

Version 7.6.4 - (released 9/13/2017)

IMPROVEMENTS, BUG FIXES, & OTHER CHANGES:

- **Improvement: Record auto-numbering for data imports** (Data Import Tool, API, and Mobile App). For the Data Import Tool, the user may enable the new setting "Force record auto-numbering", and in the API, the new parameter `forceAutoNumber=true` can be used, which will create new record names that are auto-generated by REDCap during the import process. In an upcoming version of the REDCap Mobile App, the mobile app will provide this API parameter automatically for records created in the app that did not previously exist in the project on the server. Note: This feature can only be utilized for projects with record auto-numbering enabled. Also, a record number must still be provided as a placeholder during the data import (to associate multiple rows with the same record), but that record name will be automatically changed to a new record ID generated by REDCap.
- **Improvement:** When adding new choices for a multiple choice field in the Online Designer, it will now display an error message if any choices have duplicate codings (e.g., two choices both coded as "4" - "4, Pink" and "4, 4"), thus letting the user know that they should remove any duplicates because duplicates will be automatically removed when saving the field.
- **Change:** A record's survey queue now only displays surveys that have been explicitly enabled in the survey queue for the project. In previous versions, it would display all completed surveys for that record, regardless of whether they were enabled in the queue. From here on out, if a user wants a survey to appear in the queue, then it should explicitly be enabled in the queue when set up on the Online Designer page. (Ticket #25965)
- **Minor security fixes:** Some Cross-Site Scripting (XSS) and Blind SQL Injection vulnerabilities were found in the Calendar module and Online Designer, respectively, in which a malicious user could potentially exploit them by manipulating the query string of an HTTP request.
- **Bug fix:** In very specific use cases where a date or datetime field is utilized in a calculation to check if the date/time is blank or not blank, it might mistakenly not be able to parse the calculation correctly or (in some extreme cases) might result in an incorrect value. This would only occur if one of the following four scenarios exist inside an "if" statement's condition for a calculated field: 1) "...and [date]=''", 2) "...or [date]=''", 3) "...and [date]<>'", or 4) "...or [date]<>".
- **Change:** When a data export takes longer than three minutes, it provides an extra notice in the progress popup (i.e., "Exporting data...") that informs the user that the export process may possibly take longer than 30 minutes and recommends that they not stop then restart the process, as it may cause it to take longer than usual. This message is to prevent users from repeatedly attempting long data exports, which in some cases could create performance issues on the REDCap server.

- Bug fix: When entering certain YouTube video URLs as a Descriptive field's external video, it might mistakenly not parse the URL correctly, thus causing the video not to be playable on data entry form or survey. (Ticket #26672)
- Change: In the CSV Labels export data set, it now translates the choice labels Yes/No, True/False, and Checked/Unchecked in the CSV file if the project's language has been set to another language other than the default English. (Ticket #26279)
- Bug fix: If the record ID field in a project was used as a Survey Login field, it would malfunction and always get counted as correct during the login process, even if an incorrect value was entered by a participant. This would effectively allow participants to bypass the survey login if the record ID field was the only login field being used for survey login. To prevent this issue, the record ID field is now no longer allowed to be used as a survey login field. (Ticket #26456)

Version 7.6.3 - (released 8/23/2017)

BUG FIXES & OTHER CHANGES:

- Bug fix: If a project contains one or more fields using the Biomedical Ontology functionality, and a user copies the project with all its records, then the Biomedical Ontology labels that were cached for the original project mistakenly do not get copied, which can cause the value to get accidentally erased on a data entry form or survey if a user places their cursor into the Biomedical Ontology field but does not re-enter the value. (Ticket #25451)
- Bug fix: If a field has branching logic that includes a calc field that itself is used by another calc field, then the complex chaining of branching and calculations might not get updated on the data entry form or survey page whenever a user modifies a field's value that triggers the original calculation. The result would be that some fields might not get hidden/displayed by branching logic on the page until the page is reloaded.
- Bug fix: If a field has branching logic that utilizes the datediff function, then when a user is hand-entering a value for a date/datetime field used in that datediff function, it might mistakenly display a popup error stating "Calculation errors exist" at the point at which the user has typed only a partial value for the field. (Ticket #25418)
- Change: For a repeating instrument or an instrument on a repeating event, in which the instrument is enabled as a survey, if the current instance of the repeating instrument/event has not yet been saved, then it will now disable the Survey Options drop-down list at the top of the data entry form until the form has first been saved. And if a user tries to click the drop-down before that repeating form/event has first been saved, it will tell them to click the "Save & Stay" button before they can access the Survey Options. This will prevent ghost/placeholder instances from appearing in the Participant List, which occurred in previous versions. The previous

behavior was regarded as generally undesirable, although not necessarily considered a bug. (Ticket #21843)

- Bug fix: When a user has been assigned to a Data Access Group (DAG) and is creating a new record, if record auto-numbering is disabled in the project and the user uploads a file for a File Upload field on a data entry form before clicking a Save button on the page to create the record, then if the user later leaves the page without saving their changes via a Save button, the record would mistakenly not get assigned to the user's DAG but would instead not belong to any DAG.

Version 7.6.2 - (released 8/10/2017)

BUG FIXES & OTHER CHANGES:

- Bug fix: When deleting a document that has been uploaded to a File Upload field on a survey, it would mistakenly display a box inside the field that asks the respondent to enter their survey access code. This only occurred on surveys and not on data entry forms.
- Change: When using the Data Resolution Workflow's dashboard for data queries that have been opened via a custom Data Quality rule that contains two or more fields in its rule logic, it now displays the record number in the dashboard as a clickable link that goes to the Record Home Page for the record. Whereas in previous versions, the record number was not a link but only text. (Ticket #24960)
- Bug fix: Line breaks inside field labels do not work well in Excel on Macs when downloading a data dictionary and then re-uploading it, in which the line breaks would often get doubled after re-uploading it into REDCap. Technically, it now replaces as carriage return+line feed characters with simply a line feed character to prevent this doubling effect. (Ticket #21681)
- Change: Added new note at top of Online Designer (when viewing an instrument's fields) that mentions using Action Tags and includes a link to open the Action Tag documentation popup to learn more about them.

Version 7.6.1 - (released 8/4/2017)

BUG FIXES & OTHER CHANGES:

- Change/improvement: The "Require Reason for Change" feature, which can be enabled in the Additional Customizations popup on the Project Setup page, no longer requires a reason when adding data to an empty data entry form (i.e., having a gray status icon). In previous versions, it would prompt the user for a reason even when adding new data to a form that had never had data entered before, which was deemed as unnecessarily aggressive, thus making the feature less useful to many users. So now in the event that data has never before been entered on the current instrument for a given record, the user will not be prompted for a reason (that is, until

they return to the instrument at a later time and add/edit/delete data). Note: The Regulatory & Software Validation Committee has reviewed this change, and has approved it for general use.

- Bug fix: When using a Custom Record Label for a project, in which the fields used in the Custom Record Label exist on a repeating instrument, it would mistakenly not pull those fields' data correctly, thus causing those fields to be blank in the Custom Record Label. In this case, it now pulls the data for those fields from the first instance of the repeating instrument. (Ticket #24610)
- Bug fix: When entering a value into a Text field or Notes field that triggers branching logic, if branching is triggered while the user is typing (before they leave the field), it would mistakenly display the "Erase current value?" prompt for any fields on the page that have values that are trying to be hidden by branching logic. It should only display that prompt when leaving the current field, not while the user is still typing inside the field.
- Bug fix: If a calc field's equation includes another calc field, then some downstream calculations might not get updated on the data entry form or survey page whenever a user modifies a field's value that triggers the original calculation.
- Bug fix: If a field utilizes the @NOW or @TODAY action tag on a survey or data entry form, and that field's value is also piped somewhere on that page, then the field's value will mistakenly not get automatically piped when the page initially loads. (Ticket #24994)

Version 7.6.0 - (released 7/27/2017)

BUG FIXES & OTHER CHANGES:

- **Improvement:** Improved accessibility on surveys when using screen readers. Additionally, tabbing now works correct when tabbing through "Enhanced Radios and Checkboxes", and the spacebar can be used to select a choice, as is always the case with standard radios and checkboxes.
- **New action tag: @CHARLIMIT** - Sets the maximum number of characters that can be entered into a Text field or Notes field, and also displays the number of characters remaining. The format must follow the pattern @CHARLIMIT=??, in which ?? is the desired max character count (alternatively, the number value can be inside single or double quotes). NOTE: This action tag cannot be used at the same time as @WORDLIMIT for the same field. NOTE: This action tag does *not* get applied during any data imports (via API or Data Import Tool) but only operates when viewing survey pages and data entry forms.
- **New action tag: @WORDLIMIT** - Sets the maximum number of words that can be entered into a Text field or Notes field, and also displays the number of words remaining. The format must follow the pattern @WORDLIMIT=??, in which ?? is the desired max word count (alternatively, the number value can be inside single or double quotes). NOTE: This action tag cannot be used

at the same time as @CHARLIMIT for the same field. NOTE: This action tag does **not** get applied during any data imports (via API or Data Import Tool) but only operates when viewing survey pages and data entry forms.

- **New action tag: @RANDOMORDER** - Randomizes the order of multiple choice field options as displayed on survey pages and data entry forms, in which their order will be different each time the page is loaded. NOTE: This action tag can only be utilized for the following field types: Checkbox, Radio, Drop-down, Yes-No, and True-False. This tag also works for enhanced radios and checkboxes on surveys.
- **New action tag: @HIDECHOICE** - Hides one or more choices of a multiple choice field. This action tag is useful if you wish to retire a particular choice after utilizing it for a while in data collection, thus allowing you to hide the choice from that point after without orphaning any of the choice's data, which would happen if you simply deleted the choice. The format must follow the pattern @HIDECHOICE='??', in which the coded values should be inside single or double quotes for the choice(s) you wish to hide. If more than one choice needs to be hidden, then provide all the coded values separated by commas. For example, to hide the choice 'Monday (1)', you would have @HIDECHOICE='1', but if you wanted to additionally hide 'Tuesday (2)', you would have @HIDECHOICE='1,2'. NOTE: If the hidden choice has already been selected for a given record, then the choice will not be hidden on the survey or form for that record/event. NOTE: Hidden choices will still appear in reports and data exports. NOTE: This action tag can only be utilized for the following field types: Checkbox, Radio, Drop-down, Yes-No, and True-False. NOTE: This action tag works only in limited fashion with a matrix of fields, in which it will simply hide the checkbox/radio but still display the column for that choice in the matrix.
- **New action tag: @NONEOFTHEABOVE** - Allows for the designation of a checkbox choice to be a 'none of the above' option, thus ensuring that no other choices are checked if that one choice is selected. This means that if that particular option is selected, it will alert the user that all other checked-off choices will be unchecked. And if the 'none of the above' option is already checked when the user checks off another choice, it will automatically uncheck the 'none of the above' option. This action tag makes it possible to have a 'none of the above' option without the risk of users mistakenly having other choices selected at the same time. The format must follow the pattern @NONEOFTHEABOVE=??, in which ?? is the coded value of the 'none of the above' checkbox choice - e.g., @NONEOFTHEABOVE=98. Alternatively, it is possible to set multiple options as a 'none of the above' option at the same time, in which the coded values must be comma delimited inside single or double quotes - e.g., @NONEOFTHEABOVE='45,99'. This is useful for certain situations, such as if you have a 'none of the above' option and also have a 'refuse to answer' option, thus allowing either of those to be the only option that can be selected at a time. NOTE: This action tag can only be utilized by Checkbox fields.
- Improvement: **New "Save & Exit Record" button** on data entry forms - After being clicked, the user is taken back to the Record Home Page to select another record or create a new one.

- Improvement: **New "Save & Go To Next Record" button** on data entry forms - After being clicked, the user is taken to the Record Home Page for the record that follows the record just edited (according to the record order seen on the Record Status Dashboard).
- Improvement: Branching logic now begins to get executed slightly earlier when leaving a text field (e.g., via tabbing) on a data entry form or survey page. This eliminates certain workflow issues, such as when a user's cursor mistakenly skips over previously hidden fields that become suddenly visible due to branching logic being triggered by leaving the initial field. So overall, it improves the behavior of tabbing through a survey or form when branching logic is used.
- Improvement: Branching logic and calculations now get executed more efficiently when triggered by adding/modifying field values on a survey page or data entry form, in which they now get executed only for the fields for which they are a trigger. This is much better than executing branching logic and calculations for all fields on the page, which was the case in previous versions.
- Improvement: The App Data Dumps tab on a project's REDCap Mobile App page now displays the records and the uploaded file list in a more manageable fashion for any emergency data dumps that are listed on that page.
- Bug fix: When using the Survey Auto-Continue feature for a set of surveys that exist on a Repeating Event in a longitudinal project, if a participant completes a survey, it would always mistakenly send them to the next survey in the first instance of the Repeating Event instead of sending them to that survey in the current instance of the Repeating Event. So their responses for the following surveys would not get stored in the correct instance of the Repeating Event.
- Bug fix: In some cases where date values might have trailing spaces (e.g., "2017-12-31 "), it would mistakenly cause the datediff() function to not always work correctly in calculated fields and in Automated Survey Invitation conditions, among other places where datediff() can be utilized. (Ticket #24243)
- Change: When opening the "Upload document" popup for a File Upload field, it now no longer displays the field's variable name in the popup. It now only displays the field label. Displaying the variable name was deemed unnecessary and unuseful, especially for survey participants.
- Bug fix: If a user loads a survey page or data entry form, in which a required field already has a value at the time the page is opened, then if the value is removed and the page is saved, it would mistakenly give the required field prompt saying that the required field was left blank, which is incorrect.
- Bug fix: When copying a project, in which the reports are copied but users/roles are not copied, if a report had custom user access set, then that same report in the new project would end up in a

limbo state where it appears that all users can access it but mistakenly no one can access it (except users with Edit Reports privileges via the "My Reports & Exports" page). (Ticket #23918)

Version 7.5.1 - (released 7/12/2017)

BUG FIXES & OTHER CHANGES:

- Change: A note was added for clarification at the bottom of the Data Quality module to denote that for Rule E the term 'outlier' refers to a value that is more than two standard deviations from the mean.
- Bug fix: When repeating instruments have been enabled in a project, and some instances of a repeating instrument have been deleted for a given record, then when viewing the record on the Record Home Page, the form status icon displayed in the table for the repeating instrument might be an incorrect color (e.g., red stack icon instead of green stack icon). (Ticket #23370)
- Change/improvement: When using Twilio telephony services in a project and having respondent's complete surveys via SMS messages, if a respondent has SMS auto-reply enabled for their phone number, it can cause an infinite loop of bounce-backs that will quickly deplete the REDCap user's Twilio account of funds. The SMS survey will now max out at 10 invalid responses per minute before automatically ending the survey. (Ticket #23050)

Version 7.5.0 - (released 6/29/2017)

NEW FEATURES, BUG FIXES & OTHER CHANGES:

- **New feature: PDF download for survey respondents** - On an instrument's survey settings page, a user may enable the option "Allow participants to download a PDF of their responses at end of survey?" This option will display a button for the survey participant to download a PDF file of their responses for the survey they just completed. Users may also download this same copy of the PDF since it has been added as a new PDF download option at the top of data entry forms.
- Improvement: When copying a project that has the Dynamic Data Pull (DDP) module enabled, it will now copy the DDP field mappings in the project. Note: The DDP module will still be initially disabled in the new project, but after an administrator enables it for the user, the mappings that were copied will then appear.

Version 7.4.3 - (released 6/22/2017)

BUG FIXES & OTHER CHANGES:

- Improvement: When the Data Resolution Workflow module is enabled for a project, the Resolve Issues page now has an Export button to allow users to download the data resolution dashboard

as a CSV file. The page also allows users to view "all status types" using the first filter drop-down in the dashboard table.

- Change: When designating instruments for events on a longitudinal project's "Designate Instruments for My Events" page, normal users will no longer be able to undesignate an instrument from an event if the project is in production (REDCap administrators will still be allowed to do this though). This is to protect users from mistakenly undesignating instruments after collecting data in production, which would orphan the data.
- Change/improvement: The Data Search feature on the "Add/Edit Records" page performs slightly better regarding the ranking of search results returned, in which it now lists exact word matches first in the list of results. Additionally, the Data Search feature now returns a maximum of 25 matching values, whereas previous versions returned a maximum of 15.
- Bug fix: When using the drag-n-drop option in the "Add/Edit Branching Logic", the operator drop-down was missing "<>" as an option. (Ticket #22596)
- Bug fix: When clicking the "reset" link for a radio button field on a data entry form or survey page, if fields immediately below become visible due to branching logic after the link is clicked, then in certain cases the value of the radio button field would mistakenly not get reset.

Version 7.4.2 - (released 6/13/2017)

BUG FIXES & OTHER CHANGES:

- Bug fix: When a participant is using the Survey Login feature to log in to a survey, it would mistakenly not display the survey instructions on the first survey page unless the "Save & Return Later" option had been enabled for the survey. It now always displays the instructions on the first page regardless. (Ticket #21646)
- Bug fix: When sorting projects in the My Projects list by clicking the Records or Fields header in the table, it would mistakenly not sort them correctly if the number contained a comma. (Ticket #21778)
- Bug fix: When executing Data Quality rule F in a project that has checkbox fields on Repeating Instruments, it might mistakenly display false positives as discrepancies for those checkbox fields. (Ticket #13555)
- Change/improvement: To allow text boxes to expand flexibly, an "Expand" link was added below the "Send confirmation email" message box on the Survey Settings and also below the User Comments text box on the Browse Users page when editing a user's account in the Control Center.
- Change: The "Review Drafted Changes" page in a production project now gives a bigger warning if a user is attempting to change the Record ID field's variable name after data collection has begun.
- Bug fix: If the survey confirmation email is enabled or if survey notifications are enabled for a given survey that is enabled as a repeating survey, it would mistakenly not send the emails if the survey has the "Before survey is completed" option set for the location of the repeating button on the survey page. (Ticket #22276)

- Bug fix: The Repeating Instrument tables displayed at the bottom of the Record Home Page for a project with Repeating Instruments might mistakenly display the tables in incorrect order.
- Bug fix: If a file is uploaded to a File Upload field on a data entry form or survey for an existing record, and then the link is clicked to download the file, it would only display "ERROR!", which is non-descriptive and confusing, whereas now it gives a more full error message stating that the form/survey must first be saved before the file can be downloaded. Also, if a file is uploaded and then deleted via the "Remove file" link, it would mistakenly display "ERROR!" in that field with no option to re-upload a field. Additionally, to be consistent with all this behavior, users will no longer be able to send the file via the Send-It button below it until the data entry form has first been saved and reloaded. (Ticket #22022)
- Bug fix: The drop-down list of records on the "Add/Edit Records" page would mistakenly display HTML tags if the Custom Record Label or Secondary Unique Field label contained HTML tags. (Ticket #22351)
- Bug fix: When importing data for checkbox fields via the Data Import Tool or API, in which the checkbox exists on a Repeating Instrument, it would mistakenly display an error saying that the value cannot be imported. (Ticket #22387)
- Change: Invitation reminders are now displayed by default in the Survey Invitation Log. In previous versions, the "Display invitation reminders?" checkbox would have to be checked in order to see the reminders. Not initially seeing the reminders would cause some users to mistakenly assume that nothing was scheduled.

Version 7.4.1 - (released 5/29/2017)

BUG FIXES & OTHER CHANGES:

- **Improvement:** If a record has any calendar events (included scheduled events) that will occur in the next 7 days, it will display a button above the table on the Record Home Page. The button will note how many calendar events there are for the current record in the 7 days, and when clicked, it will display the next 7 days worth of calendar events in agenda mode view.
- **Improvement:** If a record has any survey invitations that are scheduled to be sent in the next 7 days, it will display a button above the table on the Record Home Page. The button will note how many upcoming invites are scheduled for the current record in the 7 days, and when clicked, it will display a table of the send time and survey title for the next 7 days worth of scheduled invites.
- **Improvement:** When the Dynamic Data Pull (DDP) module is enabled for a project, it will now display a record's number of items to adjudicate when viewing the record on the Record Home Page, and additionally clicking the View button allows to user to adjudicate new items for the record on the Record Home Page.
- **Improvement:** When the Dynamic Data Pull (DDP) module is enabled for a project, the DDP adjudication popup now displays a gray header for each data entry form of fields displayed in the popup. This makes it more clear to which form the fields belong.
- Bug fix: If a field used in the Survey Login has another field's value being piped into its field label, then the Survey Login screen would mistakenly not perform the piping. (Ticket #19610)

- Bug fix: When one of the "Number...comma as decimal" field validation types is used for a field that also has a field min/max range validation set, then when importing data into the field via Data Import Tool, it would display erroneous error messages saying that the value is out of range. (Ticket #20959)
- Bug fix: When using the designated survey email field on a survey, if a value is entered for the field, then the field would mistakenly be disabled on the survey page. It should only be disabling the field on the survey if the user entered the email address into the Participant List and if the user has also enabled the designated email field, which exists on that survey. This is done to prevent the email address in the Participant List and the email from the designated email field from getting out of sync. But it should not be disabling the field if the email value does not come from the Participant List. (Ticket #21504)

Version 7.4.0 - (released 5/17/2017)

NEW FEATURES, BUG FIXES, & OTHER CHANGES:

- **New feature: REDCap Messenger**
 - REDCap Messenger is a communication platform built directly into REDCap. It allows REDCap users to communicate easily and efficiently with each other in a secure manner. At its core, REDCap Messenger is a chat application that enables REDCap users to send one-on-one direct messages or to organize group conversations with other REDCap users. REDCap Messenger is also the best and easiest way to share documents with other REDCap users, in which you can upload documents and embed pictures inside any given conversation.
 - [View more info here](#)
 - [Watch 10-minute video](#) on REDCap Messenger
- Improvement: The generic field validation error message ("The value you provided could not be validated because it does not follow the expected format. Please try again.") has been improved, in which it now additionally displays "Required format:" and the name of the field validation (e.g., "Datetime (D-M-Y H:M)") in the error prompt so that there is no ambiguity about what the format should be.
- Bug fix: When calculated fields utilize date/datetime fields in certain ways, such as inside the condition of if() functions or comparing the date/datetime value to "" or "NaN", it can return an incorrect value on data entry forms (via JavaScript) or during a data import or Data Quality rule H (via PHP). (Ticket #21030)
- Bug fix: Reports that use advanced logic containing datediff functions strung together with ORs (e.g., datediff(...)>6 or datediff(...)<40) would not return any matching records/events for the datediffs that contained one or both date parameters having blank/null values. This appears to only affect reports.
- Change: On the API page in a project, for users that are not Administrators, it no longer displays a list of all users in the project who have API tokens. This is to adhere to a more conservative security policy. (Ticket #20048)

- Bug fix: Data Quality rule G would mistakenly return discrepancies for checkboxes that exist on an instrument set as a Repeating Instrument. (Ticket #19259)
- Bug fix: If creating a project using a Project XML file that contains a data collection instrument with no fields other than the Form Status field, that instrument would mistakenly not get created in the new project, and if longitudinal, will throw an error and prevent the project from even being created.
- Bug fix: If a field utilizes the @DEFAULT action tag on a survey or data entry form, and that field's value is also piped somewhere on that page, then the field's value will mistakenly not get automatically piped when the page initially loads. (Ticket #21288)

Version 7.3.6 - (released 5/17/2017)

BUG FIXES & OTHER CHANGES:

- **Major bug fix:** Specific usages of the "if" function in calc fields would cause opposite results for auto-calcs and for Data Quality rule H. This includes the usages below. (Ticket #17479, #18945, #17882)
 - if ([field] = "NaN", ... , ...)
 - if ([field] <> "NaN", ..., ...)
 - if ([field] = "", ..., ...)
 - if ([field] <> "", ..., ...)
- Bug fix: The auto-generated unique event name for events in a longitudinal project might mistakenly begin or end with an underscore, which might cause erroneous errors when using a unique event name in report filter logic or in other similar logic. (Ticket #20301)
- Change/improvement: Alt text was added to the increase/decrease font images displayed at the top of the survey page. (Ticket #20577)
- Bug fix: When renaming a record on the Record Home Page, it would mistakenly allow users to enter illegal characters in the record name, such as ampersands, apostrophes, plus signs, and pound signs. (Ticket #19719)

Version 7.3.5 - (released 4/28/2017)

BUG FIXES & OTHER CHANGES:

- Bug fix: If a user is locking all forms across all events on the Record Home Page for a record that has repeating events of data in a project with Repeating Events enabled, it would mistakenly not lock any empty forms (i.e., having a gray status icon) that exist on a repeating event, excluding the first repeating instance. Additionally, empty forms on repeating events (excluding the first repeating instance) were showing up as locked on the Record Home Page (i.e., having lock icon) even though they were not really locked. (Ticket #17615)
- Bug fix: When enabling the Survey Login feature in a multi-arm longitudinal project, if a record does not exist in an arm whose fields/events are specified as the login fields, then the survey login page would mistakenly display an error saying that the login form could not be displayed

(and thus provide no way to log in to the survey). In this scenario, it should instead bypass the survey login form and display the survey page since the record exists in another arm as the specified login fields, thus the record should not be subject to it. (Ticket #18430)

- Bug fix: When using the Survey Queue and selecting the option to display the survey in the queue "when the following survey is completed", it was only checking to see if that instrument was completed as a survey. It should have also been checking if the instrument had been set to a Form Status of "Complete" on a data entry form, which is how Automated Survey Invitations have always behaved for this same setting. This was causing some surveys to show up as not having been completed in the participant's survey queue. (Ticket #15640)
- Bug fix: When using the Survey Queue and referencing a value from a repeating instrument inside the conditional logic for the survey queue item, it might mistakenly not display the survey in the queue or might show it as not having been completed when it was completed as a data entry form. (Ticket #15640)
- Bug fix: When viewing a tall multi-page report in a project, in which it utilizes the floating headers on the report table, if the user switches between pages of the report, it might mistakenly cause part of the table headers to suddenly appear below the page footer at the bottom. (Ticket #19676)
- Bug fix: When importing data via the Data Import Tool, if any error messages contain a comma in the text, it would mistakenly truncate the error message at the comma when displaying it on the page for the user.

Version 7.3.4 - (released 4/21/2017)

BUG FIXES & OTHER CHANGES:

- **Improvement:** The `redcap_repeat_instance` and `redcap_repeat_instrument` values will now be sent as parameters for Data Entry Triggers. Note: If the current event/instrument is not a repeating event or repeating instrument, respectively, then these parameters will not be included in the DET request. (Ticket #18794)
- **Improvement:** The `repeat_instance` parameter was added to the following hook functions: `redcap_data_entry_form`, `redcap_data_entry_form_top`, `redcap_save_record`, `redcap_survey_complete`, `redcap_survey_page`, and `redcap_survey_page_top`. NOTE: In order to utilize this new parameter in REDCap, you must add `$repeat_instance` as the last parameter in the function definition of the functions above in your hook functions file on your web server. (Ticket #18794)
- **Improvement:** The `repeat_instance` parameter was added to the `REDCap::getPDF()` method for plugins/hooks. (Ticket #18794)
- **Change:** Added a "Cancel" button to the bottom of the Data Dictionary Upload page and Data Import Tool to more easily allow users to start over when halfway through the upload process. (Ticket #19035)

- Bug fix: In certain versions of Internet Explorer, the "Cancel" button would not work correctly and would mistakenly submit the form on the following pages: Copy Project page and Create/Edit Survey page. (Ticket #18996)
- Bug fix: When exporting data to a stats package (e.g., SPSS, SAS, R, Stata) for a project that contains repeating events or repeating instruments, if the report being exported does not include any fields from a repeating event or repeating instrument, then the fields listed in the stats package's syntax file might not line up with the fields contained in the resulting CSV data file, thus making it impossible to load the data into the stats package. (Ticket #18996)
- Change/improvement: When using both Data Access Groups and Double Data Entry in a single project and merging two records that both belong to the same DAG, previous versions did not automatically assign the merged third record to the same DAG. It now automatically assigns the new third record to the same DAG in that case. (Ticket #18767)

Version 7.3.3 - (released 4/13/2017)

BUG FIXES & OTHER CHANGES:

- **Major bug fix:** When viewing the Record Home Page for a record, in which the main table on the page is wide enough or tall enough that it invokes the floating header or floating first column, then if the user clicks the down arrow button on the main table to collapse it, it might mistakenly not be possible for the user to uncollapse the table, even after refreshing the page, thus making it impossible to navigate fully throughout a record. (Ticket #18819)
- Change: On certain rare occasions, the table displayed on the Record Home Page, on the Record Status Dashboard, on the Designate Instruments For My Events page, and on all reports might not display properly but might have its columns or rows appear misaligned in some way, thus making it difficult to view the table or navigate it well. If this occurs, users can now disable the floating table headers for that table/page in that specific project (and have it remember that choice) by clicking the "Table not displaying properly?" link that is now displayed near the top right of the table. It will also have a [?] link to click, which opens a popup with an explanation of what it means to disable that functionality. (Ticket #18822)
- Bug fix: When performing a data export to SAS or SPSS, in which some fields in the export data set have "datetime" or "datetime w/ seconds" field validation, those fields would mistakenly not get added to the syntax file produced for both SPSS and SAS. Bug emerged in REDCap 7.3.1 (Standard). (Ticket #18579)

Version 7.3.2 - (released 4/6/2017)

BUG FIXES & OTHER CHANGES:

- Change: In REDCap 7.3.1 (Standard), the Codebook page required Project Setup/Design privileges to view it, although in previous versions it did not require any special user privileges in order to view the page. However, due to good arguments made against the change in 7.3.1, the

change has been reverted, and the Codebook will now be fully viewable to all users in the project just as it was in versions prior to 7.3.1.

- Improvement: On the Logging page in projects that have Data Access Groups, a user that is not assigned to a DAG will be able to filter the logging results by records in a DAG. Below the "Filter by record" drop-down at the top, it will display a "Filter by records in a DAG" drop-down that is viewable only by users not currently assigned to a DAG.
- Bug fix: If an apostrophe exists in the name of a User Role, then the role could not be edited when clicked on the User Rights page. It would instead mistakenly throw a JavaScript error.
- Bug fix: The bug fix in REDCap 7.3.0 LTS that dealt with the usage of "" and "NaN" in calc fields mistakenly did not get incorporated into the Data Quality rule H and auto-calc implementation of calculated fields (via PHP), but it only got incorporated into the JavaScript-fired calculations on data entry forms, thus causing erroneous results to appear when executing Data Quality rule H for very specific cases where >"" or ="" were used in a calculation. (Ticket #17882)
- Bug fix: When saving data in a hook or plugin using the REDCap::saveData method, if the event name field is not included when saving data for a longitudinal project, then it would appear to save the data to the first event of the record, but the record would not show up in any record lists if the record did not exist beforehand. (Ticket #17881)
- Bug fix: When using the "Time Limit for Survey Completion" feature on a survey, the "Link Expiration" column might mistakenly not appear in the Participant List or the column might not properly display any icons if the time limit for the survey was set using only minutes (i.e., the days and hours text boxes were left blank).
- Bug fix: When adding a matrix of fields via the Online Designer for an instrument that does not yet have any fields, if the project is in production in Draft Mode, then the new matrix might mistakenly not display at all on the Online Designer or the data entry form until either a new field is added to the instrument or until a data dictionary is uploaded. (Ticket #16871)

Version 7.3.1 - (released 3/17/2017)

BUG FIXES & OTHER CHANGES:

- Improvement: When creating/editing reports in projects that have repeating instruments, a new option has been added to Step 3 (filtering): "Show data for all repeating instruments for each record returned?". This option is very similar to the "Show data for all events for each record returned" option found when editing reports in longitudinal projects in which it applies record-level filtering as opposed to row-level filtering ("row" referring to the rows in the report table displayed). This new option provides greater precision for controlling filters used on data in repeating instruments. For example, if a filter references a field from a non-repeating instrument, then it might filter out all data from repeating instruments and thus not display them in the report, which could be confusing. But with this option checked, it will return all repeating instances (as separate rows) for any record that matches that filter. In this way, it allows you to apply the filter

to non-repeating fields while still including fields from repeating instruments in your report. This was not possible in previous REDCap versions.

- Change: When deleting a project while in production, if the project contains no records, it will delete the project immediately rather than sending a request to the REDCap Administrator to delete it. In previous versions, an Administrator would have to delete production projects regardless of whether the project contained records or not.
- Change: Added a note in the "Compose survey invitation" popup on the data entry form to make users aware that if they manually enter an email address into the "To" field for the survey invitation, it is a one-time use only and that any other invitations sent out at other times will instead go to the email address found in the Participant List for that participant. No functionality has changed regarding this, but some users were not aware of this behavior.
- Change: When exporting data to Stata, it now uses syntax for newer versions of Stata. This also includes declaring datetimes more properly than in previous versions of REDCap. (Ticket #13531)
- Change: For security purposes, the hashing algorithm used for hashing the answer to password recovery questions (for Table-based authentication only) will be updated to a stronger algorithm. This will unfortunately cause all Table-based users to have to set their password recovery question again the next time they log in to REDCap; however, it is anticipated that this will cause very little inconvenience to users.
- Bug fix: When piping data from a text field that has the biomedical ontology auto-suggest enabled, it would mistakenly pipe in the raw value instead of the label. (Ticket #12705)
- Bug fix: Cross-form branching logic does not always work successfully on a repeating event. (Ticket #16372)
- Bug fix: The "Export Records" API method would mistakenly not export the `redcap_repeat_instrument` and `redcap_repeat_instance` fields when exporting data from a repeating instrument or repeating event in EAV format.
- Bug fix: When creating a new REDCap project from a Project XML metadata file, in which the project is not longitudinal but contains repeating instruments, it might not enable the repeating instruments in the newly created project.
- Change: Normal users are now allowed to enable (or modify) repeating instruments/event in a project while the project is in production. In previous versions, they could only do this while in development.

- **Change:** The Codebook page in a project now requires that a user have Project Setup/Design privileges in order to access it. This was changed to be more consistent with other places where Project Setup/Design privileges are applied.
- **Bug fix:** The "Repeatable instruments and events" video on the Training Videos page mistakenly displays the wrong video title inside the popup when viewing the video. (Ticket #16502)

Version 7.3.0 - (released 3/10/2017)

NEW FEATURES, BUG FIXES, & OTHER CHANGES:

- **New feature: Response Limit for surveys** - Users may set a response limit for any given survey to prevent respondents from starting the survey once a set number of responses have been collected. Note: It can be set so that the response count included either completed responses only or both partial and completed responses. Users may also set custom text to be displayed to respondents on the survey page when the response limit has been reached.
- **New feature: Time Limit for Survey Completion** – Users may set the amount of time (in days, hours, and/or minutes) that each respondent has to complete a given survey based on when they were initially sent the survey invitation. Note: This feature excludes public survey links. When enabled, a new column is displayed on the Participant List where it denotes if a participant's survey link has expired and also displays the expiration time if you hover over the icon. If the icon is clicked, the user can permanently override the link expiration time by setting it further in the future (to give the respondent more time), or else to expire the link sooner (or even immediately).
- **Improvement:** The survey options at the top of a data entry form now include a new option "Log out + Open survey", which will simultaneously open the survey in a new browser tab while logging out the REDCap user in the current tab. This makes it easier for users to log out of their REDCap session in case they walk away from the computer while a participant takes the survey, thus ensuring that the participant is not able to go into the first tab and access the user's REDCap account and projects.
- **Improvement/change:** Better protection against accidentally overwriting survey responses when opening surveys from a data entry form. When clicking the "Open survey" option at the top of a data entry form, it will display a popup on the data entry form to inform the user that it is recommended that they leave the page without saving it in order to avoid overwriting or erasing the survey responses that had been collected in another browser tab on the survey page.
- **Bug fix:** The use of [field]=" " inside the condition of an IF statement for a calculated field does not behave as users would expect, and this often requires users to use [field]="NaN" as an alternative for checking if a field's value is blank/null. Now [field]=" " will work as one would expect and will work identically to [field]="NaN".

- Change: Added "language" option for users submitting an instrument to the REDCap Shared Library so that they can specify the language of their instrument's text. Note: Instruments in the Shared Library are now searchable by language.
- Bug fix: The "email" field validation would mistakenly not accept email addresses containing accent marks and other valid UTF-8 characters. (Ticket #15874)
- Change: The cell borders were added back to the report table, Record Home Page table, and Record Status Dashboard table for better readability of the table contents.

Version 7.2.2 - (released 2/23/2017)

BUG FIXES & OTHER CHANGES:

- Bug fix: Many improvements regarding the rendering of tables for reports, Record Status Dashboard, and Record Home Page due to floating headers/columns not lining up correctly.
- Bug fix: When clicking the "Lock all instruments across all events" option on the Record Home Page, it would mistakenly only lock instruments for events that contain data. This mistakenly changed in a previous version and is now set back to the way it was originally where it would lock all forms across all designated events regardless of whether there is data in the form or in the event.

Version 7.2.1 - (released 2/16/2017)

BUG FIXES & OTHER CHANGES:

- Bug fix: If users use "!=" instead of "<>" in a calculated field's equation, it would not always evaluate the calculation correctly when viewing the form or survey where the calc field is located. (Ticket #15339)
- Bug fix: Horizontally-aligned slider fields would mistakenly display as vertical on mobile devices only. (Ticket #15390)
- Bug fix: If a Custom Record Status Dashboard is sorted in descending order by the record ID field, then even though record auto-numbering is enabled in the project, it would mistakenly sort the record names as text rather than sorting them using a numerical sort. (Ticket #15303)
- Change: A count of the number of users is now displayed at the top of the user list table on the Project Home page.

Version 7.2.0 - (released 2/9/2017)

NEW FEATURES & IMPROVEMENTS:

- New feature: **Custom Record Status Dashboards**
 - Users can build and save custom versions of the Record Status Dashboard to customize the dashboard to their liking.
 - Custom dashboards have many configuration options. Users can give each dashboard a title and a description/instructions, and can choose the instruments to include or exclude in the dashboard's display. Similar to building reports in REDCap, Custom Record Status Dashboards allow users to sort the records in the dashboard by another field's value, and one can set filter logic to filter the records displayed in the dashboard to a specific subset of the total records (e.g. [age] > 30 and [diabetes] = "1"). There are aesthetic controls as well, such as being able to display the dashboard headers vertically, which will transpose them 90 degrees for a more compact display on the page.
 - Only users with Project Setup/Design privileges may create custom dashboards. Once a custom dashboard has been created, it will be viewable and usable by all users in the project. Users may create as many custom dashboards as they like in a project. To create a custom dashboard, navigate to the Record Status Dashboard in a project, and click the blue "Create custom dashboard" button to get started.
- New feature: **Text searching and ordering on reports** – Users now have a search box displayed at the top of every report where they can type text to search the report, in which it will only show the rows in the currently viewed report that match the search string that is typed. Additionally, any column in a report can have its column header clicked to sort the table according to the values in that column (in ascending or descending order).

BUG FIXES & OTHER CHANGES:

- Improvement: For longitudinal projects containing multiple arms, the Record Status Dashboard now displays each arm separately in a tabbed interface rather than trying to fit all arms in a single table, which typically is not the best way to view multiple arms of records.
- Improvement: Checkbox fields on reports are now displayed better with their field label spanning all the choices as a row above all the choices and displaying just the choice text and variable in the individual choice column headers on the second row of the header. This groups the checkbox options together much better and is much more intuitive to read and interpret.
- Improvement: The Group ID number for each Data Access Group (DAG) is now displayed in the DAG table on the Data Access Groups page in a project. The Group ID number is the number that is automatically generated by REDCap and is automatically prepended with a dash/hyphen to the record name when a user assigned to a DAG is creating a new record. The Group ID

number is now displayed in the table on the page so that users are aware of what each DAG's Group ID number is.

- Change: Question numbers displayed on surveys are now displayed as right-aligned, whereas in previous versions they were left-aligned. This is to reduce the gap between the question number and the question text for a more readable and intuitive display.
- Bug fix: When choosing the "Lock all instruments" option from the record action drop-down on the Record Home Page of a given record, in longitudinal projects it would mistakenly lock instruments on events that do not contain data. Bug emerged in REDCap 7.0.0.
- Bug fix: After choosing the "Lock all instruments" option from the record action drop-down on the Record Home Page of a given record, it would mistakenly not display the lock icon on that page for instruments with a gray status icon (it should always display the lock icon for all instruments on all events containing data). Bug emerged in REDCap 7.0.0.
- Version 7.1.2 - (released 1/20/2017)

BUG FIXES & OTHER CHANGES:

- Bug fix: If a project has repeating instruments that are enabled as surveys, and a Custom Label Change: When viewing a report that displays data from a repeating instrument or event, it will now gray out the cell of the redcap_repeat_instrument and redcap_repeat_instance columns for the base instance row of a record (i.e., where the redcap_repeat_instance field has a blank value), thus denoting that that field is not relevant for that row of data (since the row is displaying non-repeating data only).

Version 7.1.1 - (released 1/13/2017)

BUG FIXES & OTHER CHANGES:

- Improvement: When opening the Field Comment Log, it now places the user's cursor inside the text box automatically as a convenience to the user.
- Improvement: When a user is on a data entry form or survey and hovers over the choice label of a radio button field, the cursor changes to the "hand" cursor to indicate that they can click on the label to select the choice rather than thinking they have to click the radio element itself.
- Change: Action Tags are now listed alphabetically by name in the "What are Action Tags?" popup on the Online Designer.

Version 7.1.0 - (released 1/6/2017)

BUG FIXES & OTHER CHANGES:

- **New feature: Better device management for the REDCap Mobile App** – The Mobile App page in a project now contains better methods for keeping track of the activity of the mobile app used on many devices at a time for a single project.
 - Each device that has initialized the project in the mobile app will be displayed in a device list on the page. It will initially display the device's UUID, but each can be given their own nickname (e.g., Kenya tablet, Rob's iPhone). The nickname will be displayed on the Mobile App page's activity tables, dashboard, and file download tables so that users may track which device is doing what.
 - Each device can be blocked, if needed, without having to revoke the API token for many (or all) of your devices. Blocking behaves similar to revoking a user's API token except it allows you to do it on a per-device basis. You might want to block a device if it were stolen, for instance. This helps protect your data from being corrupted or from falling into the wrong hands.
 - The mobile app log files can now be viewed on the Mobile App page without having to download them to view them.
- **Major bug fix:** In specific situations, Data Quality rule H and auto-calculations may differ from the calculation performed on surveys or data entry forms if a calculation uses any of the advanced functions where many values can be used as parameters (e.g., min, max, mean, sum, stdev). The discrepancy occurs in Rule H and auto-calculations when all the values referenced inside the function have a blank/null value. (Ticket #12771)
- Bug fix: If the equation of a calc field contains a tab character, it will display an error on the survey or data entry form where the calc field is located.
- Change: The OpenSSL extension for PHP is now required for REDCap 7.1.0 and later versions.
Bug fix: When creating a new project whose purpose is set to "Research", the text box for Change: The text describing the Project Notes field when creating a new project was modified slightly to inform the user that the notes are displayed on the My Projects page, which was not explained in prior versions. (Ticket #12843)