REDCAP
Extended Features (305)

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REDCap
Research Electronic Data Capture

ITHS Focus

- Speeding science to clinical practice for the benefit of patients and communities.

- Promotes translation of scientific discovery by:

  ❏ Fostering innovative research

  ❏ Cultivating multi-disciplinary partnerships

  ❏ Training the next generation of researchers

- More information: www.iths.org

Laboratory → Clinic → Community

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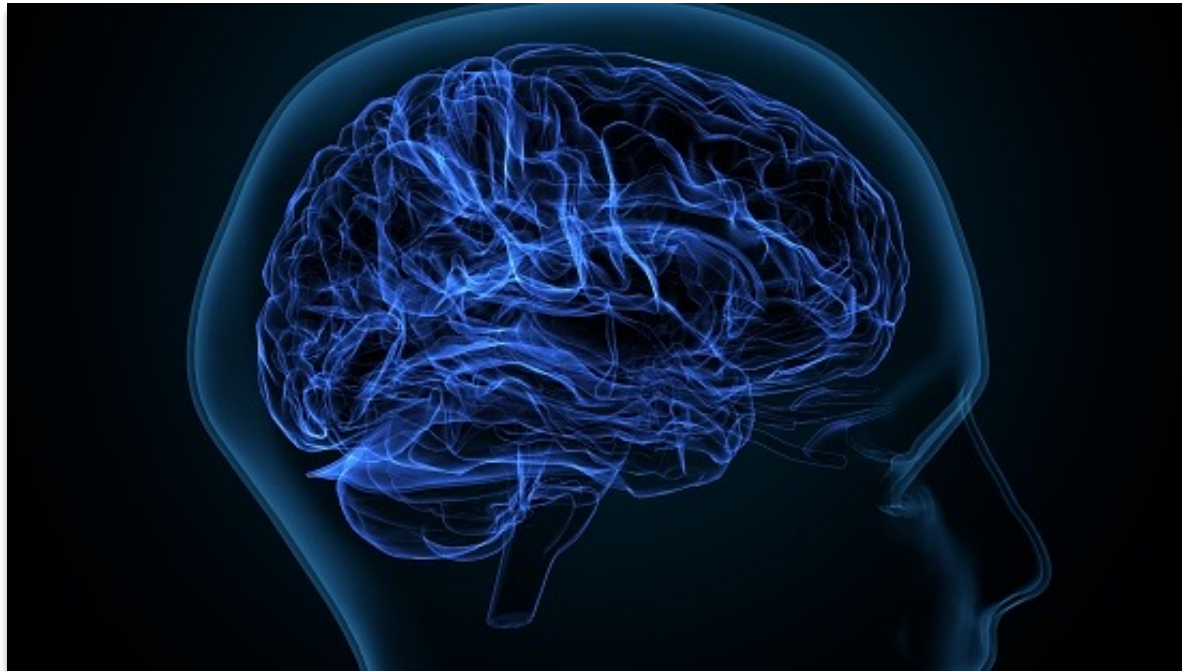ACCELERATING RESEARCH. IMPROVING HEALTH.

Learning objectives

- Smart Variables
  - Uses and Best Practices

- Action Tags
  - Types
  - Uses and Best Practices

- Special Functions

  Uses and Best Practices

- Multi-Language Management

  Overview

REDCap Smart Variables

Smart Variables

Use Smart Variables with:

- *Conditional logic - including branching logic, advanced filters for reports, and logic for Survey Queue, and Automated Survey Invitations*

- *Piping - use field notation to insert values into labels on a form/survey or inside a survey invitation*

- *Dashboards – show aggregate information in custom dashboards*

- *Longitudinal projects – designate specific events or repeated instances*

⟱ **Add/Edit Branching Logic**

[event1][radio1] = '1'

Please take this survey.

You may open the survey in your web browser by clicking the link below: [survey-link]

If the link above does not work, try copying the link below into your web browser: [survey-url]

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

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Smart Variables

Commonly Used Smart Variables:

- View user data
  - Examples: [user-name], [user-role-label]
- Show record data
  - Examples: [record-name], [record-dag-name]
- Show form information
  - Examples: [form-url], [instrument-name]
- Display survey data
  - Examples: [survey-url], [survey-duration]

[⚡] Smart Variables

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Smart Variables

Longitudinal and Aggregate Smart Variables:

- Event & Arm data
  - Examples: [event-name], [first-event-label]
  - Use event names with variables in longitudinal projects.

- Repeating Instruments
  - Examples: [last-instance], [next-instance]

- Aggregate functions, charts and tables
  - Examples: [aggregate-median:age], [bar-chart:gender]

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Use Action Tags to Customize and Automate

Types of Action Tags

@ Action Tags

Action Tags / Field Annotation (optional)

Auto Fill

- *Pre-fill a variable with a value*

Cosmetic

- *Change the look and feel of a variable*

Data Entry

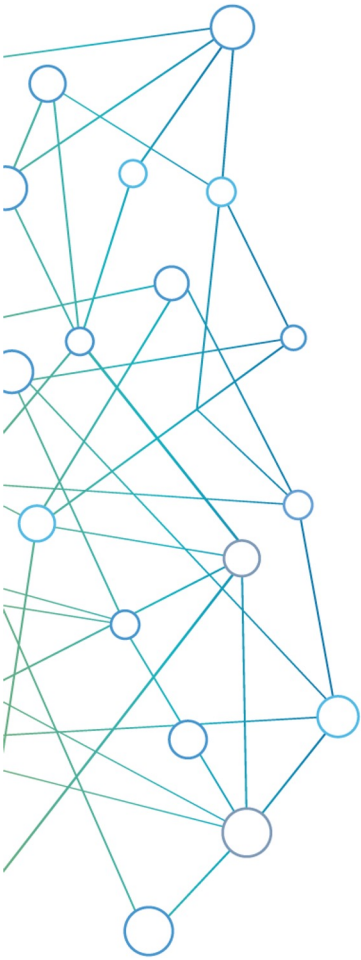- *Limit what can be entered in a variable*

Restrict View or Edits

- *Hide a variable or make it uneditable*

Mobile App Tags

- *Action tags useful when using the mobile app*

Survey Tags

- *Action tags useful for Surveys*

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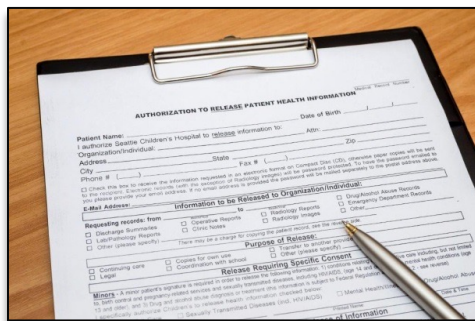ACCELERATING RESEARCH. IMPROVING HEALTH.

Auto Fill Tags

Auto Fill

Cosmetic

Data Entry

Restrict Views or Edits

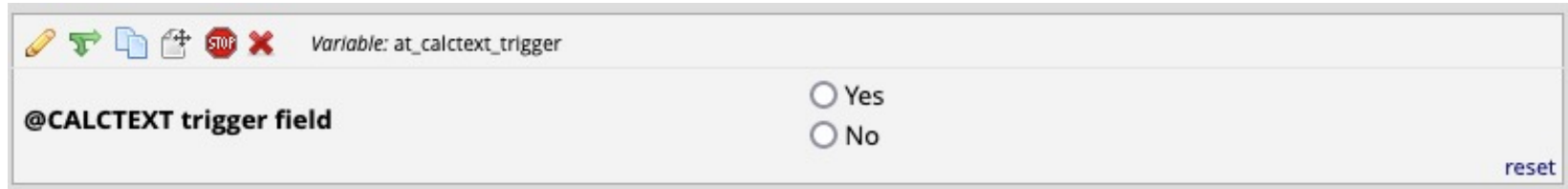Mobile App Tags

Survey Tags

Pre-fill variables

- @CALCDATE, @CALCTEXT

    o Allows complex date or text calculations

    o Add days: @CALCDATE([visitdate], 7, 'd')

    o Return text values: @CALCTEXT(if[age] >= 18, 'adult', 'child')

- @DEFAULT

    o Set default text or answer selections when a record is created.

    o Example: @DEFAULT='Name: [full_name]'

- @TODAY

    o Provides current date on user's computer or server

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CALCTEXT Example

Use IF statement to display different messages

@CALCTEXT

(if([calctext_trigger] = '1', "You chose YES",

if([calctext_trigger] = '0', "You chose No",

"Choose an option above")))

Cosmetic Tags

Auto Fill

Cosmetic

Data Entry

Restrict Views or Edits

Mobile App Tags

Survey Tags

Change the look and feel

- @HIDEBUTTON
    - o Hide the Now or Today button from display

- @PLACEHOLDER
    - o Display data entry prompt in text field
    - o Example: @PLACEHOLDER='Last Name'

- @RANDOMORDER
    - o Randomizes the order of multiple-choice fields

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Data Entry Tags

Auto Fill

Cosmetic

Data Entry

Restrict Views or Edits

Mobile App Tags

Survey Tags
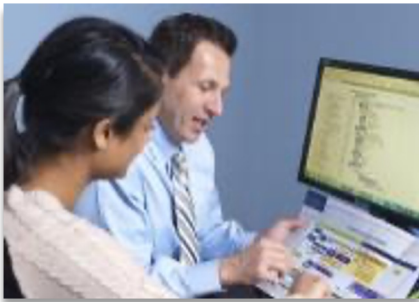
Limit data entry

- @HIDECHOICE
    - Hide retired/unused choices
    - Example: @HIDECHOICE='4'

- @NONEOFTHEABOVE
    - Allows for a checkbox choice to be a 'none of the above' option and alerts the user that all other checked-off choices will be unchecked.
    - Example: @NONEOFTHEABOVE=99

- @READONLY
    - Makes a field's value read only so it can't be edited
    - Can specify Forms or Surveys

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Restrict Views or Edits

Auto Fill

Cosmetic

Data Entry

Restrict Views or Edits

Mobile App Tags

Survey Tags
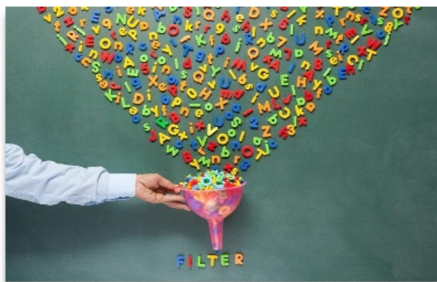
Hide variables

- @HIDDEN

  - Hides the field on surveys, forms, mobile app but not PDF exports

- @HIDDEN-FORM

  - Hides the field on the data entry form but not on survey, not affected by branching logic

- @HIDDEN-PDF

  - Hides a field on all downloaded PDFs

- @HIDDEN-SURVEY

  - Hides the field only on the survey

Mobile App Tags

Auto Fill

Cosmetic

Data Entry

Restrict Views or Edits

Mobile App Tags

Survey Tags

Using the mobile app

- @APPUSERNAME-APP

  - ○ Collects the data entry username

- @BARCODE-APP

  - ○ Allows barcode scanning during data entry

- @HIDDEN-APP

  - ○ Hide a question from the mobile app only

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Action Tags Useful for Surveys

- @HIDDEN-SURVEY
  - For study team view only
- @READ-ONLY
  - For displaying preloaded data
- @NOW & @TODAY
  - For creating a start time stamp or today's date
  - Often combined with @HIDDEN
- @NONEOFTHEABOVE
  - To create an option in a checkbox that unchecks all other options
- @RANDOMORDER
  - To circumvent multiple choice bias
- @HIDECHOICE
  - To hide unused or retired options in an active survey

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Combining Tags

- @HIDDEN + Auto Fill Tags

  - Examples: @USERNAME @HIDDEN / @TODAY @HIDDEN

- @READ-ONLY + Auto Fill Tags

  - Example: @DEFAULT @READONLY

- @HIDECHOICE + @MAXCHOICE

  - Grays out choices when maximum number selected

- @MAXCHECKED + @NONEOFTHEABOVE

  - Automatically add N/A response

- @SETVALUE @NOW @READONLY

  - Works the same as @DEFAULT but updates date or time every time the form is opened.

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Combining Tags Example

Count file downloads for survey participants

Edit Field

You may add a new project field to this data collection instrument by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will be added to the form on this page. For an overview of the different field types available, you may view the ⊞ Field Types video (4 min).

Field Type: Text Box (Short Text, Number, Date/Time, ...) ⌄   📖 Codebook

Question Number (optional)
Displayed only on the survey page

Variable Name (utilized in logic, calcs, and exports)
download_count   ☐ Enable auto naming of variable based upon its Field Label?
ONLY letters, numbers, and underscores

Field Label   ☐ Use the Rich Text Editor [?]

XML Download count:

How to use [⚡ Smart Variables] [🖊 Piping] [✛ Field Embedding]

Validation? (optional) ---- None ---- ⌄
– or –
-- select ontology service -- ⌄

Required?* ⦿ No ○ Yes
* Prompt if field is blank

Identifier? ⦿ No ○ Yes
Does the field contain identifying information (e.g., name, SSN, address)?

Action Tags / Field Annotation (optional)
@DOWNLOAD-COUNT(xml_file)
@HIDDEN-SURVEY
Learn about [@ Action Tags] or using Field Annotation

Custom Alignment Right / Vertical (RV) ⌄
Align the position of the field on the page

Field Note (optional)
Small reminder text displayed underneath field

Save   Cancel

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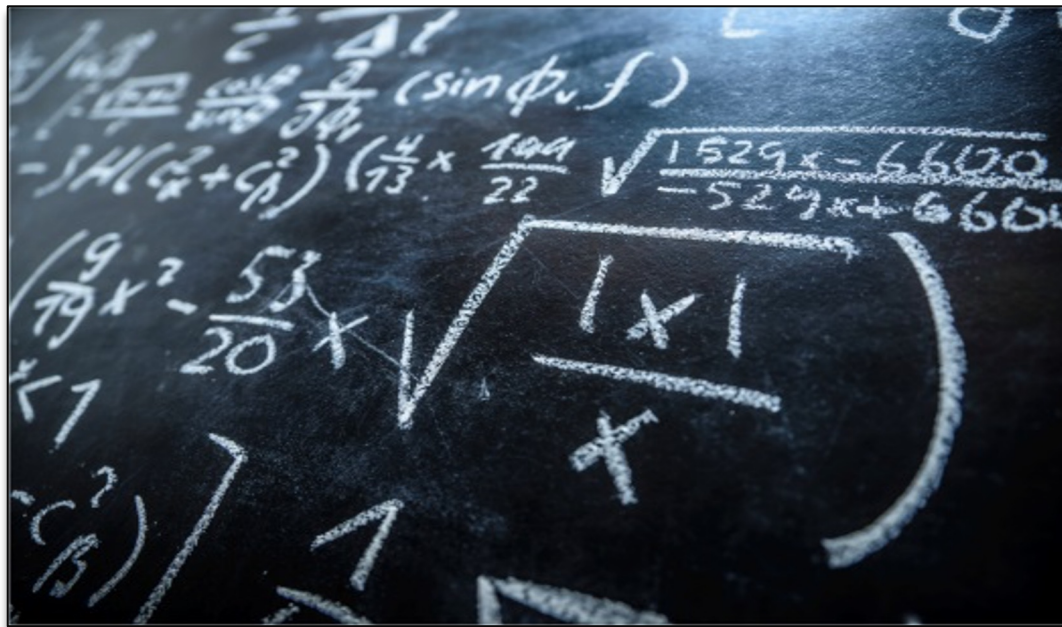
Special Functions

Special Functions

Use Special Functions for:

- *Calculated fields – includes many Excel math functions*

- *Text values – manipulate text for custom display*

- *Branching logic – show fields depending on date differentials*

- *Other logic such as: Advanced filters for reports, Data Quality rules, and Automated Survey Invitations*

Special Functions

- IF conditional statement
  - Example: if([weight] < 130, 'small', 'large')
  - Can "nest" IFs

- Datediff – calculate the difference between two dates
  - Example: datediff([dob], 'today', 'y')

- Use with @CALCTEXT
  - @CALCTEXT(concat('Full name: ', [fname], ' ', [lname]))

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Special Functions

- Functions with Numbers/Dates

  - Example: rounddown(datediff([dob], 'today', 'y'))

  - Sum scores: sum([score1],[score2],[score3])

  - Add leading zeros: right(concat('00', [integer1]), 3)

- Functions with Text

  - Example: upper(concat(trim([first_name]), ' ', trim([last_name])))

  - Pull out text from a field: left([zipcode],3)

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Multi-Language Management

Multi-Language Management (MLM)

Multi-Language Management

Getting Started

Adding Languages

Adding Translations

Settings

Using Multi-Language Management

- The Multi-Language Module allows users to create and configure multiple display languages for REDCap projects including:

  o Data Entry Pages

  o Questions/Choices

  o Survey Settings

  o ASIs and Alerts & Notifications

  o PDFs

- Eliminates the need to create multiple instruments or projects to handle multiple languages

- Allows users to change system core REDCap text on a project-by-project basis

- Compatible with piping, field embedding, and branching logic

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Multi-Language Management (MLM)

Getting Started with MLM

There are 3 methods of initializing languages within project:

- **Build from scratch**
  - Time consuming!
- **Import from a file (.csv, .json, .ini)**
  - Translation files from a language.ini file from the REDCap Language Center
- **Import from System Languages**
  - Administrators can provide a system language to give users a "head start"
  - Translation files from the Multi-Language Management (MLM) Translations Repository
  - Review translations/fix translations prior to using - REDCap admins are not language translators and the files are shared from other institutions

Multi-Language Management (MLM)

Multi-Language Management

Getting Started

Adding Languages

Adding Translations

Settings

Adding System Languages

- Add a new language from the Language tab in MLM
  - Add English (or other default language) first
  - Set Default and Fallback
- Enter new language ID e.g., "es"
- Enter language display name., e.g., Spanish
  - Spanish can now be imported from the system without a translation file being uploaded
- Toggle the Active switch to turn on languages

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Multi-Language Management (MLM)

Multi-Language Management

Getting Started

Adding Languages

Adding Translations

Settings

Adding Translations

- Add translations to your forms and surveys using the Forms/Surveys tab
- Add translations to alerts and notifications using the alerts tab
- Add miscellaneous and interface translations on the Misc and User Interface tabs
- Remember to click on Save Changes

Multi-Language Management (MLM)

Multi-Language Management

Getting Started

Adding Languages

Adding Translations

Settings

Other MLM Settings

- Set a Language preference field

  - Points to a field in the project where users select their preferred language

- Highlight untranslated text

  - Yellow highlight added to emphasize text still needing translations

- Translation snapshots

  - Save current translation settings for all languages

- Export/Import options for each language

Getting Help

- *Listings of all the Smart Variables, Action Tags, and Special Functions are available from the Project Setup page as well as in the Online Designer.*

- *Descriptions of all the variables, tags and functions are provided as well as examples.*

- *Add a Smart Variable, Action Tag or Special Function from within the help page.*

Thank You!

Questions?

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