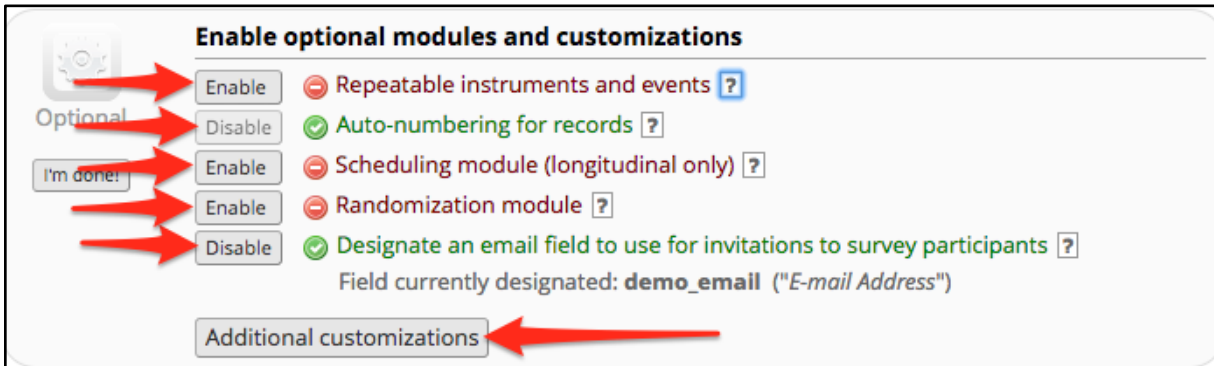# REDCap™

Optional Modules and Customizations User Guide

Navigate to the Project Setup Page. To view the rest of the optional modules, click on *Additional customizations*.

1. **Repeatable instruments and events** - REDCap has the ability to repeat a data collection instrument or an entire event of instruments an unlimited number of times without having to specify the amount needed. This is sometimes called one-to-many data collection, in which a project can have one or more repeating parts. For example, if each record in a hypothetical project represents a person, then one might have a repeating instrument for medications, one for family members, one or adverse events, and one for collecting data over multiple visits (or weekly surveys), so that each repeating element is connected to the overall record but can repeat independently of the other instruments. So if using repeating instruments or repeating events, each record in the project can have a different number of repeated instances of any given instrument or event. One record may have five medications, but another may have two or none, for example. Such flexibility makes this feature very powerful, and setting up repeating instruments and/or repeating events in a project is very quick and easy. The repeating instruments/events feature can be enabled and set up by clicking the Enable button in the Optional Modules section on the Project Setup page.

   Repeating instrument and Events training video:
   https://redcap.vanderbilt.edu/consortium/videoplayer.php?video=repeating_forms_events01.mp4&title=REDCap%20Video&referer=redcapstage.ctsi.ufl.edu

   Repeating Instruments (for classic and longitudinal projects)

Classic projects (i.e., in which the longitudinal module is not enabled) can utilize repeating instruments as a very simple way of doing longitudinal data collection. When traditionally using the longitudinal module in a project, one downside is that one must specify all the events (i.e., the repetitions of instruments) ahead of time, making sure to build out the maximum number of events that one might need, even though all of them likely won't be used by all records. However, with the repeating instruments functionality, one does not need to specify how many repetitions will needed ahead of time; one can simply repeat an instrument an unlimited amount of times. It is important to note that multiple instruments in a project can be enabled as repeating instruments (even all of them, if one wishes). Projects utilizing the longitudinal module can have repeating instruments as well, in which one or more instruments on any defined event can be set to repeat within that event. The repeating instruments functionality behaves very much the same way in both classic and longitudinal projects.

Repeating Events (for longitudinal projects only)
If a project has the longitudinal module enabled, it can utilize the repeating events feature, which works somewhat differently than the repeating instruments feature. While the repeating instruments feature allows one to repeat a given instrument as a single unit, the repeating events feature allows one to repeat an entire event of instruments together in unison. This might be useful if one has several instruments whose data correlates together, such as completing multiple surveys back to back for a specific time-point or visit, for example. Previously, one may have had to create X number of identical events to capture repeating data for the instruments on those events (e.g., Week 1, Week 2, ...), but the repeating events feature makes this much simpler by allowing one to create only one single event that can be repeated in unlimited fashion.

Enabling Surveys for Repeating Instruments
If one wishes to allow survey respondents to enter their responses in a repeating fashion in survey mode alone, one must enable an optional setting near the bottom of the Survey Settings page (in the survey termination options section) *after* an instrument has been set as a repeating instrument. So it is one additional step to do after enabling the instrument itself as a repeating instrument. When the repeat survey setting is enabled, it will display a button at the end of the survey so that the respondent can choose to enter another response for the survey, thus essentially allowing them to take the survey multiple times in a row. In this way, they will be able to enter as many responses

for that same survey as they need. For example, if a REDCap project is aimed at mothers, and the repeating survey is for collecting data about each of the mother's children, the mother could complete the survey once for each child, thus allowing mothers with one child or six children to easily enter their data in a quick back-to-back fashion by repeating the survey.

Reports and Data Exports with Repeating Instruments and Events
If one creates a report that contains data from a repeating instrument or repeating event, a field named 'redcap_repeat_instance' will be included that represents the instance number, which is an auto-numbered value (starting with '1') that gets incremented each time the instrument/event is repeated. And if the report contains data specifically from a repeating instrument (as opposed to a repeating event), then a field named 'redcap_repeat_instrument' will additionally be included that represents the instrument name that denotes to which instrument the row of data belongs. These two fields will only be included automatically in the report or data export if data originates from a repeating instrument or event. Note: Each repeated instance of an instrument or event will be displayed as a new row in the report or export file. This means that if a medications survey is repeated three times for one record, for example, it will be displayed as three rows in the report.

2. **Auto-numbering for records** - This option will remove the ability for users to name new records manually and will instead provide an 'Add New Record' button that will auto-generate a new unique record name, which will be numerical and will increment from the highest numerical record value in the project. If no records exist, it will begin with '1.'

> **Q: How can I set the default auto-numbering to start at a particular number such as 2000?**
> You can disable auto-numbering and add the first record using the ID number as the start value. Once this record is saved, you can enable the auto-numbering customization.

3. **Scheduling module** (longitudinal only) - The scheduling module can generate schedules for your project calendar that are auto-generated from project-defined events (e.g., visits, time-points). Scheduling is only available for projects using longitudinal data collection.

4. **Randomization module** - Randomization is a process that assigns participants/subjects by chance (rather than by choice) into specific groups, typically

for clinical research and clinical trials. The randomization module in REDCap will help you implement a defined randomization model within your project, allowing you to randomize your subjects (i.e. records in your project). In this module, you first define the randomization model with various parameters. Based on the defined parameters, the module creates a template allocation table, which you can use to structure the randomization table you will import. The module also monitors the overall allocation progress and assignment of randomized subjects.

User privileges can be set to allow only certain users to be able to set up the randomization, perform the randomization, or view the allocation dashboard to view progress. If someone is given 'Randomize' privileges, they will be able to view and modify any existing data already collected for the randomization strata fields (if stratification is used) when they are performing the randomization, even if they do not specifically have form-level rights to view the form on which a strata field exists. Thus, Randomize rights trumps form-level rights in this way, but only for the randomization strata fields.

5. **Designate an email field to use for invitations** - You can capture email addresses for sending invitations to your survey participants by designating a field in your project. If a field is designated for that purpose, then any records in your project that have an email address captured for that particular field will have that email address show up as the participant's email address in the Participant List (unless an email address has already been entered for that participant in the Participant List directly).

Using the designated email address field can be especially valuable when your first data collection instrument is not enabled as a survey while one or more other instruments have been enabled as surveys. Since email addresses can only be entered into the Participant List directly for the first data collection instrument, the designated email field provides another opportunity to capture the email address of survey participants.

NOTE: If the participant's email address has already been captured directly in the Participant List, then that email address will supersede the value of the email field here when survey invitations are sent to the participant.

6. **Set a customs record label** - You may append other data and/or static text to any record name (e.g., Study ID) as the record is displayed on your data collection instruments, such as inside the drop-down lists when choosing a record and at the top of the page after being selected. Simply provide the text you wish to display below, and place any variable names inside square brackets, i.e., [variable_name],

after which the data collected for those variables for that record will replace the variable in the text.

> Example: if ([last_name], [first_name]) where entered, then for record '102' it would display '102 (Doe, John)'.

7. **Define a secondary unique field** - Specify a field as your secondary unique field, whose value will be displayed next to the record name when selecting or viewing records/responses in order to more easily identify a record/response. When entering data for the secondary unique field on a form or survey, its value will be checked in real time to ensure it does not duplicate the value from another record. <u>Note</u>: *Only 'text' fields may be used*.

8. **Order records by another field** - The default setup is that all records are ordered by their record name (e.g., Study ID) when displayed in the drop-down lists on your data collection instruments, but you may alternatively order the drop-down lists by the values of another field in the project (e.g., last name), if desired.

9. **Enable the Field Comment Log or Data Resolution Workflow** (Data Queries) – default is enabled.

   You may enable either the *Field Comment Log* or *Data Resolution Workflow* (also known as the Data Queries module). The *Field Comment Log* (enabled by default) allows users to leave comments for any given field on a data entry form by clicking the balloon icon next to the field. All comments can also be viewed, searched, and downloaded on the *Field Comment Log* page. Alternatively, if the *Data Resolution Workflow* is enabled, users will be allowed to open a workflow for documenting the process of resolving issues with data in the project (i.e. opening, responding to, and closing data queries).

   This *data resolution workflow*, often called 'data queries' in clinical trials and studies, can be utilized either on a data entry form (clicking the balloon icon next to the field) or on the *Data Quality* page when finding data discrepancies. The *Data Quality* module will then display a new 'Resolve Issues' tab, which will allow users to view all resolved and unresolved data queries and thus resolve any queries that are still open. Different user privileges may be given to users that control whether or not users can view, open/close, or respond to data queries.

   For a brief overview, view the Data Resolution Workflow video: https://redcap.vanderbilt.edu/consortium/videoplayer.php?video=data

resolution_workflow01.swf&title=Data%20Resolution%20Workflow&refe
rer=redcap.ctsi.ufl.edu

10. **Enable the Data History widget for all data collection instruments?** – default Is enabled.

    If enabled, an icon will appear next to every field on a data collection instrument. When the icon is clicked, the history of all data entered into that field for that record will be listed chronologically and will display all previous values, who changed the value at each instance, and the time it was changed.

11. **Display the Today/Now button for al date and time fields on forms/surveys?** – default is enabled.

    If enabled, a 'Today' button will be displayed to the right of all date fields, and a 'Now' button will be displayed to the right of all time, datetime, and datetime_seconds fields. Clicking the button will automatically set the field's value with the current date or time.

12. **Require a 'reason' when making changes to existing records** - Require users to enter a reason (200-character max) in a text box when making *any data changes* to an already existing record on a data collection instrument. The prompt is triggered when clicking the Save button on the page. Any 'reasons' entered can then be viewed anytime afterward on the Logging page.

13. **Data Entry Trigger** - The Data Entry Trigger is an advanced feature. It provides a way for REDCap to trigger a call to a remote web address (URL), in which it will send a HTTP POST request to the specified URL whenever *any* record or survey response has been created or modified on *any* data collection instrument or survey in this project (it is **not** triggered by data imports - including API imports and Mobile App imports - but only by normal data entry on surveys and data entry forms). Its main purpose is for notifying other remote systems outside REDCap at the very moment a record/response is created or modified, whose purpose may be to trigger some kind of action by the remote website, such as making a call to the REDCap API. Note: If using Project Bookmarks (Auto-notification plug-in, Custom Record Status Dashboard plug-in), you'll find the URL to the bookmarks here.