secure and internet connection	Use if there is no, or an unreliable, internet connection
Data is directly entered into the REDCap project once a form is saved on the device. No data is stored on the device.	Data is saved on the device once a form is saved, and will not be entered in the main REDCap project until data is synced (via an internet connection).
Data is always up-to-date in the REDCap project.	Data might be out of sync if the data stored on the device is not regularly synced to the main REDCap project.
No additional security measures required on the device.	Further security measures must be taken to ensure data security.
The REDCap interface is exactly the same as it is on desktop.	The interface is adjusted to fit uniquely for a mobile device, and looks slightly different.
User accounts and rights set in REDCap are applicable.	Separate user accounts and user rights are needed to be created in the App and API tokens are required to link back to user accounts in the main REDCap project.

Supported Devices

- Android and iOS devices only.
 - Android minimum operating system required: version 4.3 or later
 - $\circ~~iOS$ minimum operating system required: 9.0 and later
- Amazon Fire devices not supported

Compatibility

- iOS Works on iPhone 4 and up, iPad 2 and up requires iOS 9.0 or later
- Android Requires Android 4.3 and up
- Device must support Encryption.
- Currently, the app does not support complex REDCap project structure (Large number of events / Fields/Instruments).

Security

For detailed information about what security standards are applied in the app, please see this document: <u>https://projectredcap.org/wp-content/resources/security.pdf</u>

Definitions

- **Principal Investigator (PI):** Primary individual in charge of and responsible for the proper conduct of a research project and/or sponsor for non-research projects.
- **Project Administrator (PA):** Person responsible for the development of REDCap data instruments and the overall management of the project data.
- **Research Team/Project Team:** Research/project assistants, nurses, data entry and other personnel involved with and granted access to the REDCap project. The Team Members report to the PI but are generally directly supervised by the PA.
- **REDCap Team:** Vanderbilt/Meharry Support Team that is responsible for supporting REDCap end users.
- **REDCap API (Application Programming Interface):** Interface that allows external applications to connect to REDCap remotely, and is used for programmatically retrieving or modifying data or settings within REDCap, such as performing automated data imports/exports to/from a specified REDCap project.
- **REDCap API Token:** The Mobile App uses API tokens, which determine which data in REDCap are accessible from the app. These tokens consist of a 32-character hex string that is unique to a particular REDCap user's rights in a particular REDCap project. Any given token can only be used to access a single project with the User Rights assigned to a particular REDCap user.

Features

The REDCap Mobile App supports the following features:

- The user interface allows multiple individuals to access the App on a single device via a secure login.
- Teams with multiple mobile devices have the capability to collect data for one project, or multiple projects simultaneously.
- Administrative functions and other participants' records can be made secure prior to handing the mobile device to a data collector.
- In addition to text, photos can be captured by the mobile App and transmitted to the server.

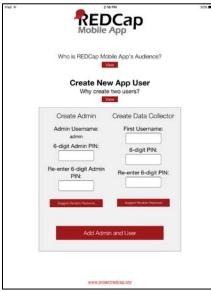
Mobile App Users

Admin Users

The REDCap Mobile App uses an Admin account to manage its users. The Admin can create/update/delete Mobile App users, reset passwords and grant user rights on the App for specific projects. Project setup can be done by admin and regular App user accounts. In the REDCap Mobile App each user adds projects to their account through an API token. Each App user maintains unique project copies on the device and cannot share the same REDCap Mobile App projects. If multiple users need to access the same project, they each need to set-up the project independently under their account.

RECOMMENDATIONS:

- The REDCap App Admin account should be held by the REDCap Project Administrator (PA).
- Each App user must request an API token from REDCap Mobile App page through their main REDCap project account and set-up the project on the App using their user-specific QR or initialization Code.



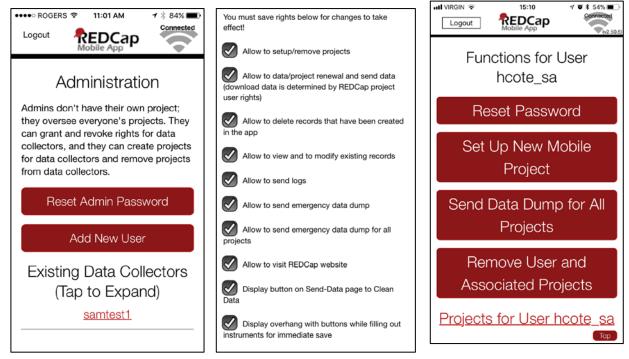
• Note: The Admin password cannot be reset, so don't lose it!

User Rights in Main REDCap Project



- 1. The "REDCap Mobile App" privilege allows users to:
 - Set up the project inside the Mobile App on your device.
 - Collect data which is stored locally on the device.
 - Sync that data back to this project on the REDCap server.
 - The REDCap Mobile App section is where users can view the App log and file archive.
- 2. The "Allow user to download data for all records to the app?" privilege allows users to:
 - Download records from the server to the app.
 - Unchecking this privilege prevents users from unwittingly (or wittingly) downloading lots of sensitive data to their mobile device.
 - If a user is given this privilege, then when they initialize the project in the App and the project contains at least one record, then the App will prompt the user to choose if they wish to download all the records to the App or not.

User Rights in Mobile App



• Each user account must be created in the REDCap Mobile App and have specific rights assigned to it, which are separate from their main REDCap project user account.

- Users will have a different username and pin/password in the Mobile App compared to the main REDCap project.
- The main project user account is linked through their API token and will ensure the user privileges inside the App mimic the privileges in the main REDCap project, including form rights (no access, read only and edit) and Data Access Groups.
- If a user is on multiple app projects, the user rights set in the app apply to the whole user account, and are not project specific. All user rights on an app accounts will apply across all projects.

RECOMMENDATIONS:

	REDCap Main Project	REDCap Mobile App
Project Administrator	 Fill out REDCap Mobile App Request Designate Mobile App-specific user's rights Assign REDCap Mobile App rights to PA in the server project 	 Create own Admin account with pin (Admin pin CANNOT be reset) Create user accounts, require username and 6 digit pin Designate user's rights Can set up projects for users
Data Entry/ Regular User	 Acquire API token (QR code) Data Entry form rights and Data Access Groups are identical to the App 	 Set-up project using QR or initialization Code Collect data Send data to the server and clean and reset project as soon as possible Send App logs to server every 24h when possible

App Workflow

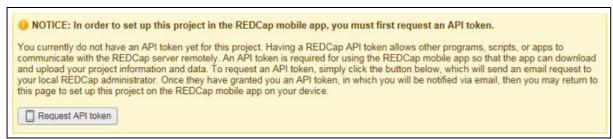
These are the basic steps to use the mobile app:

- 1. **Create** and design project on your REDCap installation. Grant App Rights and get token
- 2. **Set up** project. While online, set up the project on the app using a code provided in REDCap
- 3. **Collect** data from participants. This can be done online or offline
- 4. Send collected data to the REDCap server securely

Getting Started

Procedure

- 1. In the REDCap project, PI or PA grants 'Mobile App' rights to themselves and to users who will collect data through the App.
- 2. Individual users can request an API token through the 'REDCap Mobile App' section (located in the REDCap left-end menu).



- 3. Once the token is created by the REDCap admin team, the user is notified by email.
- 4. A QR code is now available through the 'REDCap Mobile App' section for the user to set-up the project on the App.



Download the app

Download the REDCap Mobile App directly on your device by using below links or log in your App store and search for "redcap" (Vanderbilt University)

iOS app: https://itunes.apple.com/us/app/redcap-mobile-app/id972760478



Android app: <u>https://play.google.com/store/apps/details?id=edu.vanderbilt.redcap</u>

\leftarrow \rightarrow C 🚬 $$ http	://play.google.com/store/apps/details?id=edu.vanderbilt.redcap		公	_ , 🗖
> Google Play	Search	٩	ш	Sign in
🚔 Apps	Categories 🗸 Home Top Charts New Releases			
My apps Shop Games Family Editors' Choice	REDCap Mobile App The REDCap Team at Vanderbilt - 15 Octobred Medical Install Add to wishlist ***** (± 15) Ent +13 Recommend this on Google			
My Play activity My wishilist Redeem	App Test Project 1 (classes) COMPACT SHOP (cl			

Note: To use QR code, your device must have a built in camera and a QR code reader App installed. An alternative way to set up this project in your REDCap App on your mobile device or tablet is to use an initialization code. The initialization code will expire in 10 minutes.

End-User License Terms for the "REDCap Mobile App" The REDCap Mobile App may only be used by Permitted Users, as defined herein. Permitted Users, by downloading and/or using the REDCap Mobile App hereby agree to the following terms and conditions. Questions regarding Permitted Users should be directed to your local REDCap institutional support team.	2.9 Should the terms of this End-User License Terms for Users Downloading the REDCap Mobile App (the "REDCap Mobile App Agreement") conflict with any terms in the Google Play Terms of Service supplied by Google, Inc., the terms of this REDCap Mobile App Agreement shall control.
Using Mobile App Logout Hate Am My Projects Set Up Mobile Project Change My Password	
About the REDCap Mobile App Updates History Frequently Asked Questions Translate the Interface (Translate) Report a Bug Purpose	• Select: Set Up Mobile Project

Back to App Store		93%
<	REDCap Mobile App	
Initi	ialize a Proje	ect
Co initialize a REDCap project in this app, fil browser; then go to the desired project in y menu of the project. (If you do not see that rights yet in that project.) Or that page, clic can click the "Scan QR Code" button below	our My Projects list; and click the link on the menu, then you probe k the "Initialize Project" button to	"Mobile App" link on the left-hand bly have not been given "App" user display the QR code, after which you
l	Scan QR Code	
The J If you have trouble scanning the QR code, t REDCap project. This will provide you with move your mouse arrow off of the QR code	an initialization code that you car	ode to work?" link on the page in your
Code	e:	
	Submit Code	

• Scan QR Code or Enter Initialization code (10 digit)

Note: To use QR code, your device must have a built in camera and a QR code reader App installed.

• Downloading the project. In addition to the data collection instruments, you can choose whether you want to download data from the project or not (when allowed).

Your project will now appear in the "My Projects" page. Data Entry personnel can now download the REDCap project to their Mobile App too (make sure they have requested a Mobile App API token as well):

My Projects
Test - REDCap Mobile App undefined Records (0 new; 0 modified)

- If you have records in the project already, the app will prompt you whether you'd like to add these records (some or all) from the online version to your app version, or leave the project blank in the app (option 1 & 3 below):
- You can also download records to the app based on form status, or get a partial set of data. You can choose to only pull in certain records, or only certain events or arms, or a combination of both (option 2 below):

iPad 🌣		70%
	Setting Up Project	Ť
	ipad test 3	
	Set Up Complete	
Do you want to	o download all 14 records from the project, or do you want to leave blank in the app?	the project
	Download All 14 Records	
	Download by Form Status	
	Get a Partial Set of Data	
	Do NOT Download Records	

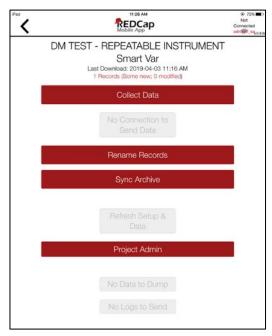
• Download partial set of data:

iPad 🕈	10:14 AM	70% 🗖 🗅
	Download Checked Records / Events	
	Choose Records Choose Arms/Events	
	Choose Records (Total 0 Selected)	
	Search:	
	All Displayed Records	
	Record 1	
	Record 1P Record 2	
	Record 3	
	Record 4	
	Record 6	
	Record 8	
	Record 9	
	Record 10	
	Record 11	
	Record 12	
	Record 13	
	Record 15	

Data collection (OFFLINE – NO INTERNET CONNECTION)

- Tap the Collect Data button and choose an instrument and a record. Enter data and set the form status at the bottom as needed.
- Records can be renamed on the first form for projects with auto-numbering disabled. Note that renamed records will appear as new records when uploaded to the main database, so you will need to delete the original record there to complete the replacement process.

- Instruments can be secured so that participants/users will only have the option of entering data (and not traversing the rest of the app, which can jeopardize confidentiality). They can be unlocked via the primary user's pin.
- All data collection can be offline without Internet access.



Sending Data

When mobile device is **connected to internet**, you can send data to the main REDCap project on the server/online.

iPad 🕈		90%
	Test - REDCap Mobile App Last Full Sync: 2017-09-25 02:28 PM 1 Records (Some new; 0 modified)	
	Collect Data	
	Send Data to Server	
	Sync Archive	
	Rename Records	
	Refresh Setup & Data	
	Project Admin	
	Visit REDCap Website	
	Send Emergency Data Dump	
	Send Project Logs	

iPad 🗢	Sync Report	/ 83% 🔳
	Sync successfully completed	
Sync New r Mod r Recor	ecords to upload: 0 ds Uploaded: 1 Detailed Info ds Renamed: 0	
	Particle Project	
	Back to Project	
	Refresh Setup & Data (Recommended)	

New Records

• Will be added to the main REDCap project immediately if no conflicts exist.

Existing Records

• For projects with auto-numbering disabled, an option to send the data to the server for each modified record appears, as well as the opportunity to view details of the differences between server data and app data for that record:

Back to App Store 4:14 PM		84%		
Record 16 - Record merge candidate				
This record has the same record id as a different record on t	the server It is a	candidate		
for merging. Do you want to merge the record on the app wi				
	server (as specified in the choice details), to upload it with a new record id, or not to			
upload it at all?				
Merge into Record 16 according to Details Table (app value)	ues are default)			
Upload All Fields with New ID (Select New Id)				
Do Not Upload and Reassign to New ID on Mobile Device	e (<u>Select New Id</u>)	17		
Merge into Record 16 on only one Event				
-				
Hide details				
	wish, vou mav chan	ge the value to		
Hide details The highlighted cell below is what will be sent to the REDCap server. If you be sent by tapping it.	wish, you may chan	ge the value to		
The highlighted cell below is what will be sent to the REDCap server. If you be sent by tapping it.	wish, you may chan Server	ge the value to Mobile		
The highlighted cell below is what will be sent to the REDCap server. If you		-		
The highlighted cell below is what will be sent to the REDCap server. If you be sent by tapping it.	Server	Mobile Value		
The highlighted cell below is what will be sent to the REDCap server. If you be sent by tapping it. Event Field Name Dose 2 On average, how many pills did you take each day last week? Light the bandout, which level of dependence do you feel you go.	Server Value [BLANK]	Mobile Value over 15		
The highlighted cell below is what will be sent to the REDCap server. If you be sent by tapping it. Event Field Name Dose 2 On average, how many pills did you take each day last week?	Server Value	Mobile Value over 15		
The highlighted cell below is what will be sent to the REDCap server. If you be sent by tapping it. Event Field Name Dose 2 On average, how many pills did you take each day last week? Dose 2 Using the handout, which level of dependence do you feel you are	Server Value [BLANK]	Mobile Value over 15		
The highlighted cell below is what will be sent to the REDCap server. If you be sent by tapping it. Event Field Name Dose 2 On average, how many pills did you take each day last week? Dose 2 Using the handout, which level of dependence do you feel you are currently at? Dose 2 Would you be willing to discuss your experiences with a psychiatrist	Server Value [BLANK] [BLANK]	Mobile Value over 15 3 Yes		
The highlighted cell below is what will be sent to the REDCap server. If you be sent by tapping it. Event Field Name Dose 2 On average, how many pills did you take each day last week? Dose 2 Using the handout, which level of dependence do you feel you are currently at?	Server Value [BLANK]	Mobile Value over 15 3 Yes		
The highlighted cell below is what will be sent to the REDCap server. If you be sent by tapping it. Event Field Name Dose 2 On average, how many pills did you take each day last week? Dose 2 Using the handout, which level of dependence do you feel you are currently at? Dose 2 Would you be willing to discuss your experiences with a psychiatrist	Server Value [BLANK] [BLANK]	Mobile Value over 15 3 Yes		

- If a record is deleted from the app, it will not be deleted from the server after data syncing. *You may only delete records from the main project on the server.*
- You can also send a partial set of records, which is recommended when you have a large number of records to send.

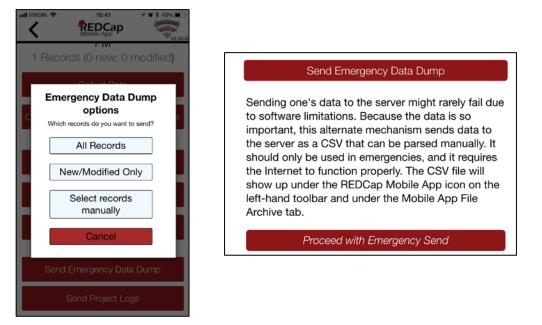
Three options after data is sent

It is recommended to click "Refresh Setup & Data" to remove all data stored on the mobile device and replace with the most current project information from the main REDCap project.



Send Emergency Data Dump

When something prevents the app from sending data back to the server normally, you can use "Send Emergency Data Dump" option to send data to the server as a CSV. The file will show up under Mobile App File Archive tab.



Remote Lockout

• Revoke "REDCap Mobile App" user privilege on the User Rights page in the project to prevent users from accessing the project on their mobile devices.

• Delete API token to perform remote lockout. In this way, the lockout will be permanent and will cause all data currently stored in the app to be lost.



Mobile App Activity Log

- Project log for activity on the REDCap Mobile App is stored in the main project Mobile App File Archive. These can be transmitted to the server (for one given project) via the Send Project Logs button on the Project menu.
- It records data creation, modifications, and uploads; renaming, deletion, and viewing of records; and downloads of project instruments and records.

(Send Project Logs	
format. Upload of	available for each user for auditing purposes. These are stored in plain text of logs requires the Internet to complete properly. The LOG file will show up ap Mobile App icon on the left-hand toolbar and under the Mobile App File	о
	Proceed with Project Log Send	

REDCap Mobile App in REDCap database, or online on a device (not in App)

The Mobile App page in a project contains methods for keeping track of project activity from many devices at a time

- Each device that has access to the project in the mobile app will be displayed in a device list
- The list will display the device's UUID, but devices can be nicknamed (e.g., Kenya tablet, Rob's iPhone)
- The nickname will display on the Mobile App page's activity tables, dashboard, and file download tables so that users may track which device is doing what:

R REDCap Mobile App						
Set Up Project	🔲 Dashboard 📃 A	ll App Activity	🗈 App Data Du	umps 🕅	App Logs	
Displayed below are the devices utilizing the REDCap Mobile App for this project and also a log of important activities - namely, the most recent project download and the five (5) most recent synchronizations. You may provide each device with a nickname to more easily identify the device in the activity below and other Mobile App pages. You may also 'block' an individual device so that it may no longer sync data, download data, or even have the project be accessible within the Mobile App on the device. For instance, you might want to block the device if it were stolen. This helps protect your data from being corrupted or from falling into the wrong hands.						
Devices Used By The M	obile App					
Device UUID	REDCap Nickname for D)evice		Block Dev	/ice?	
096A6CB7-5C94-40DA- AC12-4AA536804190	Halley's iPhone		Edit Nickname	Unblock Block Dev		
Recent Downloads and Uploads (All Devices)						
App Event	Time	Effect			Device	
Last Refresh	11/06/2017 3:39pm	Project Down	nload, but No Data [Downloade		Phone (096A6CB7-5C94- 12-4AA536804190)
Last Sync 1	11/06/2017 3:42pm	Upload with	1 Record. (Map locat	tion)		Phone (096A6CB7-5C94- 12-4AA536804190)

Each device can be blocked on a per-device basis if needed, without having to revoke the API token

• For example: to block a device if it were stolen; this helps protect your data from being corrupted or falling into the wrong hands:

Devices Used By The Mobile App				
Device UUID	REDCap Nickname for Device	Block Device?		
096A6CB7-5C94-40DA- AC12-4AA536804190	Halley's iPhone Edit Nickname	Unblocked Block Device		

The mobile app log files can now be viewed on the Mobile App page without having to download them to view them:

🔲 Set Up Project	🔲 Dashboard	🗏 All App Activity	C App Data Dumps	C App Logs	
	right to download	it. Reload the page to a	project. Only the most re ccess the most recent log		n in its totality. You may
L Download app log Halley's iPhone (096A6CB7-5C94-40DA-AC12-4AA536804190)					
			Dis	olay details for this	device

Reporting a bug/problem

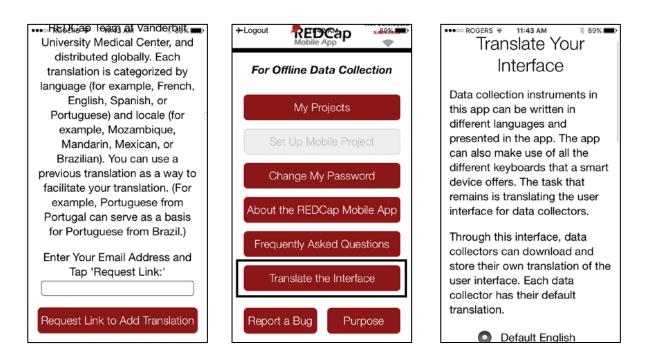
Data collectors should use the reporting feature within the device itself to submit a troubleshooting request.

Study team leads can send an email to <u>redcapapp@vumc.org</u> with their question. Please be sure to provide this information:

- Type of device
- Device operating system version
- When the error occurred
- Any recent updates to project
- Does it occur for multiple users?

Translate the Mobile App Interface

You can translate the interface (buttons, instructions, etc.).



Current interface translations

- This will be applied to the entire app
- Translations are done by other REDCap users, and you can request a translation
- This feature does not translate your instruments, just the interface around them
- Current languages available for translating the REDCap interface:
 - Default English
 - Latam IECS Spanish (Argentina)
 - Chinese (China)
 - Francais (France), Francais (Francophone)

- o IPFR French (Institut Pasteur)
- o Japanese (Japan)
- Traditional Chinese (Taiwan)
- German (Germany, DE)
- Vietnamese (Vietnam)
- o Google Translator Portugese (Para os inquiridores)
- Vietnamese (Vietnam)
- Portugese Brazil Portugese (Brazil)
- DE German (LMU UNIKA-T Augsburg)
- o Russian (Russia)
- o Vietnamese (SCDI) (Vietnam)
- Tieng Viet Vietnamese (Vietnam)

Action Tags

Action Tags are special terms that begin with the '@' sign that can be placed inside a field's Field Annotation. Each action tag has a corresponding action that is performed for the field when displayed on data entry forms and survey pages. A few of these action tags are just for the mobile app, and they are listed below:

Hides the field only on the form ONLY on the REDCap Mobile App. Field will stay hidden even if branching logic attempts to make it visible.
Makes the field read-only (i.e., disabled) on the form ONLY on the REDCap
Mobile App so that its value cannot be changed.
Allows the REDCap Mobile App to capture the value of a barcode or QR code
by scanning it with the device's camera. NOTE: For use only in the REDCap
Mobile App.
In the REDCap Mobile App, it sets a field's value to the app username of the
current mobile app user - i.e., their username in the mobile app, which is not
necessarily the same as their REDCap server username that can be captured
using @USERNAME. NOTE: For use only in the REDCap Mobile App.
Can be used only for File Upload and Signature fields. If the project is
initialized in the REDCap Mobile App, this will cause any image files
uploaded to a record to be sent to the app so that they are viewable in the
app when editing the record. NOTE: For use only in the REDCap Mobile App

You can apply the actions while building your project on the server side, before downloading the app to your device.

Best Practices

- Establish a point of contact for the project in general and for the person managing data collectors
 - If different people, the field manager should be as well trained as the person setting up the project
- For best audit trail logging, all users need their own API token
- Test the project on the app before rolling out
 - Formatting will look different

- Look for significant changes in validated forms
- Develop a contingency plan if the app fails
- Take advantage of being able to label devices in the project
- With all researchers/data collectors:
 - o Review device and app security
 - Instruct them if they need to lock forms when doing data entry
 - o Review what features do/don't work on the app
 - Consider providing one-on-one training or provide Powerpoint or Word instructions with screenshots
 - Teach them what to do when the app fails
- Be aware of any potential issues with changing the data dictionary when using the app
- Make sure to not have all devices under 1 API
- Set the user rights for each user so that they only have access to the data they need to have access to. If the project is a longitudinal project, you can download only the pertinent arms or events.
- To get a separate API token for 1 user, create different user accounts for that person.
- Write the protocol for using the Mobile App into your IRB application, if applicable.

In-Depth Manual in the App

Once a data collector downloads the app onto their device, there is an in-depth manual within the app. Click "About the REDCap Mobile App" to see a brief summary and the option for a more detailed manual.

Pad	C N N Conn Mobile App Conn Swa
	About the REDCap Mobile App
data dim part App	DCap software provides its online users with the ability to create and manage surveys and tabases quickly and securely to facilitate data collection. The REDCap Mobile App adds a new nension to the software's versatility by providing users with a tool for offline data collection, ticularly in environments with poor internet connectivity. With REDCap and the REDCap Mobile p, users have new options for electronic data capture for studies that under previous cumstances would have dictated pen and paper.
	it <u>www.projectredcap.org</u> for more information on REDCap and on joining the REDCap nsortium.
	nsortium.
	In-Depth Manual
	In-Depth Manual App Concept
Cor	In-Depth Manual App Concept Create and design project on your REDCap installation. Grant Mobile App Rights and get token.

You can also view the in-depth manual here: <u>https://projectredcap.org/wp-content/uploads/2019/07/In-Depth-Guide2019.pdf</u>

Frequently Asked Questions

What features of REDCap are supported?

- Data entry
- DAGS
- GPS
- Pictures, videos, and audio can be uploaded into designated file fields.
- Signatures fields
- Action tags
- Instruments can be secured so that participants/users can enter their own data.
- Repeating instruments/events

What noteworthy features of REDCap aren't supported?

- CATS (Computer Adaptive Test Surveys)
- Double data entry
- Survey specific features
- Survey queue
- Randomization
- Viewing files
- Inline audio/video
- Survey instructions
- Survey stop actions
- Survey thank you text
- Downloadable files in file fields
- Most External Modules are not supported

How are surveys and forms handled?

Normal REDCap Survey features are not used for Mobile App data collection. They are treated as entire forms without the pagination. Instruments can be secured with a pin so that participants/users will only have the option of entering data when the device is handed over to them. The instrument can be locked/unlocked via the primary user's pin.

What are the weaknesses of the app?

If you have online access, use regular REDCap to collect data. It even works on the browser of your portable devices. You can also send data simultaneously from multiple devices.

What is the workflow of the app?

• Via an admin: Create a user; push projects to them; let them collect data; allow them to send data or send data yourself; clean & refresh the project; repeat; remove project.

• Via a user: Set up a project or multiple projects; collect data; send data; clean & refresh the project; repeat; remove project.

Can I limit users of my app so that they cannot do all functions?

User access can be restricted through the administrator interface. An administrator on the app can assign users the appropriate level of data access rights.

Can I use multi-tablet setups?

Yes, so far (September 2015) the record is 80 tablets.

Can I use data access groups?

Yes, Data Access Groups (DAGs) are supported by the app. Whichever REDCap user supplies the download code – this user's DAG is used.

Can I restrict access to data?

Access to data can be restricted by using DAGs. You can also restrict all data via the user rights.

What happens if a tablet or phone is stolen?

Go to REDCap and revoke the API token – unless there is more than one device distributed with this token. If there is only one device, revoking the API token will not allow the thief to send data, download new data, or refresh the project. Further, when online, the thief cannot access any existing data. If there are multiple devices, revoking the API token will disable ALL devices. Use with care. Either way, access is protected with a PIN.

Instrument Design Hints

- You can include any fields and images (including signatures).
- You can't include video or audio as those will not be downloaded.
- You can't include external PDFs as those will not be downloaded.
- Signatures will be downloaded as those seem important enough information for a small amount of bytes.
- Regular file fields will not be downloaded. Their filenames and sizes will attempt to be downloaded.
- Don't make your forms too long. Shorter (< 100 fields) fields seem to work better with users. 1000+ field forms can induce frustration. Making your form too long can crash your device. Break up a long form into smaller forms and use the "Save and Go to Next Instrument" button.
- Heavy amounts of branching logic and calculations will slow down the rendering of your form.

MyCap

MyCap captures patient-reported outcomes, similar to REDCap surveys. Data is entered by the patient via the app. For more information, see <u>https://projectmycap.org/</u>

REDCap vs. MyCap comparison

	REDCap Mobile App	МуСар
Requires API Connection	• Yes	• Yes
Set up	 Projects set up on REDCap server and uploaded to the mobile app 	 MyCap-enabled projects can only be created by a REDCap Administrator
Intended Use	Offline data collection	 Captures patient-reported outcomes, similar to REDCap surveys
Target Audience	Data collectors	Project participants
REDCap Feature Support	 Yes, data entry features not requiring onl connection 	ine • No, must install the MyCap external module
System/Server Requirements (for most current functionality)	REDCap Version 6.0 and later	• REDCap Version 8.0.3 and later; PHP 5.6
Device Compatibility	 Android and iOS devices only. Amazon Fir devices not supported. 	 Android and iOS devices only. Amazon Fire devices not supported.
Android	OS Version 4.3 and later	 OS Version 5.0 and later (OS Version 9.0+ optimal)
iOS	OS Version 9.0 and later	OS Version 11.0 and later
Support email	• <u>redcapapp@vumc.org</u>	• <u>mycap@vumc.org</u>

Resources

Weekly Mobile App Assistance Call, every Monday at 9AM central at <u>https://global.gotomeeting.com/join/305129941</u>

Email: redcapapp@vumc.org

Training Videos:

REDCap Mobile App Overview

REDCap Mobile App Project Setup

Installing the REDCap Mobile App

Acknowledgements

This manual was heavily adapted from the manual that the team at British Columbia Children's Research Hospital created for their end users. As well, Vanderbilt colleagues Giovanni Delacqua and Michelle Fernandez provided invaluable input and content. We thank them for their contributions!