

REDCap Flex Upgrade Changelog - February 11, 2020

New Features

- Alerts & Notifications: The feature allows you to construct alerts and send customized email notifications. These notifications may be sent to one or more recipients and can be triggered or scheduled when a form/survey is saved and/or based on conditional logic whenever data is saved or imported.

- Rich text editor for field labels and section headers: For any field on an instrument in the Online Designer, users may optionally utilize the rich text editor for styling field labels or section headers with many text-formatting options.

- 10 new Smart Variables:

- [project-id] - The Project ID (i.e., PID) of the current REDCap project.

- [user-fullname] - The current user's first and last name (as listed on their My Profile page).

- [user-email] - The current user's primary email address (as listed on their My Profile page).

- [redcap-base-url] - The base web address for the REDCap installation.

- [redcap-version] - The current REDCap version number of the REDCap installation.

- [redcap-version-url] - The base web address of the current REDCap version directory for the REDCap installation.

- [survey-base-url] - The base web address for surveys for the REDCap installation.

- [instrument-name] - The unique instrument name of the current survey or data entry form. It will return a blank value if not in an instrument context.

- [instrument-label] - The instrument label of the current survey or data entry form. It will return a blank value if not in an instrument context.

- [survey-title] - The survey title of the instrument specified by the 'instrument' parameter (if provided). If the 'instrument' parameter is not provided, the current survey instrument will be used, else it will return a blank value if not in an instrument/survey context.

- 5 new Action Tags:

- @NOW_SERVER - Loads the REDCap server's date+time into a blank Text field - similar to the @TODAY tag but additionally includes the time portion. If the field has validation, the value will adjust to match the date format. NOTE: The time used will be the REDCap server's local time, which might be different from the user's local time if in another timezone. Also, do not use this tag on fields with branching logic because it will always prompt the user to erase the value, so look at using @HIDDEN instead if you wish to hide the field.

- @TODAY_SERVER - Loads the REDCap server's date into a blank Text field - similar to the @NOW tag but without the time portion. If the field has validation, the value will adjust to match the date format. Also, do not use this tag on fields with branching logic because it will always prompt the user to erase the value, so look at using @HIDDEN instead if you wish to hide the field.

- @NOW_UTC - Loads the current UTC/GMT date+time into a blank Text field - similar to the @TODAY tag but additionally includes the time portion. If the field has validation, the value will adjust to match the date format. NOTE: The time used will be the current UTC/GMT time, which might be different from the user's local time if in another timezone. Also, do not use this tag on fields with branching logic because it will always prompt the user to erase the value, so look at using @HIDDEN instead if you wish to hide the field.

- @TODAY_UTC - Loads the current UTC/GMT date into a blank Text field - similar to the @NOW tag but without the time portion. If the field has validation, the value will adjust to match the date format. Also, do not use this tag on fields with branching logic because it will always prompt the user to erase the value, so look at using @HIDDEN instead if you wish to hide the field.

- @HIDDEN-PDF - Hides the field only in the downloaded PDF of one or more instruments (including blank PDFs, PDFs with data, and compact PDFs with data). Note: Other @HIDDEN action tags will not hide fields inside PDF exports, so @HIDDEN-PDF must be used specifically to hide fields in PDFs.

- File Version History for File Upload fields: This feature allows a new file to be uploaded onto a File Upload field that already has a file uploaded for it. If a file has already been uploaded, the field will have a new link "Upload new version", and after being clicked, it will allow the user to upload another file without having to delete the existing one. The old/existing file will not be deleted but will still be accessible as an older version of that file in the Data History popup (by clicking the "H" icon next to the field). Within the Data History popup, a user may view, download, or delete any existing version of the file that exists, in which all versions of the file will be displayed in a table format and listed in chronological order with regard to being uploaded.

- Missing Data Codes (i.e., "Data Missingness" functionality)

- Fields that have a blank/missing value may be marked with a custom 'Missing Data Code' to note why the value is blank.

- If utilizing missing data codes, the functionality will be enabled on all fields by default, and the code will be saved as the literal data value for the field. New action tag @NOMISSING can disable the missing data option for a given field

Bug Fixes / Improvements

Version 9.0.0

- Improvement: The rich text editors on the Survey Settings page have now been updated to a newer version of the TinyMCE package. (Note: IE9 and IE10 will still use the older version of the rich text editor because they are not compatible with the newer one.)

- Improvement: New records can now be created directly from the Record Status Dashboard. If record auto-numbering is enabled, it will display an "Add new record" button, otherwise it will display a text field for users to enter a new record name to create.
- Improvement: Links to the Online Designer, Data Dictionary Upload page, and Codebook were added to the left-hand project menu for easier navigation. Also, a new section "Project Home and Design" was added on the left-hand menu to contain all these links, as well as the Project Home and Project Setup page links.
- Change: The Quick Tasks box on the Project Home page was removed since all the pages listed inside it are now located on the left-hand project menu, thus making the Quick Tasks box redundant.
- Bug fix: Certain types of HTML tags in a field label might cause parsing issues when exporting to stats packages, especially SAS. To prevent this, all HTML tags will now be removed from field labels as they are included in the stats package syntax files. (Ticket #57751)
- Bug fix: When calling the "Export Records" API method, if any invalid values were passed in the API request parameters "events", "fields", or "forms", it would often ignore the incorrect value and would mistakenly not return an error. Additionally, in this scenario it might mistakenly return all events, all fields, or all forms, respectively, rather than limiting the data returned to only the valid values in those filter parameters. (Ticket #54273)
- Bug fix: If a production project is in Draft Mode, and a matrix field's label has been modified *and* the field has data saved for one or more records, this is now considered a critical issue during the production change approval process because of specific cases where changing a matrix field's label can change its meaning and thus negate the existing data - much more so than with regular non-matrix fields. (Ticket #60834)
- Bug fix: If a repeating instrument is enabled as a repeating survey, and then later the instrument is set to no longer be repeating via the "repeatable instruments" dialog on the Project Setup page, it would mistakenly still display the repeating survey icon (i.e., green circle arrow) next to the instrument in the Online Designer. (Ticket #60869)
- Bug fix: If running a REDCap server with PHP 7.3, then the PDF Auto-Archiver would fail, as well as attempts to add PDF attachments to confirmation emails when surveys are completed. In all cases, it would crash with an HTTP 500 sever error. (Ticket #55868)
- Bug fix: Some Smart Variables, especially those related to repeating instance, would mistakenly not pipe correctly inside survey instruction text and survey completion text.

Version 9.0.1

- Change: Replaced many of the older icons in the user interface with Font Awesome icons, especially on the left-hand project menu and left-hand Control Center menu.
- Change: Consolidated the two project pages "Record Locking Customization" and "E-signature and Locking Mgmt" into a single two-tabbed page named "Customize & Manage Locking/E-signatures". Note: If user only has access to one of these pages, they will simply not see the other page/tab.

- Bug fix: In the Alerts & Notifications module, it was mistakenly not allowing users to use Signature fields in the Message Attachment section of an alert.
- Bug fix: In the Alerts & Notifications module, for alerts set to trigger when saving a specific form or survey with conditional logic set, in which the alert is set to repeat after initially being sent, then if the "ensure logic is still true" option has been checked and a recurring notification has already been scheduled for a record, it would mistakenly not remove the recurring notification when the logic becomes false. And this only occurs if an initial notification has already been sent for that record for that alert.
- Bug fix: In the Alerts & Notifications module, whenever an alert is created or modified, the Logging page might get too wide when displaying the details of this event.
- Bug fix: In the Alerts & Notifications module, the Logging page might mistakenly display logged events when Alerts are created or modified when selecting a record from the "filter by record" drop-down.
- Bug fix: After being triggered, if an Alert is set to be scheduled after a delay (rather than sending immediately) and is set to only send one time, the Notification Log page would mistakenly display the record multiple times, all with the same time. Also, the Notification Log's "end time" might mistakenly get forcibly set to the current time and prevent users from viewing notifications that are scheduled to be sent in the future. (Ticket #63087)
- Bug fix: When clicking the form status stack icon on the Record Home Page or Record Status Dashboard for a repeating instrument/event, the popup displaying all the repeating instances would sometimes not be positioned correctly on the page and might be too narrow.
- Bug fix: When using the @DEFAULT action tag in a repeating survey, it might mistakenly think that the current survey has data and thus would prevent the action tag from operating, even when no data exists for that survey on that repeating instance.
- Bug fix: When importing data (via the Data Import Tool or API import) for a repeating event, if the field "redcap_repeat_instance" is not included as a field in the imported data set, instead of returning an error message, it would mistakenly allow the data to get imported. While this causes no problems for the first imported batch of data, any subsequent imports would mistakenly get piled on top of the existing data in the database (rather than updating the existing values), thus causing duplicate/multiple rows of data to pile up in the database for a given record/event/field, which could have various negative consequences, such as making some project pages very slow. Now it will instead return an error message if data for a repeating event is being imported in which the field "redcap_repeat_instance" is not included as a field in the imported data set. (Ticket #63128)

Version 9.0.2

- Improvement: Force e-Consent signature fields to be erased when modifying responses - The e-Consent Framework setup on the Survey Settings page has a new option to allow users to specify up to five signature fields in the current survey, in which it will force all signature field values to be erased in the survey if the participant clicks Previous Page button while on the certification page (i.e., the last page of the survey). In many situations when using e-Consent, it is required that if the participant

completes all the survey responses and gets to the certification page but then decides to go back to modify some responses, the field (or multiple fields) where they supplied their signature must first be erased, thus forcing them to re-sign the survey before they complete it. This new e-Consent Framework option helps to comply with this particular situation. Note: Only freeform text fields, signature fields, and number fields may be used as e-consent signature fields here, and those fields must be Required fields.

- Improvement: Custom message for e-Consent Framework settings - In the e-Consent Framework section on the Modules/Services Configuration page in the Control Center, an administrator may define custom text (including HTML styling), in which that custom text will be displayed at the bottom of the e-Consent Framework section on the Survey Settings page in every project. This may be utilized for informing users of some information surrounding the use of the e-Consent Framework at the local institution, for example.

- Bug fix: Some Email Alerts might mistakenly not migrate into Alerts & Notifications in certain situations due to a query failing during the conversion process.

- Bug fix: In the Alerts & Notifications module, if an alert is set to be triggered by conditional logic only, it might mistakenly keep sending notifications whenever a form/survey is submitted so long as the condition is true, even when it is set to only send just one time.

- Bug fix: In the Alerts & Notifications module, if an alert was migrated from the Email Alerts module, in which the alert's "Email From" address did not correspond to any email address belonging to a user in the project, then it would mistakenly set it to a blank value when re-saving the alert, thus causing the email not to send or to send with an incorrect From address.

- Bug fix: In the Alerts & Notifications module, if an alert's email text is modified as HTML, in which an IMG tag is manually added that references an image URL on the current REDCap server, it would mistakenly get converted to a relative URL (i.e., the beginning of the URL would be removed). (Ticket #63664)

- Bug fix: In the Alerts & Notifications module, if an alert has one or more static attachment files, and the REDCap installation is not using "Local" file storage for uploaded files (as seen at the top of the File Upload Settings page in the Control Center), then while it would successfully send the notification, it would mistakenly not attach the attachments to the email notification that is sent. (Ticket #63664)

- Bug fix: Icon not positioned correctly on the General Configuration page in the Control Center. (Ticket #63566)

- Bug fix: If a user navigates to the Codebook page in a project and does not have "Project Setup & Design" user privileges in the project, it would mistakenly display the tabs for the "Online Designer" and "Data Dictionary" pages near the top of the Codebook page. Bug emerged in 9.0.0. (Ticket #63573)

- Bug fix: If using MySQL 8 for the REDCap database, the Calendar page in a project might mistakenly not display any calendar events on the page. (Ticket #63434)

- Bug fix: In certain situations, the External Module framework might mistakenly call a function twice on the Data Comparison Tool page, thus causing the page to crash fatally and preventing it from loading in certain projects.

- Bug fix: If a survey has the PDF Auto-Archiver enabled (with or without the e-Consent Framework enabled), when the survey is completed, it would mistakenly log the action as a Data Export action as if a user has manually downloaded the PDF. It should not log this event and is confusing to users.
- Bug fix: When viewing a non-saved instance of a repeating event on a data entry form, the form status icons on the left-hand menu might mistakenly show the cumulative status of all the existing saved instances of the repeating event when instead it should display a gray stack icon since the current form-event-instance has not yet been saved. (Ticket #63956)
- Bug fix: When using the "Quick Add" dialog while editing a new or existing report on the "Data Exports, Reports, and Stats" page, unchecking the checkbox next to a field or clicking the "Deselect All" link for an instrument would mistakenly not remove the field from the underlying report on the page. (Bug emerged in REDCap 9.0.1.)
- Bug fix: When opening the "Set up Survey Queue" popup in the Online Designer, if the project contained many records (e.g., 1000+) and also many surveys, then the popup might not be able to open at all.
- Bug fix: When a survey participant partially completes a public survey and then returns to the survey to complete it later, it would mistakenly say "Response is only partial and is not complete" in the PDF if a user downloads the response as a PDF from the data entry form. (Ticket #62831)

Version 9.0.3

- Major bug fix: Users are not able to create new projects (or request new projects be created) if they are using any version of Internet Explorer. Bug emerged in REDCap 9.0.2. (Ticket #64135)
- Improvement: Added support for Traditional Chinese in exported PDFs. Previous versions only supported Simplified Chinese in exported PDFs of instruments/surveys if the project encoding was set to "Chinese (UTF-8)". Now on the "Edit a Project's Settings" page and "Default Project Settings" page in the Control Center, it lists both "Simplified Chinese (UTF-8)" and "Traditional Chinese (UTF-8)" in the "Character encoding for exported files" option. Note: The only difference between the two Chinese encoding options are the fonts embedded inside exported PDFs; it does not affect other exported file types, such as CSV files.
- Improvement: On the Alerts & Notifications page, the email "From" address is now displayed in the right-hand Email box for each alert.
- Bug fix: When moving a project to production while deleting all records or when erasing all records in a project, any records that have received an Alert or have an Alert scheduled will mistakenly still be shown on the Alerts & Notifications page afterward. (Ticket #63257)
- Change: For Alerts & Notifications, in Step 2B ("send it how many times?"), the "Just once" option now has more clarifying text for longitudinal projects or projects with repeating instruments/events to explain that that the alert will be triggered at a per-event and per-repeating-instance level.

- Bug fix: When suspending or unsuspending a user on the Browse Users page in the Control Center, the user search feature above will mistakenly no longer perform auto-complete functionality when typing in that text box (unless the page is refreshed). (Ticket #64071)
- Change: Improved accessibility on survey pages for users with visual impairments using screen readers
- Bug fix: When running a Data Quality rule or performing a data import of fields used in a calculation, the resulting calculations that get saved might be incorrect if the project is longitudinal and if Smart Variables are used in the rule's logic. (Ticket #63606)
- Bug fix: When running Data Quality rule H or performing a data import of fields used in a calculation, the resulting calculations that get saved might be incorrect if the project is longitudinal and if Smart Variables are used in the calculation. (Ticket #63156)
- Bug fix: When an Automated Survey Invitation has conditional logic that references fields on multiple events, including an event that does not yet have any data saved for it, then the ASI might mistakenly not get triggered appropriately if the project is both longitudinal and also has either repeating events or repeating instruments. (Ticket #59942)
- Bug fix: If an MDY- or DMY-formatted date/datetime field is piped into the choice label of a drop-down field, then the date value might get scrambled and not formatted correctly when displaying the date inside the drop-down label on a form or survey. (Ticket #64223)
- Bug fix: If users are not allowed to create/copy projects but must request them be created/copied, then when an administrator is approving a "Copy Project" request in which some users are in user roles in the project but the requester has chosen not to copy the user roles into the new project, then it could cause the newly created project to have a "ghost" role (with no apparent name) that is still attached (in certain regards) to the old project. For example, if a user in the "ghost" role had an API token in both the new and original project, then when using the token to make API requests in the new project, it might mistakenly think that the token belongs to the old project instead. (Ticket #63667)
- Bug fix: An example link on the "Help & FAQ" page was mistakenly linking to the wrong example website.

Version 9.1.0

- Bug fix: When creating a Custom Record Status Dashboard that has filter logic, in which the logic contains Smart Variables and also the logic references fields in repeating instruments or repeating events, the dashboard might mistakenly not display the correct records. (Ticket #64045)
- Bug fix: If an Alert is set to be triggered when an instrument is saved and also has conditional logic, in which the instrument is a repeating instrument or is on a repeating event and also the logic references a field within that repeating instance, then the Alert would mistakenly not get triggered (unless using a [X-instance] Smart Variable for all repeating fields in the logic).
- Bug fix: If data values are being piped onto a form/survey (into field labels, etc.) in a longitudinal project, in which the values are being piped from another event (e.g., [other_event][field:checked]) and

also the piping fields have colons in them (e.g., [field:value], [field:checked]), it might mistakenly cause the data not to get piped but would stay blank on the page.

- Fixes and updates for the External Module framework, including a fix for module icons not displaying correctly on the left-hand project menu.

- Bug fix: When using the PDF Auto-Archive for a survey in a project that has the project-level setting "Character encoding for exported files" set to "Chinese (UTF-8)" on the "Edit a Project's Settings" page in the Control Center, the Auto-Archive version of the PDF will mistakenly have unusually wide spacing for some text in the PDF, whereas PDFs of the survey downloaded from the data entry form will have typical spacing.

Version 9.1.1

- Improvement: The file attachment option for data queries in the Data Resolution Workflow popup can now be disabled at the system level for all projects. This option is located on the "File Upload Settings" page in the Control Center as "Allow file attachments to be uploaded for data queries in the Data Resolution Workflow?". If set to "Disabled", it will merely not display the "Upload document" option for an open data query in the Data Resolution Workflow popup on a data entry form.

- Bug fix: If an alert is set to be triggered when completing an instrument with any form status, it would mistakenly not get triggered if any Required Fields on the instrument were left blank. (Ticket #64639)

- Change: Removed unnecessary "error_log" statements throughout the code. (Ticket #64858)

- Bug fix: If an Automated Survey Invitation has a large lapse of time set for the units of days, hours, or minutes in Step 3 of the ASI setup, it could mistakenly cause survey invitations not to be scheduled appropriately (Ticket #65074)

- Bug fix: In the API Playground, the dynamically-generated code at the bottom of the page might mistakenly not escape apostrophes that are used in an API parameter value, thus outputting code that would cause an error rather than running successfully for the given programming language.

- Bug fix: If a report has a report filter that references a field in a repeating event or repeating instrument, on certain occasions it might mistakenly not filter correctly and thus not return the correct results in the report. (Ticket #65481)

- Bug fix: When testing the validity of an external URL for REDCap to make requests to (e.g., when adding a Data Entry Trigger), the test might mistakenly not be accurate with regard to whether the URL is valid. (Ticket #65521)

- Bug fix: The table of logged events on the project Logging page might mistakenly cause the username to overflow in the table row if the username is long.

- Bug fix: If a survey or data entry form contains a matrix with many fields, in which the height of the matrix is bigger than the height of the user's web browser window, the matrix headers might mistakenly not float at the top of the page (thus staying always visible as the page is scrolled) if some of the fields in the matrix are being hidden by branching logic.

- Bug fix: When attempting to upload a CSV import file for Automated Survey Invitations on the Online Designer, it would fail with no error message and would instead display an empty pop-up box to the user. (Ticket #65037)
- Bug fix: When a user is typing text into a biomedical ontology auto-search field on a survey or data entry form, it would mistakenly log each keystroke for the field in REDCap's redcap_log_view database table, which could cause the user's IP address to get banned in REDCap, thus locking them out temporarily. (Ticket #42552)
- Bug fix: When an alert is set to be sent when logic becomes true during data import or data entry, even though the alert is set to send just once, it might mistakenly keep sending every time a record is uploaded during a data import.
- Bug fix: When modifying an existing alert to send "just once" when it previously was set to send "multiple times", it would mistakenly not save that setting correctly if the number of minutes/hours/days for "multiple times" is not set to "0". (Ticket #64668)
- Bug fix: In certain cases, calc fields on multi-page surveys might inadvertently get skipped and thus not calculated if all questions on that page are being hidden by either branching logic or by the @HIDDEN or @HIDDEN-SURVEY action tag. This might cause data entry workflow issues (e.g., fields being skipped mistakenly) if some fields on that page have branching logic that is triggered by a hidden calc field on that page.
- Bug fix: When clicking the Records or Fields table header on the My Projects page's list of projects, it would mistakenly not sort the column correctly if any numbers contained a non-numeric character, such as a comma or decimal. (Ticket #64861)
- Bug fix: When attempting to upload a CSV import file for Automated Survey Invitations on the Online Designer, it would fail with an error message if the email subject and email body were not provided in the import file. This would cause issues in certain use cases, such as when using Twilio telephony services, that do not require an email subject or body. So the subject and body are now no longer required as part of the import file. (Ticket #65037)
- Bug fix: If a user does not have Edit Access privileges for a specific report, then it would mistakenly display the Edit Report button at the top of the report and also the report's "Stats & Charts" page. However, if they clicked the button, it would not let them edit the report but would merely take them back to the "My Reports & Exports" page. (Ticket #65724)
- Bug fix: When clicking an option in the "Copy existing choices" popup in the Online Designer, it might mistakenly replace the ">" and "<" signs with their HTML character code when copying the choices into the Choices textbox inside the Edit Field popup. (Ticket #64268)

Version 9.1.2

- Change/improvement: Added the security headers "X-XSS-Protection" and "X-Content-Type-Options" to provide more protection for each web request made to REDCap.

- Change: A new setting has been added called "Can REDCap server access the web (make outbound HTTP calls)?" on the General Configuration page in the Control Center. This setting can be set to "No" if the REDCap server has no connectivity to the World Wide Web. This helps prevent some REDCap pages from becoming very slow to load because they are making background requests to external websites.
- Bug fix: When using the Survey Queue in a project that has multiple arms, the queue might mistakenly display the surveys for a survey participant in an incorrect order. (Ticket #64506)
- Bug fix: For certain projects, enabling an instrument as a survey in the Online Designer might display the error message "An error occurred. Please try again.", but if the page is reloaded, it will show that the survey was actually created successfully.
- Bug fix: When a survey participant is completing a survey with the e-Consent Framework enabled, in which the participant is using a mobile device (iOS or specific Android software/hardware), the last survey page would mistakenly only display the first page of the inline PDF (if more than one page) when it should instead display all pages of the PDF. (Ticket #46978)
- Bug fix: When logic with fields from repeating instruments is used for a custom Record Status Dashboard filter, in specific complex cases the dashboard might mistakenly not display all the records that match that filter logic. (Ticket #65198)
- Bug fix: Some field labels, section headers, or custom event labels that contain certain number patterns, such as a number followed by a colon, might not get displayed correctly, in which odd characters and semi-colons might get mistakenly inserted before or after them in the block of text. (Ticket #64880)
- Bug fix: If a user uploads a file for a File Upload field or a Signature field on a data entry form, and the user then leaves the page without clicking the Save button, it would correctly upload the file but would mistakenly not trigger any Automated Survey Invitations or Alerts that have logic that references that field.
- Bug fix: When choosing to "Copy" an instrument via the "Choose action" drop-down on the Online Designer, if the instrument was enabled as a survey and contained any stop actions, those stop actions would mistakenly not get copied to the new instrument. (Ticket #62275)
- Bug fix: When using the @DEFAULT action tag on a multi-page survey, in which a survey field's value is being set using a field value from a previous page in the survey, then the action tag would mistakenly not function at all if the "Require a Reason" feature had been enabled for the project. (Ticket #54083)
- Bug fix: In the Online Designer, when creating a new matrix of fields immediately above a section header, it would mistakenly delete that section header below when saving the new matrix. (Ticket #62559)
- Bug fix: When viewing the Stats & Charts page for a project with repeating instruments or repeating events, in which the report being viewed has filter logic containing fields from a repeating instrument/event, it might mistakenly include non-relevant data in some bar charts or scatter plots on the page. (Ticket #60147)

- Bug fix: When clicking the "Survey Queue" option at the top right of a survey page, the survey queue would be displayed as too wide and would be off the page and not viewable if the respondent was viewing the survey on a mobile device. (Ticket #62318)

Version 9.2.0

- Improvement: The email sent to the REDCap administrator that contains a link to the page for reviewing production project changes now includes the project ID (PID) in the email subject to allow admins to track emails for projects more easily and not get them confused with one another. (Ticket #48141)

- Bug fix: If the rich text editor in the Online Designer was used to style the field label of the record ID field, this styling would not be reflected when the record ID field label is displayed at the top of the data entry forms but instead the HTML would mistakenly be removed from the field label on the page. This would also occur if the record ID's field label was styled manually with HTML (i.e., not using the rich text editor). Note: On other pages throughout a project, any HTML in the record ID's field label is intentionally removed. (Ticket #66237)

- Bug fixes and updates for the External Module Framework

- Bug fix: The Bootstrap version change in REDCap 9.1.1 mistakenly caused tabs to no longer function on the login page when using the "AAF (Australian Access Federation) & Table-based" authentication method. (Ticket #66411)

- Bug fix: If a user utilizes an HTML tag for styling a REDCap Messenger conversation or tags a user in a conversation, then it would mistakenly display raw/uninterpreted HTML in the Messenger conversation window. (Ticket #66433)

- Bug fix: When exporting a PDF containing data of an instrument or survey, if any radio button fields displayed in the PDF have a multiple choice option with "0" as the raw/coded value, then that radio button choice would always be marked as "selected" in the PDF, even if it is not truly selected on the webpage (i.e., is not the real value). (Ticket #66394)

- Bug fix: When viewing the popup of repeating events (but not repeating instruments) for a record on the Record Status Dashboard after clicking the "stack" status icon for a given record/event/instrument, it would mistakenly not display the piped version of the Custom Event Label (if defined) for each event displayed in the table in the popup. This has always worked when viewing a list of repeating instruments that have a Custom Repeating Instrument Label, but was not working if it was a repeating event that had a Custom Event Label. (Ticket #14382)

- Bug fix: If a data quality rule's logic contains fields from a repeating instrument or repeating event, in which neither an instance number nor an X-instance Smart Variable is not appended to those fields in the logic, then if the "real-time execution" option is enabled for the data quality rule and if a user submits the repeating instrument/event on which those fields are located, it might mistakenly return a false positive for a discrepancy existing, even if the logic does not evaluate as TRUE for the current repeating instance. (Ticket #66244)

- Bug fix: The icon/link that users can click to navigate to the REDCap Messenger informational page was mistakenly not visible in the Messenger left-hand panel. It should have been displayed to the left of the "Create new conversation" button. It has been fixed so that it is visible now.
- Bug fix: The rich text editor for field labels and section headers in the Online Designer was mistakenly being enabled by default for new fields being created. It was actually intended that it should be disabled by default for new fields, but could always be enabled manually by the user, if desired. (Ticket #66422)
- Bug fix: If a report has report logic containing fields from a repeating instrument or repeating event, the report might mistakenly return an extra row (which is mostly gray-colored since it pertains to a non-repeating row of data) if instance 1 of the record evaluates as TRUE for the report logic. This only appears to occur if the "Show data for all events or repeating instruments for each record returned" option is checked in Step 3 of editing the report. (Ticket #64767)
- Bug fix: When setting up the Survey Login feature in the Online Designer, the drop-down lists displaying fields that can be selected as login fields would mistakenly display HTML tags in the drop-down labels if the fields contained any HTML in their field label (whether using the rich text editor or manually-entered HTML). The HTML now no longer displays in the drop-down. (Ticket #66607)
- Bug fix: If an alert is set to be triggered "Using conditional logic during a data import or data entry" and also has the "ensure logic is still true" option enabled and is set to "Send immediately", then if the conditional logic has become true and has already sent the initial notification, it would mistakenly keep sending a new notification every time the record is saved while the conditional logic is still true. Instead it should only send it once (per repeating instance).
- Bug fix: If a project that is using randomization has branching logic defined for the randomization field and/or strata fields, in which a record is randomized on the data entry form and then (without reloading the page) a field is modified on the form which then causes the randomization/strata fields to be hidden, those fields would mistakenly be hidden and their values would be erased. This could cause major issues in the project for future randomizations. This behavior not occur if the page is reloaded after randomization has occurred. The randomization/strata fields should never be hidden by branching logic after randomization has occurred. (Ticket #66652)
- Bug fix: When viewing the Record Home Page in a longitudinal project that has both repeating instruments and repeating events, if the record being viewed contains multiple instances of a repeating event, then the "+" button in the main table for any repeating instrument might mistakenly navigate to an incorrect repeating instance of that instrument, such as skipping some instance numbers. This does not affect the quality of data in any way, but it can cause repeating instances to sometimes be incorrectly numbered for repeating instruments. (Ticket #62960)
- Bug fix: If an alert is set to "Send at exact date/time", it might mistakenly not send the very first notification if it is set to send multiple times as a recurring notification. However, it would still correctly send all recurring notifications after the first one (whether or not the first one sent).

Version 9.2.1

- Bug fix: The Smart Variable [user-email] was mistakenly not working. (Ticket #66937)

Version 9.2.2

- Major bug fix: When using a Data Quality Rule with Real-time Execution enabled in a project with the Randomization module enabled, in which during the randomization process the DQ rule returns a discrepancy for one or more strata fields used in the randomization configuration, it would properly prevent the randomization process from occurring but would mistakenly remove that whole allocation row from the allocation table, which means that that particular randomization allocation could never be used afterward because it was permanently deleted. This could cause major problems for the project. (Ticket #67062)
- Major bug fix: If a user has access to a project but does not have "File Repository" access in that project, then if they know how to manipulate certain URLs in REDCap, they might be able to download files uploaded into the "User Files" section of the File Repository page in that project. Note: They would not be able to download files from the "Data Export Files" section or "PDF Survey Archive" section, but only from the "User Files" section. (Ticket #22974)
- Bug fix: The Browse Users page might mistakenly display an internal SQL query on the page. (Ticket #66980)
- Bug fix: Although it is recommended that the @NOW action tag only be used for datetime fields, if a date field has @NOW, it would mistakenly fail to generate a date value (as if using @TODAY) when the field is blank. In previous versions, this worked correctly. Bug emerged in REDCap 9.2.0.
- Bug fix: If the REDCap web server is not able to make outbound HTTP requests, it might cause the Online Designer page to load slowly (or not at all) when attempting to edit an instrument. (Ticket #67017)
- Bug fix: In a multi-page survey when all the fields on a given survey page are hidden due to branching logic, in which the page will be automatically skipped, it would mistakenly only skip a maximum of 100 pages at a time, which could be confusing when it displays a blank survey page to the respondent after skipping 100 pages. (Ticket #66721)
- Bug fix: The results of an SQL field might not get parsed/displayed correctly for certain SQL queries that return a number as the value of the first field of the query. (Ticket #67285)
- Bug fix: If the PDF Auto-Archiver is enabled for a survey that is set to "offline", if a participant follows a survey link to attempt to take the survey, it would appropriately inform them that the survey is offline, but it would mistakenly save a PDF in the PDF Survey Archive of a blank record. For the participant, everything seems to operate normally despite this issue. (Ticket #61335)
- Bug fix: After exporting the Project XML file for a longitudinal project that contains events with a "<" followed by a space in the event name (e.g., "event < 2"), it would mistakenly throw an error when attempting to create a new project from the XML file. (Ticket #61324)
- Bug fix: When entering the Smart Variable [survey-time-completed] or [survey-date-completed] into branching logic in the "Add/Edit Branching Logic" popup in the Online Designer, it would mistakenly note that there is an error in the logic. (Ticket #67232)

- Bug fix: When clicking the arrow icon or pencil icon on the Codebook page in order to modify the field in the Online Designer, it might cause the rich text editor not to load correctly for field labels in the "Edit Field" popup.

Version 9.2.3

Major bug fix: Some pages related to the Calendar, such as the calendar popup and some background AJAX requests for setting calendar event attributes, were mistakenly not checking to ensure that the user had "Calendar" user privileges when accessing those pages. This was also true for the "Scheduling" module, in which no user privileges at all were being applied to any pages related to Scheduling. All pages related to Scheduling should have been applying the "Calendar" user privileges. They have been changed so that now all Scheduling pages are connected to "Calendar" user privileges, and the User Rights page now lists "Calendar & Scheduling" together as a user right option (only display "& Scheduling" for that item when the Scheduling module is enabled) to help re-enforce to the user that the same user rights are applied to both Calendar and Scheduling, which is how it was intended to behave originally.

Improvement: In a project with repeating instruments, the Record Home Page now displays a count of total instances of a given repeating instrument next to the instrument name in the tables of instances displayed at the bottom of that page.

Improvement/change: When an administrator is reviewing drafted production changes, the pre-filled "confirmation email" option on that page now includes the project ID (PID) in the subject of the email to the requester to allow admins to track emails for projects more easily and not get them confused with one another.

Bug fix: When performing a data import, in which the data import file contains many thousands of fields, it could cause the import process to crash unexpectedly and not finish because of a MySQL #2006 error due to some SQL queries being too long, which occurs when a query's length exceeds the MySQL "max_allowed_packet" setting. Many queries involved in the data import process have been modified to deal with the possibility of long queries being constructed. (Ticket #67401)

Bug fix: The Browse Users page might mistakenly display an internal SQL query on the page. (Ticket #66980)

Bug fix: All REDCap logos should have had the Registered Trademark symbol rather than "TM", according to the trademark owned by Vanderbilt University.

Bug fix: If date or datetime fields were used in a calculated field in a multi-page survey, in which the survey page containing the calculation is being skipped due to all fields on the page being hidden by branching logic or action tags, then it would mistakenly cause the date/datetime field's value to have its date format mangled and then saved in an incorrect format. (Ticket #67473, #67255)

Bug fix: For certain project setups that utilize a multi-page survey that has fields with branching logic referencing fields on repeating instruments, some pages of the survey might mistakenly get skipped if all the fields on the page have branching logic.

Bug fix: For certain project setups that utilize a multi-page survey that has fields with branching logic, some pages of the survey might mistakenly take an extremely long time to load if all the fields on the page have branching logic.

Bug fix: When editing a user role on the User Rights page in a project, users could mistakenly set a blank value as the role name, which would cause issues with being able to utilize it and even delete it. It now prevents users from setting a role name with a blank value. (Ticket #67636)

Bug fix: The Smart Variables [survey-time-completed] and [survey-date-completed] would mistakenly not work when referencing repeating surveys or surveys on a repeating event, in which an instance number or [X-instance] Smart Variable is appended to them (e.g., [survey-time-completed:followup][last-instance]). (Ticket #67636)

Bug fix: If a development project has some Alerts & Notifications set, and some records have been entered and have subsequently triggered some alerts, then if the project is moved to production, in which all records are kept and not deleted, then it would mistakenly delete everything in the Notification Log, including erasing all notifications already sent and erasing all recurring notifications that should be sent in the future. It should only delete the Notification Log if the user chooses to delete all records when moving the project to production.

Bug fix: If adding new table-based users in bulk via a CSV file on the "Add Users (Table-based Only)" page in the Control Center, if the user already exists in the system but is somehow not a table-based user (which can happen if using LDAP+Table authentication), then it would mistakenly convert that existing user to a table-based user and send them an email to set their password.

Version 9.2.4

- Major bug fix: When attempting to send/schedule an email manually via the Participant List, it would mistakenly fail to do so and would note that "0" invitations were scheduled/sent. Bug emerged in REDCap 9.2.3 (Standard).

Version 9.2.5

- Bug fix: If a user is completing a survey by clicking the "Save & Mark Survey as Complete" button on a data entry form (as opposed to completing it on the survey page itself), it would mistakenly not delete any scheduled invitations/reminders for the survey that was just completed. This would cause confusion because the respondent would receive an invitation to a survey that had already been completed. (Ticket #67777)

- Bug fix: If using both a project-level and survey-level survey invitation email field in a project, then in certain cases, such as if a record has a value the project-level email field but not for the survey-level email field, the Survey Invitation Log and Participant List might mistakenly not display the correct email address and might also not display the record name for a given invitation/participant. (Ticket #68046)

- Bug fix: If an alert in a longitudinal project has File Upload fields as attachments, in which it is set to use the file for the "[Current Event]" (as opposed to a specific event in the project), then it might mistakenly fail to attach the file to the notification.

Version 9.3.0

- Improvement: The Control Center's left-hand menu now contains a text field for entering a project's PID (project ID), after which it will direct the user to that project. This provides a quick way of navigating to a project when you have the PID.

- Improvement: The Data History Popup for File Upload fields now provides more detailed information, such as the filename of the uploaded file.

- Bug fix: When using the "Export Records" API method and using the `dateRangeBegin` and/or `dateRangeEnd` parameter with `type=eav`, then the `dateRangeBegin` and `dateRangeEnd` parameters would mistakenly get ignored in the request. This only occurs for "eav" type and not for "flat" type.

- Bug fix: If any REDCap usernames contain a space (since spaces are allowed in Active Directory usernames), it would not be possible for administrators to view that user on the User Information page when selecting that user or searching for that user on the page. (Ticket #68259)

- Bug fix: In the Alerts & Notifications module, if an alert is set to be triggered by conditional logic only and is set to send multiple times as a recurrence and also has the "ensure logic is still true" option checked, then if a notification gets scheduled when a user saves a data entry form or survey page (because the conditional logic becomes true) and then later on saves another form/survey, which causes the conditional logic to no longer be true, it would mistakenly fail to remove the recurring notification from the Notification Log. The notification does not get sent in the end, which is correct, but it is mostly confusing to the user because it remains in the Notification Log until that point.

- Bug fix: The Python example code generated in the API Playground for the "Import File" method contained an error.

- Bug fix: Date fields and datetime fields would mistakenly not get sorted correctly in a report when clicking their header at the top of the report table. (Ticket #22139)

- Bug fix: Some minor database transactions might mistakenly cause an InnoDB deadlock. This would not necessarily cause any performance problems but might be displayed as an error in the database log.

- Bug fix: When the [survey-link] Smart Variable is piped into various settings (e.g., field label, ASI email, Alerts & Notifications email), if it has [first-event-name] or [last-event-name] prepended to it, it might mistakenly output a link that does not work because it has no value for the "href" attribute in the link's HTML. (Ticket #68697)

- Bug fix: When using the Scheduling module and scheduling dates that traverse the Daylight Saving Time change in the Fall season, it could cause all generated dates that occur after the Fall DST change to be one day earlier than they should be. (Ticket #68944)

Version 9.3.1

- Improvement/change: When an administrator is reviewing the email from a user requesting to have a project deleted (via a button click on the Other Functionality page for production projects), the email subject now includes the project ID (PID) to allow admins to track emails for projects more easily and not get them confused with one another.
- Bug fix: When using the Data Resolution Workflow in a project, users on the Resolve Issues page would not be able to utilize the filter drop-downs in the table due to a JavaScript error.
- Bug fix: Some English language phrases were mistakenly not translated with regard to certain actions related to uploading files for File Upload fields. (Ticket #69117)
- Bug fix: When importing data (via Data Import Tool or API) into a repeating instrument in a classic/non-longitudinal project, it would mistakenly allow the import to complete successfully even when the "redcap_repeat_instrument" field is missing from the import file, in which it could erroneously add duplicate rows of the data in the database back-end (rather than updating the existing values already in the database). It now correctly returns an error in this case if the "redcap_repeat_instrument" field is missing or blank when importing data for a repeating instrument.
- Bug fix: When importing data (via Data Import Tool or API) into a repeating instrument or repeating event, in which the form complete status field is not included in the import data set, the form status would not get appropriately logged when it gets automatically added to the database back-end.
- Bug fix: When importing data (via Data Import Tool or API) into a repeating instrument or repeating event, if the record does not already exist in the project, it might mistakenly not add the record ID field value to the database back-end during the import process, thus causing the record to appear not to exist (or to have no data) on certain pages in the project, such as the Record Status Dashboard.
- Bug fix: When exporting data via the API "Export Records" method with type=eav for a project with repeating forms/events, it would mistakenly not order the values for a given record according to the repeating instance number but would instead mix up all the instances' values within that record without any order. (Ticket #69190)
- Bug fix: When the content size of a POST request on the REDCap web server exceeds PHP's "post_max_size" setting, in the error message displayed it mistakenly reports the post_max_size in Bytes rather than in MB, which is inaccurate and confusing. (Ticket #69352)
- Bug fix: When creating/modifying a report on the "Data Exports, Reports, and Stats" page and using a certain web browser (e.g., Safari, IE), users would mistakenly not be able to click inside the text fields in Step 2 where it says "Type variable name or field label". (Ticket #68312)
- Bug fix: Some survey links might mistakenly still work and load the survey page, even though their respective instrument or event has been deleted in the project. (Ticket #66810)
- Bug fix: On the Survey Settings page in a project, if the setting "Allow survey respondents to view aggregate survey results after completing the survey?" is enabled, and then the user attempts to add a URL to the "Redirect to a URL" setting but mistakenly enters an invalid URL, the user might get stuck in a

popup loop where it is impossible to close both of the popups that appear on the page, thus forcing them to have to reload the page and lose anything they had set. (Ticket #67096)

- Bug fix: If a checkbox field exists on a repeating instrument, and that instrument contains either branching logic or a calculated field that references the checkbox field on another instance of that instrument (e.g., "if ([mycheckbox][previous-instance] = '1', ..., ...)"), then when the instrument is saved, it could cause any checked checkboxes from *other* repeating instances to get saved for the current instance. (Ticket #69199)

- Fixes and updates for the External Modules Framework

Version 9.3.2

- Improvement: The "Cancel" button on data entry forms now displays a confirmation prompt after being clicked to ask the user if they truly wish to cancel and lose all their changes. (Ticket #22360)

- Bug fix: After uploading a file for a File Upload field on a form or survey, it might mistakenly display the text "lang_send_it" rather than the text "Send-It" for the Send-It link on the field.

- Bug fix: For specific PHP installations, the PHP function "cal_days_in_month" could not be found by the cron job and would cause the Automated Survey Invitation's Datadiff cron job to crash unexpectedly. (Ticket #69757)

- Bug fix: If the "Universal FROM" email address is set for the REDCap installation, that email address would mistakenly not get used when sending Alerts & Notifications but would instead send the email with its "From" address as the same as the Reply-To address (i.e., the sender). (Ticket #69787)

- Bug fix: Emails for Alerts & Notifications would mistakenly fail to send if hosting REDCap on Google Cloud's Google App Engine infrastructure.

- Bug fix: When using Automated Survey Invitations (ASIs) in a longitudinal project with multiple ASIs where a given ASI has conditional logic and is also set to be triggered off of the completion of another survey, although the ASI might get correctly triggered when a survey is completed, it might mistakenly not get triggered when that same survey is completed as a data entry form (with its form status set as "Completed", which should be equivalent to the survey being completed with regard to ASI conditions). (Ticket #69539)

- Bug fix: Some English language phrases were mistakenly not translated with regard to certain actions related to uploading files for File Upload fields. (Ticket #69117)

- Bug fix: When viewing the Project Revision History page for a production project, it might mistakenly not say "Approved Automatically" for some revisions that were approved automatically, thus creating some confusion and making it appear as if the user approved their own request, which is not true. (Ticket #69825)

- Change: When a user copies a project that has Double Data Entry enabled, it will no longer have Double Data Entry enabled in the new project by default but instead will require that an administrator enable it for that new project.

- Bug fix: For Alerts & Notifications, if an alert is set to be sent "just once" and is not set to "send immediately", then after the email notification has been scheduled and then sent, saving the record again would mistakenly cause the alert to get scheduled again, thus resulting in unwanted duplicate notifications to the recipient. This would not occur unless the record was modified after a previously-scheduled notification had already been sent.

- Bug fix: If a multiple choice field contains a choice label containing "<\$", such as "1, <\$20", then it might cause all following choices for that field to be truncated and not displayed when viewing an exported PDF of the data entry form.

Version 9.3.3

- Major bug fix: Some code in the External Modules Framework was not compatible with PHP 5.5, thus causing every page to crash after installing or upgrading to REDCap 9.1.11 (LTS) or 9.3.2 (Standard Release). (Ticket #70186)

- Bug fix: When surveys are embedded in iframes in certain web pages, then File Upload fields might not work on the survey. Bug emerged in REDCap 9.3.0.

- Bug fix: If values from fields are piped into the choice labels of drop-down fields in a project, then when downloading the PDF of that instrument with data, it would mistakenly not pipe the data into the choice labels but just display the field variable names in the PDF. (Ticket #70080)

Version 9.3.4

- Major bug fix: If a user is importing data via the API into a locked instrument, it might mistakenly allow the data to be modified. It should not allow data to be modified once an instrument is locked. Bug emerged in REDCap 9.1.6 (LTS) and 9.2.3 (Standard).

- Improvement: On the Survey Settings page, the "Redirect to a URL" option now allows the Smart Variable [survey-url] to be used - e.g., [survey-url:other_survey]. (Ticket #70613)

- Change: If the "Name of REDCap Administrator" setting is set to something other than blank/null on the "Edit a Project's Settings" page in the Control Center for a given project, then the blue button on the project's left-hand menu will have the button text as "Contact X" (where X is the name entered) rather than the hard-coded text "Contact REDCap Administrator". (Ticket #70799)

- Bug fix: If a user that is not an administrator copies a project with some External Modules enabled and clicks the option to copy "all settings for External Modules", it would result in a fatal error and not copy the project successfully.

- Bug fix: When using a survey theme, the "Upload file" button in the popup for a File Upload field would always be displayed as blue rather than conforming to the survey theme.

- Bug fix: When using the Publication Matching module in the Control Center, it might mistakenly get rate-limited by PubMed due to too many requests in a small amount of time, thus causing emails to be

sent out mistakenly to PI's with 0 publications. It now waits a little longer between requests to PubMed to prevent this. (Ticket #58322)

- Bug fix: When uploading an allocation table as a CSV file on the Randomization module's Setup page, if the CSV file is UTF-8 encoded and contains a BOM (Byte Order Mark), then it would mistakenly display an error and prevent it from being uploaded. (Ticket #70808)

- Bug fix: If the Secondary Unique Field is enabled and also contains an @DEFAULT action tag, then it could mistakenly allow that default value to get saved across multiple records (rather than enforcing it as unique). In this scenario, it now auto-checks the default value when the form/survey is immediately opened to prevent the possibility of that default value not getting checked. (Ticket #70775)

- Bug fix: If a calculated field contains a colon inside its equation, then when exporting the project's data dictionary or Project XML file and reimporting them, it would mistakenly remove all colons inside the calc field's equation. (Ticket #56279)

- Bug fix: The "Compare" button on the Data Comparison Tool might not display correctly or might fail to function if using a non-English language for the project. (Ticket #70871)

Version 9.3.5

- Improvement: If the "File Upload field enhancement: Password verification & automatic external file storage" setting has been enabled in a project, then when a user attempts to delete a file for a File Upload field (including the deletion of older revisions for that field), it will provide a text box in the "Delete file?" popup in order to allow the user to optionally provide a reason for why they are deleting the file (if they wish), after which this reason will be logged on the Logging page.

- Bug fix: When exporting and importing a Project XML file of a REDCap project that contained slider fields with slider labels, the slider labels would mistakenly not get preserved in the new project created from the Project XML file. (Ticket #60742)

- Bug fix: Smart Variables would mistakenly not work when used in the conditional logic of a survey in the Survey Queue. (Ticket #70640)

- Bug fix: Certain Smart Variables (e.g., current-instance) would mistakenly not work when used in the Custom Record Label. (Ticket #71051)

- Bug fix: When exporting and importing a Project XML file of a REDCap project that contained reports and report folders, the reports might mistakenly not get assigned correctly into their respective report folders in the new project created from the Project XML file. (Ticket #70986)

- Bug fix: Data Quality rule F might return false positives for fields that exist on repeating instruments or repeating events in which those fields' branching logic contains Smart Variables. (Ticket #71211)

- Bug fix: A single LOINC lab was mistakenly missing from the field mapping page for Clinical Data Pull and Clinical Data Mart.

- Bug fix: If an alert has an "alert expiration" time set, then the Notification Log would mistakenly display projected send times that exist beyond the expiration time for any recurring notifications on that alert.

- Bug fix: If a custom Data Quality rule contains logic that references values in repeating instruments or repeating events, it might not return valid discrepancies in its results or might return false positives. (Ticket #70868)

- Change: Updated phpmailer library to version 6

- Bug fix: The record list might get out of sync and mistakenly not display some records or record-DAG assignments properly if the record list cache has not completed while users are importing new records via API, Mobile App, or Data Import Tool.

- Bug fix: The redcap_connect.php file was mistakenly not setting the database collation_connection and charset settings immediately after the database connection has been established. It has now been updated to include this.

Version 9.3.6

- Improvement: Performance improvement for large data exports that might have previously taxed the REDCap servers or might have failed to complete altogether for some large projects. An internal auto-batching mechanism is now utilized to limit the performance hit to the servers (both database and web server) when exporting large quantities of data (via API or user interface) in order to improve the user experience and to prevent REDCap processes from using up too many server resources. Note: This does not necessarily mean that data exports will be faster; in fact, some exports might be slightly slower as a means of preserving server resources used by REDCap processes.

- Improvement: Performance improvement for when REDCap is generating the record list cache for a project, especially for projects with Data Access Groups. For each project, REDCap maintains a record list in a database table that is used throughout a project. This record list improves overall performance, especially for large projects. Every few days the record list cache is automatically rebuilt internally. The process of rebuilding the record list is now more efficient, faster, and less error-prone than in previous versions.

- Improvement/change: The Codebook now denotes if an instrument is enabled as a survey, in which it is noted immediately to the right of the instrument name.

- Change: Users will no longer be allowed to display all pages of a report (by selecting "ALL" from the report's page selection drop-down list) if it has been determined that such a report would display more than 500,000 data points (i.e., table cells) on the report page. This is to help prevent users from causing performance degradation to the REDCap server and also to improve user experience (assuming the page would take a very long time to load and might even cause the user's web browser to crash).

- Bug fix: When using a survey theme, the "Save signature" button in the popup for a Signature field would always be displayed as blue rather than conforming to the survey theme.

- Bug fix: The System Statistics page in the Control Center was still saying "Dynamic Data Pull" instead of "Clinical Data Pull".

- Bug fix: For projects containing Data Access Groups, the record list might get out of sync and mistakenly not display some records or record-DAG assignments properly if the project has a large number of records (e.g., >5000).
- Fixes and updates to the External Module Framework
- Bug fix: The collapse functionality was not working correctly for the tables displayed on the REDCap Mobile App page under the "App Data Dumps" tab.
- Change: If any projects have enabled both the Randomization module and the Double Data Entry module together in the same project, it now displays a warning at the top of the Project Home page to inform the users that these two are not compatible with each other and thus might cause various issues if used together in the same project.
- Bug fix: The cron job for Alerts & Notifications might mistakenly put the wrong notifications stuck in a "sending" state, in which some might never send.
- Change: Added new database table indexes for improved performance.
- Bug fix: If a longitudinal project contains a Custom Record Label whose fields are not prepended with a unique event name, it might mistakenly not display the Custom Record Label correctly in some contexts, such as the Record Home Page. Bug emerged in 9.1.14 LTS and 9.3.5 Standard. (Ticket #71812)
- Improvement/change: The API method "Export Project Info" now includes a new attribute named "external_modules", which will output a comma-delimited list of all External Modules that are enabled in that project. Note: It will include only the unique module name (not the module title or module version).
- Bug fix: The redcap_connect.php file was mistakenly not setting the database collation_connection and charset settings immediately after the database connection has been established. It has now been updated to include this. Note: The previous version also had this similar change, but this fix addresses something else that didn't get completely done in the previous release.
- Bug fix: For Alerts & Notifications, if an alert is set to "send immediately" and "every time the form/survey is saved", then a user uploading a file for a File Upload field on that form when the form is already complete would mistakenly cause the notification to be sent (meaning that the alert is triggered by the upload itself and not by the form being saved via clicking the Save button). (Ticket #70650)
- Change: The drop-down record list near the top of the Data Quality module now only displays the first 10,000 record names for projects containing more than 10,000 records. This is to prevent excessive load on the server and also to prevent the user's browser from crashing for very large projects.

Version 9.3.7

- Improvement: Major performance improvement when loading the Participant List page for projects with surveys. For projects with thousands of records or more, this page should be significantly faster.

- Improvement: Performance improvement for record searching on the "Add/Edit Records" page when entering part of a record name in the "Enter a new or existing [Record ID]" text box. For projects with thousands of records or more, this functionality should be much faster.
- Improvement: Performance improvement for projects using record auto-numbering, in which the process of generating the record name of the next potential record is much faster, especially for projects with many records.
- Change: The "Data Search" feature on the "Add/Edit Records" page will no longer allow users to search over "All fields" if a project contains more than 20,000 records. This is done for performance reasons so that it does not bog down the database server.
- Bug fix: When exporting a report for a project that has lots of records (~10k+) and also has repeating instruments/events enabled, then if the report contains one or more sort fields in Step 4 (other than the Record ID field), then the report might not properly sort the resulting data or it might mistakenly have some rows of data missing in the resulting data. Note: This does not affect reports but only data exports. Bug emerged in REDCap 9.3.6.
- Bug fix: Data Quality rule F might return false positives for fields that exist on repeating instruments or repeating events in which those fields' branching logic contains Smart Variables. (Ticket #72025)
- Bug fix: When using Automated Survey Invitations (ASIs) in a project where a given ASI should be triggered for Instrument B when an instrument/survey (Instrument A) is completed, if a survey invitation for Instrument B has already been scheduled to be sent via the ASI, and then a user sets Instrument B's Form Status as "Complete" on the data entry form (as opposed to completing it as a survey or by setting it as complete by clicking the "Save & Mark Survey as Complete" button on the data entry form), then it would mistakenly not delete the invitation scheduled for Instrument B. (Ticket #71902)
- Bug fix: If a project's record count has not been pre-calculated and stored in the redcap_record_counts database table, then a user imports some records, and then they navigate to a page that displays the record count but does not display a list of records (e.g., Project Home Page), the record count might get mistakenly out of sync and report the wrong number of records in the project until it is reset at some point in the future.
- Bug fix: If a calculation or branching logic references a checkbox field on another instance of a repeating instrument/event, it might mistakenly display an error saying that there is an error with the calculation or branching logic, respectively.
- Bug fix: When an Alert is triggered in a project, immediately after the notification gets sent, the REDCap script would halt suddenly with a PHP error that says "An unknown error has caused the REDCap page to halt...". This would only occur on certain web server configurations, especially those using a secure SSL/TLS connection to the MySQL database server. (Ticket #72412)
- Bug fix: Users could mistakenly upload a data dictionary that contains a Matrix Group Name with trailing spaces, which would be accepted during the upload but would cause issues when trying to modify the matrix via the Online Designer.
- Bug fix: If a calculated field's equation references fields that exist on repeating instruments/events that do not yet have any data in them, then the calc field might mistakenly display an error message on the

data entry form or survey page when trying to perform the calculation. This mostly occurs when the field(s) being referenced exist outside of the current event being viewed. (Ticket #64805)

- Bug fix: When exporting a PDF of one or more instruments with saved data, if all fields in the final section of an instrument have branching logic, then on certain occasions the section header immediately preceding that final section might mistakenly get displayed in the PDF when instead it should not. (Ticket #71134)

Version 9.3.8

- Bug fix: If values of different data types/lengths are being used in the `datediff()` function, it might return incorrect or unexpected results. Instead, it will now consider both parameters as the same data type (as being both dates, both datetimes, or both datetimes w/ seconds) as determined from the length of the longest parameter value when `datediff()` is processing the calculation. For example, if the values "2019-10-02" and "2019-10-03 12:00:00" are being used in a `datediff()` with "h" units, it will thus consider the first value as equivalent to "2019-10-02 00:00:00" and thus return a value of "36".

- Bug fix: When creating a new Alert in a project that does not have an Alerts yet, the drop-down list for the "Send on next..." option in Step 2 in the Alert popup would mistakenly be empty with no options to choose. (Ticket #72816)

- Bug fix: When using the Data Search feature in a project containing more than 20,000 records, in which the Record ID field is selected by default in the drop-down list when the page loads, it would still mistakenly search for the entered term across all fields in the project rather than just across the Record ID field if the user did not change the selected field in the field drop-down list.

- Bug fix: When using the email domain whitelist while adding a new Table-based user that has an email address that is valid for the email domain whitelist but is not in the exact same case (e.g. "gmail.com" vs "Gmail.com"), then it would mistakenly set the user's email address to a blank value when creating their account, which would cause their password-reset email not to be sent to them. (Ticket #72822)

- Bug fix: When downloading a file via Send-It, in which the filename contains a comma, some web browsers might throw an error, thus preventing the user from successfully downloading the file. (Ticket #72538)

- Bug fix: When viewing an embedded audio file for a Descriptive field on a survey or data entry form, it would mistakenly cut off part of the audio controls when being viewed in Internet Explorer. (Ticket #71532)

- Bug fix: When using the Publication Matching module in the Control Center, it might mistakenly get rate-limited by PubMed due to too many requests in a small amount of time, thus causing emails to be sent out mistakenly to PI's with 0 publications. It now waits a little longer between requests to PubMed to prevent this. (Ticket #58322)

- Bug fix: If an administrator does not have the user account option checked for "Allow this user to create or copy projects?", it would mistakenly not allow them to create or copy projects. Administrators should always have this privilege, which overrides their account level setting. (Ticket #72288)

Version 9.4.0

- Improvement/change: If a user is viewing a data entry form that has been enabled as a survey and then clicks "Compose survey invitation" in the survey options at the top right of the page, if they compose and send an invitation that is marked to be sent "Immediately", it will display a popup to inform the user that it is recommended that they leave the page very soon before the respondent has a chance to enter any data on the survey page. This is done because if the respondent begins entering data on the survey immediately after receiving the invitation, and then the user (while still viewing the data entry form) saves the form, the user could unwittingly erase the respondent's data values that were just entered.

- Change: REDCap now utilizes PHPMailer for all emails sent out.

- Improvement/change: If the Universal "From" Email Address option is being utilized for the system, the sender's email address now gets set as the Display Name in the email received. In previous versions, no Display Name is ever set for outgoing emails. So instead of the recipient only seeing that the sender is no-reply@vumc.org (assuming this to be the catch-all universal address, for example), it instead will appear to be from "joe.user@gmail.com <no-reply@vumc.org>". This is an improvement because it provides the recipient with more context with regard to who the sender is.

- Bug fix: When editing a field in the Online Designer, if the field contains a backslash (\) in any field attribute, such as field label, note, annotation, etc., it would mistakenly replace it with two or three backslashes when displaying the field's attributes in the Edit Field popup dialog. (Ticket #73203)

- Bug fix: When the API method "generateNextRecordName" is called, it would return a fatal PHP error and mistakenly not complete the API request. (Ticket #73143)

- Bug fix: When exporting the Project XML file for a project that contains a "Dynamic Query (SQL)" field, there is a chance that the choices of the SQL drop-down field might contain identifying information (e.g. PHI) - depending on the query - and thus might output that identifying information in the metadata of the resulting Project XML file, which might bypass user privileges with regard to data exports. To prevent this possible issue, any SQL fields contained in Project XML files will have all their options removed from the XML file. (Ticket #73126)

- Bug fix: If a data collection instrument was previously set as a repeating instrument or was part of a repeating event, then if data was collected on multiple repeating instances of the instrument, and then the instrument was set to no longer be repeating, viewing that instrument afterward might mistakenly cause some data from the now-orphaned repeating instances to be displayed as data values for the fields on the instrument, thus possibly causing the data values for instance #1 to get overwritten if the instrument was then saved.

- Bug fix: When a multiple choice field is opened for editing in the Edit Field popup on the Online Designer, it might mistakenly display a space at the beginning of each choice in the "Choices" text box (with the exception of the first choice). However, this would not affect how the choices would be displayed on a data entry form or survey.

- Bug fix: When not currently using "Table-based" or "LDAP & Table-based" authentication in which a user had previously been created as a Table-based user, it would mistakenly display the "Reset

Password" button option for the user when viewing their account on the Browse Users page in the Control Center. This button is not applicable and thus should not be displayed.

- Bug fix: If the Universal "From" Email Address option is being utilized for the system, any alerts that have notifications sent out will mistakenly have the Universal "From" address (rather than the true sender that is defined in the alert) as the "from" address listed in the "View Notification" dialog in the Notification Log.

- Bug fix: If a user is modifying a calc field's equation via the Online Designer, in which certain Smart Variables are used in the calculation, then when the user attempts to save the edited calc field, it would prevent them from doing so and would display an erroneous error message saying that the calculation is not syntactically valid. And if the user is an administrator, it would allow it to be saved but would mistakenly display the error message.

Version 9.4.1

- Improvement: A custom email "display name" can be set for the email sender when sending an email for Alerts & Notifications, the Survey Email Confirmation option on the Survey Settings page, and when sending survey invitations via Automated Survey Invitations, via the Participant List, or via the Compose Invitation option on a data entry form.

- Improvement: The email "display name" for most outgoing emails is now automatically populated and thus is able to be displayed in the recipient's email client. Previous versions did not use the display name but left it blank for outgoing emails. For user requests that are triggered by users, such as production change requests, API token requests, etc., the user's first and last name from their My Profile page will be used automatically as the display name in those emails. For emails originating from REDCap administrators that are automated by the system, the email display name will be the "Name of REDCap Administrator" setting (from the General Configuration page) or else the "Contact name to display on Home page" (from the Home Page Configuration page), which is dependent upon the type of email being sent.

- Improvement: New system-level setting "Suppress usage of the Universal FROM Email address for specified email domains" on the General Configuration page - If the setting "Universal FROM Email address" is enabled for the system, then the Universal FROM Email address will be used for all outgoing emails. But if one or more domain names (e.g., vanderbilt.edu) are specified for "Suppress usage of the Universal FROM Email address for specified email domains", then the Universal FROM Email address will NOT be used for any outgoing emails in which the FROM/sender's email address matches one of those domains. Instead the FROM/sender's email address will remain as-is.

- Improvement: The module/plugin method REDCap::email now has new parameters that can be passed to it: BCC, FromName, and Attachments. The parameter BCC represents the email address of someone being BCC'd on the email (if using more than one email address, they must be separated by commas and/or semicolons). The parameter FromName represents the sender's email display name that will be displayed in the recipient's email client next to the sender's email address (e.g., "Rob Taylor"). And the parameter Attachments should be an array of one or more file attachments, in which the array keys will represent the file name as seen in the email client and the corresponding array values will represent the

full file path of the attachment file on the REDCap server. A new example is provided on the "Developer methods for Plugins, Hooks, & External Modules" page to illustrate how to use these new parameters.

- Bug fix: When adding an attachment file for an Alert, it would mistakenly not attach the file to the outgoing notification if the file's size exceeded 3 MB. It now correctly allows the attachment file size no greater than the smallest of the following two values: 1) the maximum allowed file size of attachment files in the current REDCap installation (as defined in the Control Center), or 2) the typical maximum attachment size for most email clients, which is 10 MB. (Ticket #67970)

- Bug fixes and changes for the REDCap External Module Framework

- Bug fix: If using a File Upload field as an Alert's email attachment, the file would mistakenly fail to get attached to the outgoing email notification. Bug emerged in REDCap version 9.4.0 (Standard).

- Bug fix: When performing a CSV data export of a report in a project that contains many records (e.g., tens of thousands), in which the report has some filters defined, it might mistakenly produce a CSV file that with no headers on the first line, but instead the first line of the CSV file would be blank.

- Bug fix: When performing a JSON data export of a report in a project that contains many records (e.g., tens of thousands), in which the report has some filters defined, it might mistakenly produce invalid JSON that has two or more commas separating some records (instead of just a single comma).

- Bug fix: When downloading the PDF of an instrument with data, if the PDF includes a repeating instrument/event, it might mistakenly only display the first repeating instance in the PDF or might not display any repeating instances at all. (Ticket #73478)

- Bug fix: When using a Data Quality rule that has real-time execution enabled while the Data Resolution Workflow feature is enabled, if a discrepancy is found while submitting data on a data entry form, some wrong text would be displayed inside the popup dialog that displays the discrepancies. (Ticket #73449)

- Bug fix: Seven "Vital Signs" fields and their associated LOINC codes were mistakenly missing from the field mapping page for Clinical Data Pull and Clinical Data Mart.

- Bug fix: If an alert is set to "Send on next [X]" or "Send after lapse of time", it might mistakenly not send the very first notification if it is set to send multiple times as a recurring notification. However, it would still correctly send all recurring notifications after the first one (whether or not the first one sent). (Ticket #73663)

- Bug fix: When exporting a PDF of one or more instruments, it would sometimes not be able to output correctly the number representing the total pages in the PDF (e.g., the "9" when displaying "Page 1 of 9" at the top right). It would sometimes mistakenly display a strange rectangle character instead. Due to various technical limitations, this issue could not be corrected for all scenarios, so for the time being, the total page count (i.e. the text "of X" at the top right) has been completely removed from all PDFs. Thus it now only displays "Page 1", "Page 2", etc., at the top right rather than additionally displaying the total page count after the current page number. (Ticket #70886)

- Bug fix: When entering data into a number-validated field on a survey while using a mobile device, it would mistakenly prevent the usage of the backspace key on the device's keyboard. Bug emerged in REDCap v9.4.0. (Ticket #73747)

- Bug fix: When using Missing Data Codes in a project, and a checkbox field on a data entry form has a missing data code entered for it, in which that checkbox is set to be a "required" field, it would mistakenly display the "Some fields are required" prompt for that field. (Ticket #73700)
- Bug fix: When using Missing Data Codes in a project, and a datetime field on a data entry form is used in the calculation of a calculated field on that same page, it would mistakenly append a space+"0" to the datetime field's value when selecting a missing data code for that field, thus causing the data not to save correctly for the datetime field after clicking a Save button to save the form. (Ticket #73698)
- Bug fix: Data Quality rule F might return false positives or might not return some discrepancies for fields that exist on repeating instruments or repeating events in which those fields' branching logic contains Smart Variables. (Ticket #72025, #73543)
- Bug fix: A JavaScript error occurs on a survey when deleting the file for a File Upload field, in which it might cause branching logic on the page not to be triggered after the file deletion if any fields on the page have branching logic that utilizes that File Upload field. Bug emerged in REDCap 9.4.0 Standard. (Ticket #73793)
- Change: The icons for Project Bookmarks and Custom Application Links that are displayed on a project's left-hand menu have been updated as Font Awesome icons to match all the other icons on the menu.
- Bug fix: If using WebDAV as the file storage method for uploaded files in REDCap, it would mistakenly return an error if any valid files that are 0 bytes in size were attempted to be uploaded and stored. (Ticket #73681)
- Bug fix: If using the Universal FROM Email Address, it would mistakenly set the "Sender" (i.e., the "-f" sendmail parameter) as the real sender's address and not as the Universal FROM Email Address, which would cause emails not to send successfully for certain systems (e.g., AWS SES). Bug emerged in REDCap 9.4.0 Standard. (Ticket #73866)
- Bug fix: If a survey title contains any HTML tags, those HTML tags would not transfer to the new project when creating a project from the Project XML file of the original project. (Ticket #73914)
- Bug fix: When using Missing Data Codes in a project, if a File Upload field has a missing data code saved for it, it would mistakenly display a "Download" button for the field on reports and also would mistakenly output the text "[document]" in a CSV Raw or Labels export file. (Ticket #73907)
- Bug fix: When using Missing Data Codes in a project, in which a user is exporting data containing missing data codes in CSV Labels format, it might mistakenly display the raw missing data code value for some field types instead of the label for the missing data code.
- Change: The popup for displaying Project Notes on the My Projects page might not behave correctly under certain conditions. It is now displayed in a better format to avoid these issues. (Ticket #71813)

- Improvement: Line breaks may be preserved in data values in CSV data exports - When creating/editing a report, the section "Additional report options" contains a new setting: "Remove line breaks/carriage returns in all text data values (only applicable for CSV Raw and CSV Label data exports)". This setting will be enabled by default for all existing reports and for any new reports being created. The option will effectively be enabled (i.e., will remove line breaks) when exporting Reports A and B in order to be consistent with their current behavior in previous versions. This option is only used for CSV data exports and not for reports or exports to statistical analysis packages. (Ticket #32418)
- Improvement: Added "Copy" and "Paste" options to the [right-click] context menu for all rich text editors.
- Bug fix: The server-side processing of logic and branching logic might mistakenly fail with an error if the logic contains a checkbox variable name in which a checkbox choice containing a dash ("-") is referenced (e.g., [my_checkbox(193-1)] = "1").
- Fixes and updates for the External Module Framework
- Bug fix: A JavaScript error was being thrown on the Survey Settings page. (Ticket #74014)
- Bug fix: A JavaScript error was being thrown on the Online Designer's "Edit Field" dialog when attempting to set a checkbox field choice's coded value to the value "length". This would mistakenly prevent the user from saving their changes to the field. (Ticket #74024)
- Bug fix: Alerts would mistakenly still send recurring notifications after a project had been deleted. This would occur for up to 30 days after the project deletion, after which the project would get truly removed from the back-end database tables.
- Bug fix: When adding the left/middle/right Slider labels via the Online Designer, it would mistakenly not save the labels correctly in certain circumstances, thus causing the middle label to become the right label if a left label is not defined, for example. (Ticket #74198)
- Bug fix: When enabling an instrument as a survey in the Online Designer, if the user clicks on the "Set Up My Survey" tab at the top of the "Survey Settings" page, it will mistakenly cause the survey settings not to get saved properly when the user is enabling an instrument that is not the first instrument in the project. (Ticket #74085)

Version 9.5.0

- Improvement: More rich text editors - The rich text editor is now available when composing survey invitations. This includes composing Automated Survey Invitations or invitations to be sent via the Participant List or via the Survey Options on data entry forms. Improvement: The rich text editor is now available on the Email Users page in the Control Center and also for the Survey Confirmation Email option on the Survey Settings page.
- Improvement: The Configuration Check page now checks if any hook functions are missing from the Hook Functions file used by the REDCap installation. If any are missing, instructions are provided in order to add them.

- Major bug fix: When exporting a Project XML file for a project containing a survey that utilizes the Survey Confirmation Email setting, in which a file attachment exists for the confirmation email, it would mistakenly export the doc_id value as-is in the XML file and thus create a new project having that same doc_id value for the confirmation email's attachment. This would cause the new project's attachment to point to the other project's file (rather than to a newly created file), and so if the attachment got deleted in the new project, it would mistakenly also remove the file in the original project and vice versa (assuming these projects exist on the same REDCap server). And if the Project XML file originated from a different REDCap server, then there is a chance that the file attachment in the new project might mistakenly point to any file stored in the entire REDCap system, including a file that might contain sensitive information (PHI). This could potentially expose sensitive information to a survey participant who is not authorized to access it.
- Change/improvement: The HTML tags THEAD and TFOOT are now officially allowed for use in HTML-based user-provided input, such as field labels, survey instructions, etc. (Ticket #74574)
- Improvement: Major performance improvement with regard to web server RAM usage when using the method REDCap::evaluateLogic() a lot in a module, hook, or plugin. In some cases where it was being called hundreds of times in a single request, it might cause PHP to run out of memory.
- Change: If the "File Upload field enhancement: Password verification & automatic external file storage" setting has been enabled in a project, then when a user attempts to delete a file for a File Upload field (including the deletion of older revisions for that field), it is now required for users to provide a reason (in the text box in the "Delete file?" popup) in order delete the file. In previous versions, providing a reason was only optional.
- Bug fix: If alerts from the Email Alerts external module are being converted into Alerts & Notifications, during the conversion process it will now additionally disable each original Email Alert individually to prevent a possible issue of the old Email Alerts somehow running via a cron job even though the Email Alerts module will have been disabled for the project after the conversion has been completed.
- Bug fix: When the REDCap Shared Library is disabled at the system level, it would still mistakenly be available to use within projects. (Ticket #74474)
- Change: All English language on the Alerts & Notifications page was translated.
- Bug fix: If a user has Survey Distribution Tools rights but does not have Project Setup/Design rights, then if no surveys have been enabled in the project yet and the user clicks the Survey Distribution Tools link on the left-hand menu, they are presented with an "Access Denied" message, which is confusing because it pertains to the Online Designer and not to the Survey Distribution Tools page. This has been changed to give a more accurate and helpful error message. (Ticket #73168)
- Bug fix: When using Shibboleth authentication, it was mistakenly not recording the time of the user's login in the redcap_log_view table in the database. (Ticket #72847)
- Bug fix: If a user attempts to use the @CHARLIMIT or @WORDLIMIT action tags on the record ID field, it would display the words/characters remaining immediately below the record ID field on the first instrument, but it would not actually work there. It was never intended for these action tags for work for

the record ID field, so this behavior could be confusing. It has been modified so that these action tags will simply be ignored and not used for the record ID field. (Ticket #74690)

- Bug fix: If a closing square bracket] exists in a choice label of a multiple choice field, then if that field is referenced in the branching logic of a field on a survey/form, it might cause the branching logic to not work correctly. (Ticket #74878)

- Bug fix: If a multiple choice field was changed to a descriptive field, it would mistakenly maintain the old field choices in the metadata for that field. Those choices would never get utilized on a form or survey at all but could be seen on the Codebook page. (Ticket #74685)

- Bug fix: In some instances where users must request from administrators that their project be moved to production, clicking the "Cancel request" button to cancel the "move to production" request might mistakenly display the wrong message to the user, thus causing some confusion. (Ticket #74420)

- Bug fix: If any non-Latin/multi-byte characters exist in a record name in a project, then when REDCap builds the record list (an internal, invisible process) to display all the record names on the Record Status Dashboard, reports, Add/Edit Records page, etc., it might mistakenly garble the record names, thus causing them not to display correctly anymore. (Ticket #58989)

- Bug fix: If a user attempts to import data for a repeating instrument or repeating event in which the redcap_repeat_instance field has a value greater than "9999" or less than "1", it would silently accept the value without displaying an error and would mistakenly not save the data correctly. (Ticket #74376)

Version 9.5.1

- Improvement: When using the Data Resolution Workflow and exporting all data queries in a CSV file, the following attributes are now all exported as their own separate columns in the CSV file: record name, event name, data access group, data quality rule, and field name. In previous versions, some of these attributes existed together in a single column and thus were harder to parse out individually. Additionally, the following columns have been added to the CSV export file: Current Query Status, Time Raised, and Time Resolved. (Ticket #30092)

- Major bug fix: When clicking the "Remove file" link on a data entry form or survey page when attempting to delete a file or signature for a File Upload field or Signature field, it would mistakenly fail and prevent the user from successfully deleting the file. Bug emerged in v9.5.0. (Ticket #75030)

- Bug fix: Some English language on the Alerts & Notifications page was mistakenly not translated in the previous version.

- Bug fix: In certain situations where the first instrument is a survey and a survey participant completes any given survey in the project, after which they are immediately presented with the Survey Queue, it might mistakenly show some surveys as not being completed in the queue, even when they are or if they have a form status of "Complete" (2). (Ticket #75005)

- Bug fix: Sixteen "Laboratory" fields and their associated LOINC codes were mistakenly missing from the field mapping page for Clinical Data Pull and Clinical Data Mart.

- Bug fix: When importing data (via API or Data Import Tool) into a non-longitudinal project, in which the imported data contains the redcap_event_name field with a blank value, it would mistakenly keep adding duplicate rows in the redcap_data database table for the record ID field. This would not adversely affect anything in the user interface though. (Ticket #74561)
- Bug fix: When importing data (via API or Data Import Tool) into a project with repeating instruments and/or repeating events, in which the imported data contains the values belonging to a repeating instance, it would mistakenly keep adding duplicate rows in the redcap_data database table for the record ID field. This would not adversely affect anything in the user interface though. (Ticket #74561)
- Bug fix: When a user creates a custom data quality rule for a project containing repeating events and/or repeating instruments, in which the instance (e.g., [current-instance], [2]) is not appended to all repeating variables in the logic, it might return duplicate discrepancies, no discrepancies, or discrepancies from the wrong event of a given record. (Ticket #74976)
- Bug fix: When a user creates a custom data quality rule in a project that is either longitudinal or contains repeating events/instruments, the real-time execution of data quality rules might be very inconsistent or inaccurate depending on whether any event-based or instance-based Smart Variables are used or not used in the data quality rule logic. (Ticket #74036)
- Bug fix: When Alerts & Notifications are grandfathered in or converted via the Email Alerts external module, Auto-Notify plugin, or some other back-end method, if the Sender's address (the From address) of a given alert is defined as a REDCap field variable (e.g., "[my_from_email]") instead of a literal email address, then while the user interface would allow the variable to be used, it would mistakenly not successfully send the alert's notification email when triggered. (Ticket #75112)
- Bug fix: If the setting "Auto-suspend users after period of inactivity" is enabled, and some users who are suspended have not had any activity within the designated period of inactivity, then if the user has a sponsor and the user's sponsor puts in a request to have them unsuspended, the user would mistakenly get re-suspended within a day. (Ticket #75231)
- Bug fix: If a project is created where the value of "Purpose of Project"->"Other" contains an apostrophe, then it might mistakenly cause the Project Setup page to throw a JavaScript error and thus might prevent some things from working on the page. (Ticket #75179)
- Bug fix: When using the Data Resolution Workflow and exporting all data queries in a CSV file, the record name might not mistakenly not be displayed in the Record column in the CSV file. (Ticket #75215)
- Bug fix: A JavaScript error was occurring in the function calcChangeCheck(), which gets run for calculated fields are triggered on forms and surveys. (Ticket #75255)

Version 9.5.2

- Improvement: In Alerts & Notifications when clicking the "Preview Message by Record" option, it now displays the Custom Record Label and/or Secondary Unique Field value in the record drop-down list in the dialog.
- Improvements and changes when exporting data from REDCap into SAS

- Full integration of the Missing Data Code functionality in the SAS data export syntax file to prevent issues when loading data containing Missing Data Codes into SAS.

- Note: The SAS Pathway Mapper file has been removed and is no longer utilized. Users exporting data to SAS will now need to manually modify the path of the CSV data file in their .SAS syntax file to reflect its locally saved path on the device.

- Bug fix: If a survey has the "Save & Return Later" option enabled but the "Allow respondents to return and modify completed responses" option is disabled, then if a participant attempts to return to a survey that was taken via a public survey link, then it might cause the participant's web browser to keep redirecting endlessly and thus prevent them from accessing the survey again.

- Bug fix: When renaming a data collection instrument via the "Choose action" button in the Online Designer, if the instrument being renamed is enabled as a survey, the dialog prompt that asks the user to additionally rename the survey title would mistakenly have the current survey title listed as blank/"" in the dialog text. Also, in very specific cases, renaming the instrument might mistakenly cause it to get mistakenly deleted altogether as an instrument.

- Bug fix: When creating a new record in a project via a data import (API or Data Import Tool), in which the data being imported should trigger an Automated Survey Invitation (ASI), then for certain multi-arm projects the data import might mistakenly not trigger the ASI to schedule a survey invitation (although the ASI could get triggered later if data were added/modified for that record).

- Bug fix: If a project is created where the value of "Purpose of Project" -> "Other" contains an apostrophe, then it might mistakenly cause the Project Setup page to throw a JavaScript error and thus might prevent some things from working on the page. (Ticket #75179)

- Bug fix: When copying a project via the Copy Project method, it would mistakenly not copy the Email Display Name value for any Automated Survey Invitations that had been set up for surveys in the project. (Ticket #75641)

- Bug fix: When deleting and/or replacing an email attachment for an alert on the Alerts & Notifications page, it might mistakenly not remove the existing attachment file.

- Bug fix: When opening the Compose Survey Invitations popup on the Participant List page, the "Select a previously sent email..." drop-down list in the popup would mistakenly display HTML tags in the drop-down's labels when it should strip out any HTML tags there.

Version 9.5.3

- Improvement: New content was added to the "Help & FAQ" page

- Bug fix: For branching logic, calculated fields, or other logic, if "IF" statements are nested in the logic, then in some cases the logic might not get parsed correctly and might produce an error or behave unexpectedly. For instance, this will occur if the logic contains "if(if(..." with no spaces between each "if(". (Ticket #75506)

- Bug fix: When branching logic on a data entry form or survey attempts to hide a checkbox field and thus erase its values (i.e., uncheck all its checkboxes), if any of the checkbox options contains a dash/hyphen in its coded value, it would mistakenly display an error message saying that branching logic errors exist, which is not true. (Ticket #75346)
- Bug fix: When creating a project using a Project XML file that contains multiple reports, each subsequent report that gets created in the new project would mistakenly contain all the fields from all previous reports in that project. (Ticket #75517)
- Bug fix: If administrators must approve the creation of new projects on a user's behalf, then if the user had selected one or more Project Folders to which the new project should be assigned, the new project would mistakenly get assigned and connected to the administrator processing the request instead of to the user making the request, which could cause errors for the requester later on if they attempt to add or remove that project to/from a Project Folder. (Ticket #75004)
- Bug fix: When exporting the PDF of an instrument, in which the instrument has no data (i.e., has a gray form status icon) and the instrument is also not the last instrument in the project, it might mistakenly display the instrument title (or survey title/instructions, if enabled as a survey) while the rest of the page in the PDF would remain blank. It should instead not include the page at all in the PDF export. (Ticket #73896)
- Bug fix: If the setting "Domain whitelist for cross-domain HTTP access control" is set on the Security & Authentication page in the Control Center, in which multiple domains have been set, then it would mistakenly only allow the last domain defined in the list. (Ticket #75848)
- Bug fix: If using MySQL 8 for the database while viewing "View User List By Criteria" on the "Browse Users" page in the Control Center, selecting "Active in past X" or "Not active in past X" from the drop-down list would always mistakenly return no results. (Ticket #75429)
- Bug fix: If a custom Data Quality Rule contains more than one field in a project with repeating events or repeating instruments, then if none of the fields in the rule's logic exist on a repeating event/instrument, it might mistakenly return duplicate discrepancies of those fields on one or more repeating instances. (Ticket #75839)
- Bug fix: If a custom Data Quality Rule in a longitudinal project references fields in repeating events/instruments, in which the rule logic does not explicitly specify the event name or repeating instance designation for the field, then it might return an "ERROR" message stating that the logic has syntactical errors, which is not true.
- Fixes and updates for the External Module Framework.
- Bug fix: If a longitudinal project with repeating instruments or repeating events contains reports with report filter logic that references fields on both repeating and non-repeating instruments/events, in which the fields on repeating instruments/events do not have anything appended to them, such as a numeral instance designation or instance Smart Variable, then the report might return incorrect results. This appears only to occur if the report setting "Show data for all events or repeating instruments for each record returned" is left unchecked. (Ticket #75792)

- Bug fix: When exporting data into SAS, it would result in errors upon loading into SAS for multiple choice fields that contain only numerical codings (including True/False, Yes/No, and form complete status fields) if Missing Data Codes are not utilized in the project.