CLINICAL & TRANSLATIONAL SCIENCE INSTITUTE

Research & Academic IT

REDCap new features

Agenda

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REDCap New Features – Overview
REDCap Twilio integration
REDCap Mobile
Survey Features
REDCap Project Templates
Action Tags
Search Biomedical Ontologies
Embedded Videos
Codebook
Auto-scoring and CATs
Function for unstructured data
Future features (upgrade end of January)

URMC REDCap Installation

- Active installation since January 2011
- Currently have 2399 users
- Total of 2248 projects

REDCap- **New Features**

- **Twilio -** SMS surveys and phone Surveys
- **REDCap Mobile App (**iOS and Android)
- Enable searching within a **biomedical ontology** for text fields (ICD-9, ICD-10, Snomed CT, LOINC 400 ontologies)
- Embedded videos and audio for descriptive fields (audio not supported in Mobile App)
- Auto-scoring Instruments – Static, downloaded from Shared Library
- Field annotation
- **Action Tags** – must begin with '@' placed in fields annotation.
- **Auto-complete** for dropdown fields

REDCap- **Improvements**

- Delete – By participant: single form or entire battery of forms
- Reports – building a report in “Data Exports, Reports and Stats” Quick Add allows you to select the fields for reporting. Similar to old export
- Checkboxes and radio buttons – select the label as well as the box or button
- Codebook
- Surveys more compatible on mobile devices
- Copy Instrument
- Instrument ZIP Upload and External Libraries
- Project Notes

REDCap- **New Features**

New Survey Features/Improvements

- Auto-continue to next Survey
- **Text-to-speech functionality**. Can be enabled on the Survey settings page for a given survey
- Improvement: Automated Survey Invitations

REDCap-Twilio

Integrate with Twilio (www.twilio.com) a 3rd party webservice to make voice calls and send SMS Text Message as surveys.

- Must have a user account and paid subscription
- Similar to a setting up regular survey but connect your account to Twilio.

Survey Options:

1. Initiate survey as voice call
2. Initiate SMS conversion
3. Send survey with survey link via SMS or Voice call
4. Voice Call Surveys CAN ONLY USE NUMERIC RESPONSES
5. SMS Surveys – 1 question at a time

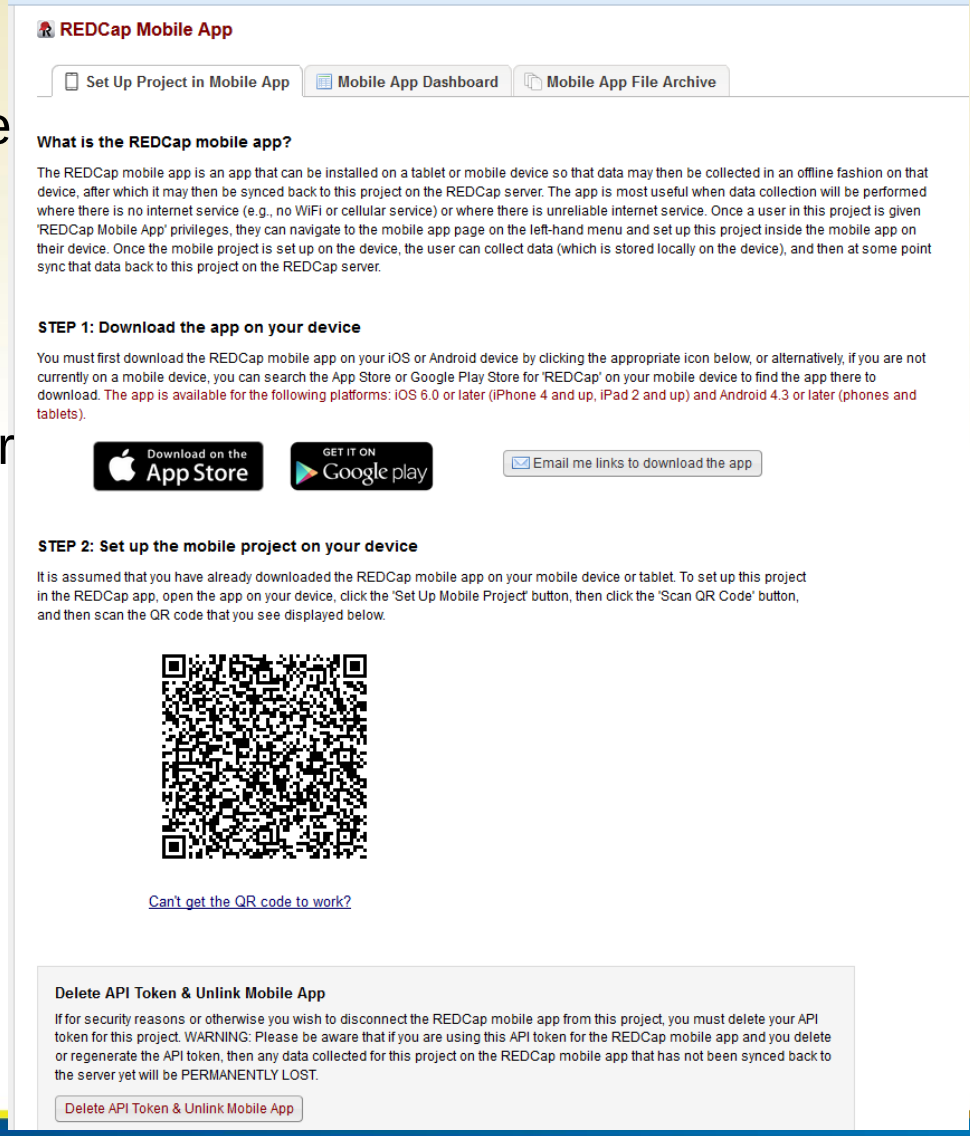
PRIVACY & SECURITY INFO: It is important to understand that this feature utilizes the third-party service Twilio.com, which means that all **voice calls and SMS messages will be routed through Twilio's servers**. However, REDCap goes to great length to ensure that voice call records and SMS transcriptions do not stay in Twilio's **logs** but are **removed shortly after being completed**. This is done for security and privacy concerns (e.g., HIPAA), in which your survey participants' phone numbers and their survey responses do not get permanently logged on Twilio's servers but instead remain securely in REDCap.

REDCap-Mobile App

REDCap Mobile App can be installed on a tablet or mobile device so data can be collected offline then synced back to the REDCap server.

Steps:

1. Create/Design project in a browser
2. Select REDCap Mobile App left nav bar
3. Request API Token
4. Download app from the app store
5. Setup project on mobile device, give permissions
6. On mobile device scan the QR code to setup

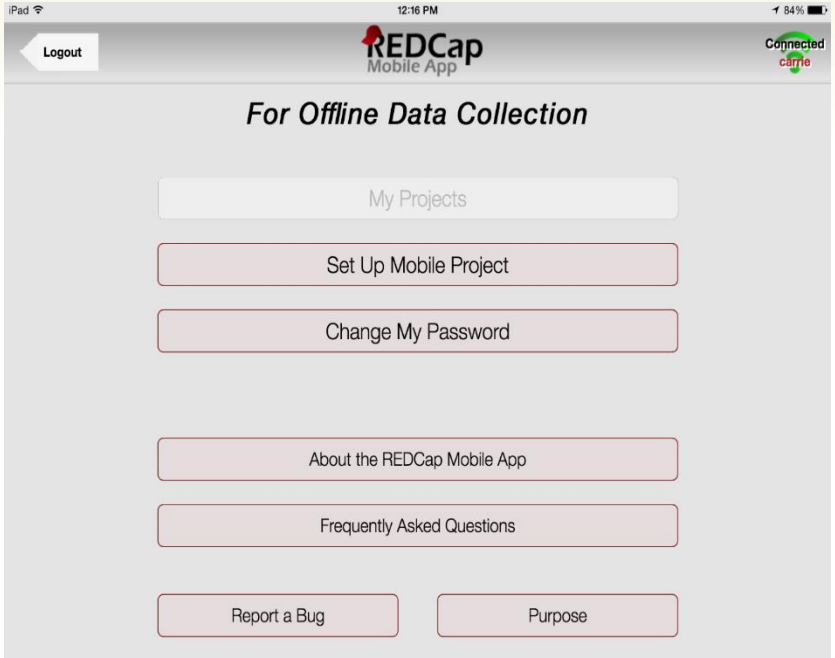


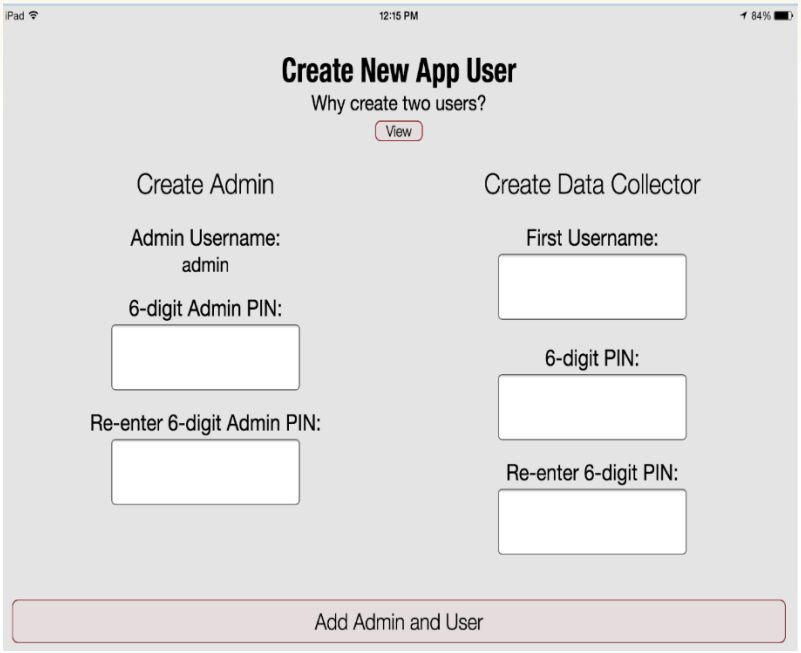
REDCap- Mobile App

Steps on Mobile Device: Download Mobile App from App Store

1. Setup Mobile App

2. Create New App User (2 users)





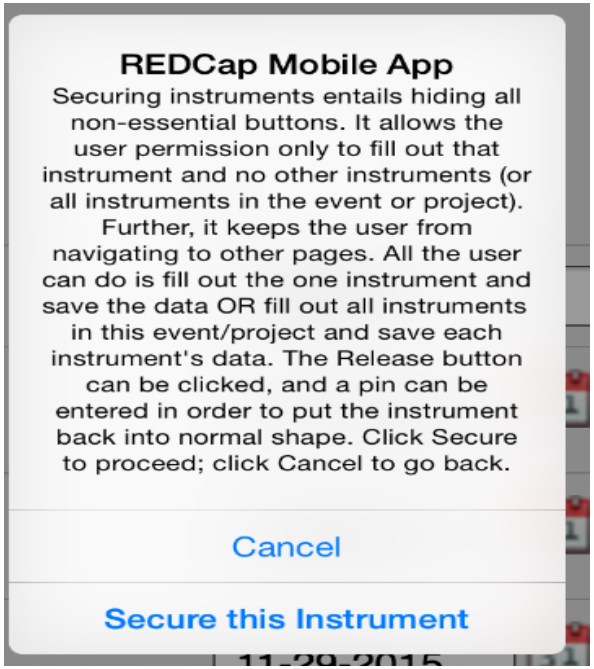
***Make sure to save your Username and 6 digit pin

REDCap-Mobile Dashboard

* If changes are made to a project you must select **Clean and Reset Mobile Project** from the device to reflect the changes.

* Make sure to send Project logs, backup mechanism to track activity.

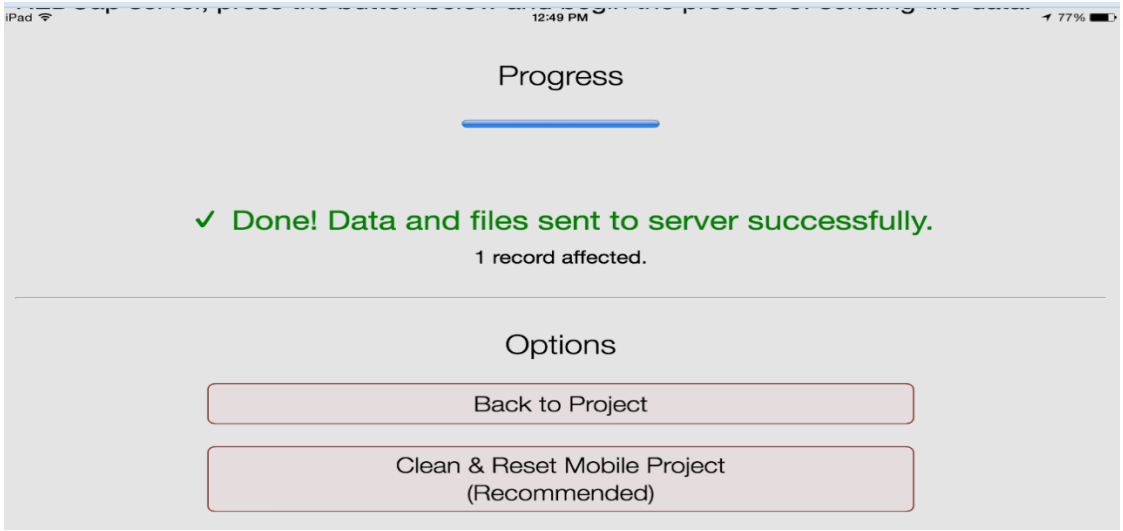
- Secure this instrument
- Set permission to NOT allow user to download data to the device



REDCap – Syncing Data

Syncing data back to REDCap Server. If there are any possible issues that might arise when sending data, the app will prompt user to make a decision before sending data.

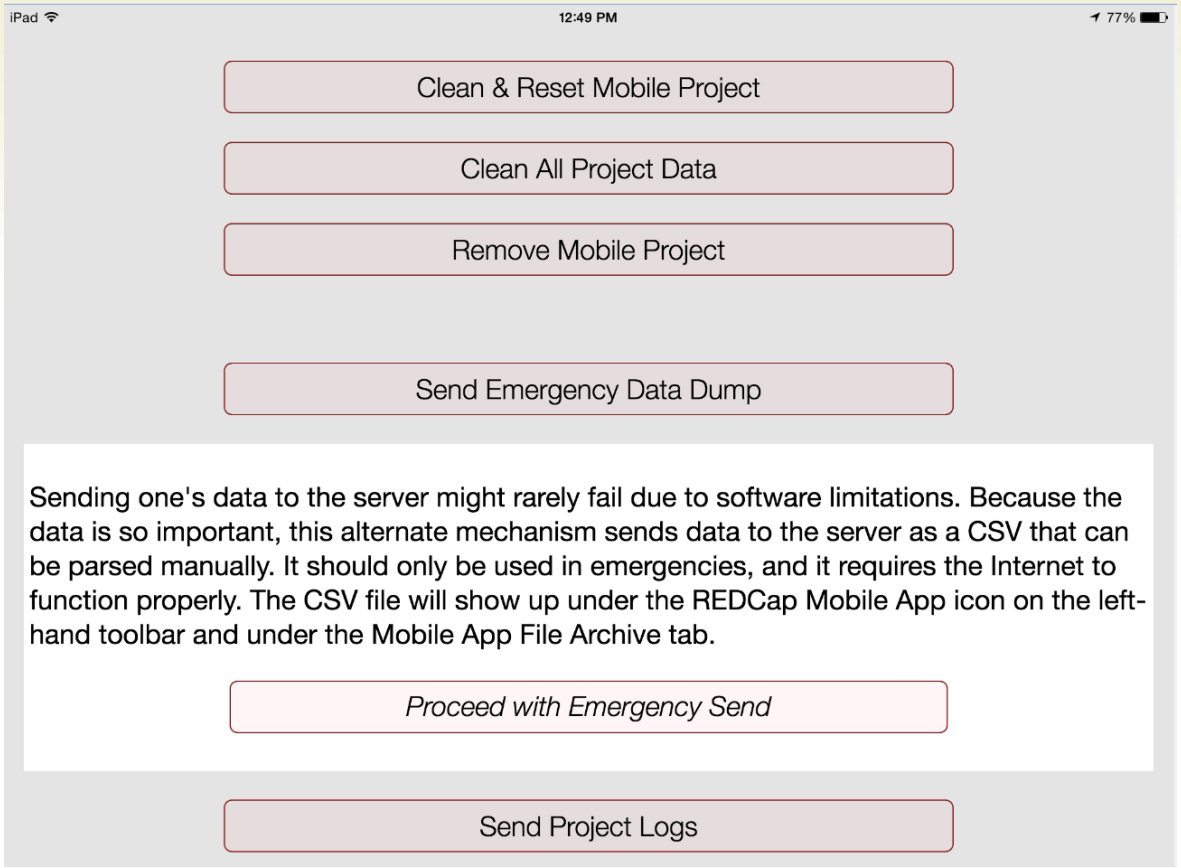
ex: auto-numbering and a record already exists, user will be prompted to rename the record during the sync process.



Remote Lockout: If a user revokes your Mobile App rights you will not be able to access the App.

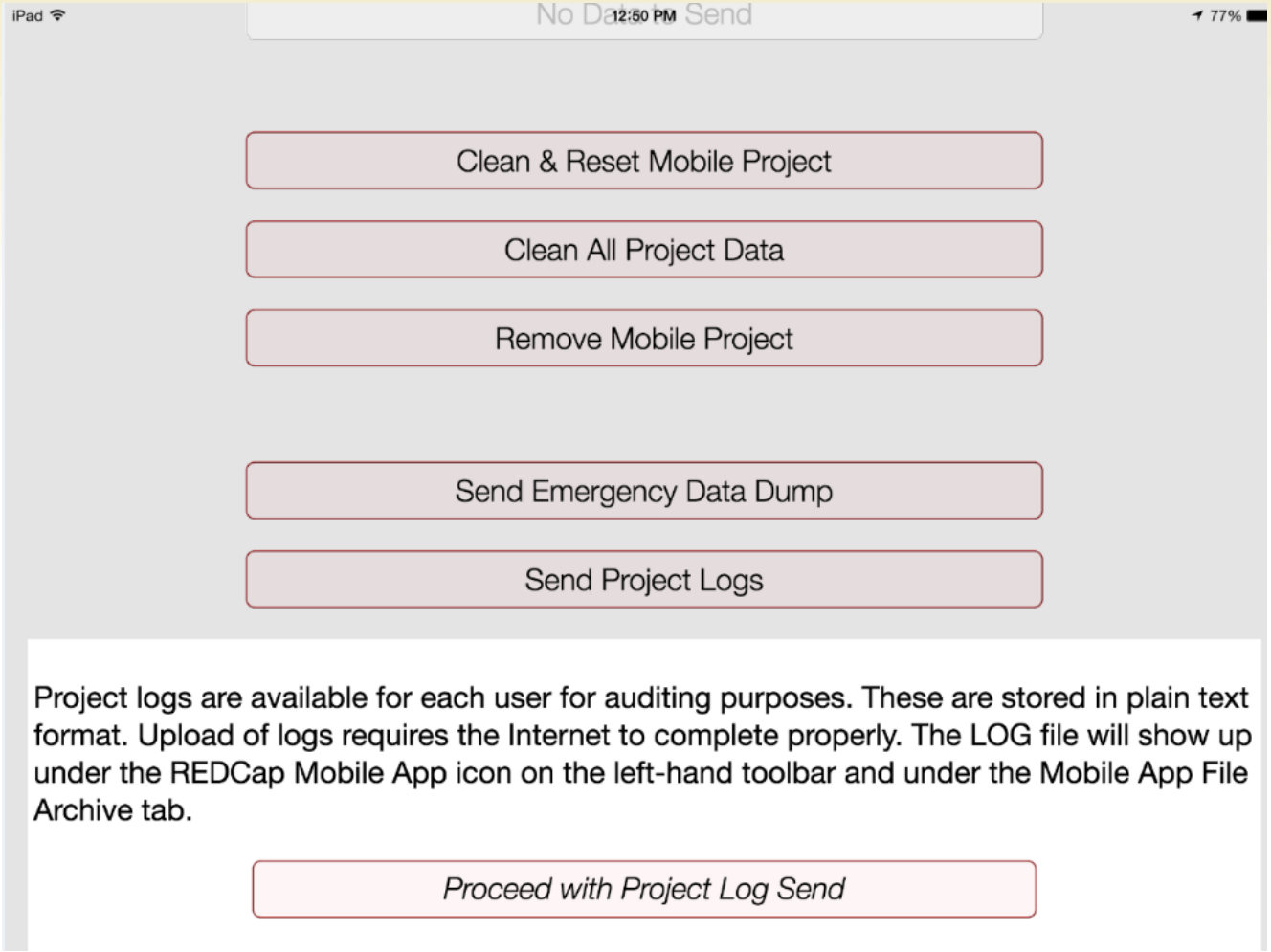
REDCap – Mobile Options

Other Mobile Dashboard Options – Send Emergency Data Dump



REDCap – Mobile Options

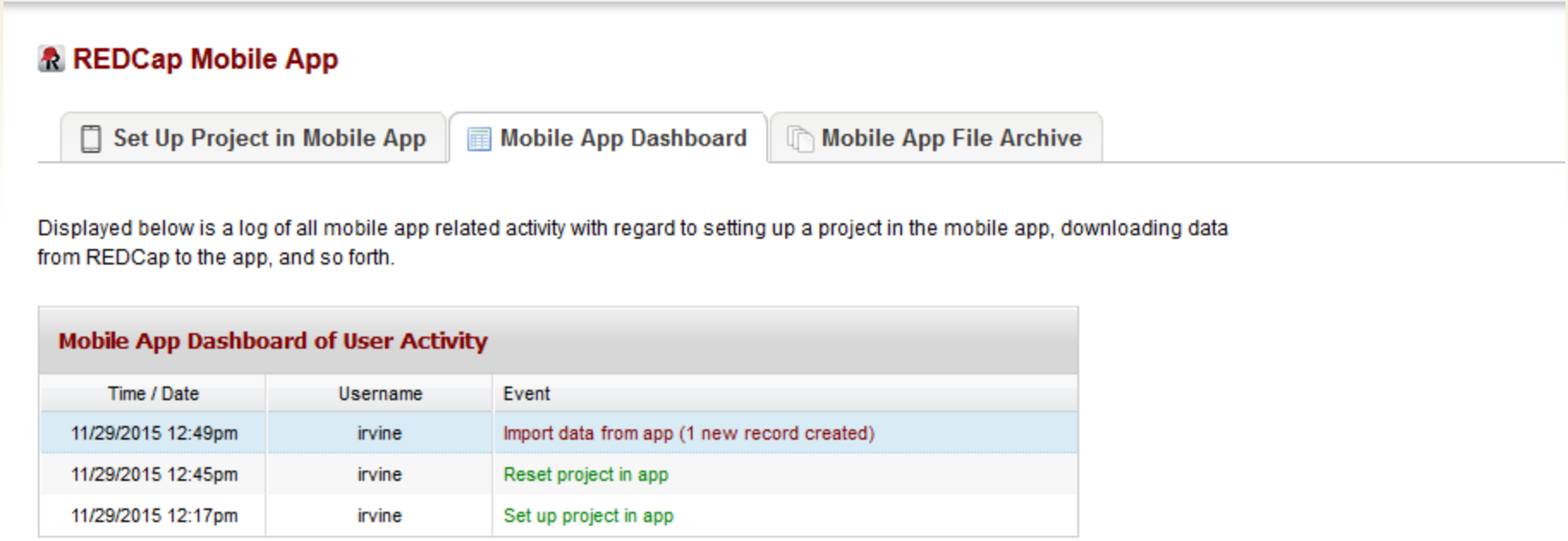
Other Mobile Dashboard Options – Send Project Logs



REDCap – Mobile App Admin

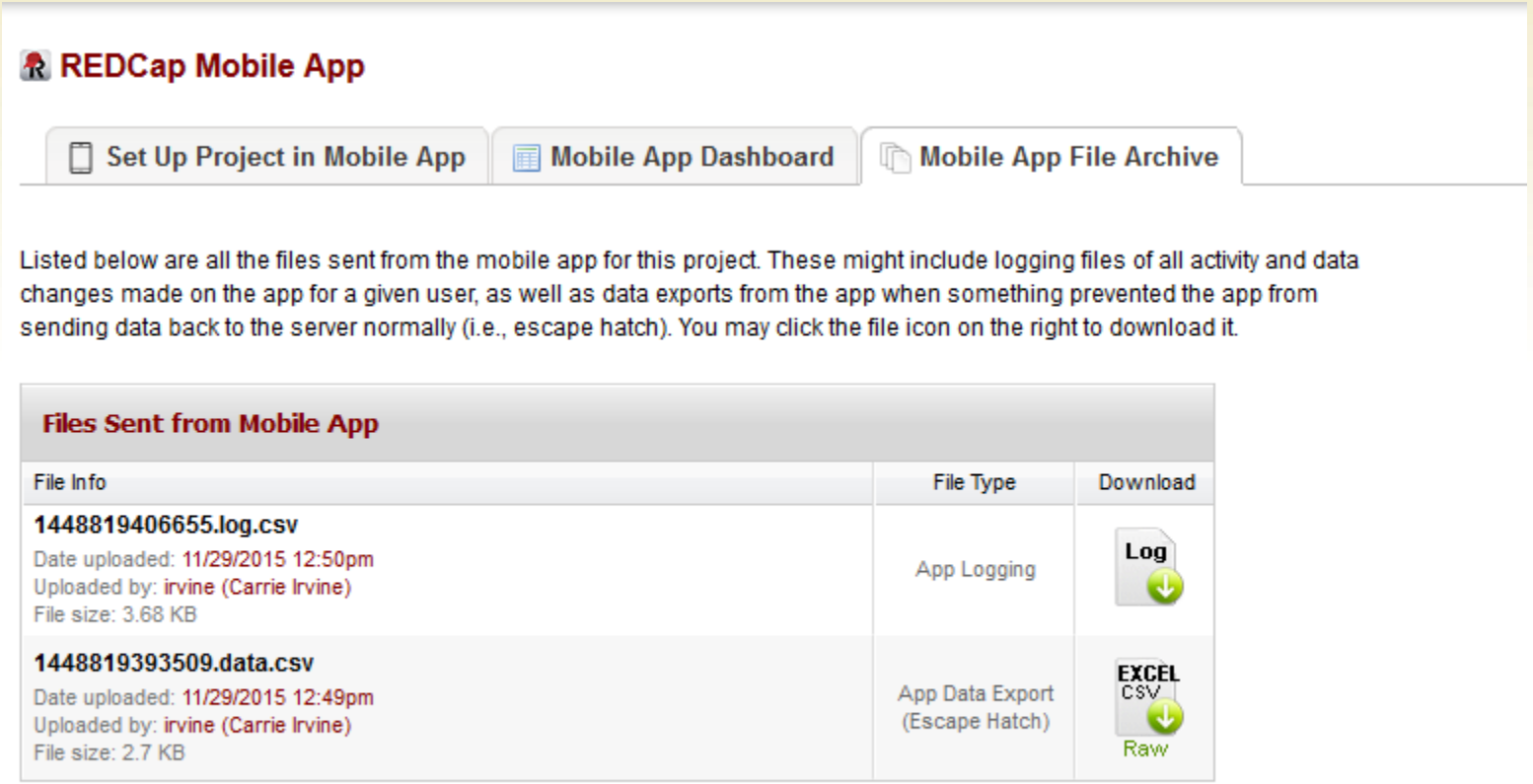
Within the REDCap Project Home Page – Select REDCap Mobile App

- Important to upload project logs for each user



REDCap – Mobile App Admin

Mobile App File Archive



REDCap – Project Templates

Project Templates

Any given project in REDCap may be designated by a super user as a project template. Once designated as a template, that project will become available as an option when creating a new project, in which a user may choose that project as a template from which to start when creating their new project. When creating a new project using a template, all of the template's data collection instruments, fields, surveys, and general project settings will be added to the new project at the point of creation. Below are some options for managing all the templates available, including adding, editing, or removing a project as a template.

List of project templates — Add new template

	Enabled?	Template title (sorted by title)	Template description
	★	Basic Demography	Contains a single data collection instrument to capture basic demographic information.
	☆	Classic Database	Contains six data entry forms, including forms for demography and baseline data, three monthly data forms, and concludes with a completion data form.
	★	Human Cancer Tissue Biobank	Contains five data entry forms for collecting and tracking information for cancer tissue.
	☆	Longitudinal Database (1 arm)	Contains nine data entry forms (beginning with a demography form) for collecting data longitudinally over eight different events.
	☆	Longitudinal Database (2 arms)	Contains nine data entry forms (beginning with a demography form) for collecting data on two different arms (Drug A and Drug B) with each arm containing eight different events.
	★	Multiple Surveys (classic)	Contains three surveys and a data entry form. Includes a pre-screening survey followed by two follow-up surveys to capture information from the participant, and then a data entry form for final data to be entered by the study... Show more
	★	Multiple Surveys (longitudinal)	Contains three surveys and a data entry form. Includes a pre-screening survey followed by two follow-up surveys, one of which is a questionnaire takenly weekly to capture participant information longitudinally over a period of... Show more
	★	Piping Example Project	Contains a single data collection instrument enabled as a survey, which contains questions to demonstrate the Piping feature.
	★	Project Tracking Database	Contains fifteen data entry forms dedicated to recording the attributes of and tracking and progress of projects/studies.
	★	Randomized Clinical Trial	Contains seven data entry forms for collecting data for a randomized clinical trial. Incluses a short demographics form followed by a form where randomization is performed. An example randomization model has already been set up,... Show more
	☆	Single Survey	Contains a single data collection instrument enabled as a survey, which contains questions to demonstrate all the different field types.

REDCap – Action Tags

Action Tags –

Must begin with ‘@’ sign and placed in Field annotation

List of Action Tags:

- @HIDDEN – hides field even if branching tries to make it visible
- @HIDDEN-FORM – hides field only on data entry form not in a survey
- @HIDDEN-SURVEY – hides field only on survey
- @READONLY
- @READONLY-FORM
- @READONLY-SURVEY

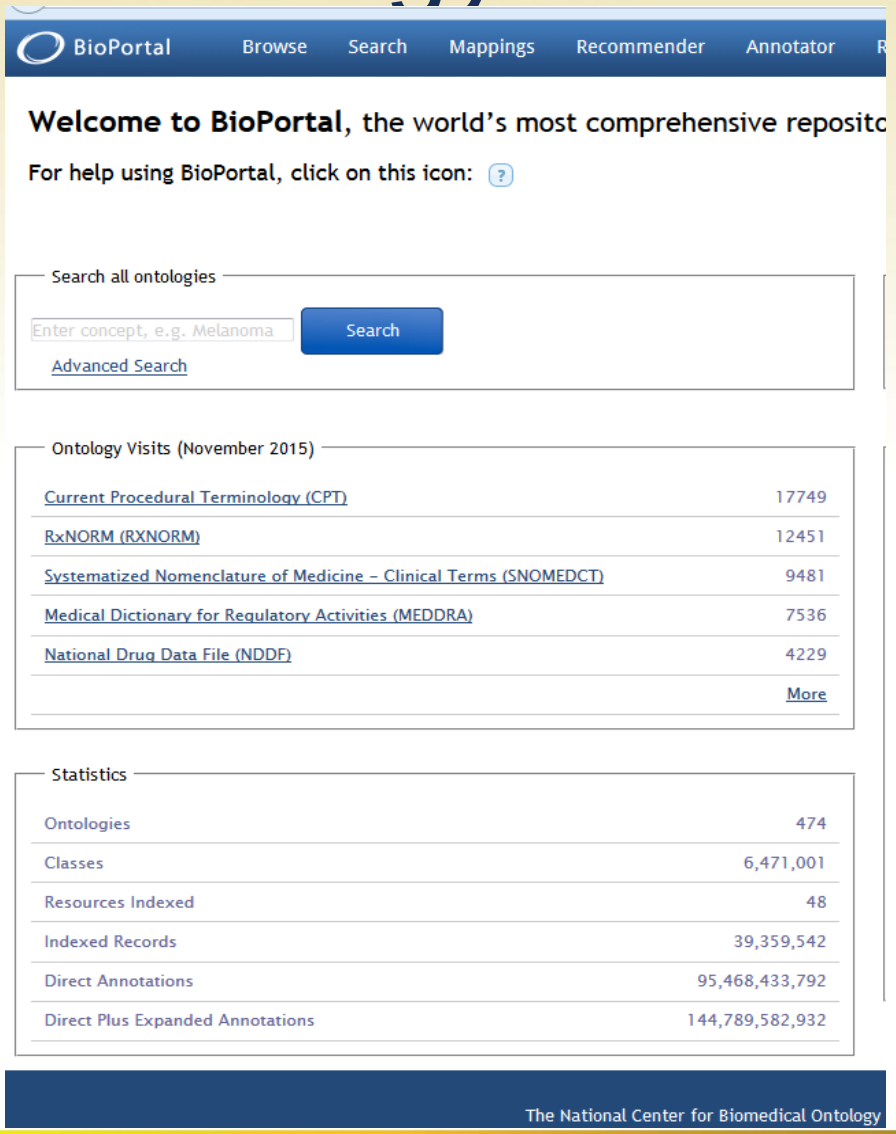
REDCap – Ontology

Enable searching within a biomedical ontology for text fields (survey or form)

**400 ontologies available, email REDCapAdmin@urmc.Rochester.edu if we do not have the ontology loaded.

https://bioportal.bioontology.org/

Currently have RxNORM, CTCAE, ICD9CM, ICD10, SNOWMEDCT

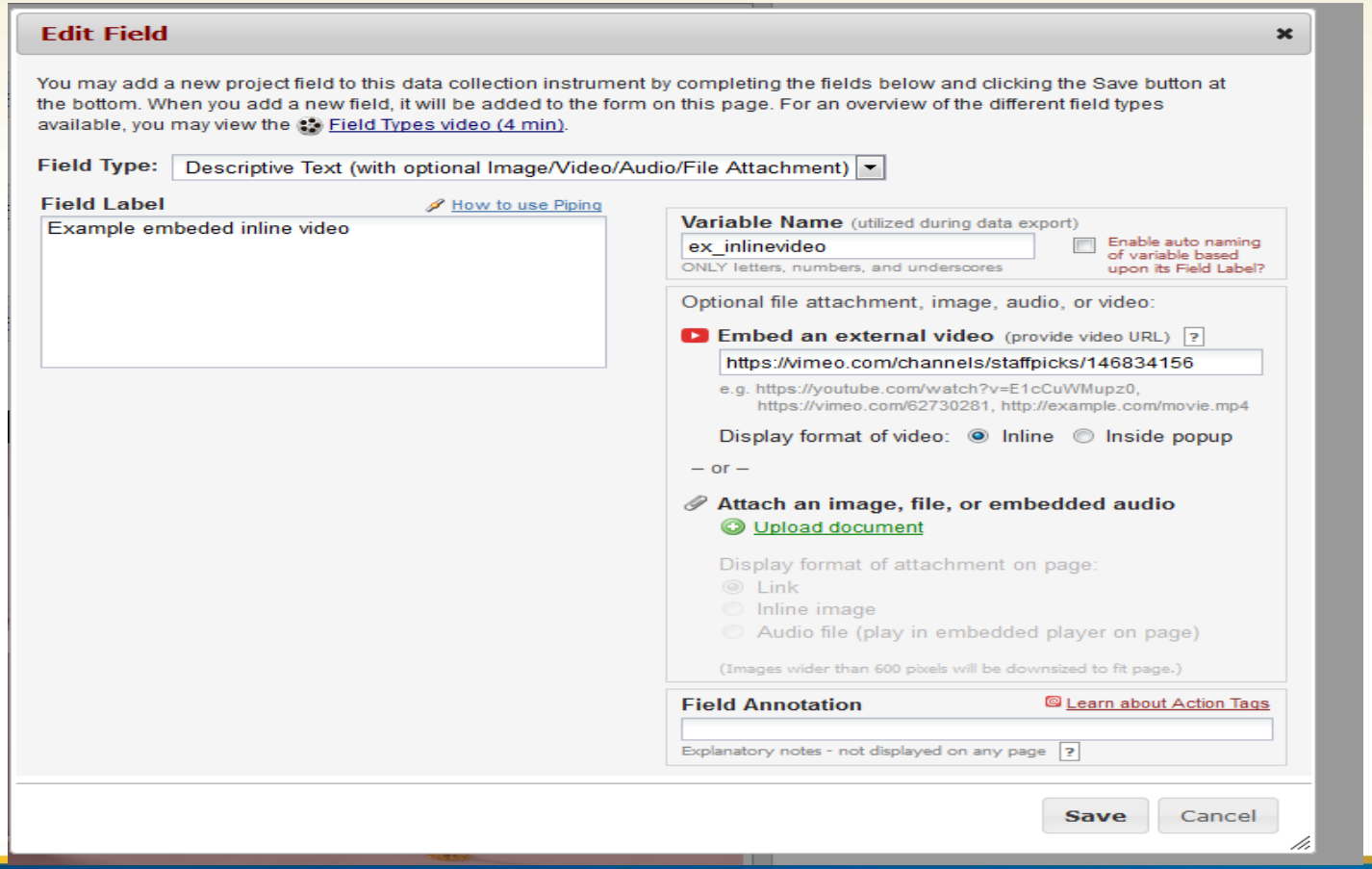


REDCap – Embedded Videos

Add field of type Descriptive Text.

a) Embed an external video to display inline or inside a popup

b) Attach an image, file or embedded audio.



REDCap – Codebook

User friendly – read only version of the data dictionary but has editing capabilities. Click pencil to edit the field on the form

Project Home | Project Setup | Codebook | Edit project settings in Control Center

The Codebook is a human-readable, read-only version of the project's Data Dictionary and serves as a quick reference for viewing the attributes of any given field in the project without having to download and interpret the Data Dictionary. Note: Checkbox fields have their coded values displayed both in the format defined by users in the Online Designer/Data Dictionary as well as in the extended format seen in data imports and exports (i.e., field___code).

Print page

Data Dictionary Codebook

#	Variable / Field Name	Field Label *Field Note*	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
Instrument: **Demographics - Pediatric ICU mobilization project**			
1	record_id	Record ID	text
2	mrn	MRN	text (number), Identifier
3	dob	Date of birth	text (date_mdy), Identifier
4	date_of_admission	Date of admission	text (date_mdy), Identifier
5	date_of_discharge	Date of Discharge	text (date_mdy), Identifier
6	pim_prism	PIM	text (number, Min: -12, Max: 12)
7	rxnorm_ontology	Using RxNORM Ontology	text BIOPORTAL:RXNORM | BIOPORTAL:RXNORM
8	ex_inlinevideo	Example embeded inline video	descriptive
9	ex_popupvideo	Example popup embedded video	descriptive

REDCap Functions

There a number of helpful functions that allow you to sort through unstructured data. For example, you can now search through all the email fields in your records for emails that end with “@gmail.com.”

Function syntax	Type of Function	Effects	Example
contains (haystack, needle)	**Does text CONTAIN another text string?**	Returns a boolean (true or false) for if "needle" exists inside (is a substring of) the text string "haystack." Is case insensitive.	E.g. *contains("Rob Taylor", "TAYLOR")* will return as **TRUE** and *contains("Rob Taylor", "paul")* returns **FALSE**.
not_contain (haystack, needle)	**Does text NOT CONTAIN another text string?**	The opposite of contains(). Returns a boolean (true or false) for if "needle" DOES NOT exist inside (is a substring of) the text string "haystack." Is case insensitive.	E.g. *not_contain("Rob Taylor", "TAYLOR")* will return as **FALSE** and *not_contain("Rob Taylor", "paul")* returns **TRUE**.
starts_with (haystack, needle)	**Does text START WITH another text string?**	Returns a boolean (true or false) if the text string "haystack" begins with the text string "needle." Is case insensitive.	E.g. *starts_with("Rob Taylor", "rob")* will return as **TRUE** and *starts_with("Rob Taylor", "Tay")* returns **FALSE**.
ends_with (haystack, needle)	**Does text END WITH another text string?**	Returns a boolean (true or false) if the text string "haystack" ends with the text string "needle." Is case insensitive.	E.g. *ends_with("Rob Taylor", "Lor")* will return as **TRUE** and *ends_with("Rob Taylor", "Tay")* returns **FALSE**.

REDCap upcoming features

Projected Software Development timeline for early 2016

Upcoming Features:

1. Survey Themes
2. Ability to pre-populate data in fields (default values)
3. Infinitely repeating forms and events
4. Calculations from calculated fields resulting in text or dates

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For a list of Services provided and fees

https://www.urmc.rochester.edu/MediaLibraries/URMCMedia/academic-it/documents/AIT-Service-Catalog-July-23-2015-v4.pdf

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