# Making the Most of REDCap

Research Electronic Data Capture

# All About Surveys

THE UNIVERSITY OF CHICAGO MEDICINE & BIOLOGICAL SCIENCES

CENTER FOR RESEARCH INFORMATICS


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SEMINAR SERIES

Introduction to REDCap 11/19/19

Beyond the REDCap Basics 2/20/20

All About REDCap Surveys 4/14/20

http://cri.uchicago.edu/seminar-series/

# TOPICS

- History & Background
- Survey Basics
- Creating Surveys
- Distributing Surveys
- Tracking Surveys
- Survey Termination
- Advanced Features
- Smart Devices
- Wrap Up

HISTORY & BACK-GROUND

Who is the CRI?

What is REDCap?

REDCap History

# CENTER FOR RESEARCH INFORMATICS

### ACQUIRE DATA

Explore clinical data available for research and make a data request.

Clinical Research Data Warehouse
Cohort Discovery

### ANALYZE DATA

We offer high-performance computing and advanced bioinformatics analysis for the most complex datasets.

Bioinformatics Core
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### STORE DATA

Our storage is secure, standards-compliant, and backed up daily.

CRI Data Storage

### MANAGE DATA

Manage studies, surveys, and databases for research.

REDCap
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### FIND A CUSTOM SOLUTION

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Custom Applications

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# WHAT IS REDCAP?

***Web-based software*** used to create and manage research databases and participant surveys.

***Developed as a tool*** to help researchers collect and manage data effectively and responsibly.

# REDCAP HISTORY

THEN

2004: Developed at Vanderbilt

2006: Global consortium

2010: University of Chicago

2011: Center for Research Informatics

2012: REDCap at UChicago

NOW

Worldwide:

- 4080 institutions
- 137 countries
- 888,000 projects
- 1,200,000 users

UChicago:

- 6,100 projects
- 6,018 users

SURVEY BASICS

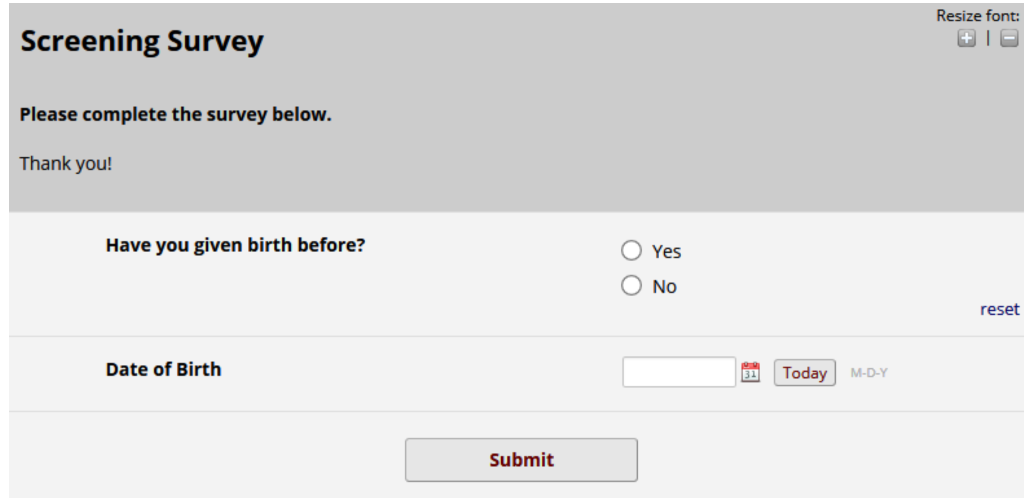
What is a Survey?

Survey Respondents vs Project Users

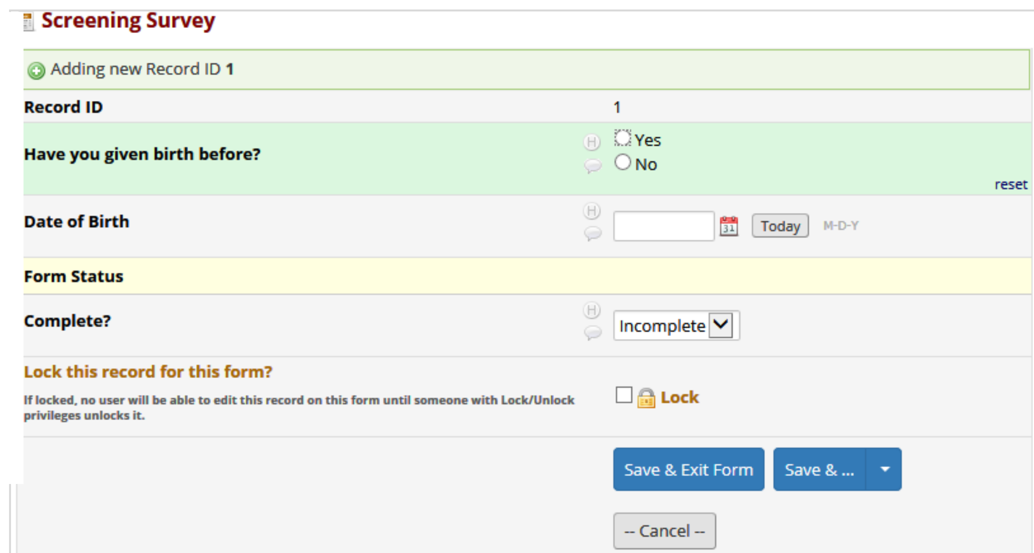
Survey User Rights

# WHAT IS A SURVEY?

***A REDCap survey*** is a "public" version of a (form) instrument that is completed by a study participant without having to log into REDCap.




That same instrument can also be used by the study team as a data entry form when logged into REDCap.



# SURVEY PARTICIPANTS vs PROJECT USERS

## SURVEY PARTICIPANTS

People who submit data through a survey.

Can only submit data via survey links.

Can never see one another's data.

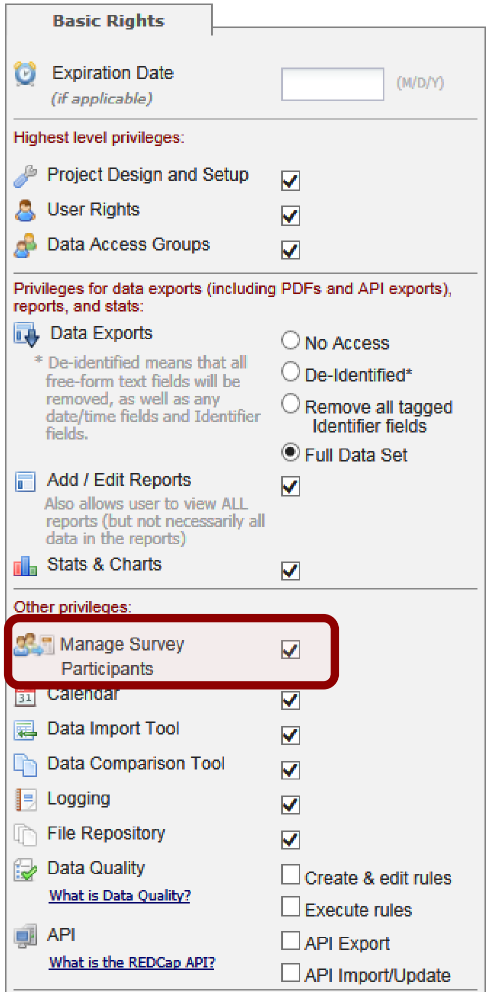
## PROJECT USERS

Must login to see what was submitted by participants.

Can send surveys links.

Can track who has or has not responded.

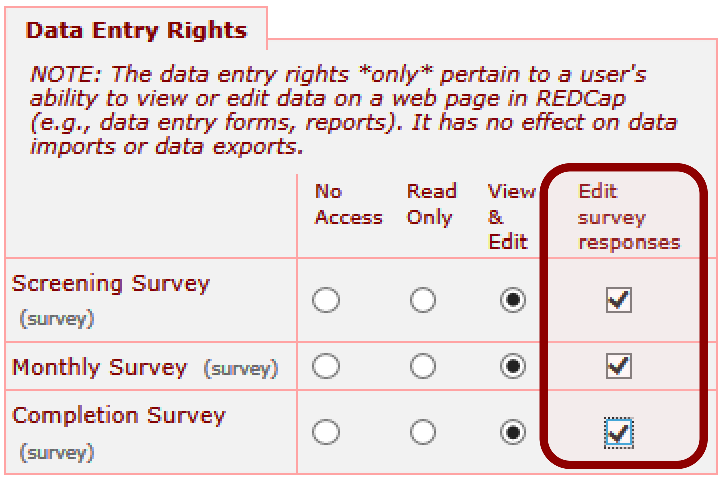
# USER RIGHTS FOR MANAGING SURVEYS




To allow a study team member to manage surveys (add participants, send emails, etc), assign them the user right:

**Manage Survey Participants**

# USER RIGHTS FOR EDITING SURVEYS




To allow a study team member to edit survey responses or delete surveys, assign them the user right called:

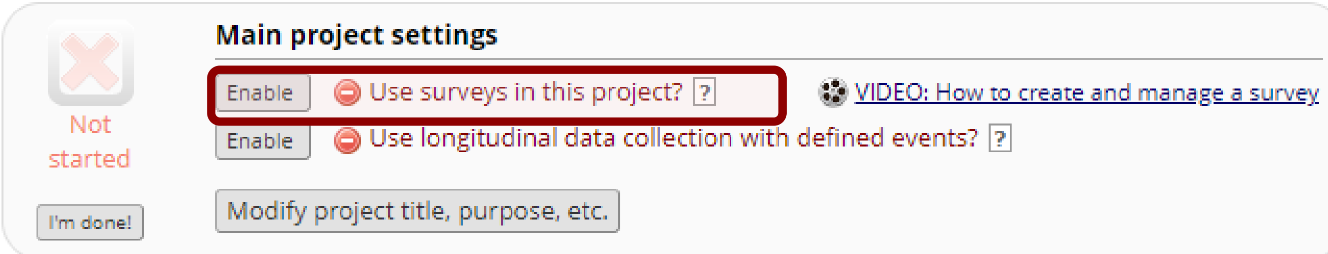
**Edit Survey Responses**

# CREATING SURVEYS

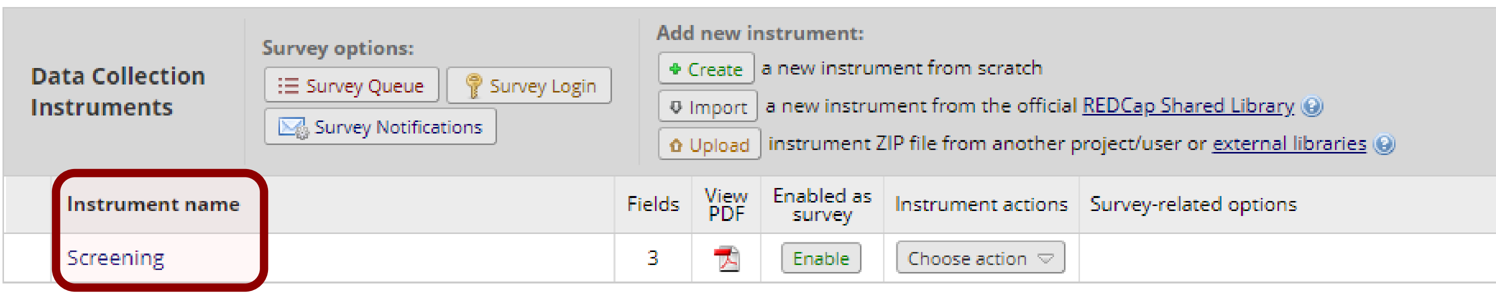
- Creating a Survey
- Enabling the Survey
- Survey Settings
- Testing Surveys
- Multiple Surveys
- Longitudinal Surveys

# CREATING AND ENABLING A SURVEY

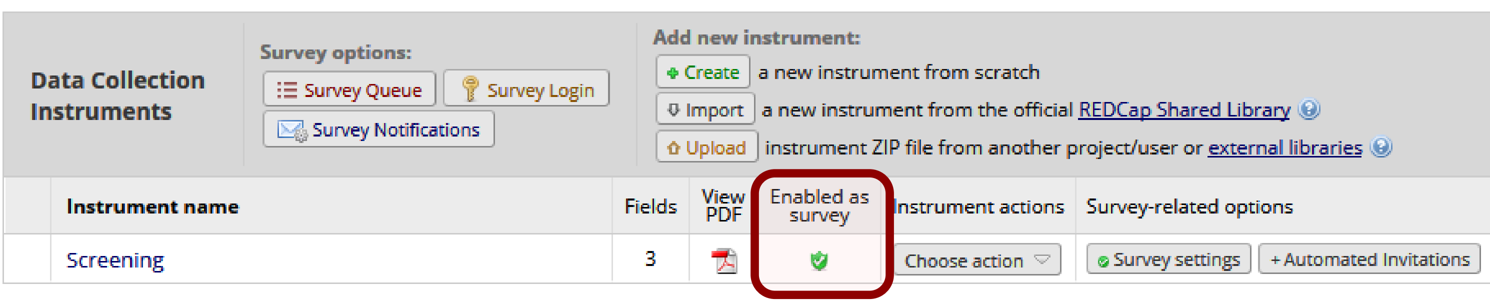
## 1 Enable the survey feature (Project Setup tab).




## 2 Create the instrument.

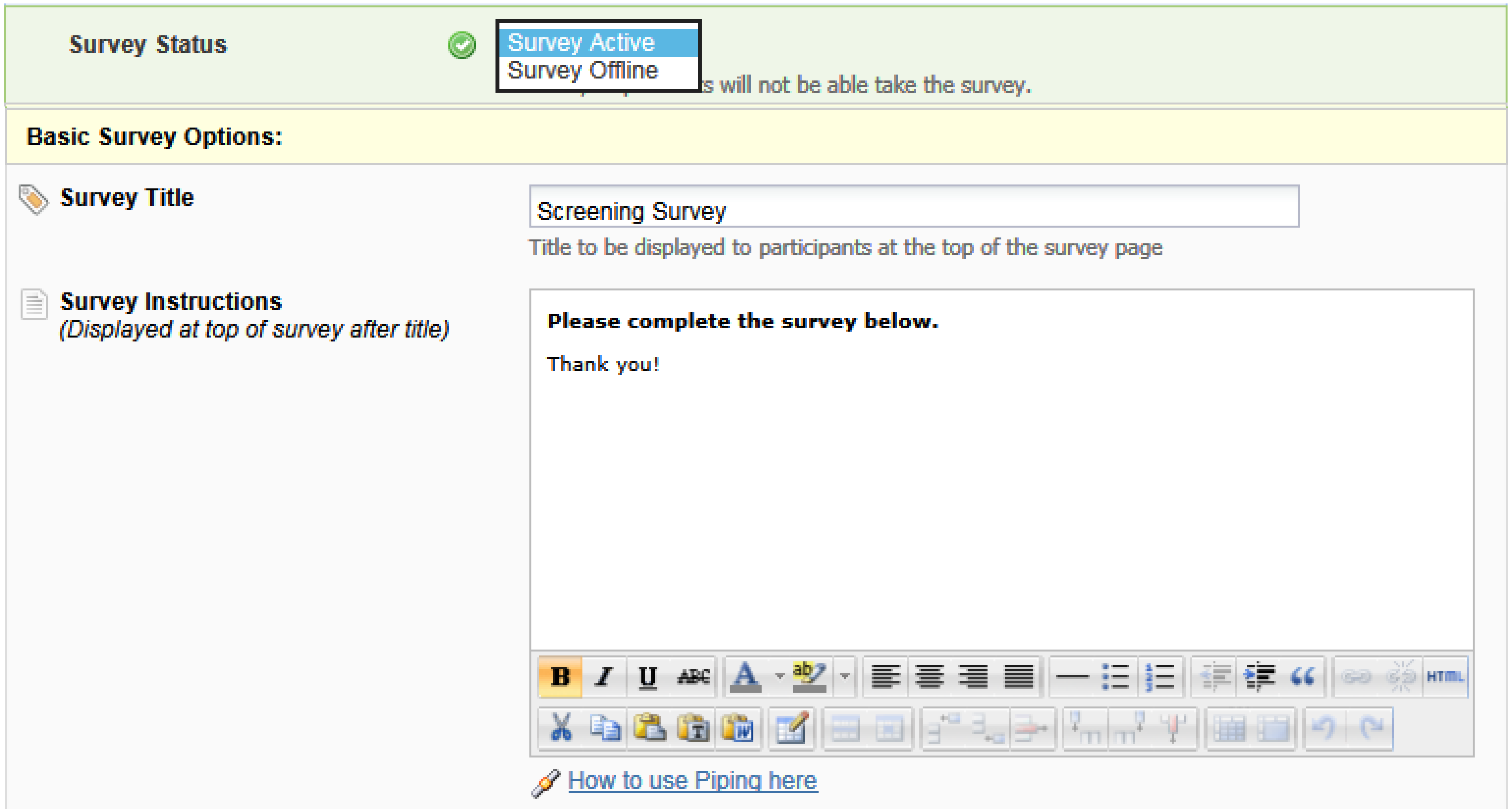



## 3 Enable the instrument as a survey.



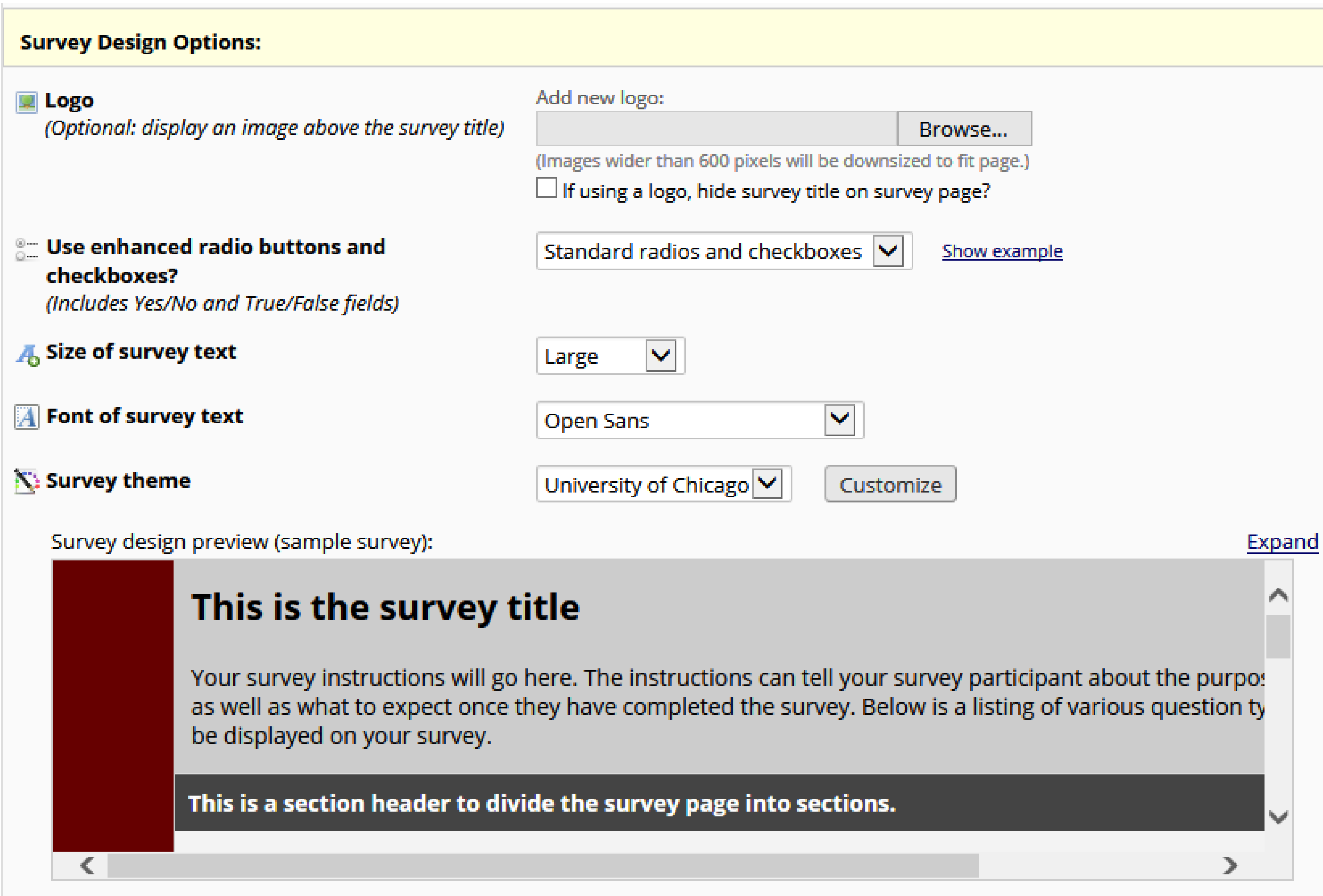
# SURVEY SETTINGS

Set the status, title, and opening instructions.



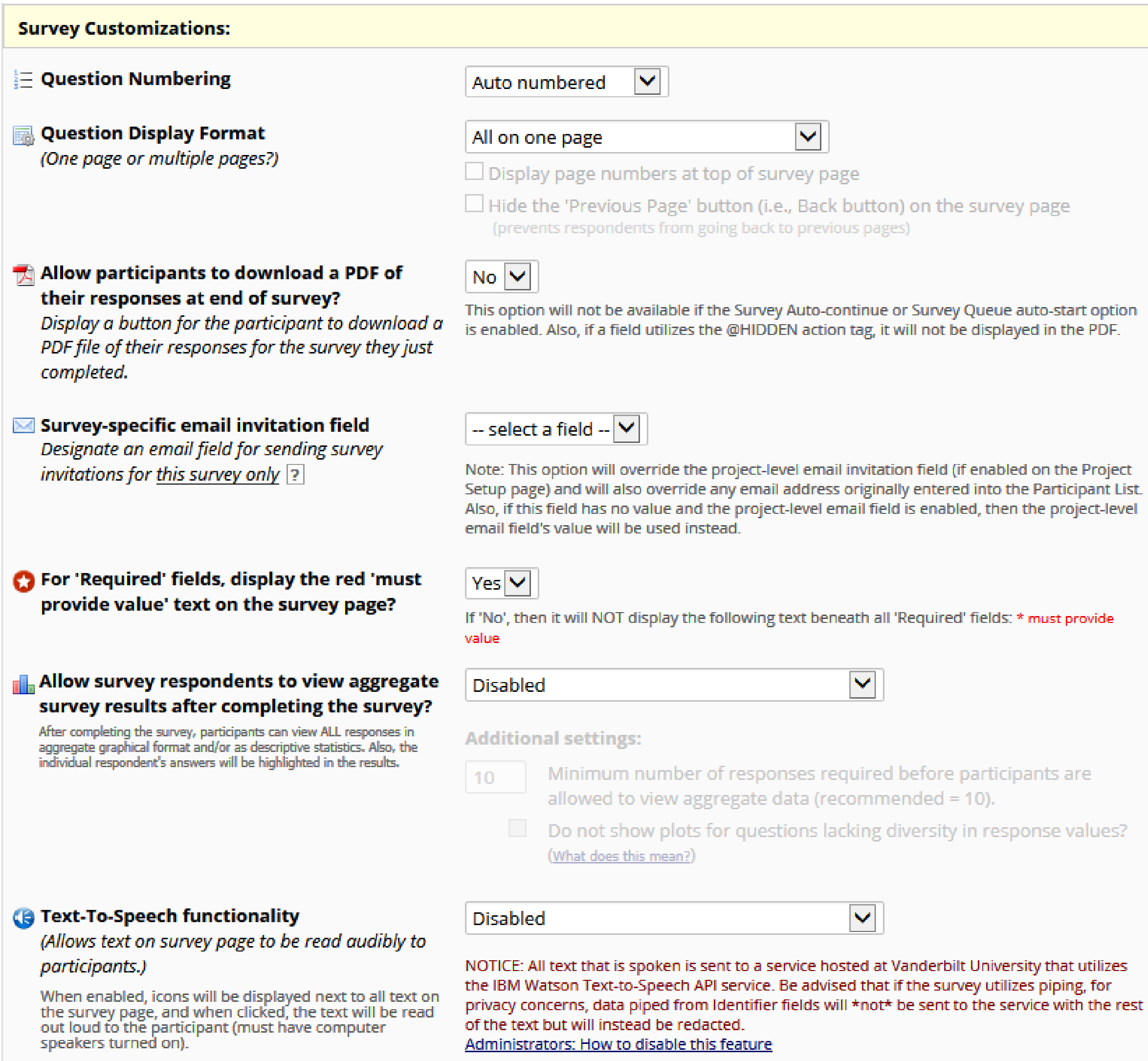
# SURVEY SETTINGS – DESIGN OPTIONS

Add a logo, customize the text and survey theme.



# SURVEY SETTINGS – CUSTOMIZATIONS

## Select various survey customizations, as needed:



**Survey Customizations:**

**Question Numbering** — Auto numbered

**Question Display Format**
*(One page or multiple pages?)* — All on one page

- 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)

**Allow participants to download a PDF of their responses at end of survey?**
*Display a button for the participant to download a PDF file of their responses for the survey they just completed.* — No

This option will not be available if the Survey Auto-continue or Survey Queue auto-start option is enabled. Also, if a field utilizes the @HIDDEN action tag, it will not be displayed in the PDF.

**Survey-specific email invitation field**
*Designate an email field for sending survey invitations for this survey only* ? — -- select a field --

Note: This option will override the project-level email invitation field (if enabled on the Project Setup page) and will also override any email address originally entered into the Participant List. Also, if this field has no value and the project-level email field is enabled, then the project-level email field's value will be used instead.

**For 'Required' fields, display the red 'must provide value' text on the survey page?** — Yes

If 'No', then it will NOT display the following text beneath all 'Required' fields: * must provide value

**Allow survey respondents to view aggregate survey results after completing the survey?**
After completing the survey, participants can view ALL responses in aggregate graphical format and/or as descriptive statistics. Also, the individual respondent's answers will be highlighted in the results. — Disabled

Additional settings:

10 Minimum number of responses required before participants are allowed to view aggregate data (recommended = 10).

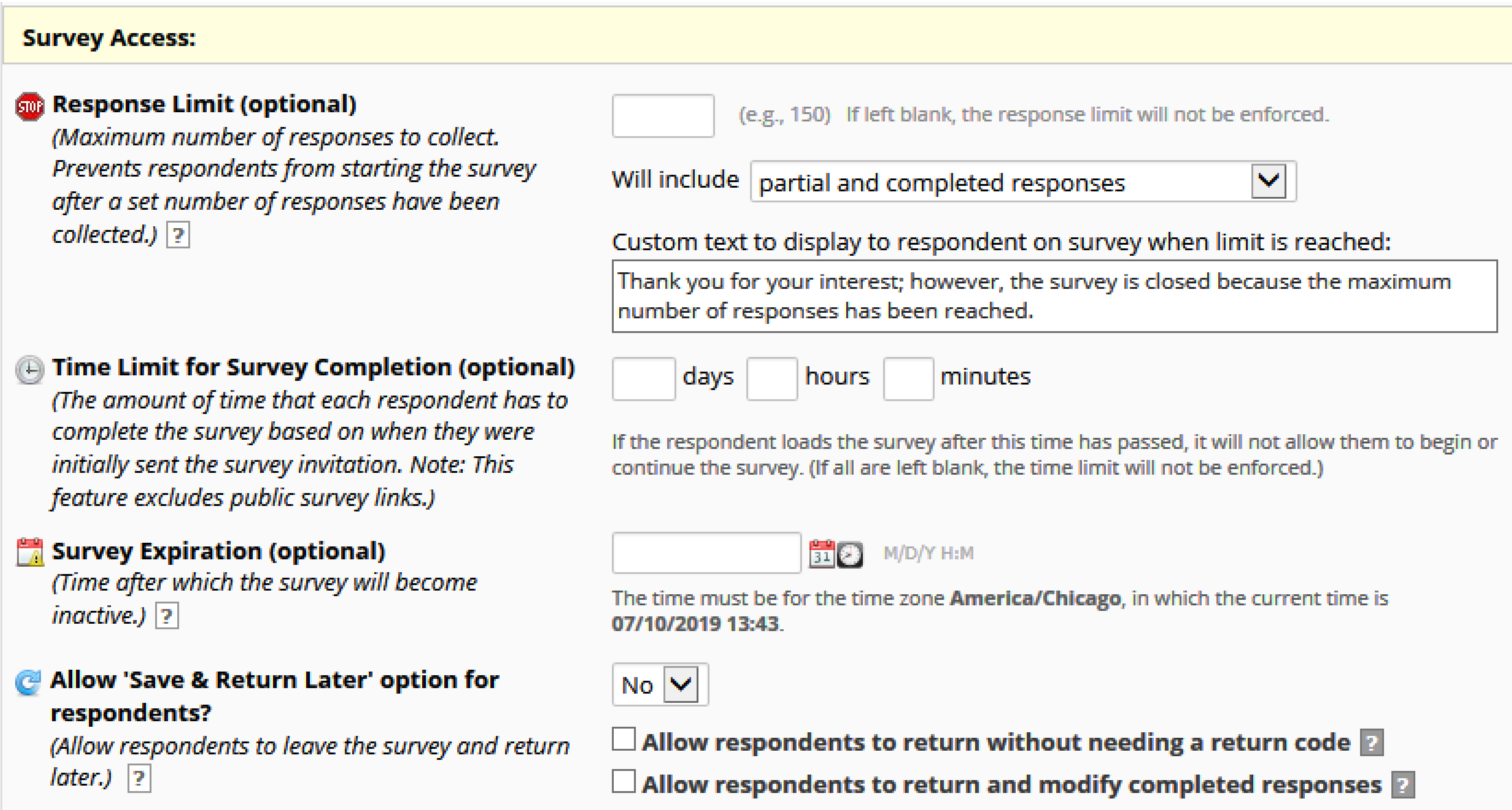
Do not show plots for questions lacking diversity in response values?
(What does this mean?)

**Text-To-Speech functionality**
*(Allows text on survey page to be read audibly to participants.)*
When enabled, icons will be displayed next to all text on the survey page, and when clicked, the text will be read out loud to the participant (must have computer speakers turned on). — Disabled

NOTICE: All text that is spoken is sent to a service hosted at Vanderbilt University that utilizes the IBM Watson Text-to-Speech API service. Be advised that if the survey utilizes piping, for privacy concerns, data piped from Identifier fields will *not* be sent to the service with the rest of the text but will instead be redacted.
Administrators: How to disable this feature

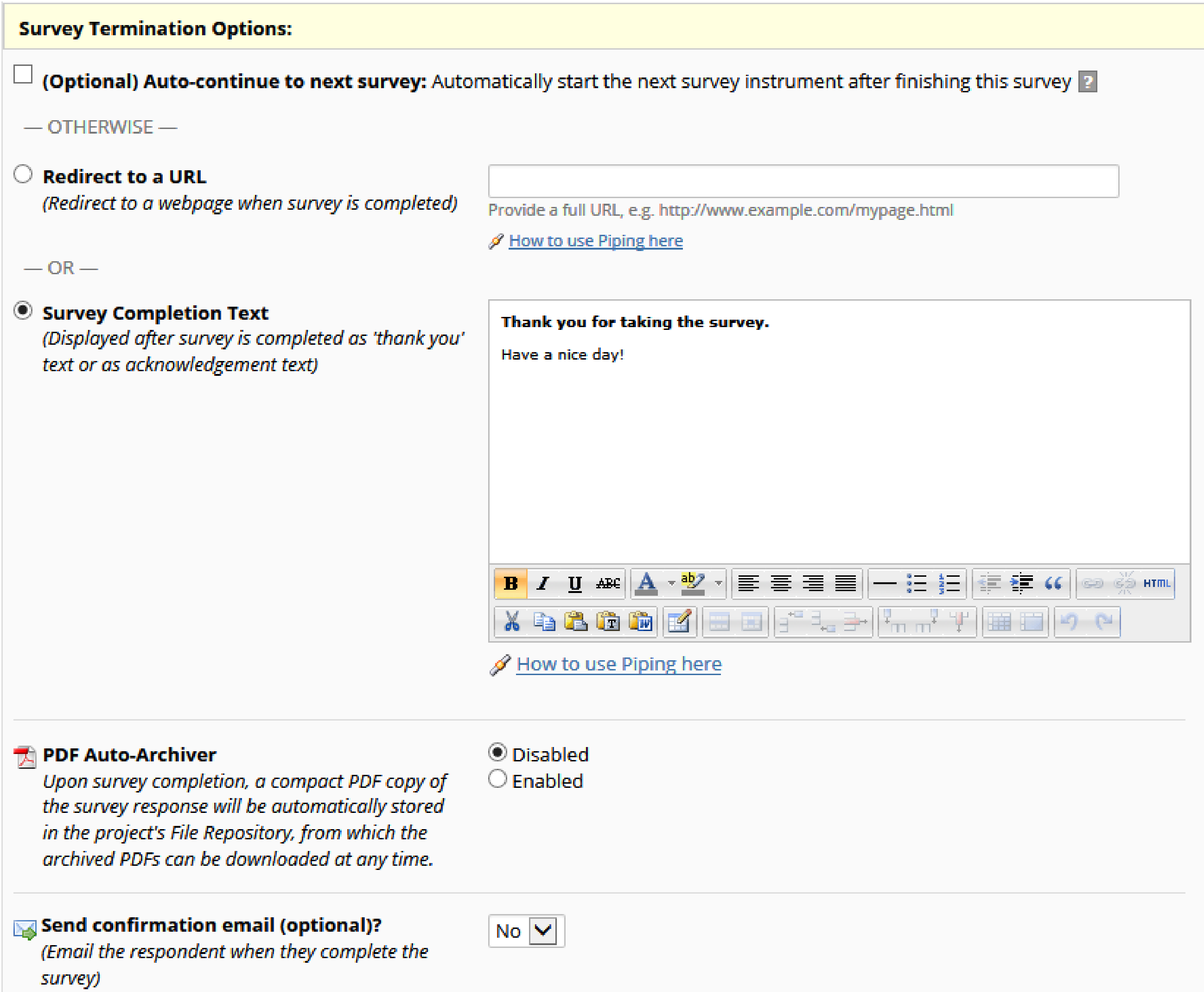
# SURVEY SETTINGS – ACCESS

Set response limits, completion time limits, expiration date, and the Save&Return options.



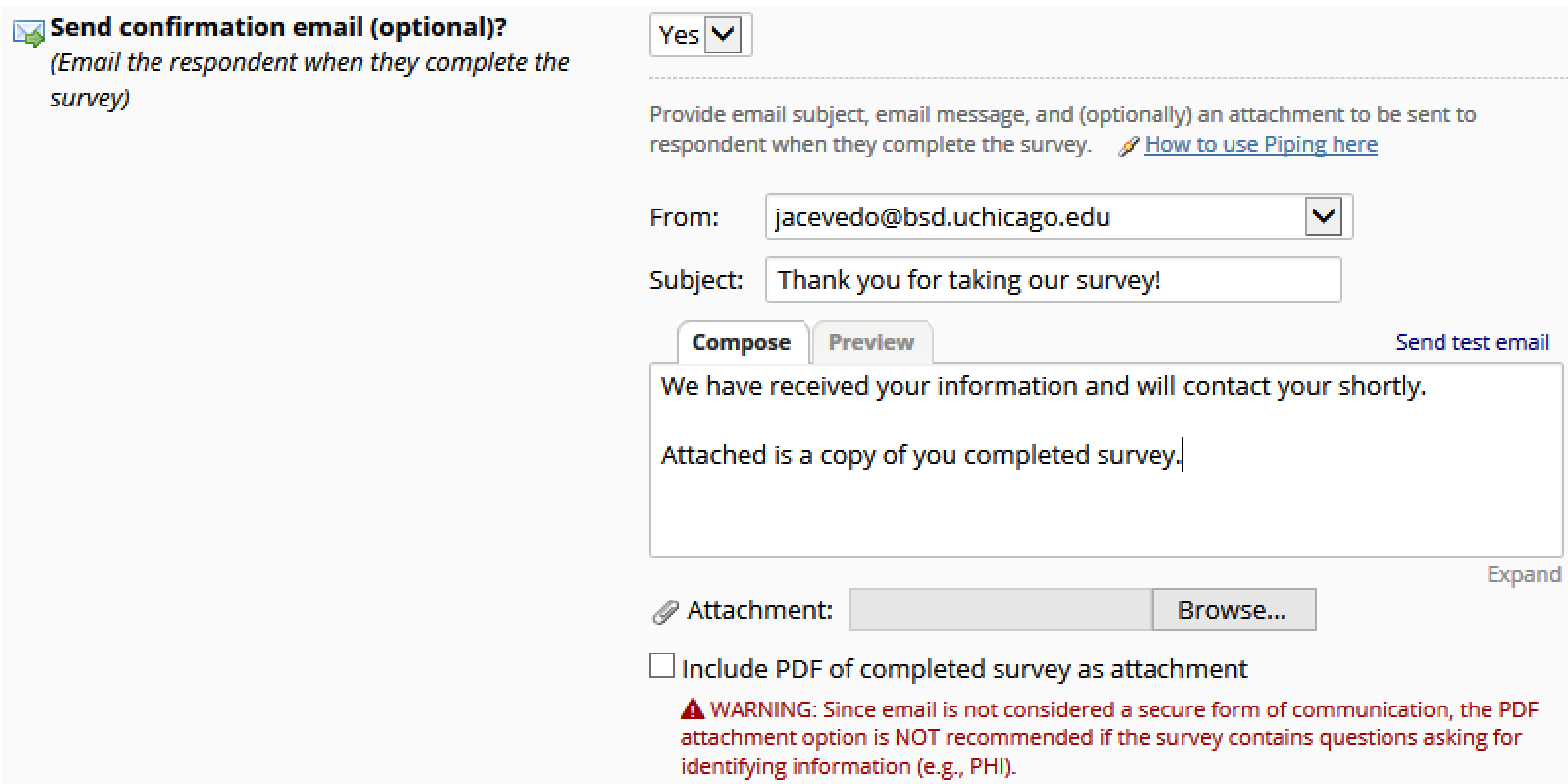
# SURVEY SETTINGS – TERMINATION

Set what happens after survey is submitted.



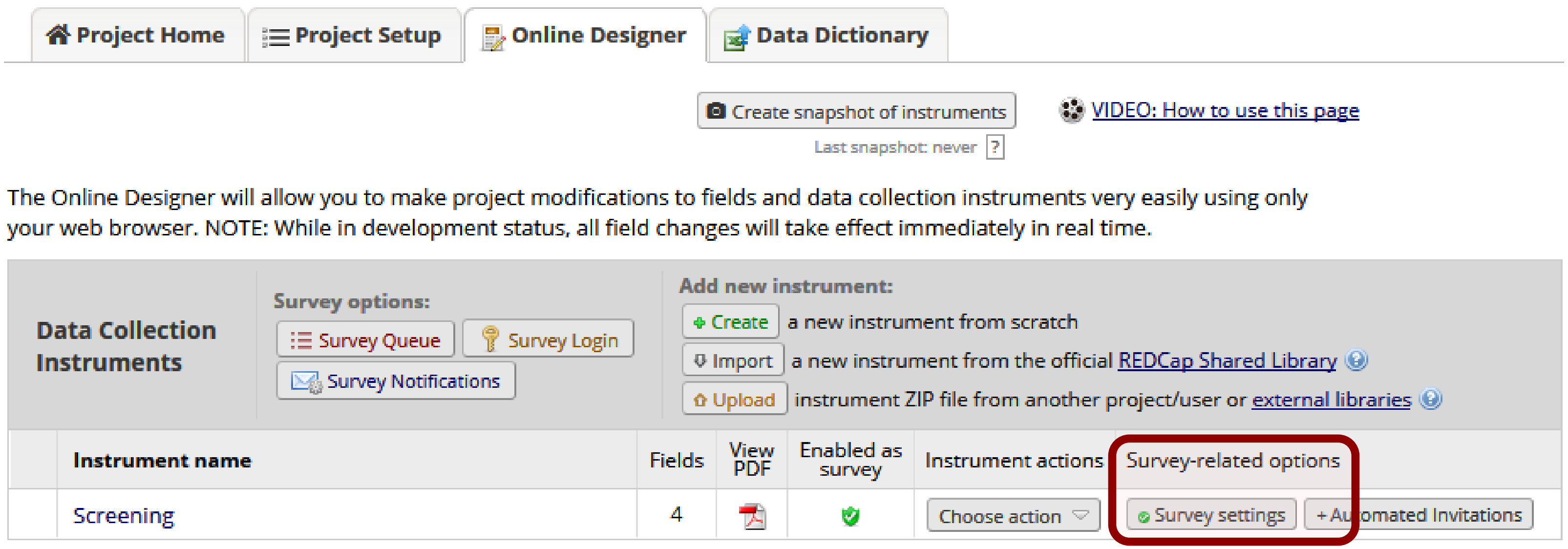
# SURVEY SETTINGS – CONFIRMATION

Send an optional confirmation email.



# EDITING SURVEY SETTINGS

To edit your survey settings, click on **Survey Settings** under **Survey-related options**.



# TEST! TEST! TEST!

- Testing is **CRITICAL!**
- To test your survey, send a link to yourself in the same method as you plan to send a link to a respondent.
- Take your survey a few times to make sure the instructions, format, and termination options work as needed.
- Export test data to check on data analysis, and modify survey questions if needed.
- Once testing is complete, request the project be moved to production.
- DO NOT send out survey until then!

# MOVE TO PRODUCTION

**Move Project To Production Status?**

Are you sure you wish to leave the DEVELOPMENT stage? If you proceed, the project will be moved to PRODUCTION status so that real data may be collected. If you select the 'Delete ALL data' option below, all current collected data, calendar events, and uploaded documents will be deleted, otherwise all will remain untouched as the project is moved to production.

Have you checked the Check For Identifiers page to ensure all identifier fields have been tagged?

**Keep existing data or delete?**

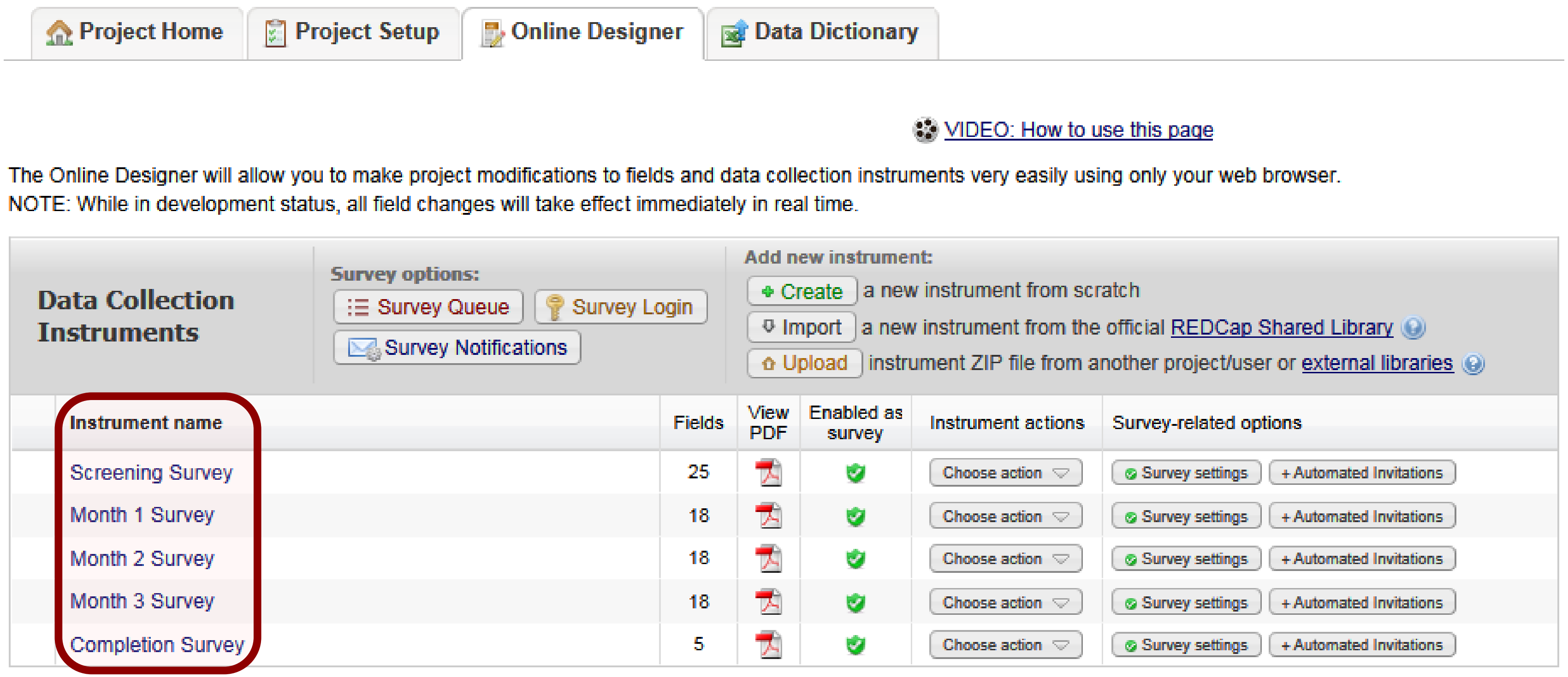
- ○ Keep ALL data saved so far. (**0 records**)
- ◉ Delete ALL data, calendar events, documents uploaded for records/responses, survey responses (if applicable), and any logging events pertaining to data collection.

Once in production, you will not be able to edit the project fields in real time anymore. However, you can make edits in Draft Mode, which will be auto-approved or else might need to be approved by a REDCap administrator before taking effect.

YES, Move to Production Status | Cancel

# MULTIPLE SURVEYS

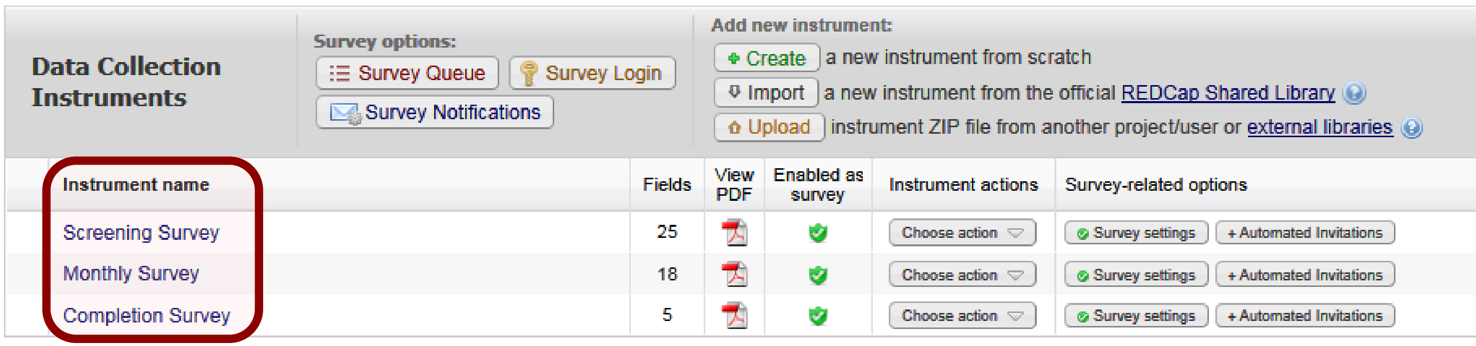
Create multiple surveys in the same project.



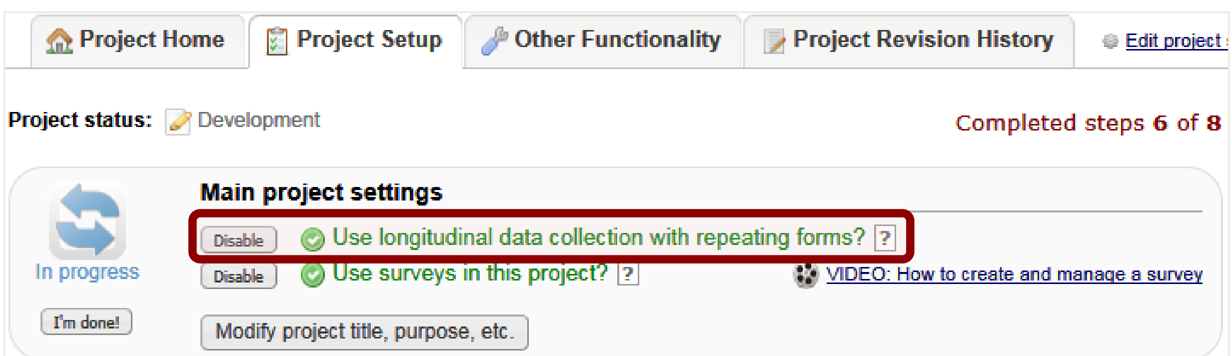
# LONGITUDINAL SURVEYS

Instead of creating the same survey as multiple instruments, the survey can be made repeatable.

1 Setup the survey instruments.




2 Enable the longitudinal feature.



# LONGITUDINAL SURVEYS

## 3 Setup the events.

Arm 1: Screening | +Add New Arm

Arm name: **Screening**

| | Event # | Event Name | Unique event name (auto-generated) |
|---|---|---|---|
| | 1 | Screening | screening_arm_1 |
| | 2 | Month 1 | month_1_arm_1 |
| | 3 | Month 2 | month_2_arm_1 |
| | 4 | Month 3 | month_3_arm_1 |
| | 5 | Completion | completion_arm_1 |
| Add new event | | Descriptive name for this event | |

## 4 Assign the surveys to the events.

| Data Collection Instrument | Screening (1) | Month 1 (2) | Month 2 (3) | Month 3 (4) | Completion (5) |
|---|---|---|---|---|---|
| Screening Survey (survey) | ✓ | | | | |
| Monthly Survey (survey) | | ✓ | ✓ | ✓ | |
| Completion Survey (survey) | | | | | ✓ |

DISTRIBUTING SURVEYS

Public Survey Link vs Participant List

How to use the Public Survey Link

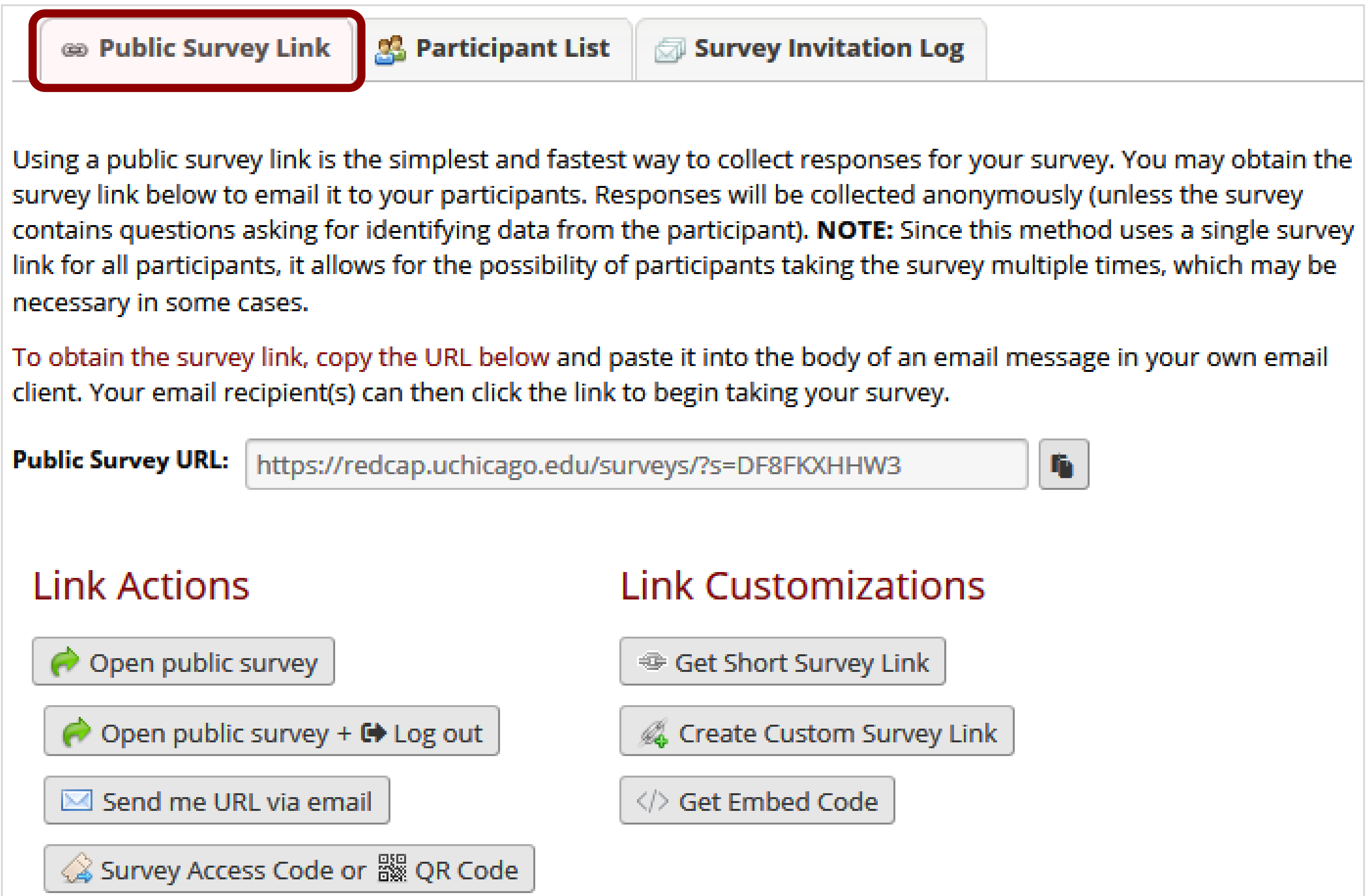
How to use the Participant List

# PUBLIC SURVEY LINK VS PARTICIPANT LIST

| PUBLIC SURVEY LINK | PARTICIPANT LIST |
|---|---|
| Participant emails unknown beforehand. | Participants emails known beforehand. |
| Participants all use the same survey link. | Each participant receives unique, one time use link. |
| Emails sent via Outlook, not within REDCap. | Emails sent through REDCap to participant email address. |
| Great for listservs or posting on flyers or websites. | Can track who has or has not responded. |

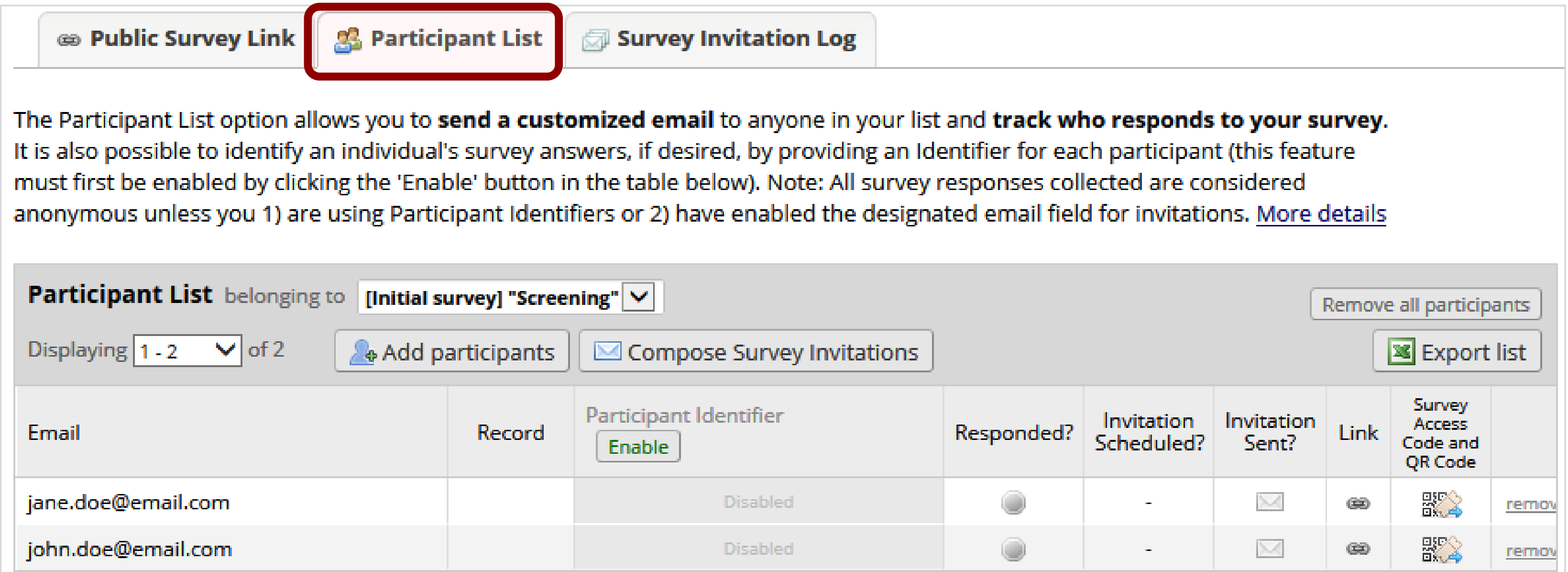
# PUBLIC SURVEY LINK

The **Public Survey Link** is the simplest and fastest way to collect survey responses.

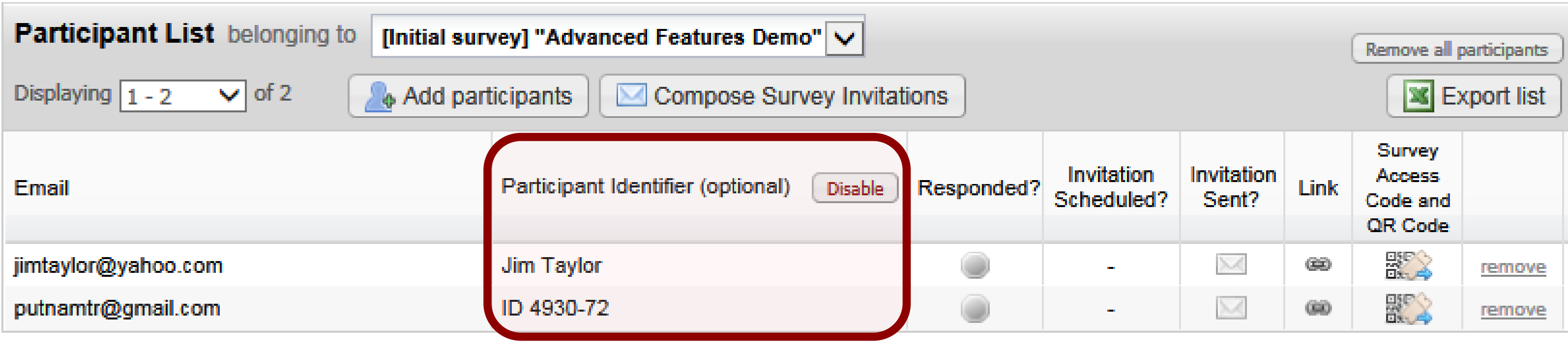


# PARTICIPANT LIST

The **Participant List** allows for emailing the survey to your participants, and keeping track of responses.



# PARTICIPANT IDENTIFIERS



Participant List belonging to [Initial survey] "Advanced Features Demo"

Remove all participants

Displaying 1 - 2 of 2 | Add participants | Compose Survey Invitations | Export list

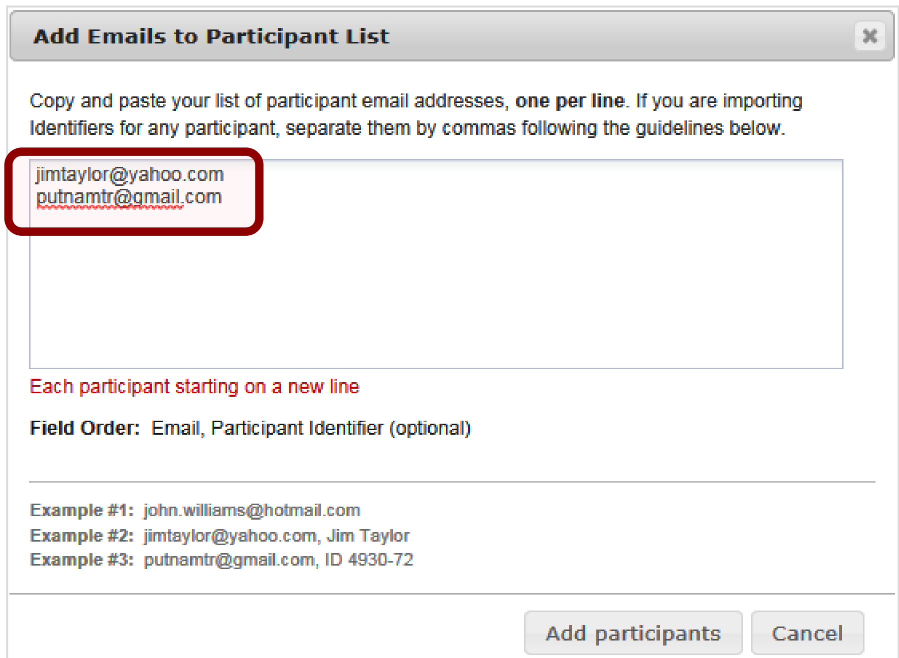
| Email | Participant Identifier (optional) Disable | Responded? | Invitation Scheduled? | Invitation Sent? | Link | Survey Access Code and QR Code | |
|---|---|---|---|---|---|---|---|
| jimtaylor@yahoo.com | Jim Taylor | | - | | | | remove |
| putnamtr@gmail.com | ID 4930-72 | | - | | | | remove |

- To keep the survey anonymous, **don't** enable the **Participant Identifier** feature.
- To make the survey non-anonymous, enable the **Participant Identifier** feature.
- The **Participant Identifier** may be the participant's name, an ID number, or whatever you would like.
- It is **not the same** as the project's main primary identifier (Record Number, Record ID, Study ID, MRN).
- The **Participant Identifier** is can be exported along with the data.

# ADDING PARTICIPANTS TO PARTICIPANT LIST

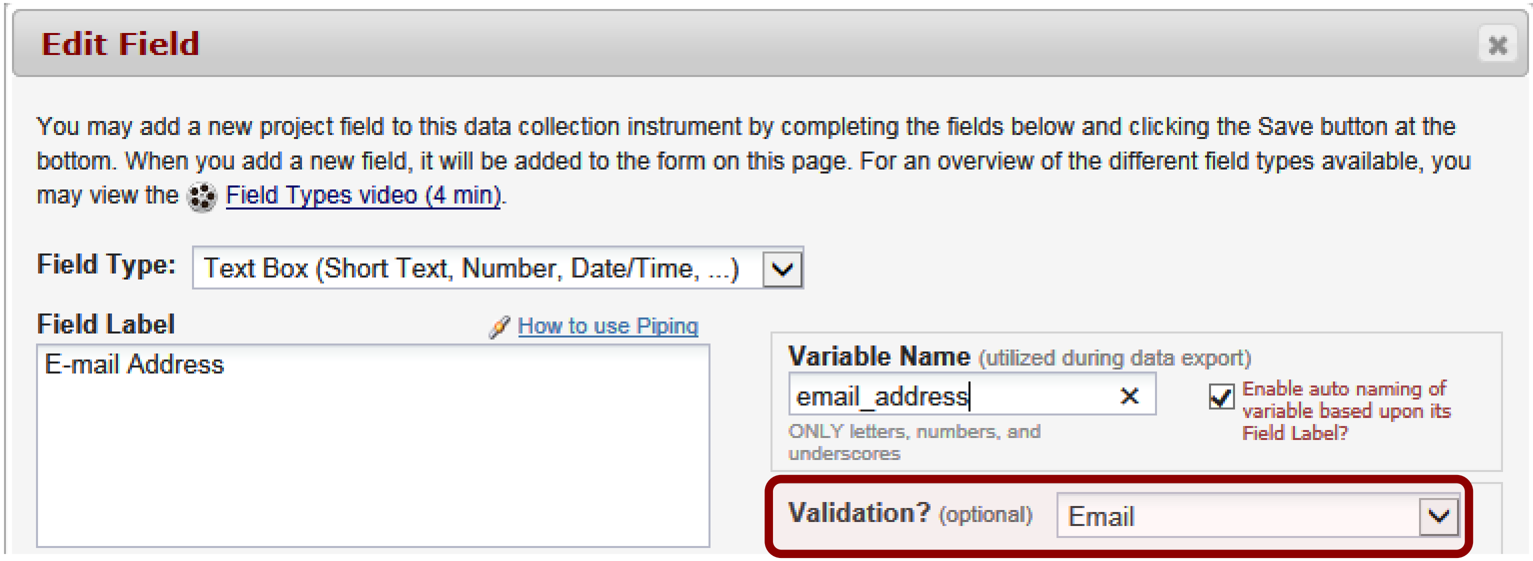
There are different ways of adding participants' email addresses to the **Participant List**:

1. For few participants, manually type in.
2. For many participants, cut-and-paste in.

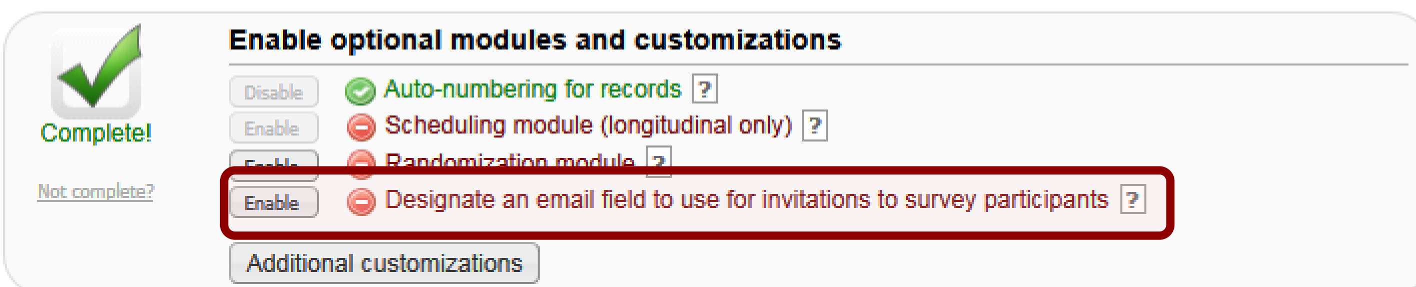


# DESIGNATE AN EMAIL FIELD

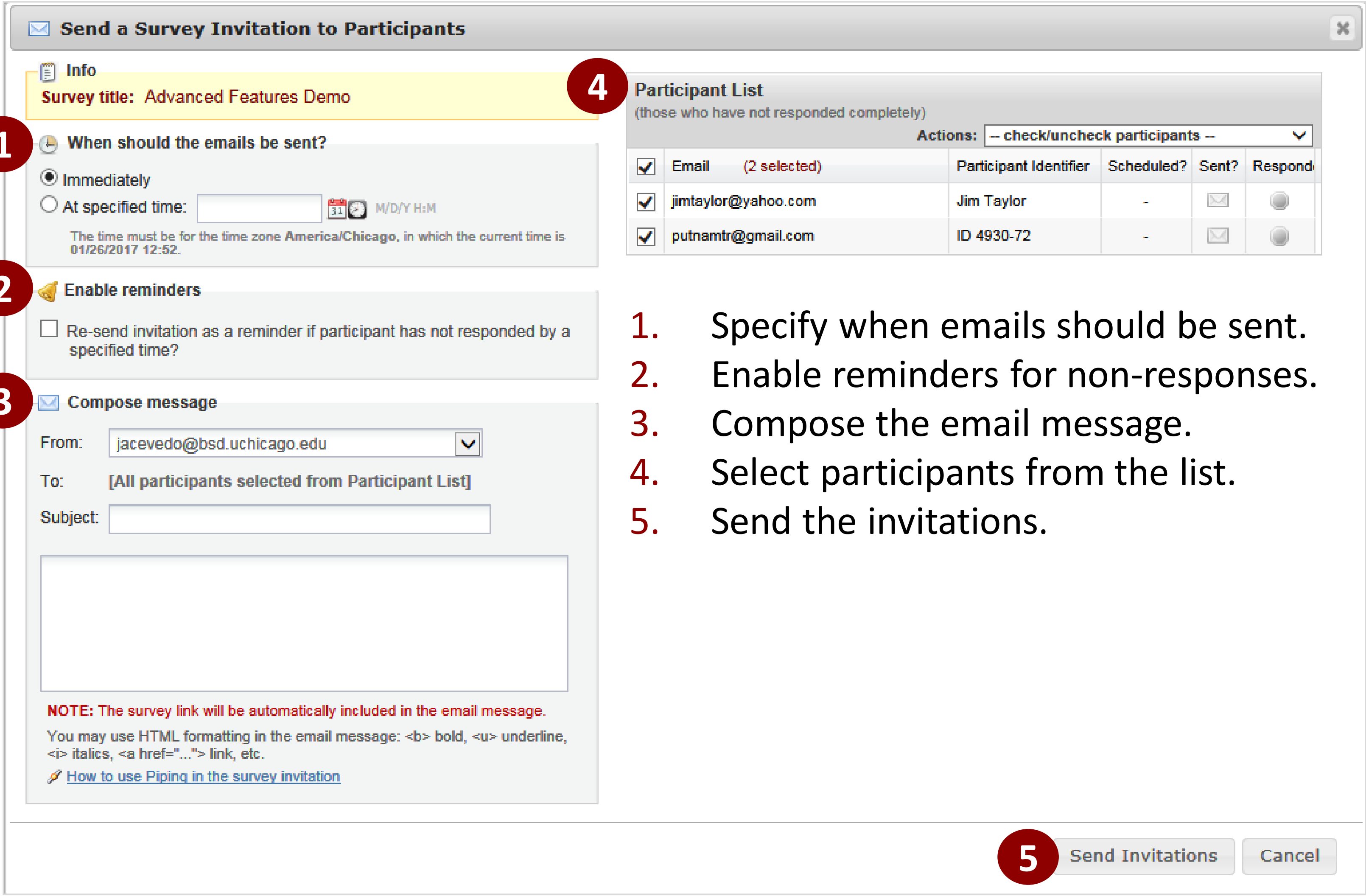
1 Setup the email field with **email validation**.




2 Enable the feature on the **Project Setup** tab.



# COMPOSE SURVEY INVITATIONS




1. Specify when emails should be sent.
2. Enable reminders for non-responses.
3. Compose the email message.
4. Select participants from the list.
5. Send the invitations.

# SURVEY INVITATION MESSAGE AND LINK

A section for the unique survey link will be appended to the end of your email message:

**Survey**

jacevedo@bsd.uchicago.edu

Sent: Tue 7/9/2019 12:40 PM

To: Acevedo, Julissa [CRI]

your message

Please take this survey.

survey link

You may open the survey in your web browser by clicking the link below:
Diabetes Survey

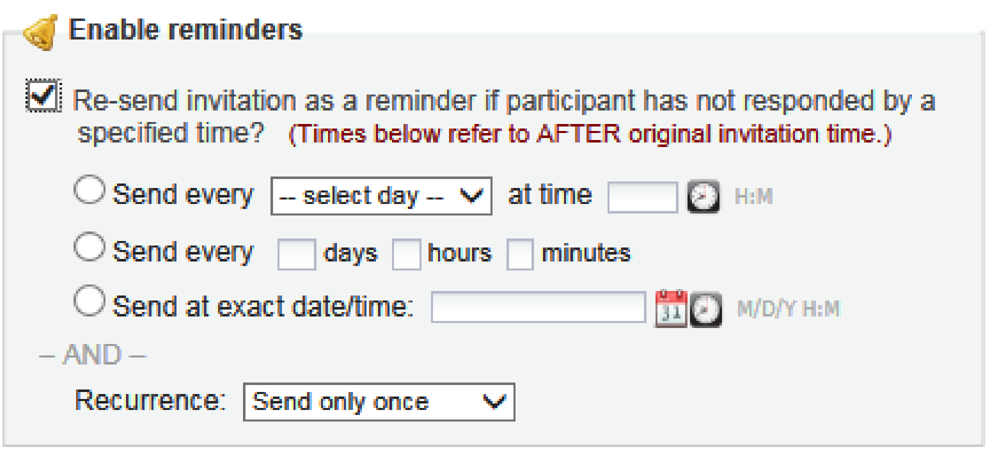
If the link above does not work, try copying the link below into your web browser:
https://redcap.uchicago.edu/surveys/?s=SAMPLE_LINK

This link is unique to you and should not be forwarded to others.

***NOTE:*** *You may modify or remove any text you wish above but make sure you include [survey-link] and [survey-url] in the text or else the participant will not have a way to take the survey.*

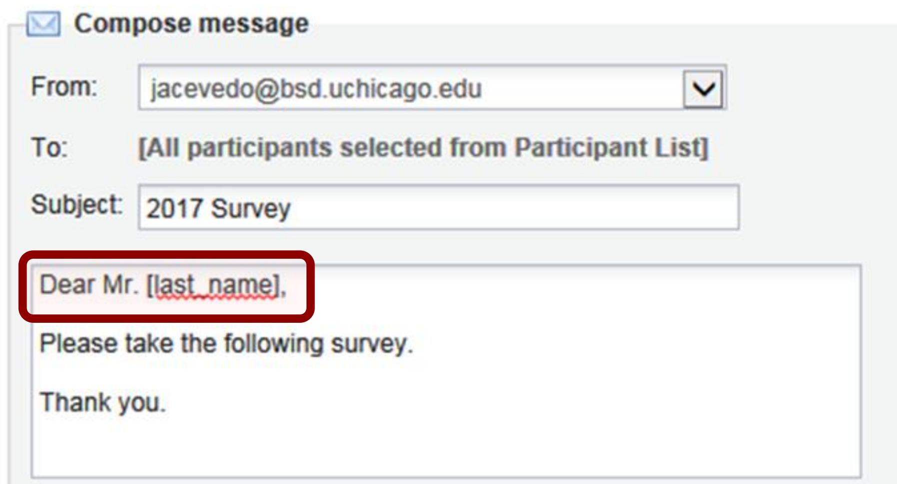
# NON-RESPONSE REMINDERS

- Survey reminders can only be setup while composing survey invitations.
- They cannot be setup after invitations have been sent.
- They can be sent on specific days of the week, or every X days, or at an exact date/time.
- Up to 2-5 reminders can be scheduled.

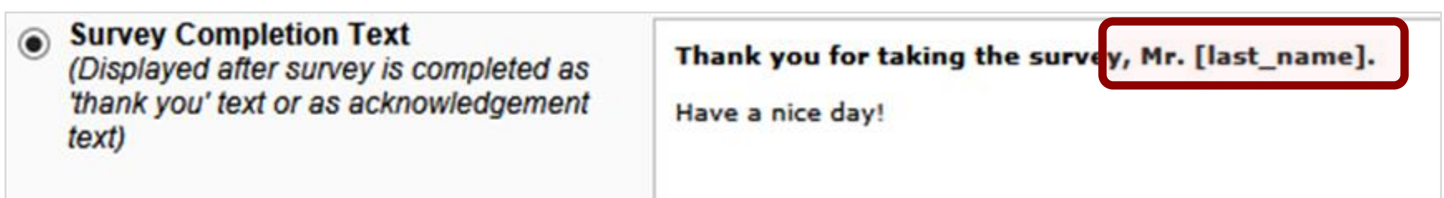


# FIELD PIPING

The Piping feature allows you to pipe previously collected data to customize the survey invitation greeting…




…or the survey completion text.



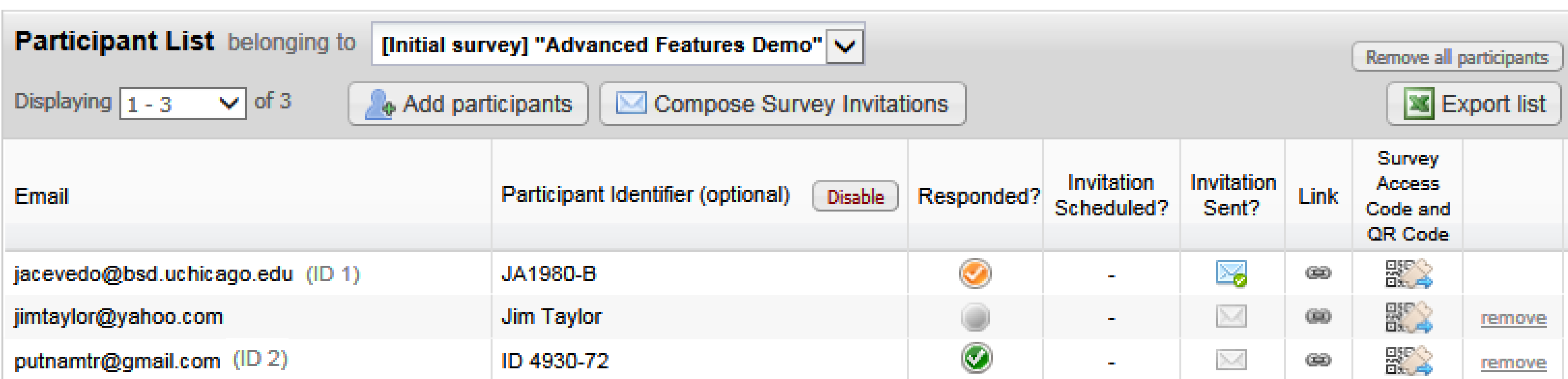
# TRACKING SURVEYS

- Participant List
- Survey Log
- Partial Responses
- Editing Responses
- Survey Timestamps

# TRACKING SURVEYS VIA THE PARTICIPANT LIST

Surveys responses can be tracked on the **Participant List** according to:

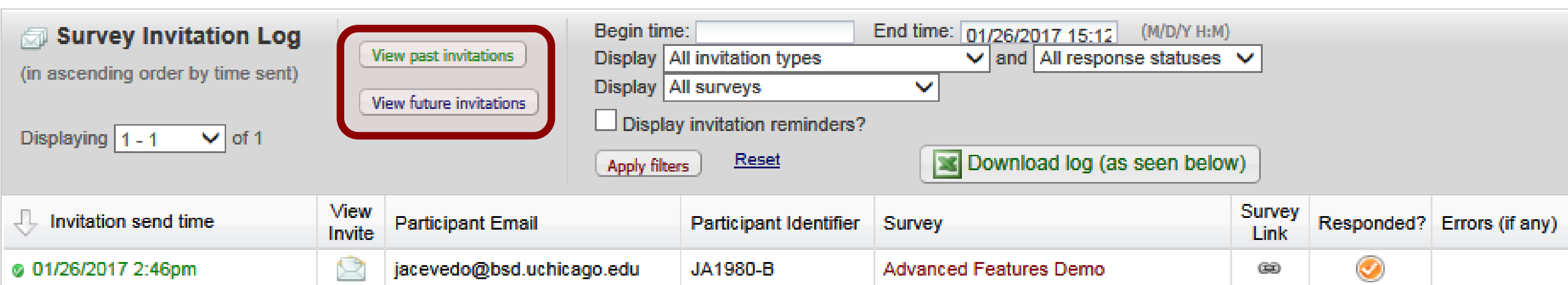
- **Complete** – participant submitted the survey
- **Incomplete** – participant started but hasn't submitted the survey
- **No Action** – participant has not started the survey



# TRACKING SURVEYS VIA THE SURVEY INVITATION LOG

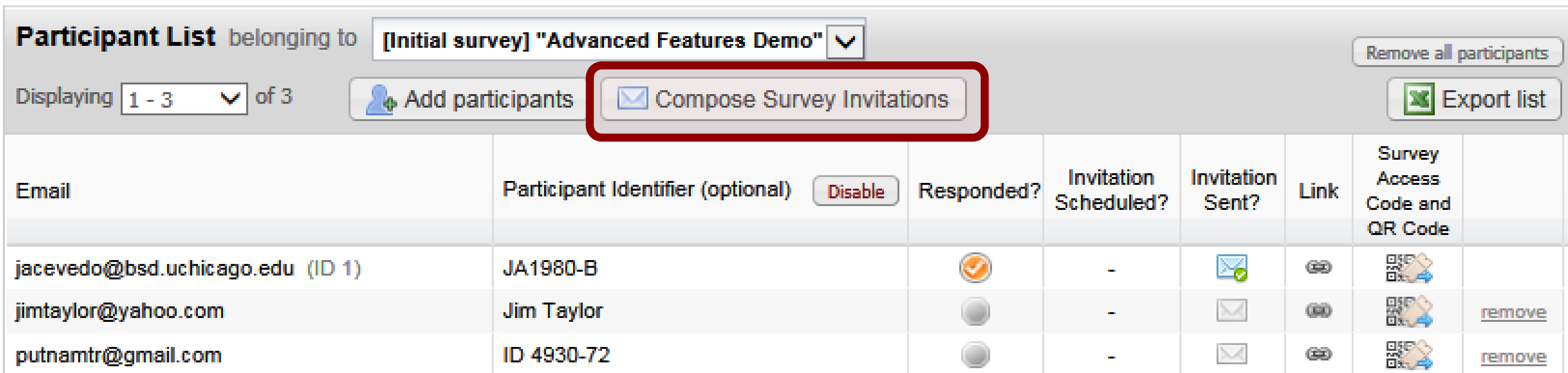
- The **Survey Invitation Log** lists survey invitations that have already been sent or have been scheduled to be sent to survey participants.

- You may even view the invitation email itself by clicking the icon in the 'View Email' column.

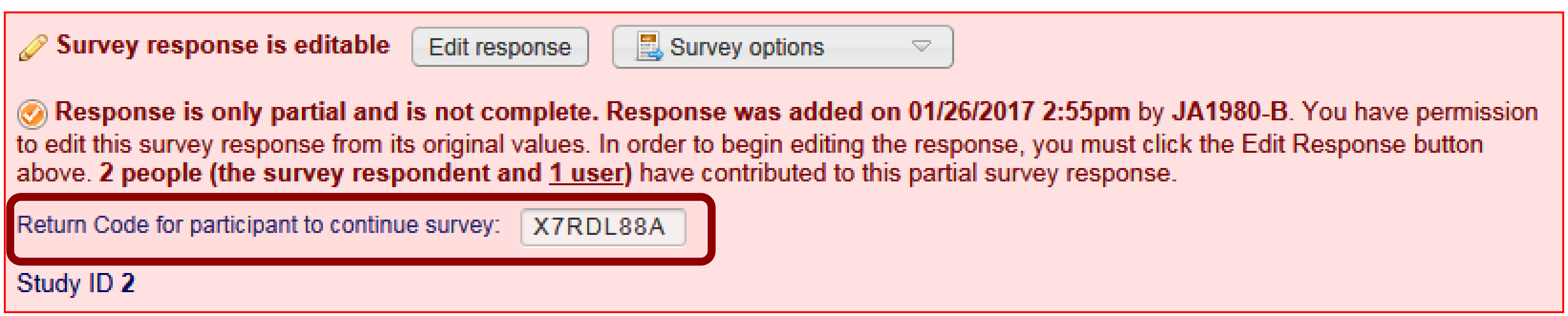


# PARTIAL RESPONSES

For **Partial Responses**, you can use **Compose Survey Invitations** from the **Participant List** to send them a reminder email.

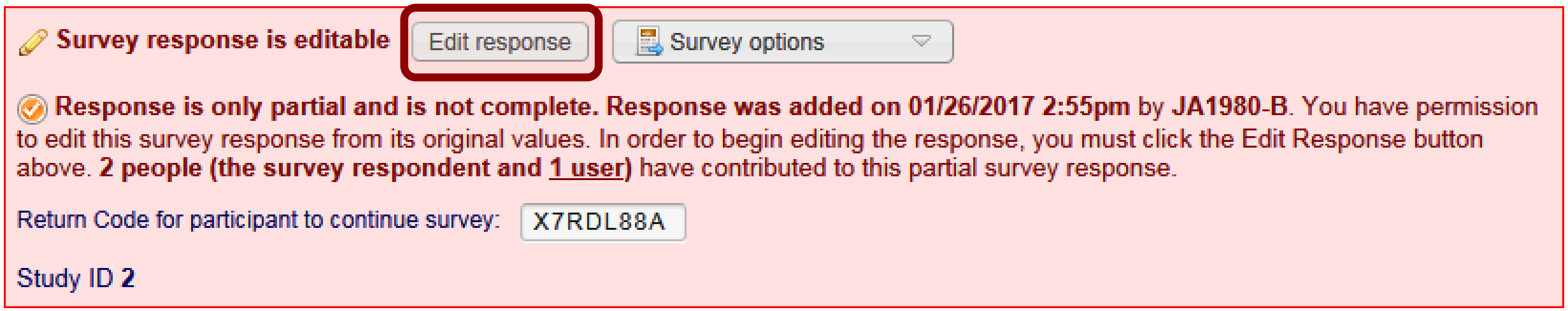



If participants don’t remember their **Save-and-Return** code, you can retrieve it from their survey record.

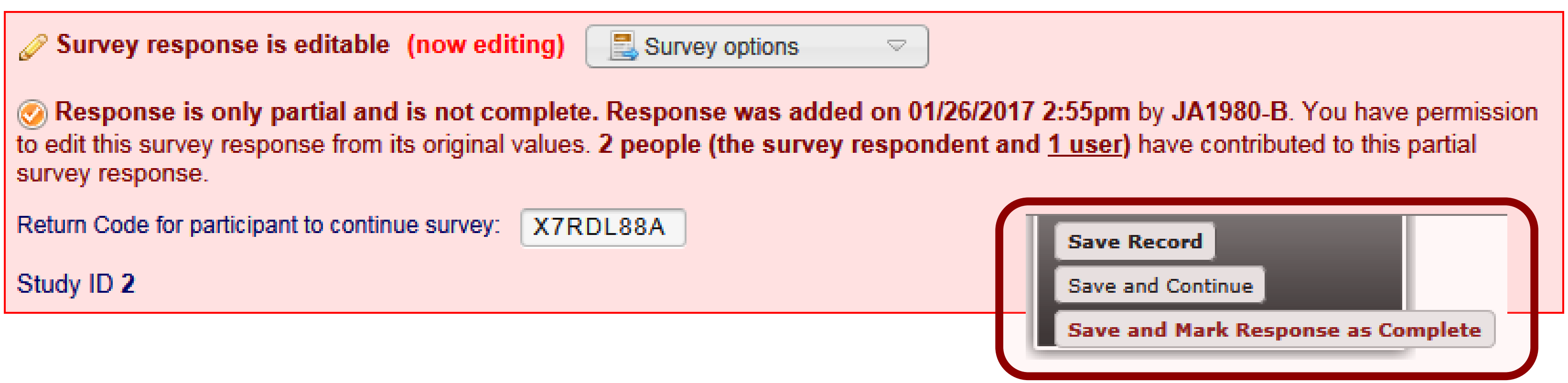


# EDITING RESPONSES

1. User must have **Edit Survey Responses** user rights.
2. To edit a response, open record and click **Edit Response** at top of survey.



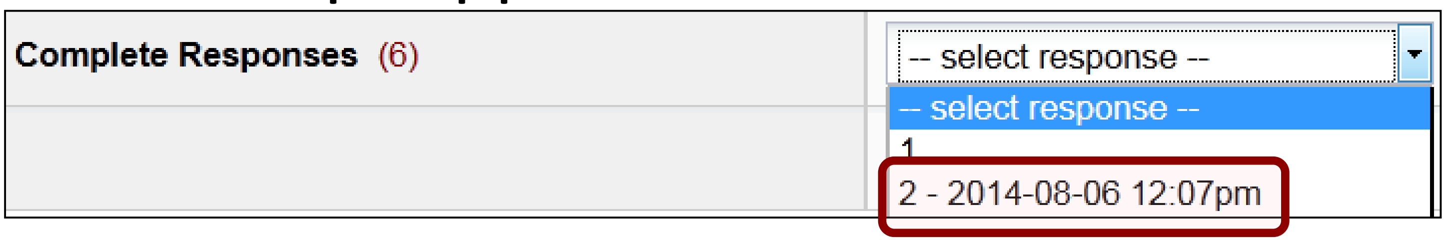

3. Make the changes, and **save** the record.



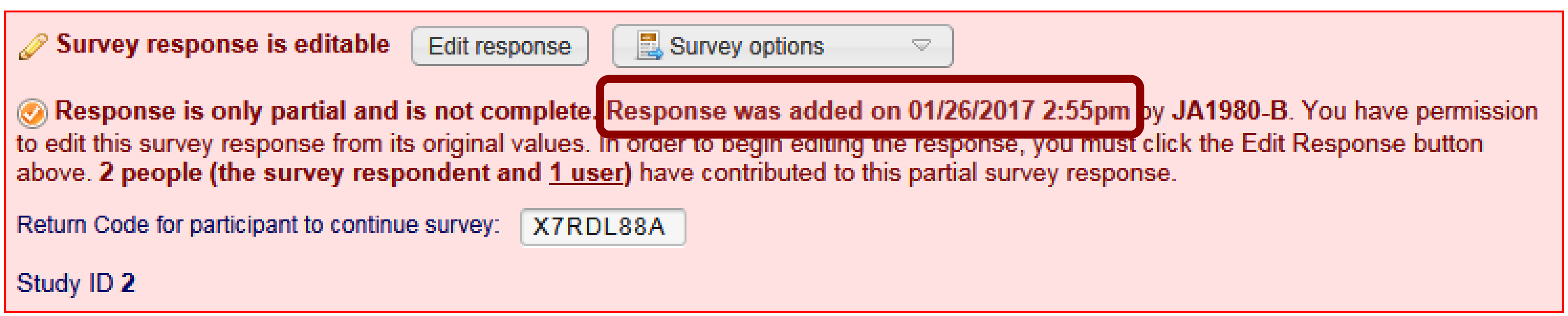
# SURVEY TIMESTAMPS

Survey responses get timestamped when the survey's **Submit** button is clicked on by the participant.

Timestamps appear on the record selector.




As well as the survey record.




They also be included in exports and reports.

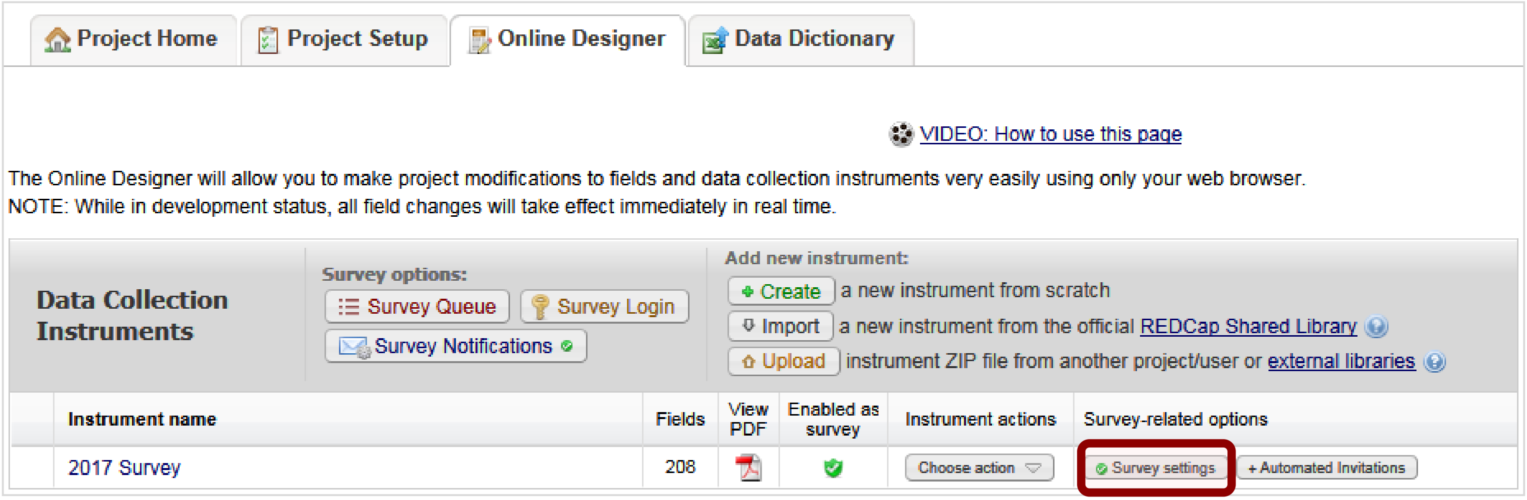
SURVEY TERMINATION

Inactivate a Survey

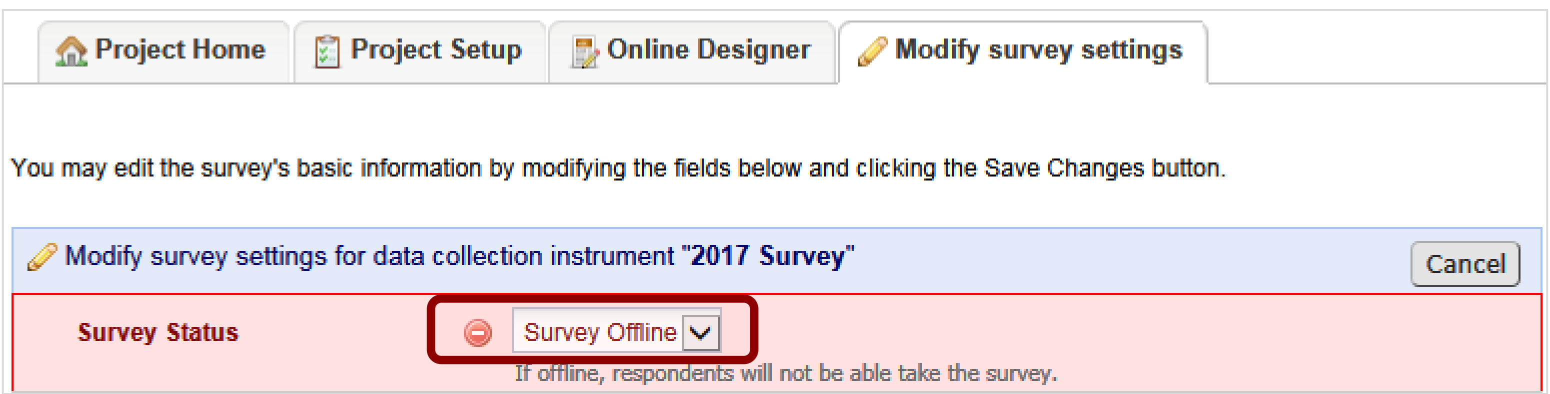
Inactivate a Project

# INACTIVATE A SURVEY

1 At **Online Designer,** click on **Survey Settings**.



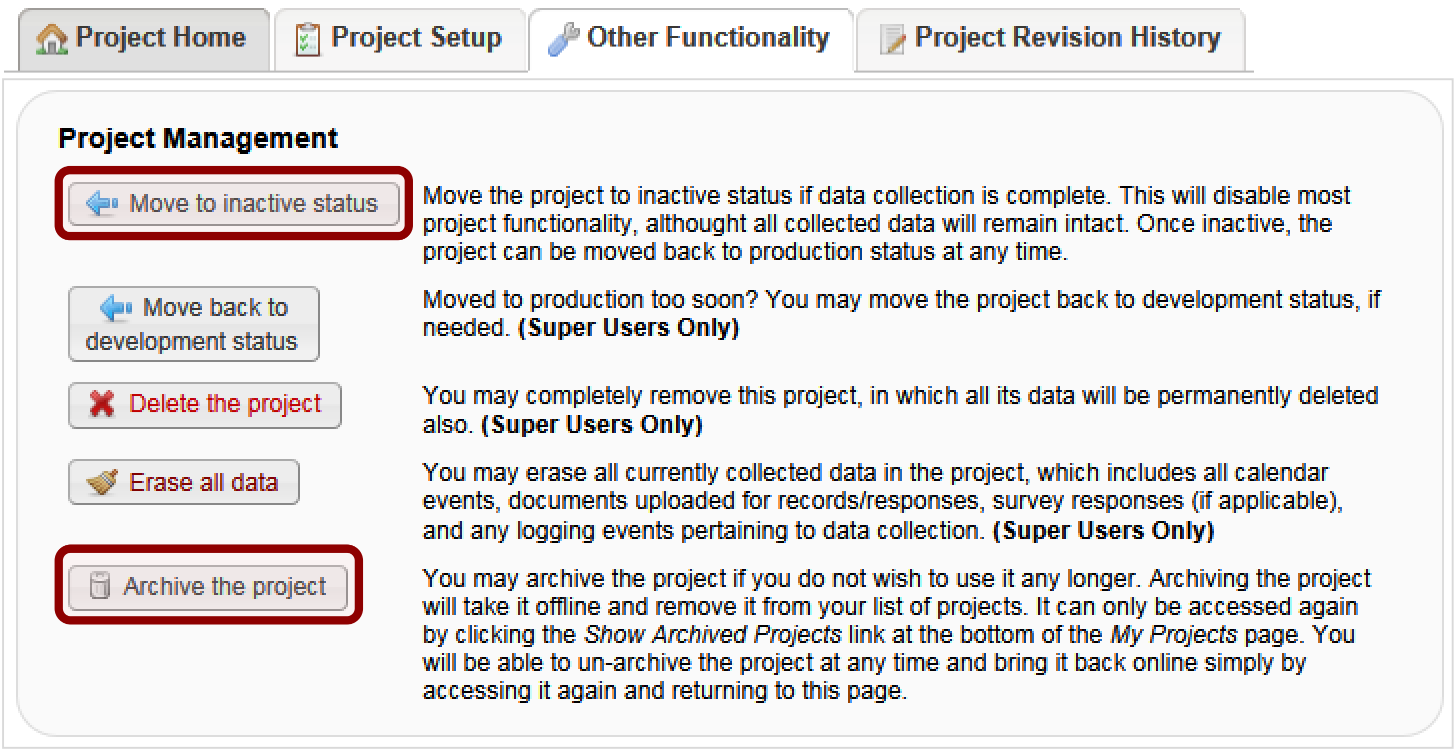

2 At **Survey Status,** set to **Survey Offline**.



# INACTIVATE OR ARCHIVE A PROJECT

Go to **Other Functionality** tab, and either:

- Move to inactive status – data collection over, remains visible
- Archive the project – entire study is over, remains hidden



## ADVANCED FEATURES

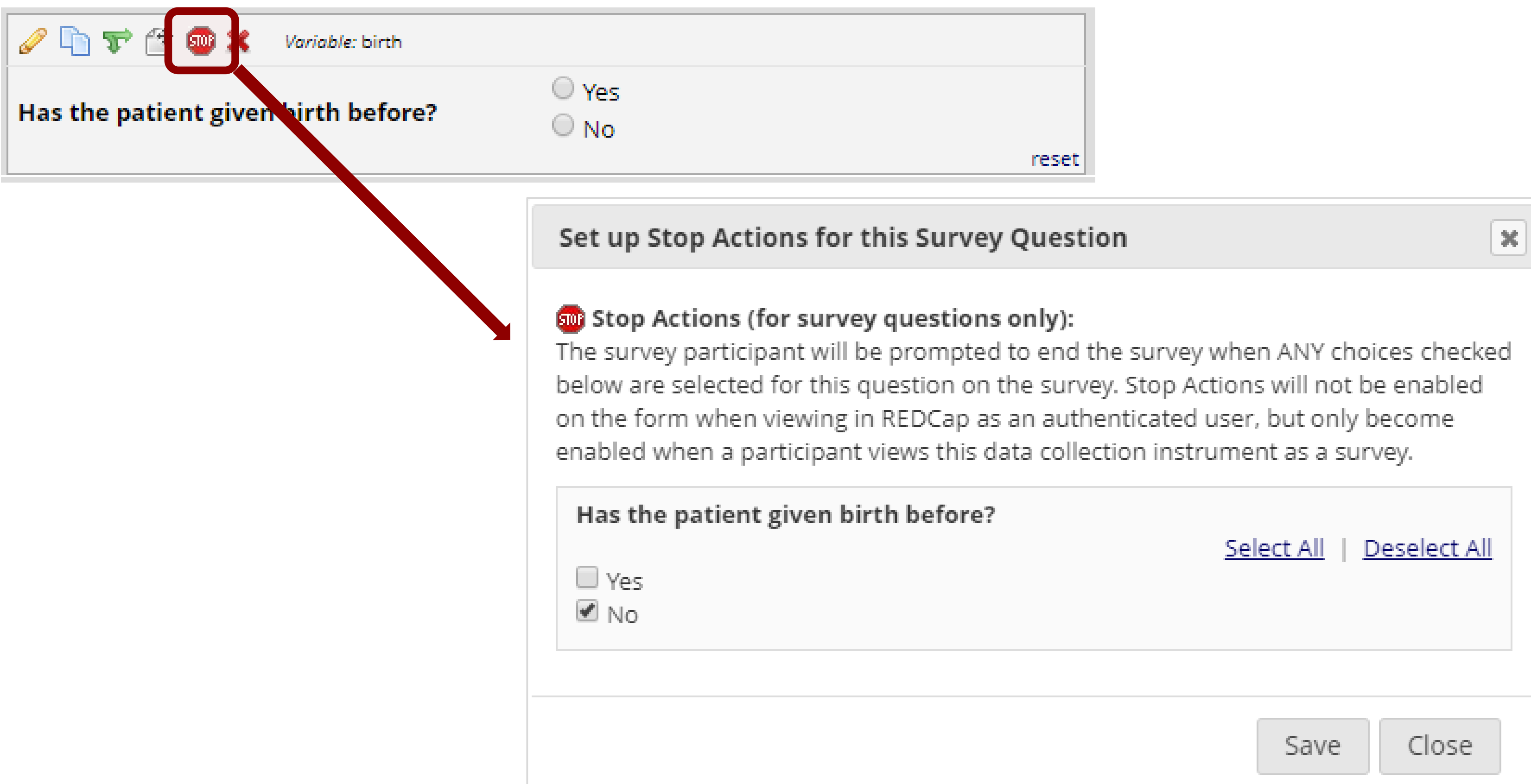
- Stop Actions
- Notifications
- Action Tags
- Automated Surveys
- Survey Queue
- Survey Logins
- Survey Wizard

# SURVEY STOP ACTION

Stop Actions prompt the participant to end the survey when certain field choices are selected.

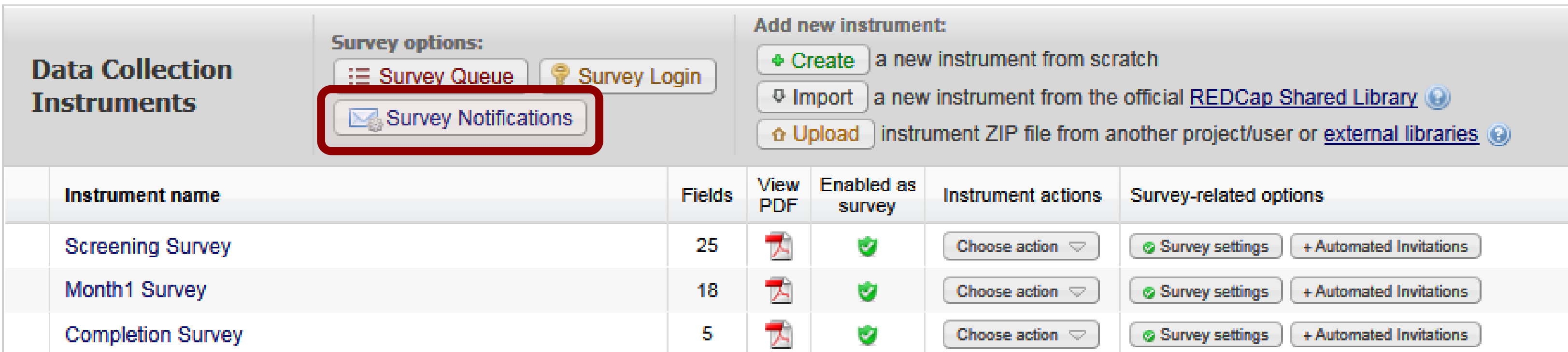
Only selection fields have this option.

Click the **Stop Sign icon** and select the stop choice.

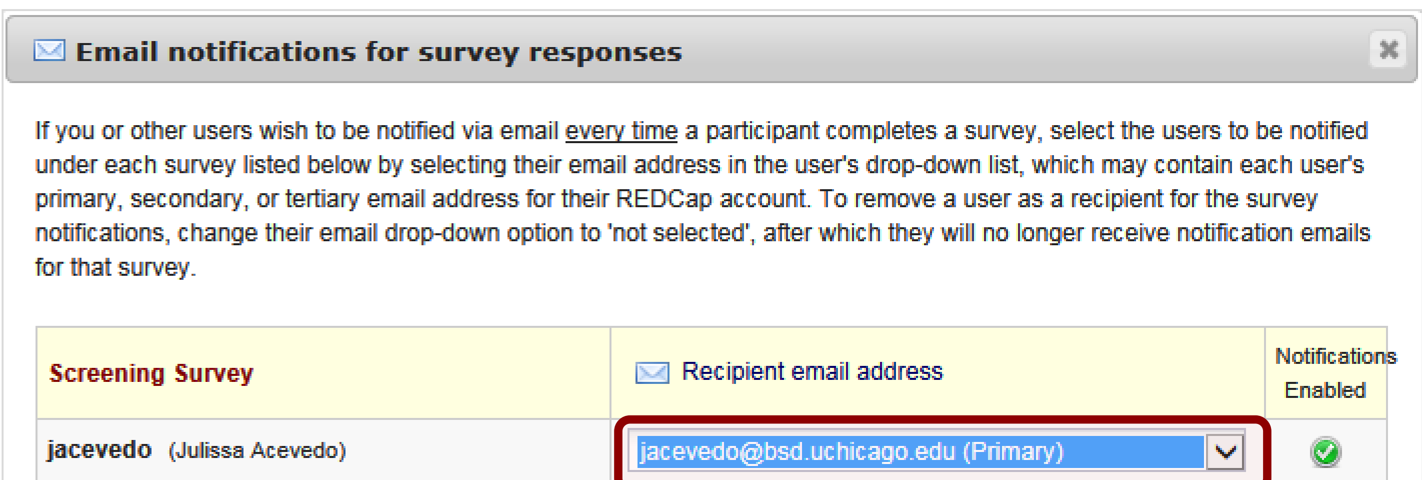


# SURVEY NOTIFICATIONS

1 Go to **Online Designer** and click on **Survey Notifications**.

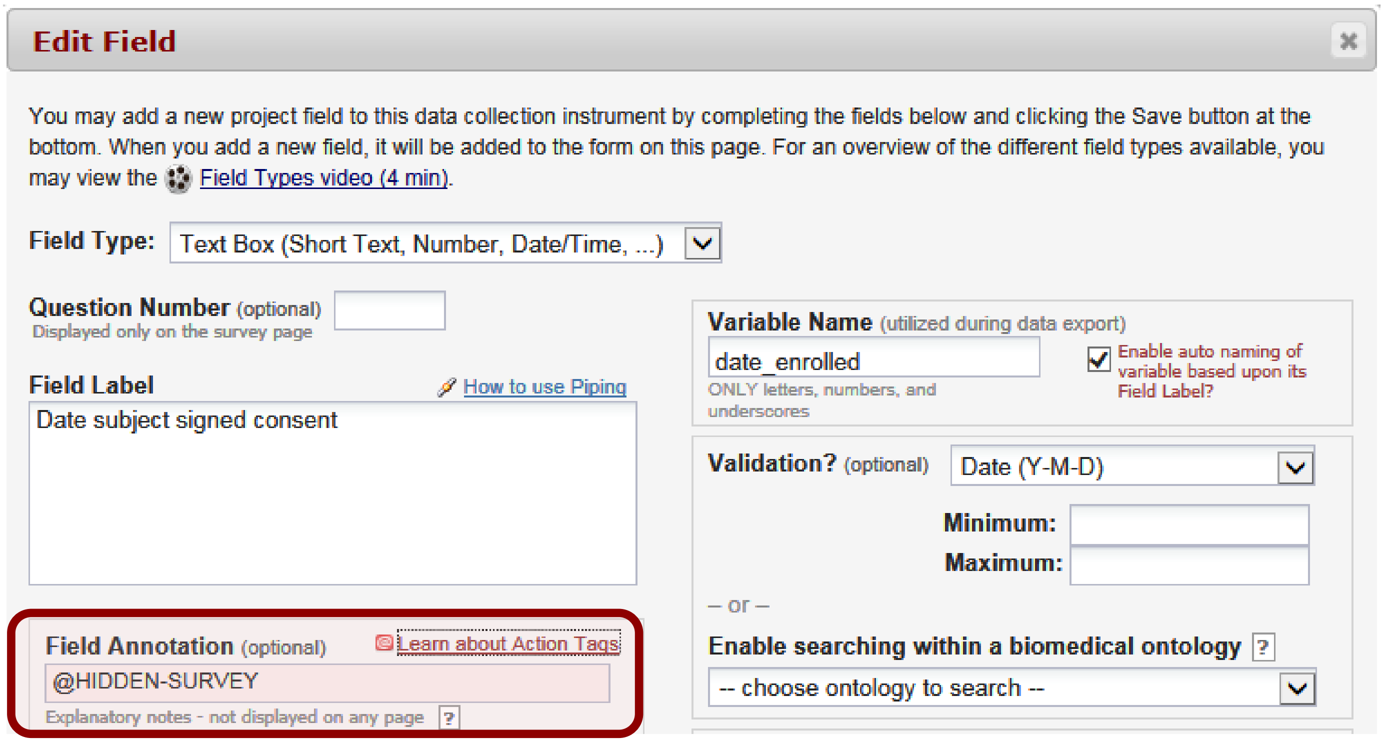



2 Select the survey and select the email address.



# ACTION TAGS

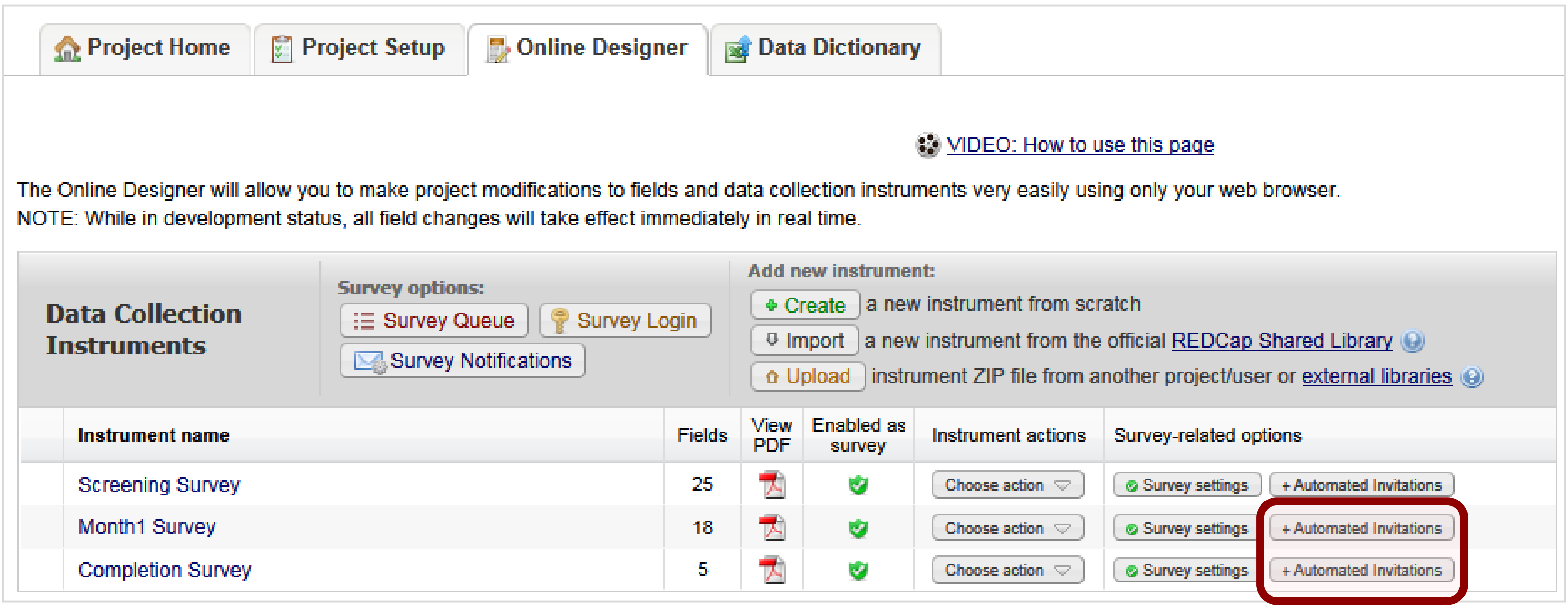
**Action Tags** are special terms that begin with the '@' sign that can be placed inside a field's **Field Annotation** to add special functionality.



# AUTOMATED SURVEY INVITATIONS

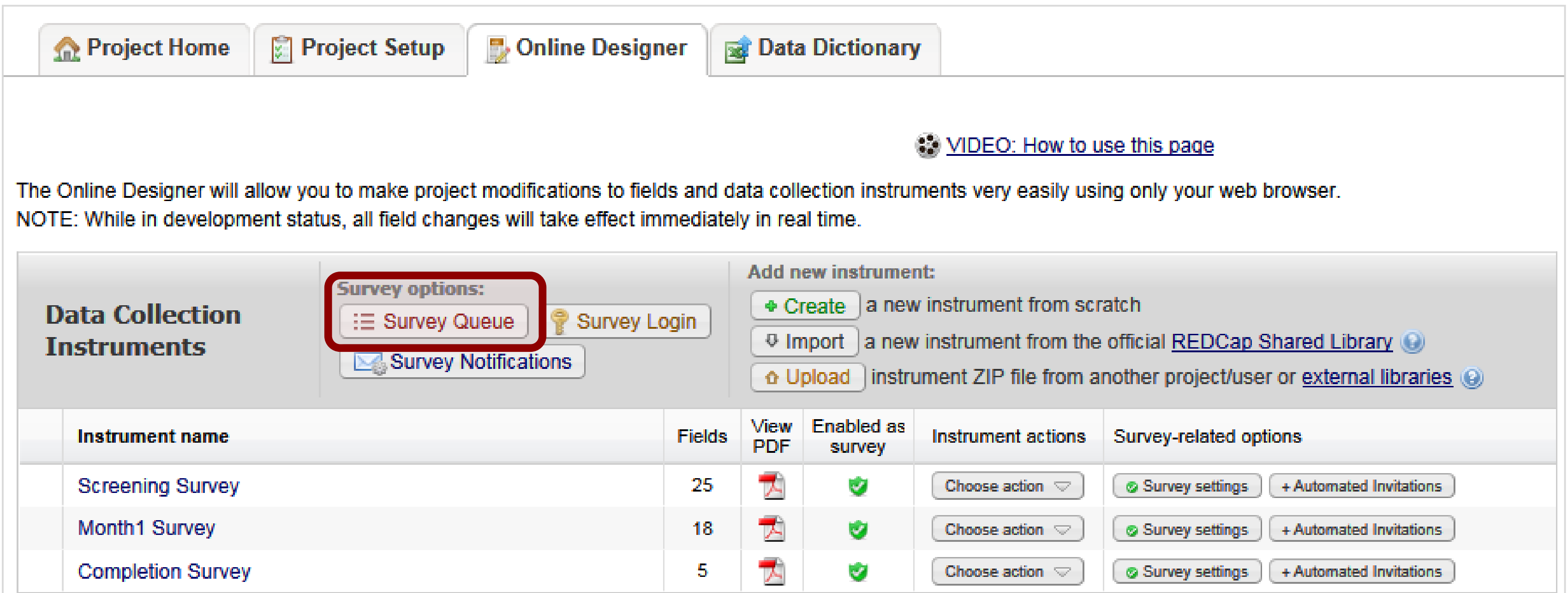
ASIs are similar to composing email invitations, but instead the invites are sent automatically when:

- An earlier survey is completed -or-
- A condition is met



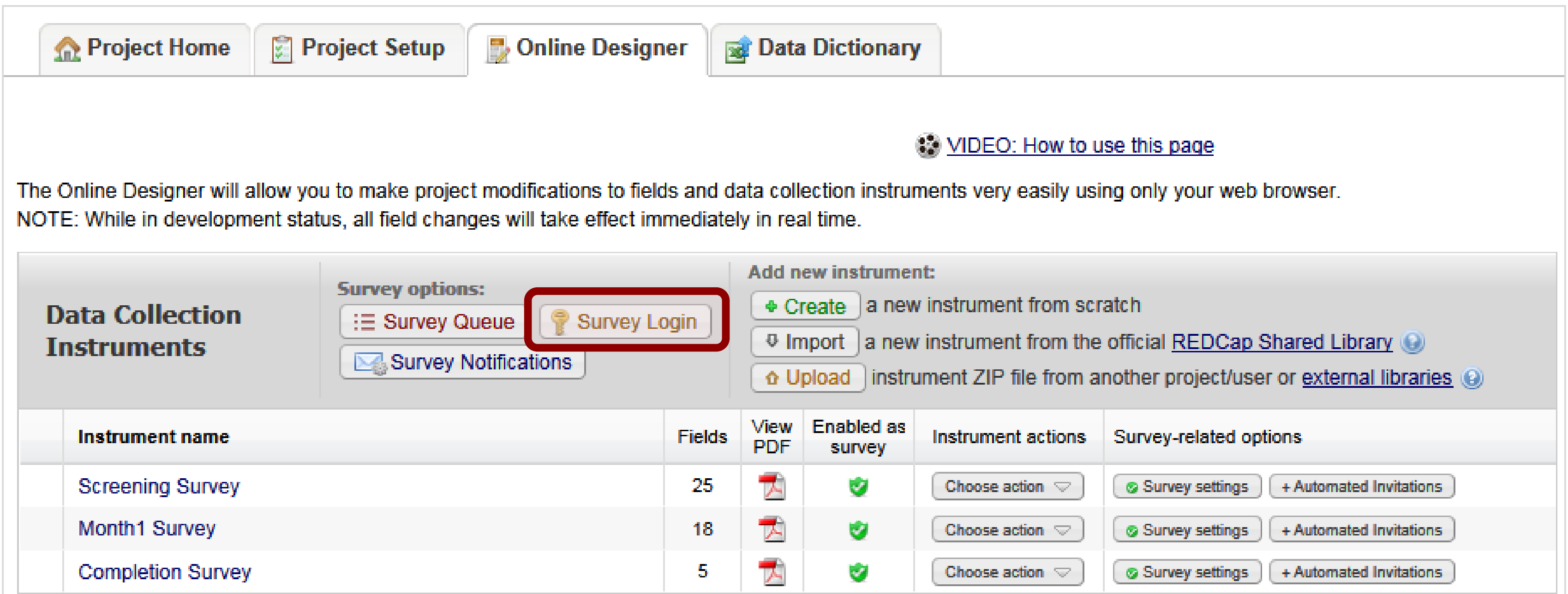
# SURVEY QUEUES

The **Survey Queue** is a survey packaging option. It allows for chaining together multiple surveys like a to-do list (using optional logic too).



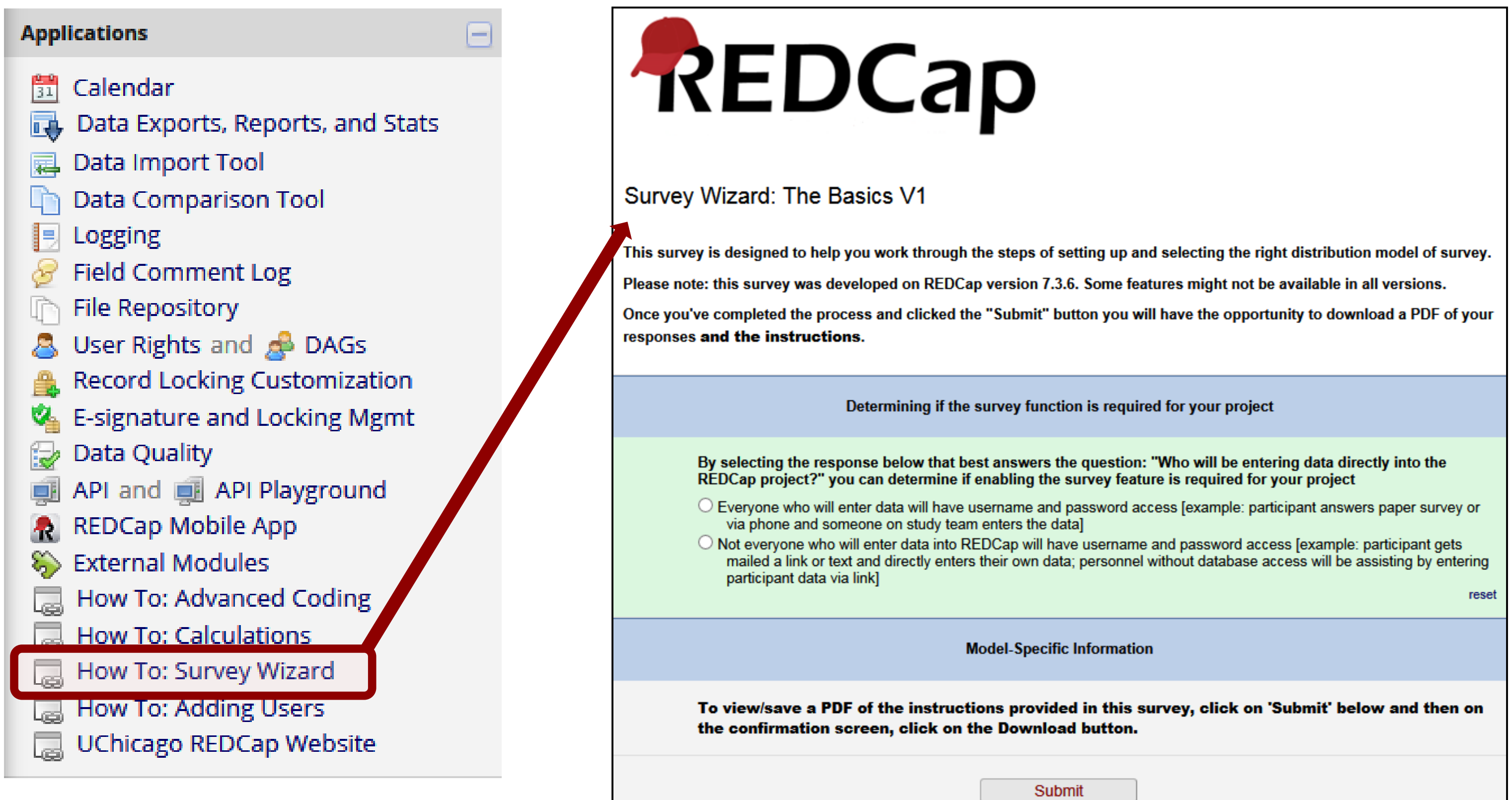
# SURVEY LOGINS

The **Survey Login** requires participants to log into the survey before viewing it and completing it.



# SURVEY WIZARD

The **Survey Wizard** is located under the Applications menu. This survey is designed to help you work through the steps of setting up and selecting the right distribution model of survey.



SMART DEVICES

- Smart Phones
- Tablets
- Mobile App

# SMART DEVICES

**REDCap is compatible with**

**tablets and smart phone (iOS and Android).**

Simply navigate to https://redcap.uchicago.edu/

# MOBILE APP

**Offline Data Collection**

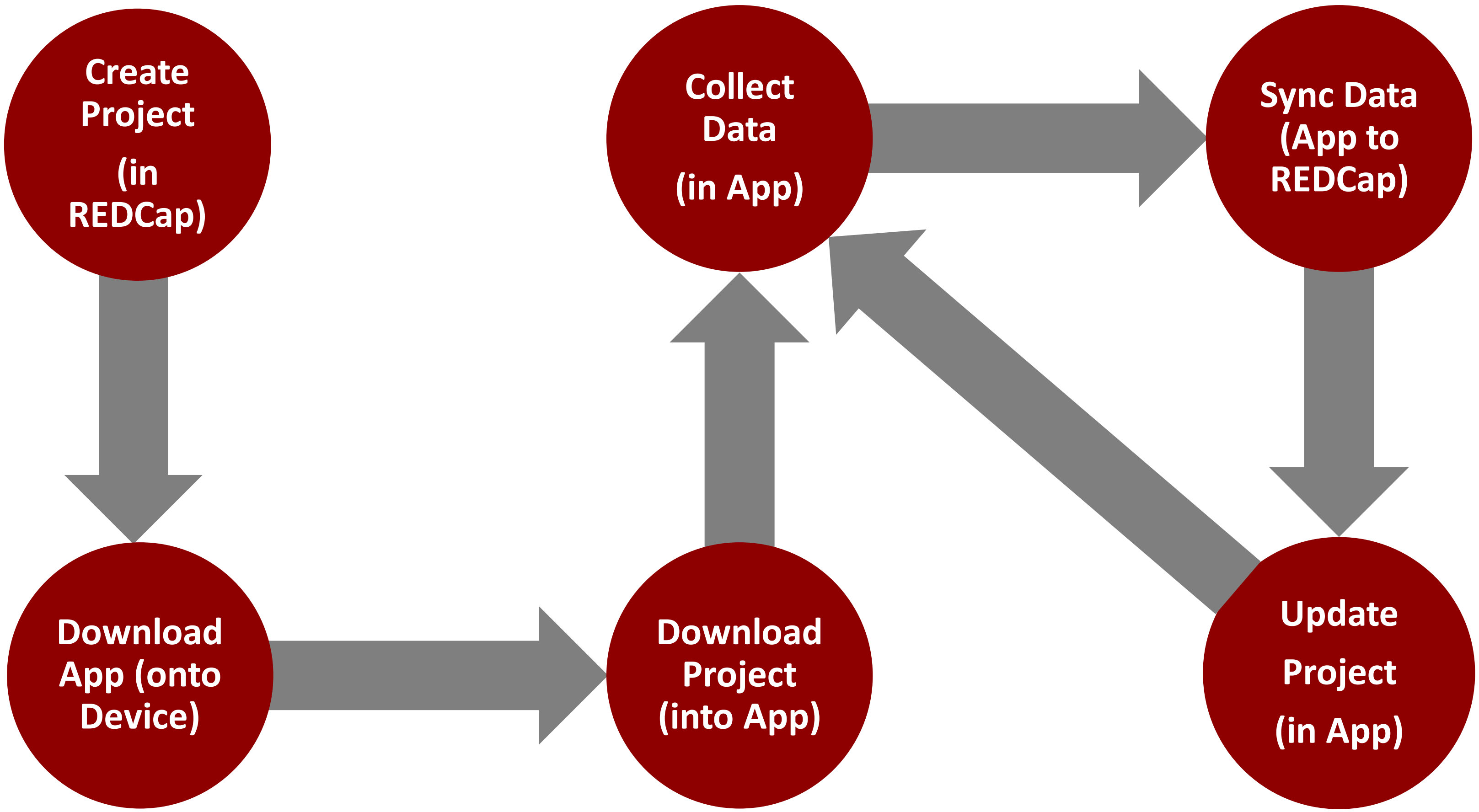
**(no/poor internet connectivity)**

REDCap

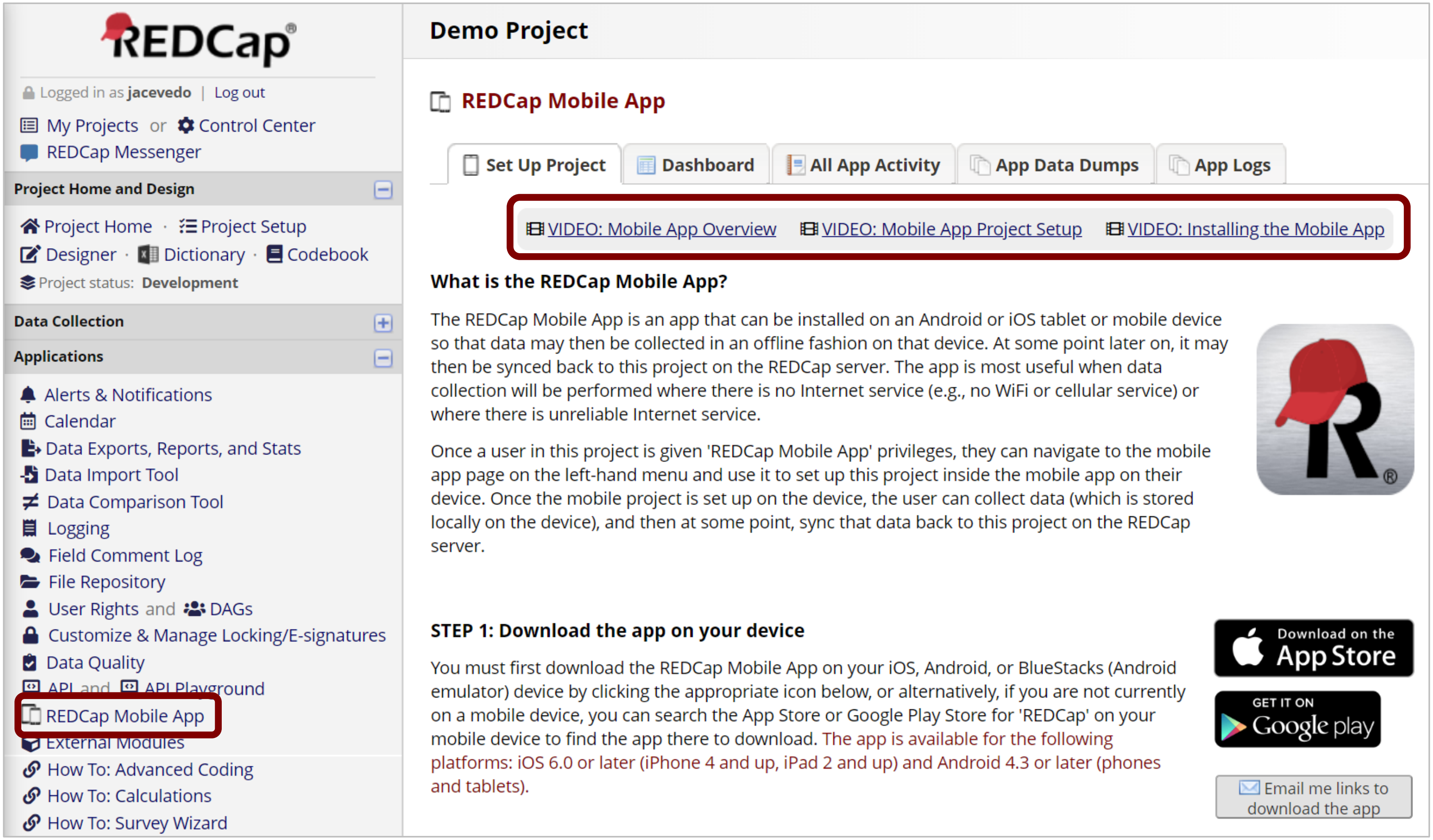
App Store

Google play

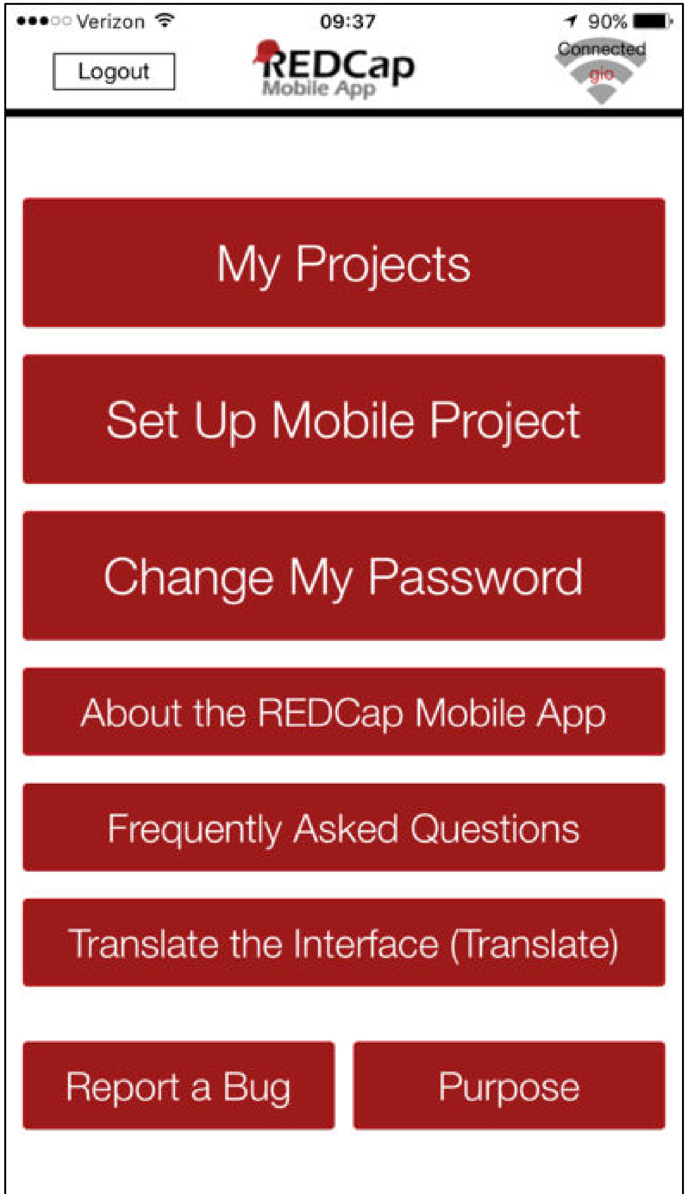
# MOBILE APP - PROCESS

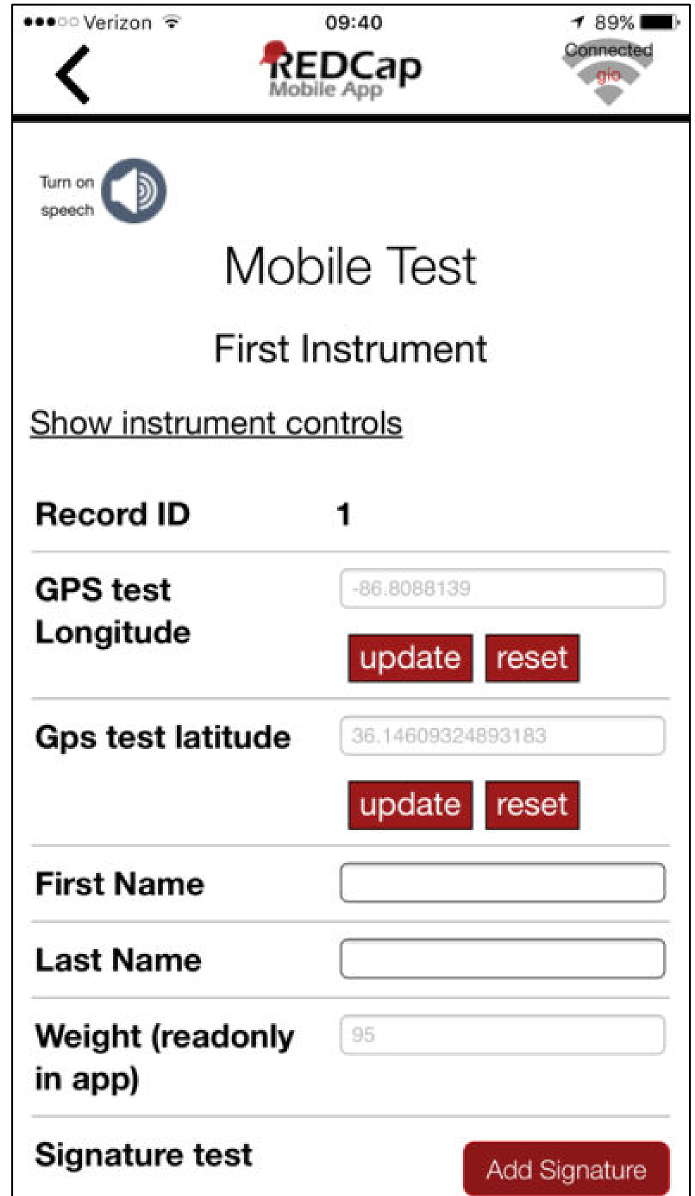


# MOBILE APP - SETUP

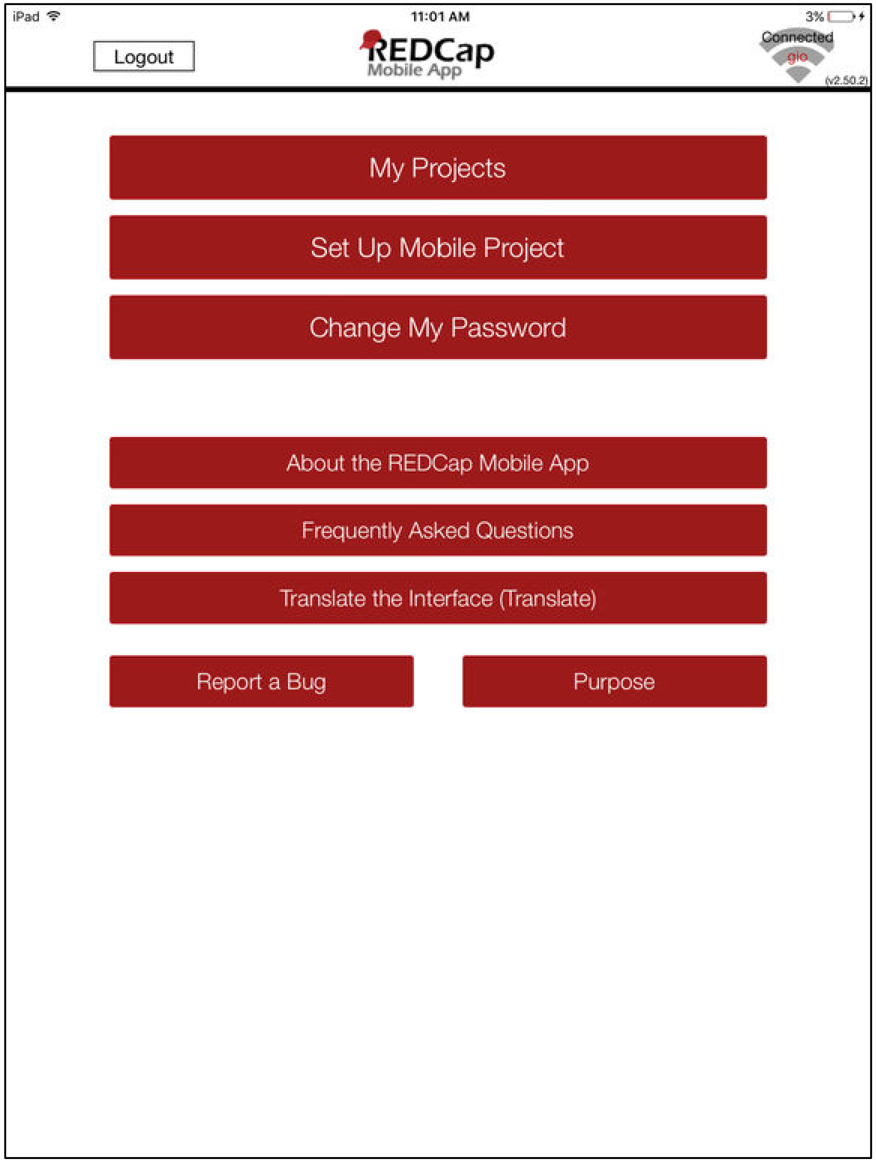


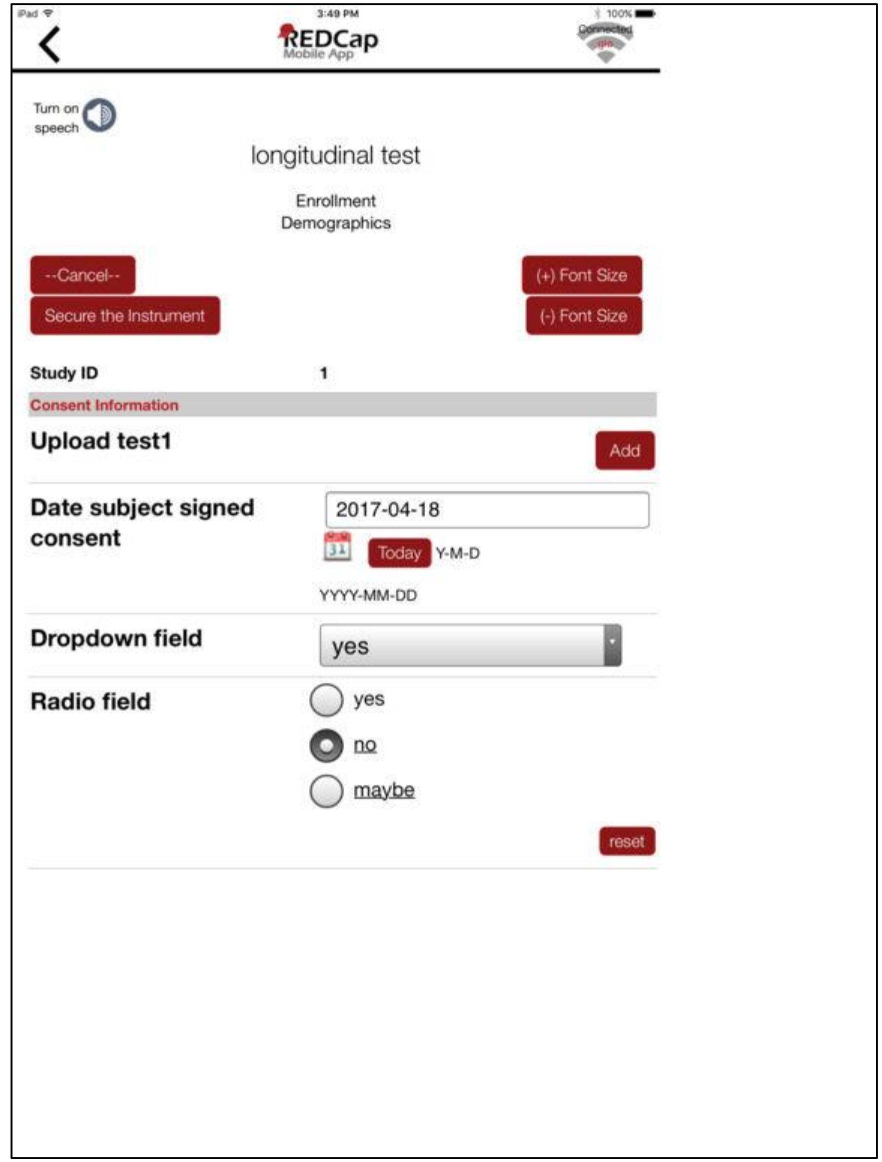
# MOBILE APP - IPHONE



# MOBILE APP - IPAD

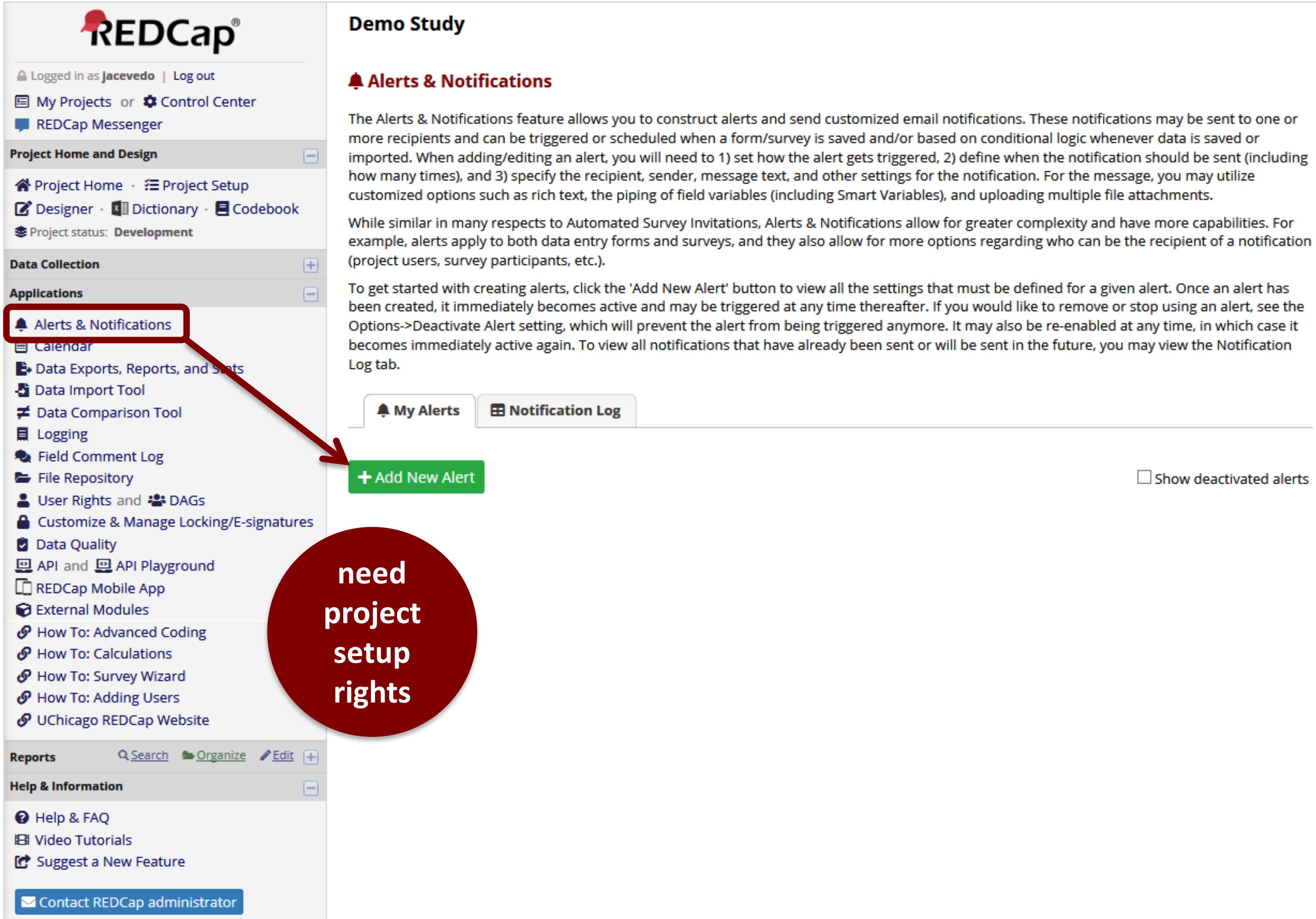


NEW FEATURES

- Alerts & Notifications
- Missing Data Codes
- Rich Text Editor

# ALERTS & NOTIFICATIONS



# MISSING DATA CODES

## Project Setup > Enable optional modules > Additional Customizations

**Additional customizations**

**Missing Data Codes: Set up your missing data codes for this project**

Fields that have a blank/missing value may be marked with a custom 'Missing Data Code' to note why the value is blank. These missing codes may be used to aid in data analysis by specifying why a field lacks a value. To enable this feature below, enter both the codes AND their labels for all the categories of missing data that you wish to use in this project. The missing codes should be coded just like the choices of a multiple choice field with *code + comma + label*, in which the codes can only have letters, numbers, dots, dashes, and underscores (e.g., '-999, Not asked' or 'UNK, Unknown'). If no codes are entered, this feature will remain disabled.

Read more detailed instructions.

**Missing Data Codes**

NI, No information

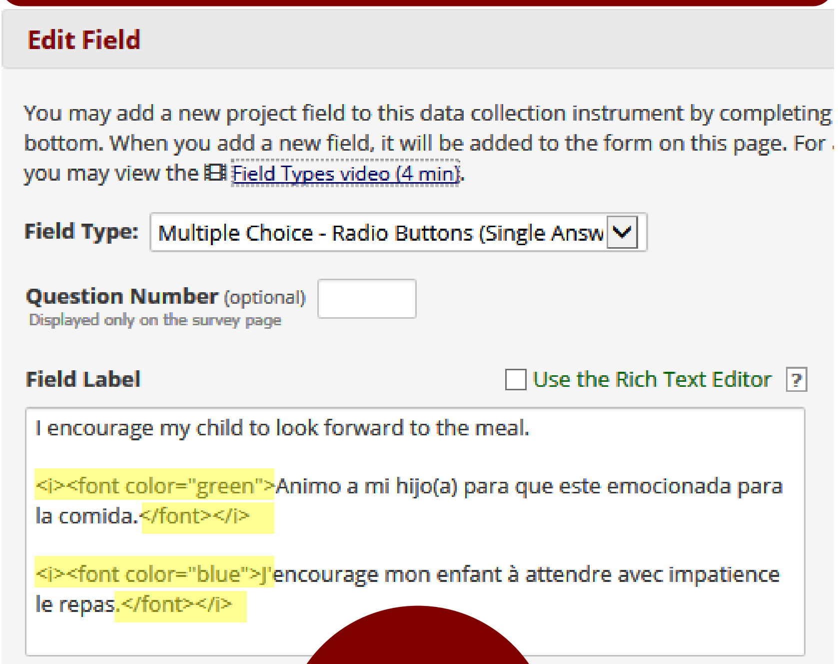
choose and add codes

Add code from standardized list of missing data codes (optional suggestions):

| | | |
|---|---|---|
| Add | NI | No information |
| Add | INV | Invalid |
| Add | UNK | Unknown |
| Add | NASK | Not asked |
| Add | ASKU | Asked but unknown |
| Add | NAV | Temporarily unavailable |

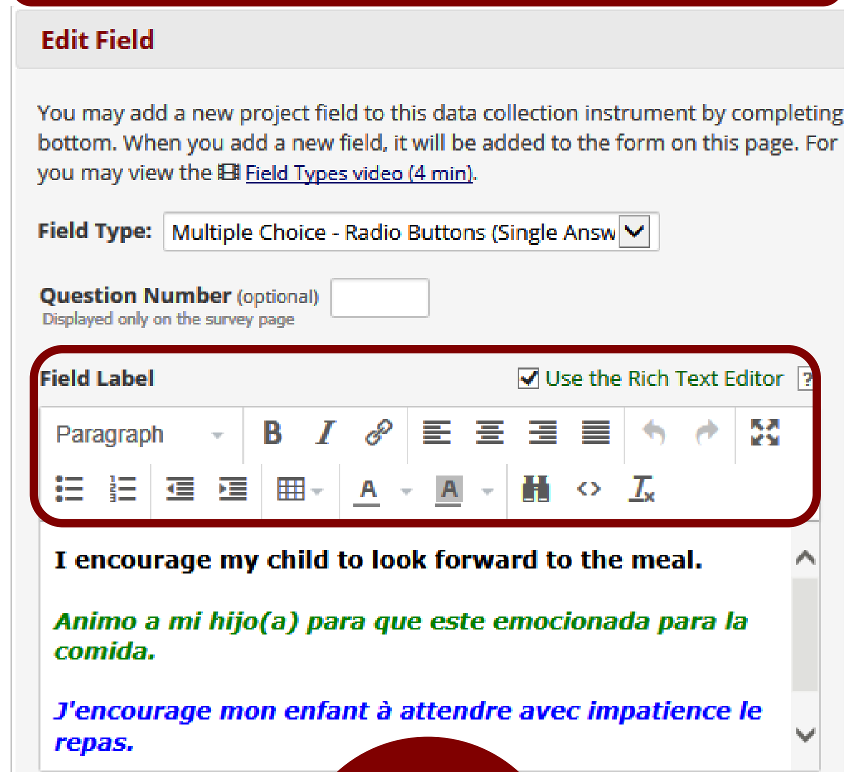
# RICH TEXT EDITOR

## Previously…




HTML needed

## Today…




no HTML needed

WRAP UP

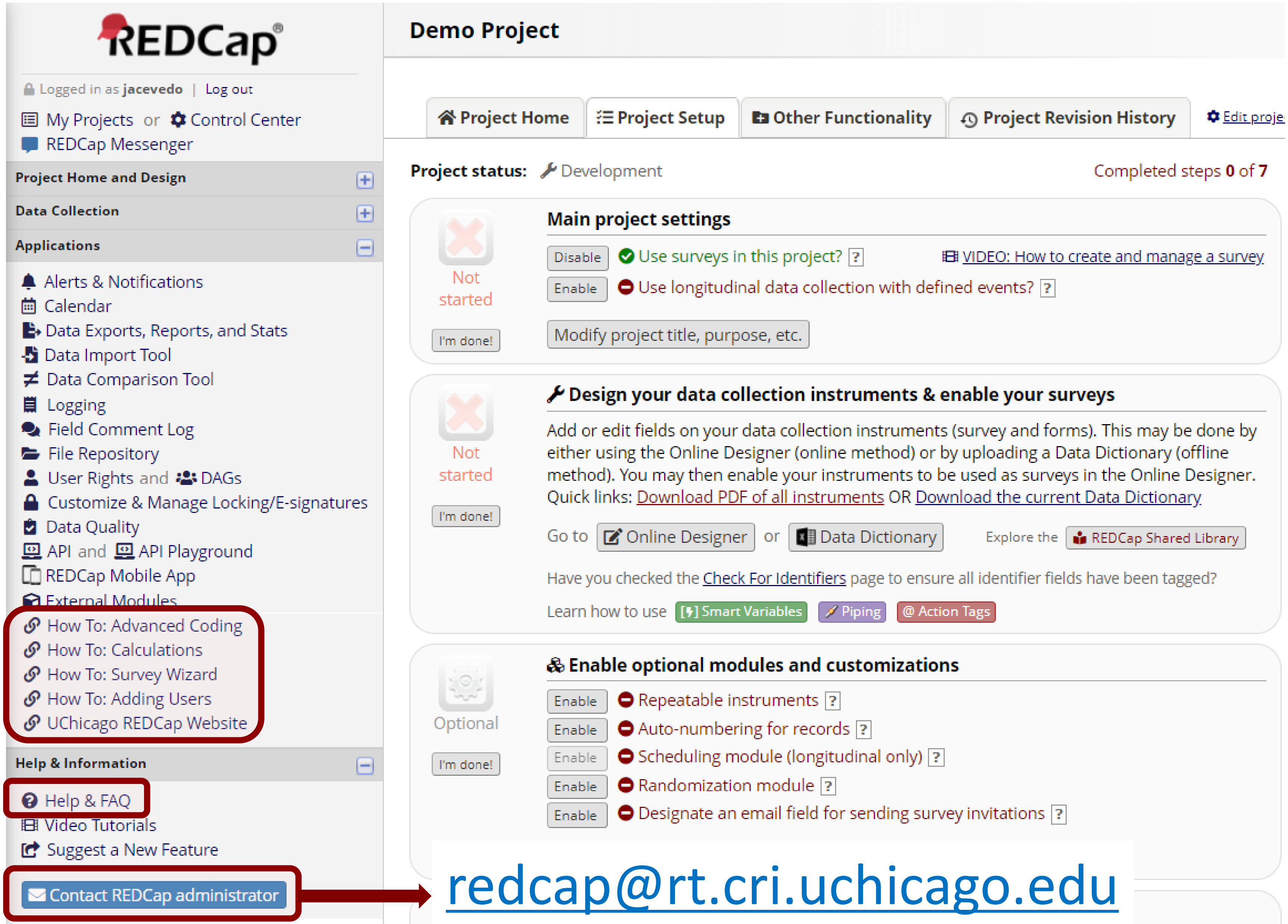
Response Rates

Help Resources

## RESPONSE RATE ADVICE

- TEST, TEST, TEST!
- Keep it short!
- Keep instructions simple!
- Keep your wording brief!
- Include “who to contact”!
- Guarantee confidentiality (if de-identified)!
- Limit demographic questions (if identified)!
- Limit open-ended text questions!
- Use radio buttons vs drop-downs!
- Use graphs, pictures, videos!
- Use Save-and-Return option!
- Use survey reminders!
- Offer incentives!

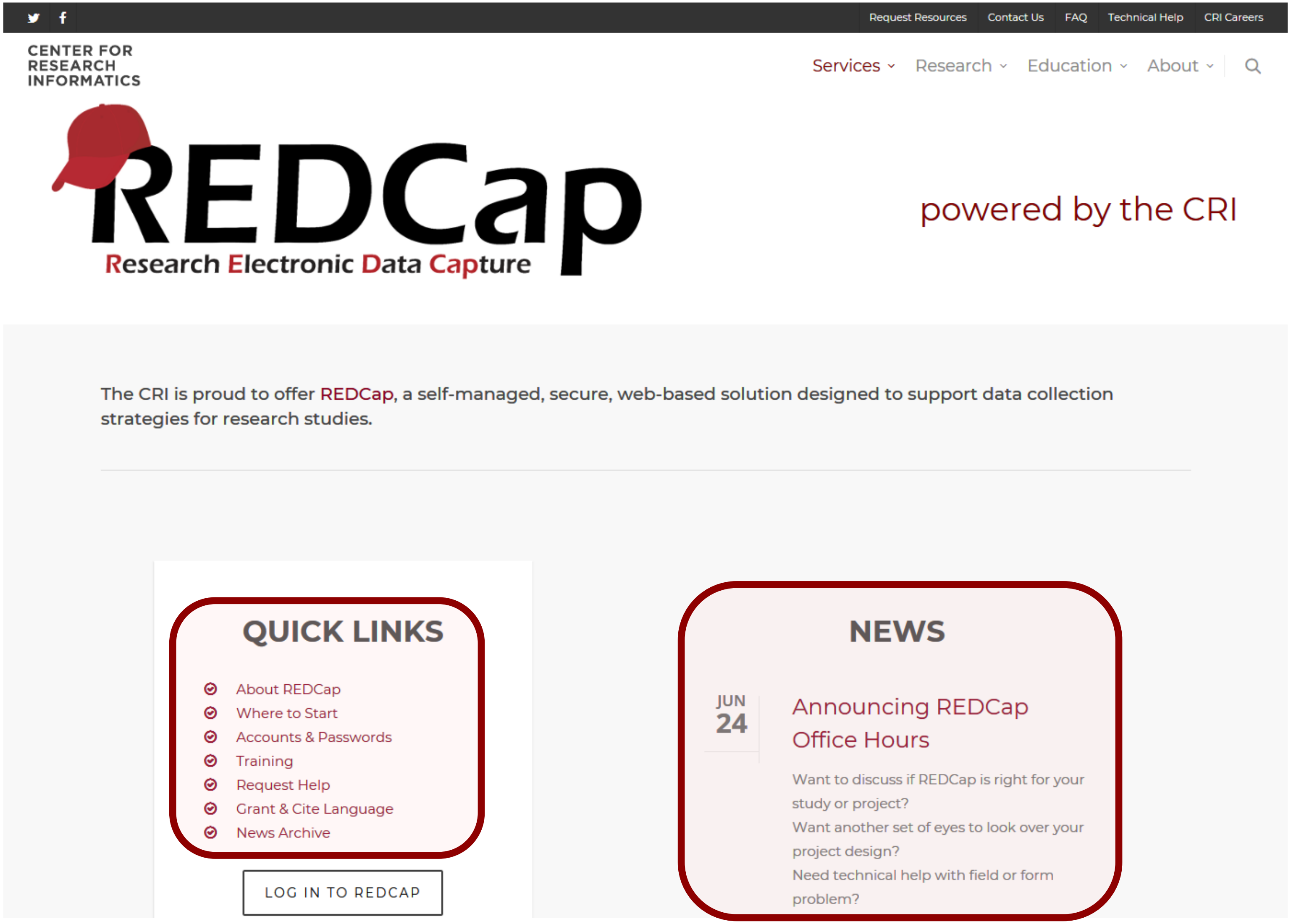
# HELP RESOURCES




redcap@rt.cri.uchicago.edu

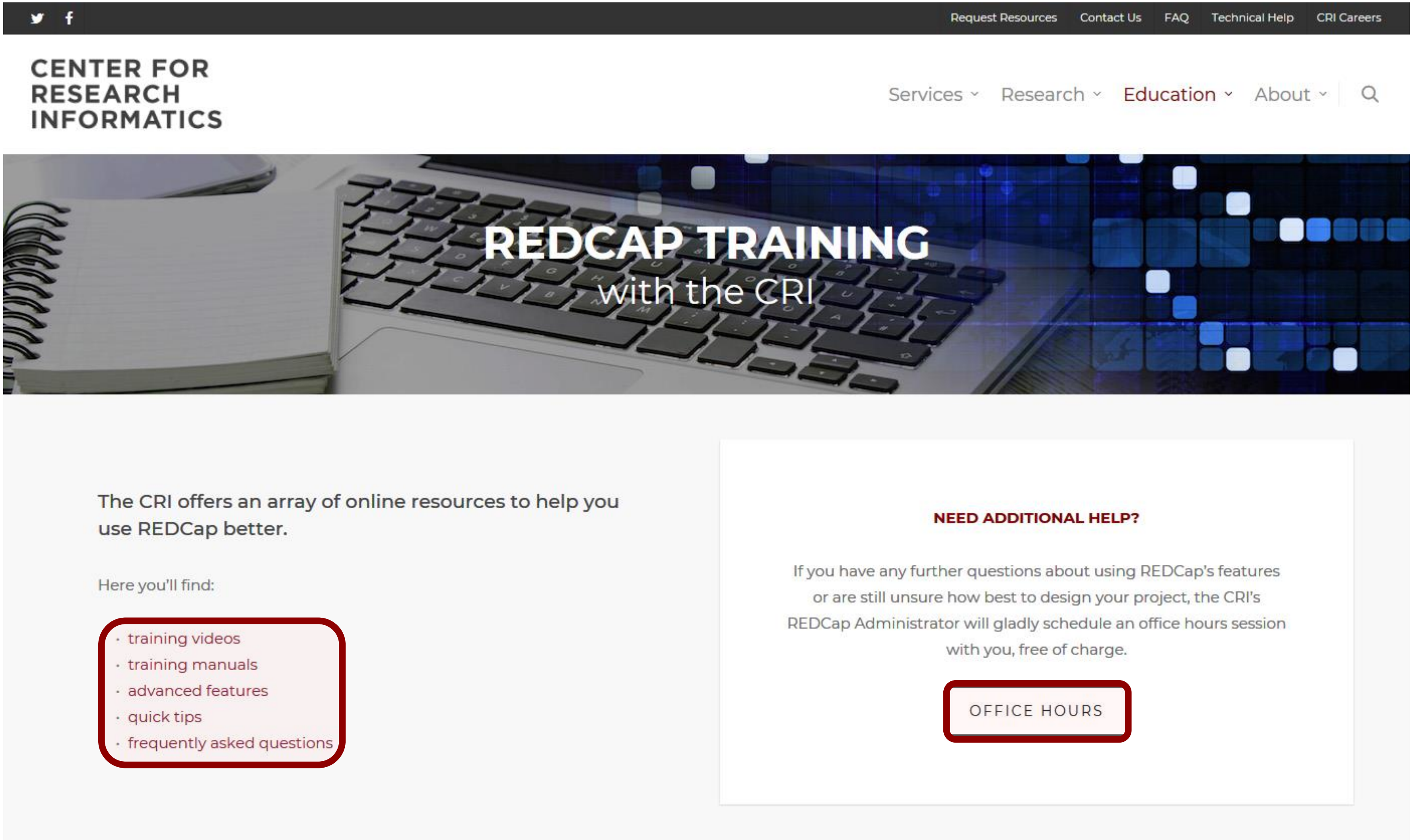
# ADDITIONAL HELP

http://cri.uchicago.edu/redcap/



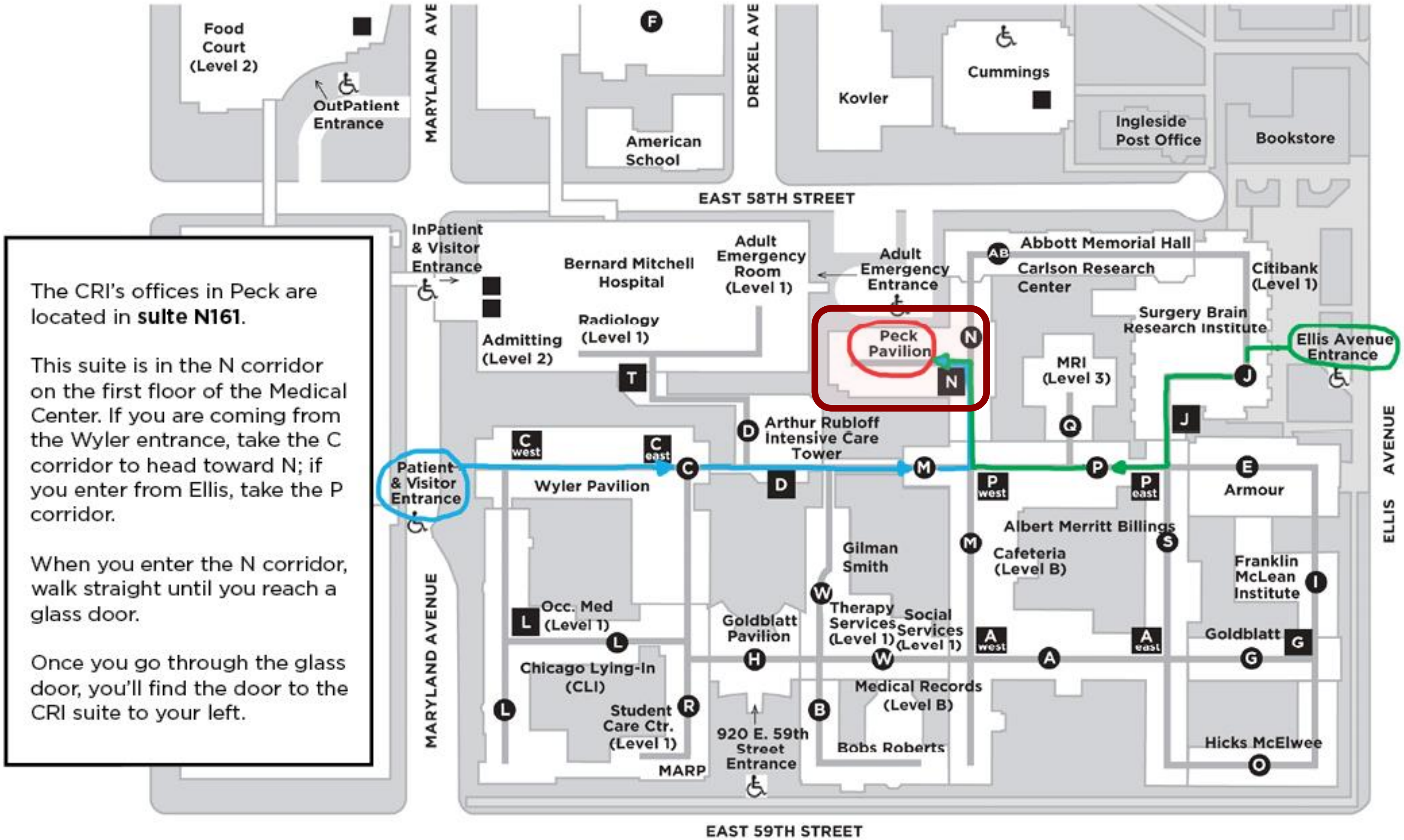
# ADDITIONAL HELP

http://cri.uchicago.edu/redcap-training/



# OFFICE HOURS

## Wednesdays, 12-3pm, N161, [redcap@rt.cri.uchicago.edu](mailto:redcap@rt.cri.uchicago.edu)




The CRI's offices in Peck are located in **suite N161**.

This suite is in the N corridor on the first floor of the Medical Center. If you are coming from the Wyler entrance, take the C corridor to head toward N; if you enter from Ellis, take the P corridor.

When you enter the N corridor, walk straight until you reach a glass door.

Once you go through the glass door, you'll find the door to the CRI suite to your left.

REDCap

Research Electronic Data Capture

THE UNIVERSITY OF CHICAGO MEDICINE & BIOLOGICAL SCIENCES

CENTER FOR RESEARCH INFORMATICS

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