

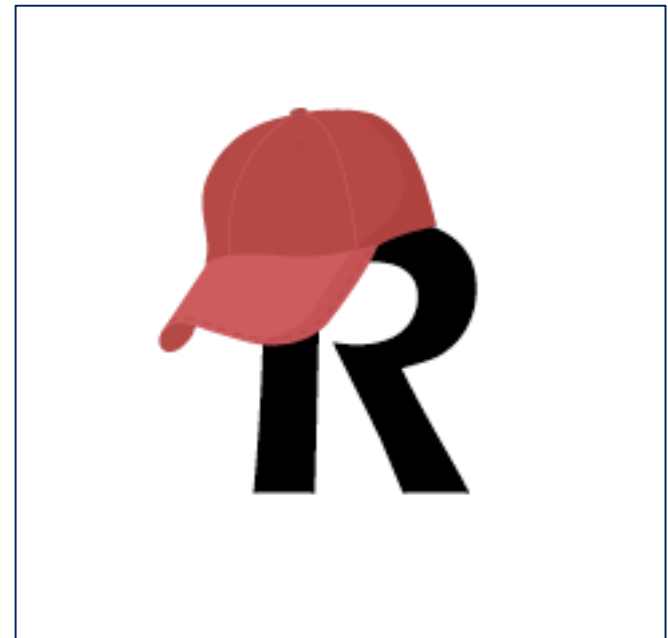
REDCap
Surveys Class (204)
February 23, 2018



 **REDCap**
Research Electronic Data Capture

Learning objectives

- Survey setup
- Distribution
- Management
- Example of uses
- Twilio (texting)
- Best practices



ITHS' Focus

- Speeding science to clinical practice for the benefit of patients and communities.
- Promotes translation of scientific discovery by:
 - ❑ Fostering innovative research
 - ❑ Cultivating multi-disciplinary partnerships
 - ❑ Training the next generation of researchers
- More information: www.iths.org

Laboratory

Clinic

Community



AUTHORIZATION TO RELEASE PATIENT HEALTH INFORMATION

Patient Name: _____ Date of Birth: _____

I authorize Seattle Children's Hospital to release information to: _____ Attn: _____

Organization/Individual: _____

Address: _____ State: _____ Zip: _____

City: _____ Fax #: _____

Phone #: _____

Check this box to receive the information requested in an electronic format on Compact Disc (CD). Otherwise paper copies will be sent to the recipient. Electronic records (with the exception of Radiology images) will be password protected. To have the password emailed to you please provide your email address. If no email address is provided the password will be mailed separately to the postal address above.

E-Mail Address: _____

Information to be Released to Organization/Individual:

Requesting records: from _____ to _____

Discharge Summaries Operative Reports Radiology Reports Drug/Alcohol Abuse Records

Lab/Pathology Reports Clinic Notes Radiology Images Emergency Department Records

Other (please specify) _____ Other _____

There may be a charge for copying the patient record, see the reverse side.

Purpose of Release:

Transfer to another provider (please specify) _____

What is a survey in REDCap terms?

A different way of doing data entry in your project

General survey models

Simple single survey

- *Quick and easy to setup*
 - *Single record per response*
 - *Great for getting started with surveys*
-

Chained surveys

- *Link multiple surveys together*
 - *"Skip" over certain surveys*
 - *Multiple survey responses linked to a single record*
-

Longitudinal surveys

- *Longitudinal mode turned on*
- *Repeat the same survey in multiple events*
- *Multiple survey responses per event per record*
- *Takes a bit more time and testing to setup*
- *Great for longer term studies*

Simple single survey

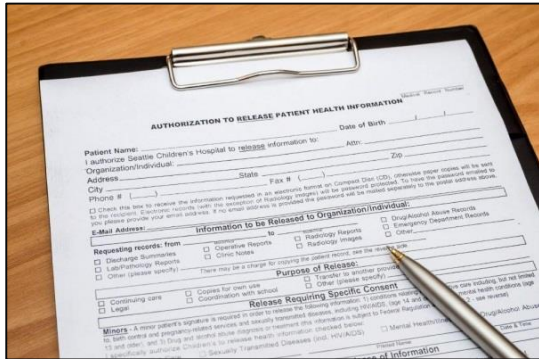
Uses

Setup

Distribution

Example uses for a single survey

- ▶ Registration survey
 - ▶ Classes
 - ▶ Events
- ▶ Enrollment survey
- ▶ Consent survey
- ▶ Feedback survey
- ▶ Part of a recurring data collection
 - ▶ Copy and change date model



Simple single survey

Uses

Setup

Turn on survey mode

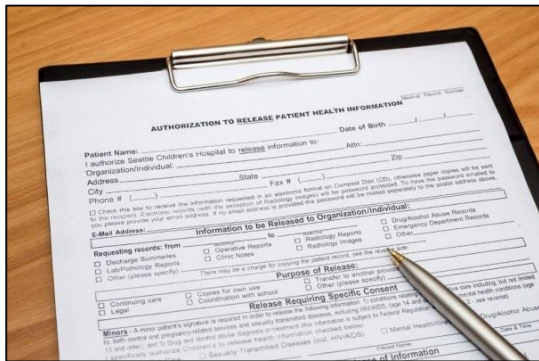
Enable surveys

Survey settings

Distribution

Setup steps for a single survey

- ▶ Turn on Survey mode for the entire project
 - ▶ Enable the desired instruments as surveys
 - ▶ Configure survey settings for your surveys
-
- ▶ **You have to do these in the right order!**



Simple single survey

Uses

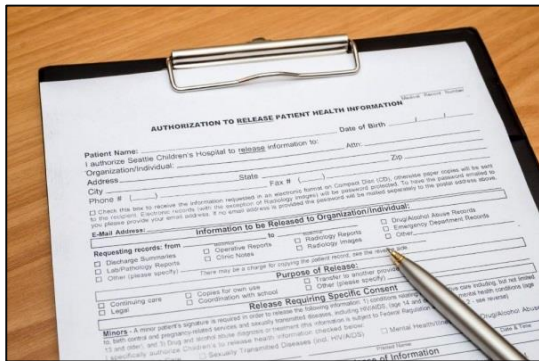
Setup

Turn on survey mode

Enable surveys

Survey settings

Distribution



Turning on the survey feature

- ▶ Hit the “Enable” button to turn on survey mode
 - ▶ Found in the project setup page
 - ▶ Disable survey mode hides features
 - ▶ Can only be done in development
 - ▶ Will suspend all active surveys

Main project settings

Use surveys in this project? [?](#) [VIDEO: How to create and manage a survey](#)

Use longitudinal data collection with defined events? [?](#)

Main project settings

Use surveys in this project? [?](#) [VIDEO: How to create and manage a survey](#)

Use longitudinal data collection with defined events? [?](#)

Simple single survey

Uses

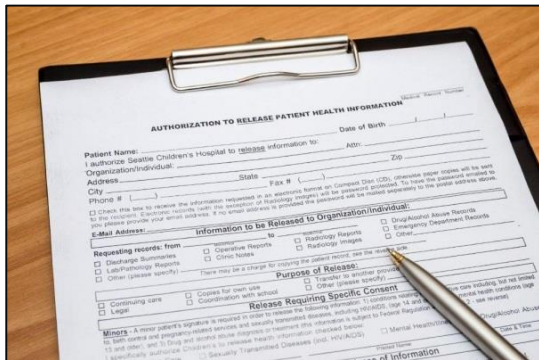
Setup

Turn on survey mode

Enable surveys

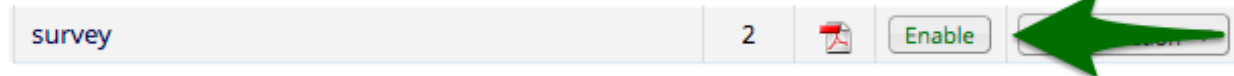
Survey settings

Distribution



Enable instruments as surveys

- ▶ Found in the online designer
- ▶ Hit the "Enable" button behind each instrument



- ▶ You have to do this for each instrument you want to distribute as a survey
- ▶ Hitting the enable button will take you directly to the survey settings for that instrument
- ▶ Each instrument that's a survey can still be filled out as a normal instrument

Simple single survey

Uses

Setup – Survey settings

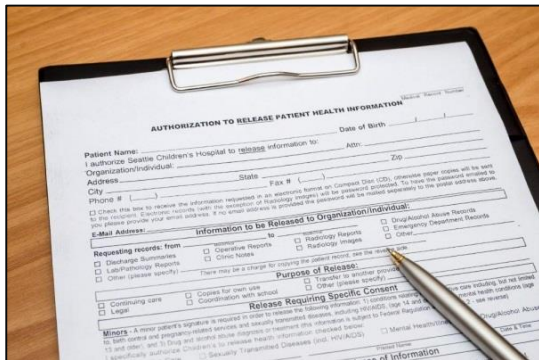
Basic options

Design options

Survey access

Termination options

Distribution



Survey settings – Basic options

- ▶ Survey Title
 - ▶ Can be different from instrument name
 - ▶ Allows for HTML
- ▶ Survey Instructions
 - ▶ Use this instead of an extra descriptive field
 - ▶ Allows for HTML
 - ▶ Has some formatting options build in
 - ▶ It is ok to leave this empty

Simple single survey

Uses

Setup – Survey settings

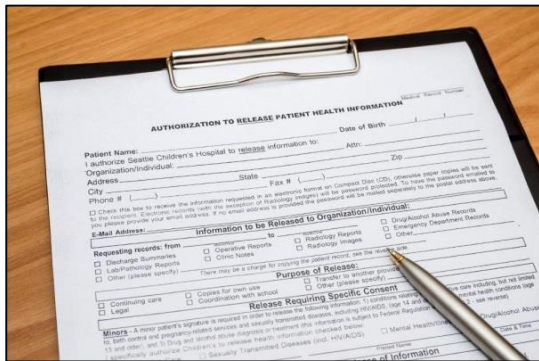
Basic options

Design options

Survey access

Termination options

Distribution



Survey settings – Design options

▶ Survey Design

▶ Logo

▶ Enhanced buttons

▶ Use for mobile centric surveys

▶ Size & Font

▶ Survey Theme

▶ Preloaded theme

▶ Build your own

▶ Saving links theme to your account

▶ Survey Customization

▶ Default settings are fine for 90% of the surveys

Simple single survey

Uses

Setup – Survey settings

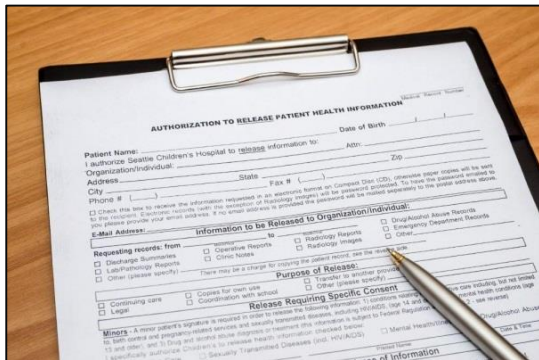
Basic options

Design options

Survey access

Termination options

Distribution



Survey settings – Survey access

- ▶ Response limit
 - ▶ Great for registration surveys
- ▶ Time limit
 - ▶ Great for daily, weekly or monthly surveys
- ▶ Survey expiration
 - ▶ Completely deactivates a survey for all records
- ▶ "Save and Return"
 - ▶ Default is "No save and return"
 - ▶ Access codes can be time intensive
 - ▶ Located in each survey's record
 - ▶ Save and return after completion is risky
 - ▶ Can interfere with other features

Simple single survey

Uses

Setup – Survey settings

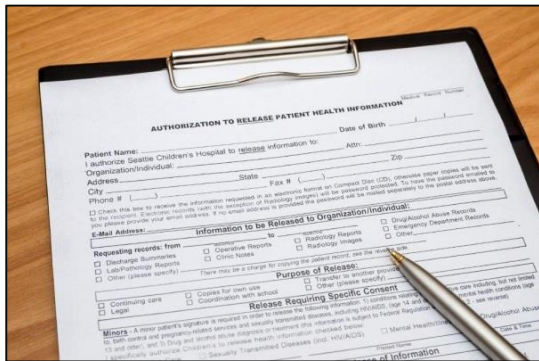
Basic options

Design options

Survey access

Termination options

Distribution



Survey settings – Termination options

- ▶ Auto-continue
 - ▶ Auto skip to the next survey upon submit
- ▶ URL redirect
 - ▶ Redirect to any website
- ▶ Thank you message
 - ▶ Default option
 - ▶ Allows for custom text
 - ▶ HTML allowed
- ▶ Confirmation email
 - ▶ Send upon completion
 - ▶ Requires an email
 - ▶ Record email or temporary email

Simple single survey

Uses

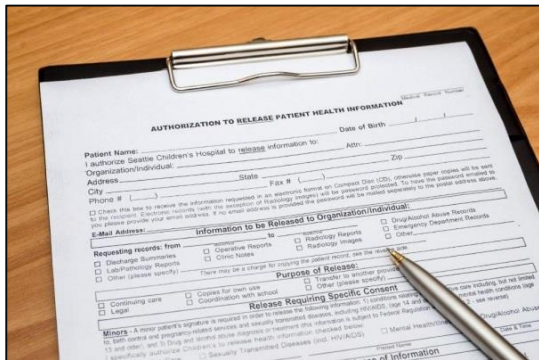
Setup – Survey settings

Distribution

Public Link

Participant list

Survey invitation log



Distribution – Public link

- ▶ Found under "Manage survey participants"
- ▶ Auto-generated by REDCap
- ▶ Alternatives:
 - ▶ Shortened link – great for tweets/text
 - ▶ Custom link – Human readable
 - ▶ QR code – scan with a smartphone
 - ▶ Web embedding code
 - ▶ Short code
 - ▶ Very temporary (1 hour)
 - ▶ In-clinic use

Simple single survey

Uses

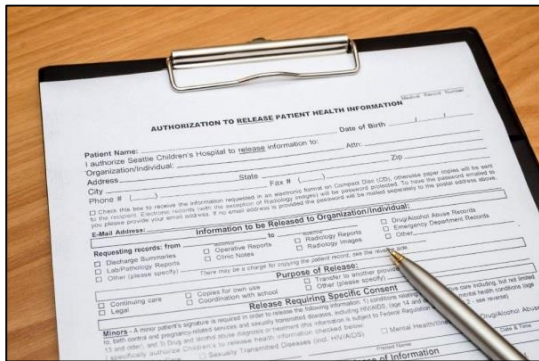
Setup – Survey settings

Distribution

Public Link

Participant list

Survey invitation log



Distribution – Participant link

- ▶ One unique link per participant
- ▶ Add participants
 - ▶ Email plus optional name
 - ▶ One email per line
 - ▶ De-identified mode possible
- ▶ Compose survey invitations
 - ▶ Send date/time
 - ▶ Reminders
 - ▶ Subject and message
 - ▶ Recipients
 - ▶ Hit send!

Simple single survey

Uses

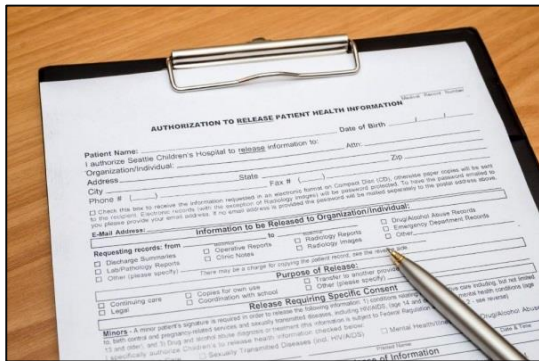
Setup – Survey settings

Distribution

Public Link

Participant list

Survey invitation log



Distribution – Survey Invitation log

- ▶ View all past and future survey invites
 - ▶ Filter on various aspects
 - ▶ Past versus future
 - ▶ Reminders
- ▶ Allow for editing of timing of future invites
 - ▶ Hit little pencil next to each invite
- ▶ Allows for deletions of future invites
 - ▶ Hit little red x next to each invites
- ▶ Edits/deletes will need to be done for each invite and reminder separately
- ▶ Take this into account when setting up

Chained surveys

Uses

Setup

Distribution



Example uses for chained surveys

- ▶ Consent models
- ▶ Enabling "paging" in surveys
 - ▶ Mobile device optimization
- ▶ Multiple workflow surveys
 - ▶ Parent vs child surveys
 - ▶ Male vs female surveys
 - ▶ Limited randomization uses
- ▶ Simplifying
 - ▶ Instruments
 - ▶ Branching logic

Chained surveys

Uses

Setup

Auto-continue

Survey queue

Best practices

Distribution

Setup steps for chained surveys

- ▶ Same as a simple single survey
 - ▶ Enable multiple desired instruments as surveys
 - ▶ Setup the chain
-
- ▶ **You have to do these in the right order!**



Chained surveys

Uses

Setup

Auto-continue

Survey queue

Best practices

Distribution

Setup – Auto-Continue

- ▶ Found in the survey settings
- ▶ Will need to be enabled for each survey
- ▶ Makes the survey continue to the next survey automatically
 - ▶ Does nothing for last survey in line
 - ▶ Enable a different termination option for the last survey
- ▶ Does not play nice with the survey queue



Chained surveys

Uses

Setup

Auto-continue

Survey queue

Best practices

Distribution



Setup – Survey Queue

- ▶ Found in the online designer
- ▶ Populates based on instruments and events
- ▶ Setup after defining your instruments
- ▶ First survey will always be missing
- ▶ Enable survey based on:
 - ▶ Survey completion
 - ▶ Branching logic
 - ▶ Both
- ▶ Auto-start
 - ▶ Immediately start next survey
 - ▶ Go to survey queue overview first
- ▶ Order of instruments determines who wins the "tie"

Chained surveys

Uses

Setup

Auto-continue

Survey queue

Best practices

Distribution

Setup – Best practices

- ▶ Customization copy (found in survey settings)
- ▶ Notifications (found in the online designer)
 - ▶ Do not trigger for each survey
 - ▶ Great for keeping an eye on low activity projects
- ▶ Termination options
 - ▶ Think about the workflow of your survey participants
 - ▶ Use survey queue if you expect "broken" entry



Chained surveys

Uses

Setup

Distribution

Return codes vs login

Participant list



Return codes versus survey login

- ▶ First survey will be distributed like a simple survey
- ▶ Return codes
 - ▶ "Save and return" turned on
 - ▶ 6 digit alpha-numeric code
 - ▶ Survey specific
 - ▶ Lookup in the survey response
 - ▶ Not ideal for anonymous surveys
- ▶ Survey login
 - ▶ Setup in online designer
 - ▶ Up to 3 variables can be selected
 - ▶ Won't work for first survey
 - ▶ Pick an easy to remember variable

Chained surveys

Uses

Setup

Distribution

Return codes vs login

Participant list

Participant list "Plus"

- ▶ Multiple surveys will make a survey selector popup
- ▶ Select the survey you want to send and invite for
- ▶ Ideal for sending new invites for "broken" surveys
- ▶ Use the "incomplete" or "non-responders" selector



Longitudinal surveys

Uses

Setup

Distribution

Example Uses for longitudinal surveys

- ▶ Multiple timepoints data collection
 - ▶ Clinical studies
 - ▶ Pre and post surveys
- ▶ Registration and review surveys
- ▶ Projects with:
 - ▶ Limited FTE
 - ▶ Large participant numbers
 - ▶ Low frequency



Longitudinal surveys

Uses

Setup

"To:" Email

Crafting your message

Triggering invites

Timing

Distribution



Setup steps for longitudinal surveys

- ▶ Builds on the simple survey and chained survey examples
- ▶ Define per event how you want your surveys to run
- ▶ First event works similarly to a chained survey
- ▶ The first survey in any follow up events can and will have to get distributed in different ways:
 - ▶ Manually (e.g. in-clinic)
 - ▶ Via email invite (or automated survey invitations aka ASI)
 - ▶ Via text invite
- ▶ After the initial survey in each event, you can have your participant run through the surveys via auto-continue or survey queue.

Longitudinal surveys

Uses

Setup – Auto Invitations

"To:" Email

Crafting your message

Triggering invites

Timing

Distribution



Setup ASI – "To" emails

- ▶ REDCap needs to know where to send an invitation
- ▶ Defined in one of two places:
 - ▶ Participant list
 - ▶ Use when you have a list of emails beforehand
 - ▶ Define email (found in project setup)
 - ▶ Use when you don't know emails upfront
 - ▶ Needs to be a text field with an email validation
 - ▶ Simply calling it "email" is not enough
 - ▶ Only 1 email per record allowed

Longitudinal surveys

Uses

Setup – Auto Invitations

"To:" Email

Crafting your message

Triggering invites

Timing

Distribution



Setup ASI – "To" emails

- ▶ Select a "From" email
 - ▶ You can add up to 3 emails to your account
- ▶ Define a subject line
 - ▶ Short and to the point is the best
- ▶ Define the invitation body
 - ▶ REDCap will add the a links automatically at the bottom of the page
 - ▶ HTML is allowed
 - ▶ Logo's or hyperlinks
 - ▶ Piping is allowed and encouraged
 - ▶ Try at least to add someone's name
 - ▶ Helps with the spam filters

Longitudinal surveys

Uses

Setup – Auto Invitations

"To:" Email

Crafting your message

Triggering invites

Timing

Distribution



Setup ASI – "To" emails

- ▶ REDCap schedules an invite the moment the defined trigger becomes true
- ▶ Three main ways of triggering similar to survey queue
 - ▶ Survey completion
 - ▶ e.g. After consent survey is completed
 - ▶ Branching logic
 - ▶ e.g. After consent equals yes ([consent]=1)
 - ▶ Combination of the two
 - ▶ e.g. After the consent survey is completed and consent equals yes
- ▶ Bonus: Ensure logic is still true upon send
 - ▶ Advanced feature that has some interesting applications.

Longitudinal surveys

Uses

Setup – Auto Invitations

"To:" Email

Crafting your message

Triggering invites

Timing

Distribution



Setup ASI – "To" emails

- ▶ Two points of timing:
 - ▶ Initial survey invitation
 - ▶ Specific date and time
 - ▶ After a specific interval of time (from the moment of trigger)
 - ▶ "On the next ..."
 - ▶ Reminders
 - ▶ Up to 5 reminders
 - ▶ Set schedule (every 3 days, Mondays)
 - ▶ Remaining reminders get deleted when their survey is completed
- ▶ Pro tip: send things on Tuesday morning 7 a.m.

Longitudinal surveys

Uses

Setup

Distribution

Fire and Forget

Fuzzy triggers

Kill switches

Interplay with repeatable forms



Distribution – Fire & Forget

- ▶ Setup your entire project to "run" itself with minimal oversight
- ▶ Great for projects with limited manpower or that run for a long time
- ▶ Build all your ASI's with survey complete and logic triggers
 - ▶ Single trigger point model
 - ▶ i.e. everything gets scheduled based on 1 trigger but with different delays
 - ▶ Cascading model
 - ▶ Each survey completed triggers another

Longitudinal surveys

Uses

Setup

Distribution

Fire and Forget

Fuzzy triggers

Kill switches

Interplay with repeatable forms



Distribution – Fuzzy triggers

- ▶ You want to automate things, but you don't know upfront when certain events take place
 - ▶ e.g. Trigger a set of surveys after a ED visit
 - ▶ e.g. Trigger surveys after a child has had a concussion in a football match
- ▶ Instead of survey complete trigger, you trigger things of a variable.
 - ▶ Build a special form that contain those triggers
 - ▶ Checkboxes for immediate triggers
 - ▶ Date variables for fuzzy time triggers
 - ▶ e.g. Send survey 2 weeks before visit
 - ▶ Filled out by study personnel
 - ▶ Allows for more control

Longitudinal surveys

Uses

Setup

Distribution

Fire and Forget

Fuzzy triggers

Kill switches

Interplay with repeatable forms



Distribution – Kill Switches

- ▶ Flip side of a fuzzy trigger
- ▶ Disables scheduled surveys and reminders
- ▶ Build a special form (can be combined)
- ▶ Add branching logic to the ASI
 - ▶ e.g. `[kill(1)]<>1`
 - ▶ Turn on "Ensure logic is still true"
- ▶ Has to be managed by study personnel
- ▶ Secondary use:
 - ▶ "Reset" your survey invitations
 - ▶ Update invite text
 - ▶ REDCap auto filters completed surveys

Longitudinal surveys

Uses

Setup

Distribution

Fire and Forget

Fuzzy triggers

Kill switches

Interplay with repeat forms



Distribution – Repeatable forms

- ▶ Repeatable form functionality is still very new
- ▶ You can't setup ASI's for repeatable events (yet)
- ▶ You can have respondents repeat the same survey over and over
- ▶ Setting is located in the survey settings of a survey, but only after you made the survey repeating
- ▶ Use at your own risk
 - ▶ Recommendation: Test, test and test again

Miscellaneous – User Rights

Ability to manage survey invitations

- *Allows access to the "Manage survey invitations" menu*
 - *Make 1 person responsible plus 1 or 2 back ups*
-

Ability to edit existing surveys

- *Needs to be set by instrument*
- *Allows for modification of a completed survey*
 - *Handy for updating email address or other info*
- *Only distribute this right to people who need it*
 - *Everything gets logged anyway, but it prevents confusion*

Miscellaneous – Texting & Robo-calling

Twilio

- *Send invites as text via a third party service (www.twilio.com)*
 - *Will have to create an account with Twilio*
 - *Costs money (<https://www.twilio.com/sms/pricing>)*
-

Texting / Robo calling options

- *Send survey link via text*
 - *Start survey as robo-call*
 - *Send text to invite to robo call*
(respondent calls to start survey)
 - *Send text to invite to robo call*
(service calls when respondent replies by text)
 - *Send survey as text conversation (inherently unsecure)*
-

Setup

- *Found in the project setup page*

Miscellaneous – Action Tags

Useful Action tags for surveys

- **@HIDDEN-SURVEY**
 - *Handy for markup by study team*
- **@READ-ONLY**
 - *For displaying preloaded data*
- **@LATITUDE & @LONGITUDE**
 - *For capturing someones location*
- **@NOW & @TODAY**
 - *For creating a "start" time stamp*
 - *Often combined with @HIDDEN*
- **@NONEOFTHEABOVE**
 - *To create an option in a checkbox that unchecks all other options*
- **@RANDOMORDER**
 - *To circumvent "multiple choice" bias*
- **@HIDECHOICE**
 - *To update options in an active survey*

Miscellaneous – Gift Cards Best Practices

Gift cards are tricky

- *Potential for scamming is high*
 - *Build in at least one manual step*
 - *Talk to us if you want more advice*
-

Setup

- *Create a "gift card" instrument*
 - *Includes read only gift card field plus instructions*
 - *Setup ASI to send out when gift card field is not empty*
-

Running a gift card model

- *Tell your respondents that you will distribute the gift cards at a set time, but not instantaneously*
- *Build a report that displays all records eligible for a gift card, but that haven't had one yet*
- *Download the report in csv raw format, plug in codes and reupload with the data import tool*

Thank You

Questions?

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Collaboration

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