

# **REDCap Lab Boot Camp**

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[https://icts.uiowa.edu/confluence/download/attachments/53149797/REDCap\\_Lab\\_Boot\\_Camp.pdf](https://icts.uiowa.edu/confluence/download/attachments/53149797/REDCap_Lab_Boot_Camp.pdf)

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# ICTS REDCap Login at U of Iowa



<https://redcap.icts.uiowa.edu>

The screenshot shows a web browser window with the following details:

- Title Bar:** The title bar displays "REDCap".
- Address Bar:** The address bar shows the URL "uiowa.edu" followed by "https://redcap.icts.uiowa.edu".
- Content Area:** The main content area contains a login form.
  - HawkID:** The input field contains the text "fmccclurg".
  - Password:** The input field contains a series of six dots (".....") as a placeholder.
  - Log In:** A button labeled "Log In" is located at the bottom of the form.



# Creating a New Project

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Click the “Create New Project” tab:

Home

My Projects

Create New Project

Training Resources

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Enter Project Title:

Project title:

Cure for Incompetence

Title to be displayed on project webpage

# Creating a New Project

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## Select the Project Purpose:

**Purpose of this project:**  
*(How will it be used?)*

Practice / Just for fun ▾

Project  
Purpose  
Categories:

Practice / Just for fun ▾  
---- Select One ----  
Practice / Just for fun  
Operational Support  
Research  
Quality Improvement  
Other ▾

# What Kind of Project?

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## Select Project Type:

**STEP 1: Choose the type of project you want to build**

- Single Survey
- Data Entry Forms (e.g. traditional database)
- Single Survey + Data Entry Forms (e.g. pre-screener)

# Design Your Project

- **Single Survey**
  - Ideal for collecting anonymous responses from participants
  - Applicants are emailed a link that points to a web form in order to collect responses
- **Data Entry Form**
  - Intended for data capture by clinicians with a REDCap account
- **Single Survey + Data Entry Forms**
  - Used to initially populate records with participant responses in order to initiate data collection (example: pre-screening survey)



# Data Entry Options

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## Select Collection Format:

### STEP 2: Choose collection format for data entry forms

- Classic** (each form available for use once for each subject)
  - Longitudinal / repeating forms** (each form available for use multiple times per subject)
- Enable the scheduling module? [Tell me more](#)

# Data Entry Collection Format

- **Classic Data Collection**
  - ✧ Data collection will be performed once per subject
- **Longitudinal/Repeating Collection**
  - ✧ For collecting the same data multiple times per subject
  - ✧ Also has optional scheduling capabilities via project calendar



# Accessing Online Designer

## Design your data collection instruments

Add or edit fields on your data collection instruments. This may be done by either using the Online Designer (online method) or by uploading a Data Dictionary (offline method), in which case you may use the Down arrow to scroll through the list.

Go to  
Up  
Down

Online Designer

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# Data Collection Instruments

Add, modify, rename, delete, and move the order of existing forms

The screenshot shows a user interface for managing data collection instruments. At the top, there are navigation tabs: 'Project Setup' (disabled), 'Online Designer' (selected), and 'Upload Data'. A large green button labeled '+Add new instrument' is prominently displayed. Below this, a message says 'changes will take effect' and provides instructions: 'Drag instrument up or down to move it'. A table lists instruments with columns for 'Instrument name' and 'Actions'. One row is selected, showing 'Demographics' and action buttons for 'Rename' (with a blue pencil icon) and 'Delete' (with a red X icon).

Instrument name	Actions
Demographics	Rename  Delete

# Data Collection Instruments

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- Click instrument name link to:
  - Modify an existing form
  - Add additional fields to form
  - Modify existing questions
  - Change attributes of questions

Instrument name

Demographics

+Add new instrument

	Fields	Actions
	9	Rename  Delete

# Navigation Pane and Work Area

The screenshot shows a web-based application interface. On the left, a vertical navigation pane is highlighted with a teal border. It contains a user status bar ("Logged in as fmcclurg | Log out"), a "My Projects" section with a red project icon, and a list of application modules including Data Collection, Demographics, Applications, Calendar, Data Export Tool, Data Import Tool, Data Comparison Tool, Logging, File Repository, User Rights, Record Locking Custom, E-signature and Locking, Graphical Data View, and Report Builder. The "Applications" section is expanded. In the center work area, the title "Project Home" is visible above a "Project status: Development" section. A large, bold, black text overlay "Center Work Area" is positioned in the center-right of the work area. Below it, a section titled "Modify project settings or make customizations" contains text about modifying general project settings or making customizations, followed by two buttons: "Modify project settings" and "Make customizations". The top of the browser window shows the URL "http://redcap/redcap\_v4.3.2/setup.php" and the UIowa logo.

Navigation  
Pane

Center  
Work  
Area

Logged in as fmcclurg | Log out

My Projects

Data Collection

Demographics

Applications

Calendar

Data Export Tool

Data Import Tool

Data Comparison Tool

Logging

File Repository

User Rights

Record Locking Custom

E-signature and Locking

Graphical Data View

Report Builder

Project Home

Project status: Development

No started

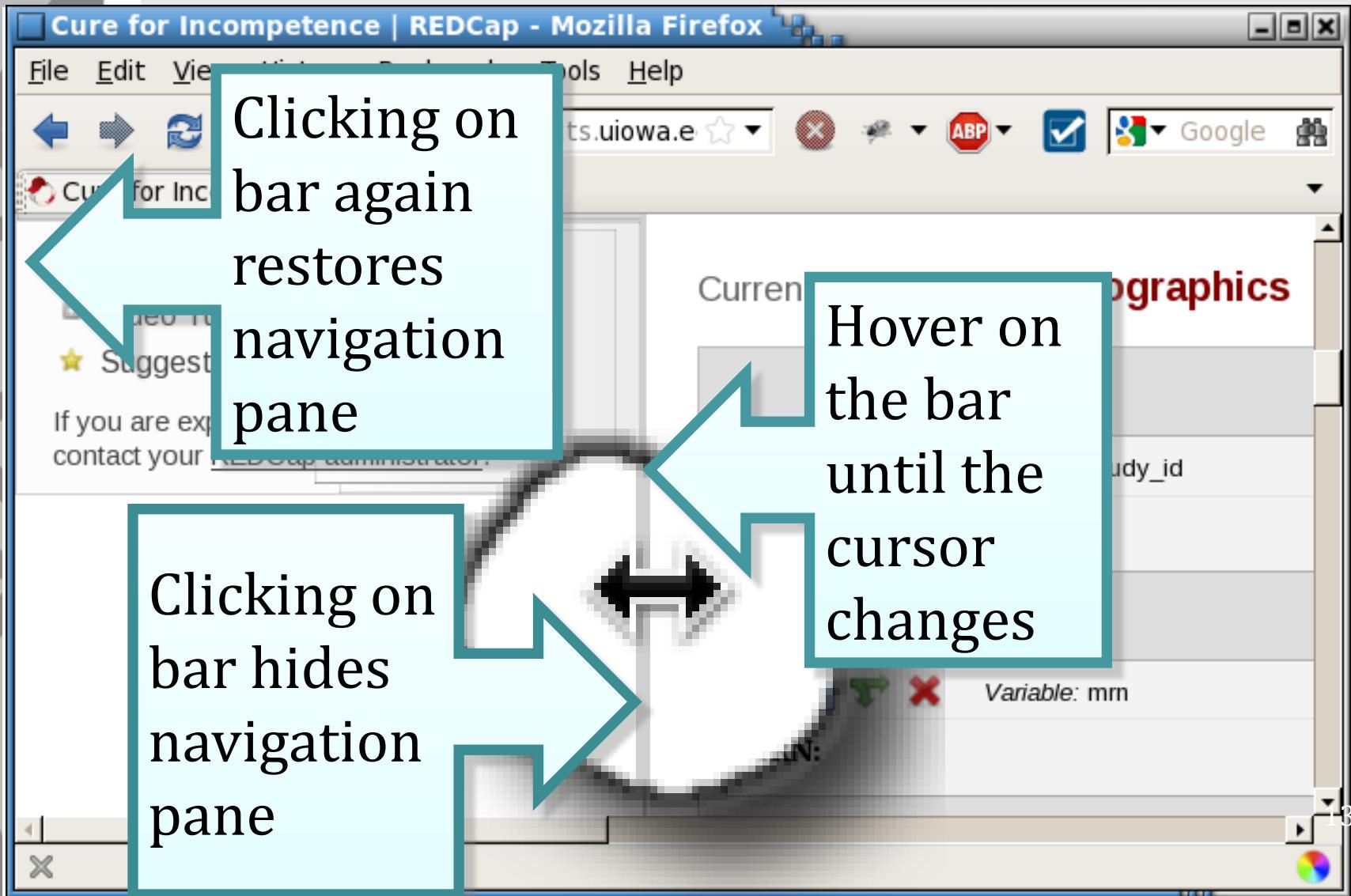
I'm done!

Modify project settings or make customizations

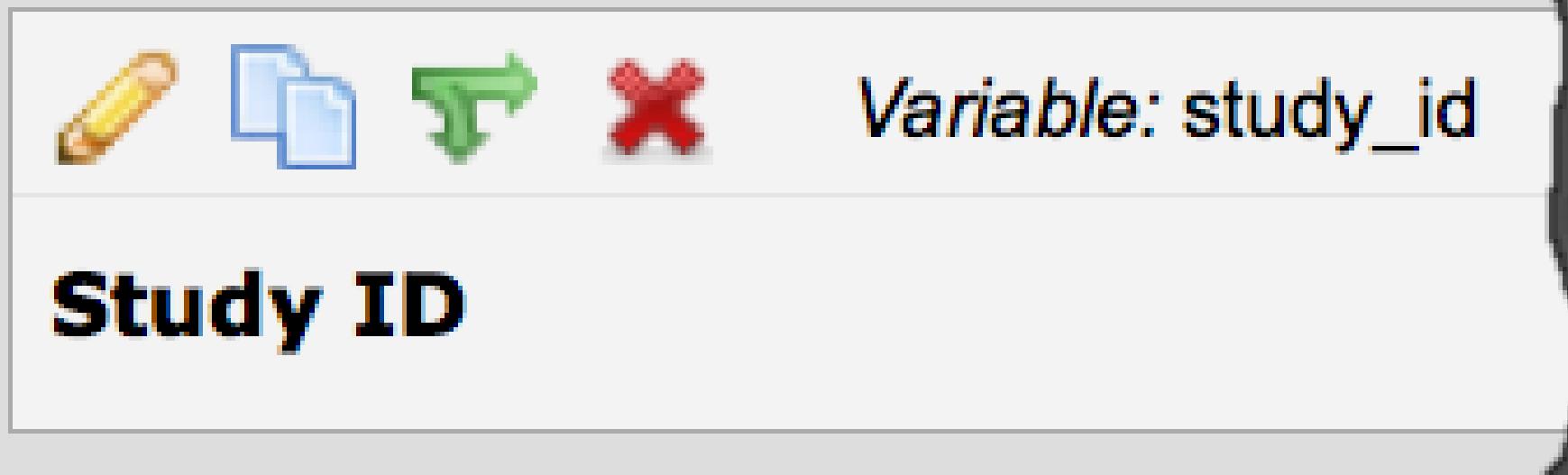
You have created your project and are ready to begin building on it. If you would like to modify the general project settings that you set when creating the project or if you wish to make some customizations to your project (e.g. enable auto-numbering for new records), use the buttons below.

Go to [Modify project settings](#) or [Make customizations](#)

# Hiding the Navigation Pane



# Study ID: A Record Handle



Variable: `study_id`

**Study ID**

The Study ID is the unique identifier (e.g. MRN, SSN, email address, etc.) for each record (similar to a *row* in a spreadsheet). It becomes the handle by which data is associated with a specific participant.

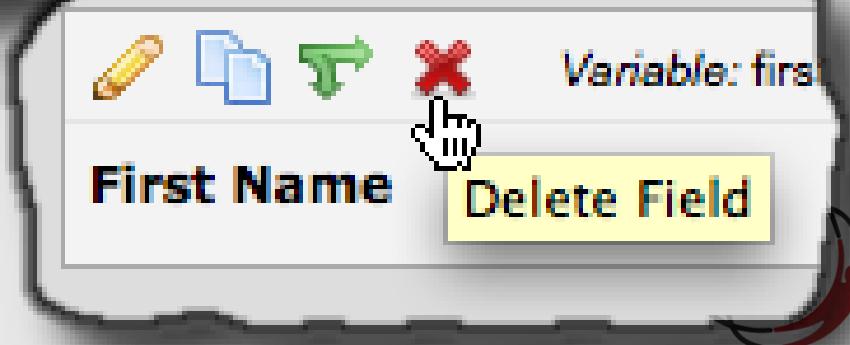
# Study ID: Requirements

- Should *not* be deleted.
- Must be first field in your form.
- Must be unique.

# Online Designer Operations

Online Designer enables easy, interactive creation of form fields.

The icons identify what operations can be performed on each field.



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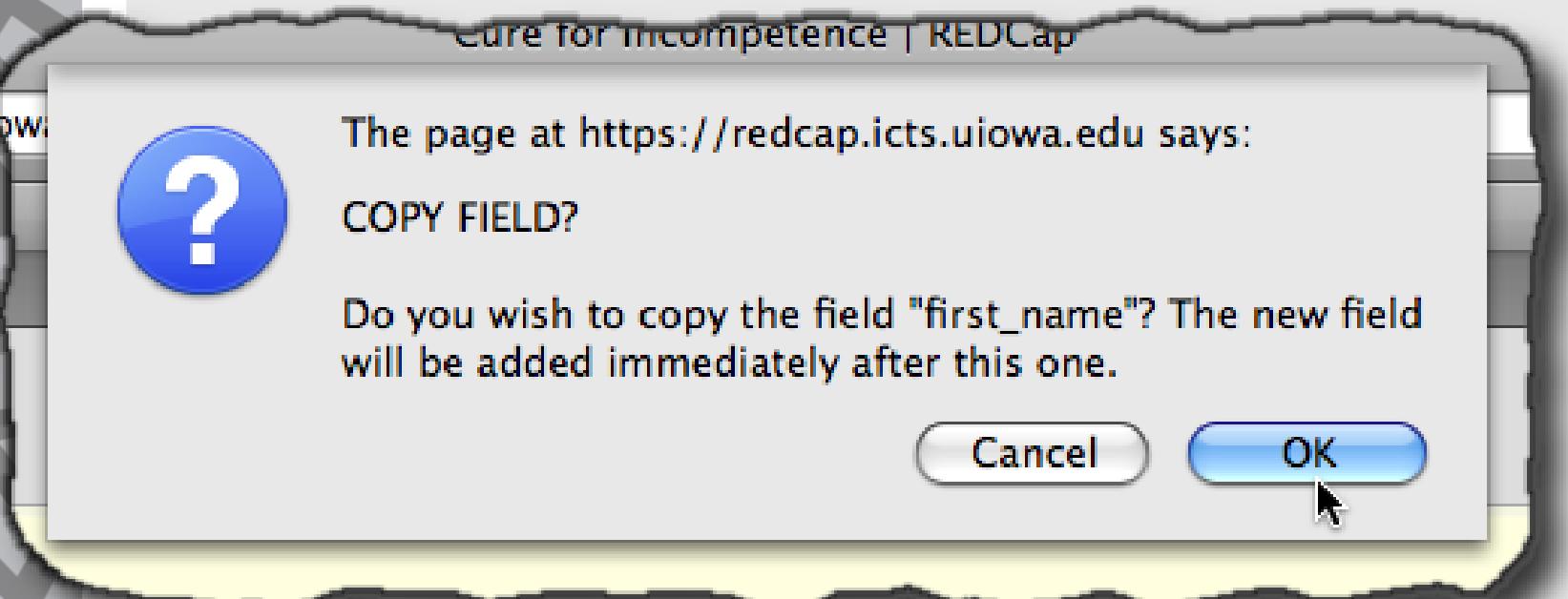
# Copying a Field



The copy option duplicates all the field characteristics except the variable name

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# Copy Verification Dialog



Upon pressing the copy icon, the dialog above is displayed to verify the operation.

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# Editing a Field



The edit option enables the modification of all the attributes of a field.

# Defining Field Type and Label

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**Field Type:**

**Text Box (Short Text)**

**Field Label**

**Middle Name:**

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# Field Types

---- Select a Type of Field ----

---- Select a Type of Field ----

Text Box (Short Text)

Notes Box (Paragraph Text)

Calculated Field

Multiple Choice - Radio Buttons (Only One Answer)

Multiple Choice - Drop-down List (Only One Answer)

Checkboxes (Check All That Apply)

Yes - No

True - False

Slider / Visual Analog Scale

File Upload (for users to upload files)

Descriptive Text (with optional Image/File Attachment)

Begin New Section (Section Header with Descriptive Text)

Dynamic Query (SQL)

# Defining the Field Attributes

- **Variable Name**
  - Data column handle
- **Validation**
  - Field type constraint
- **Required**
  - Mandatory field
- **Identifier**
  - Mark identified data
- **Custom Alignment**
  - Question arrangement
- **Field Note**
  - Additional instruction

The image shows a user interface for configuring field attributes. The fields include:

- Variable Name** (utilized during data export): middle\_name  
ONLY letters, numbers, and underscores
- Validation?** (optional): ---- None ----
- Required?\***:  Yes  
\* Prompt if field is blank
- Identifier?**:  Yes  
Does the field contain identifying information (e.g. name, SSN, address)?
- Custom Alignment**: Right / Vertical (RV)  
Align the position of the field on the page
- Field Note** (optional): No initials. Please spell out name.  
Small reminder text displayed underneath field

# Variable Name: A Data Handle

The handle associated with data.  
Similar to a spreadsheet *column* name. Follow the rules for a variable.

**Variable Name (utilized during data export)**

middle\_name

ONLY letters, numbers, and underscores

# Variable Name: Requirements

- Should be descriptive (not a1, b2, etc.). The name is how the analysis data is referenced.
- Must begin with an alpha character (e.g. A-Z).
- May contain only the characters A-Z, 0-9, and the underscore (no spaces, punctuation, special characters or symbols).
- Should be less than 26 characters (due to risk of truncation in a statistical analysis package).
- Must be unique across all forms.

# Text Field Validation

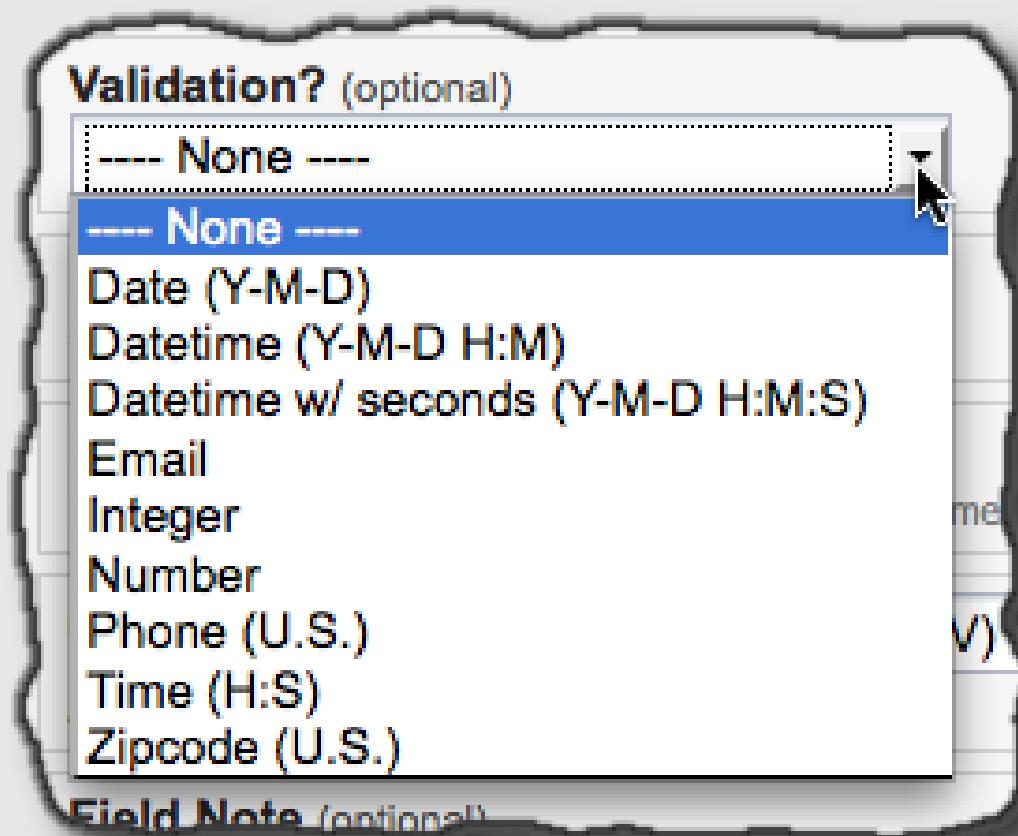
Restrict text input in order to catch data entry errors before form submission.

Validation? (optional)

— None —

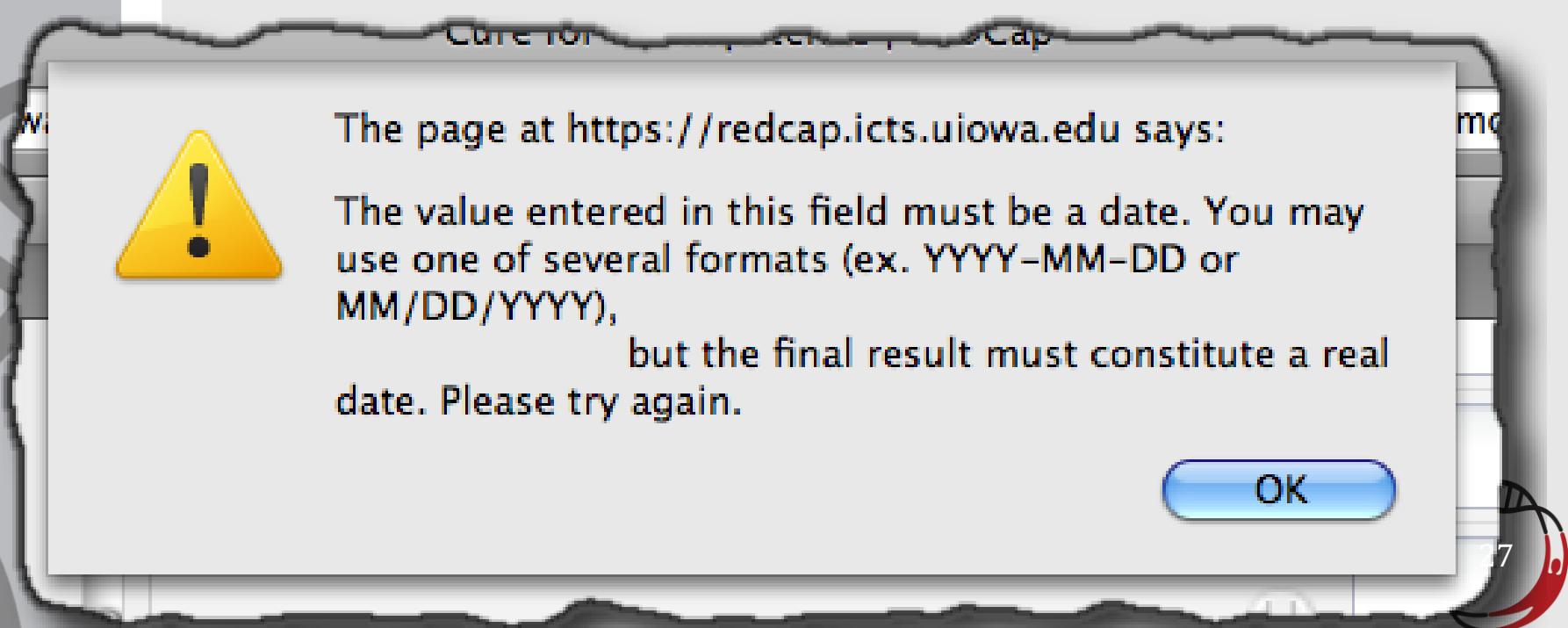
# Text Field Validation Types

Verifies  
data input  
to prevent  
invalid  
entry prior  
to form  
submission.



# Invalid Text Field Dialog

A dialog is displayed to notify invalid data entry in the text fields that have a validation defined.



# Invalid Text Field Indicator

Invalid text is indicated by displaying the string in bold font along with a red underline in the text box of a validated text field .

1941-13-07



Today

# Required Field

If field is left blank, an error results.

**Required?\***  No  Yes

\* Prompt if field is blank

# Required Field Form Display

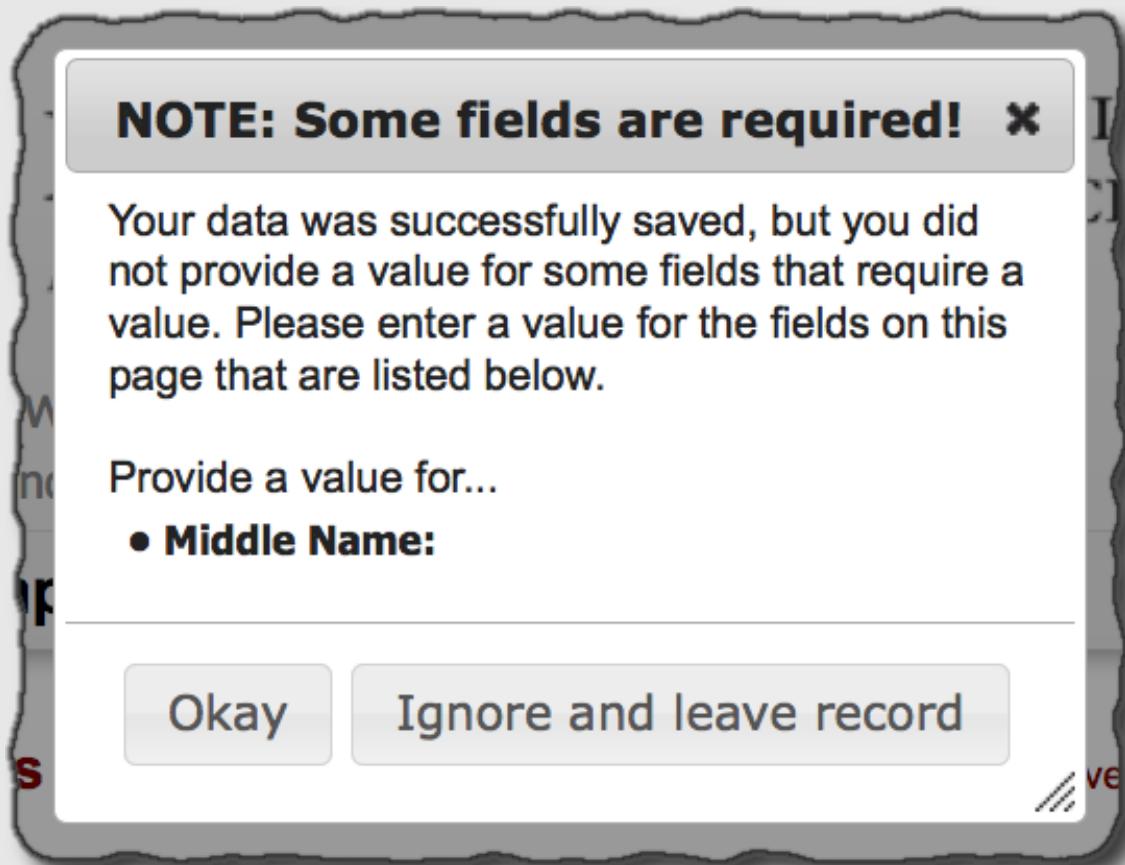
**Middle Name:**

\* must provide value

Required fields are indicated with the string **\* must provide value** in a red font and displayed below the field label on the input form.

# Required Field Dialog

If a field is left blank, a warning dialog is displayed before saving.



# Identifier Field

**Identifier?**  No  Yes

Does the field contain identifying information (e.g. name, SSN, address)?

Fields that reveal information regarding the patient's identity may need to be marked as an "Identifier". These fields can then be excluded so "de-identified" data can be exported for analysis.

# Custom Alignment

**Custom Alignment**

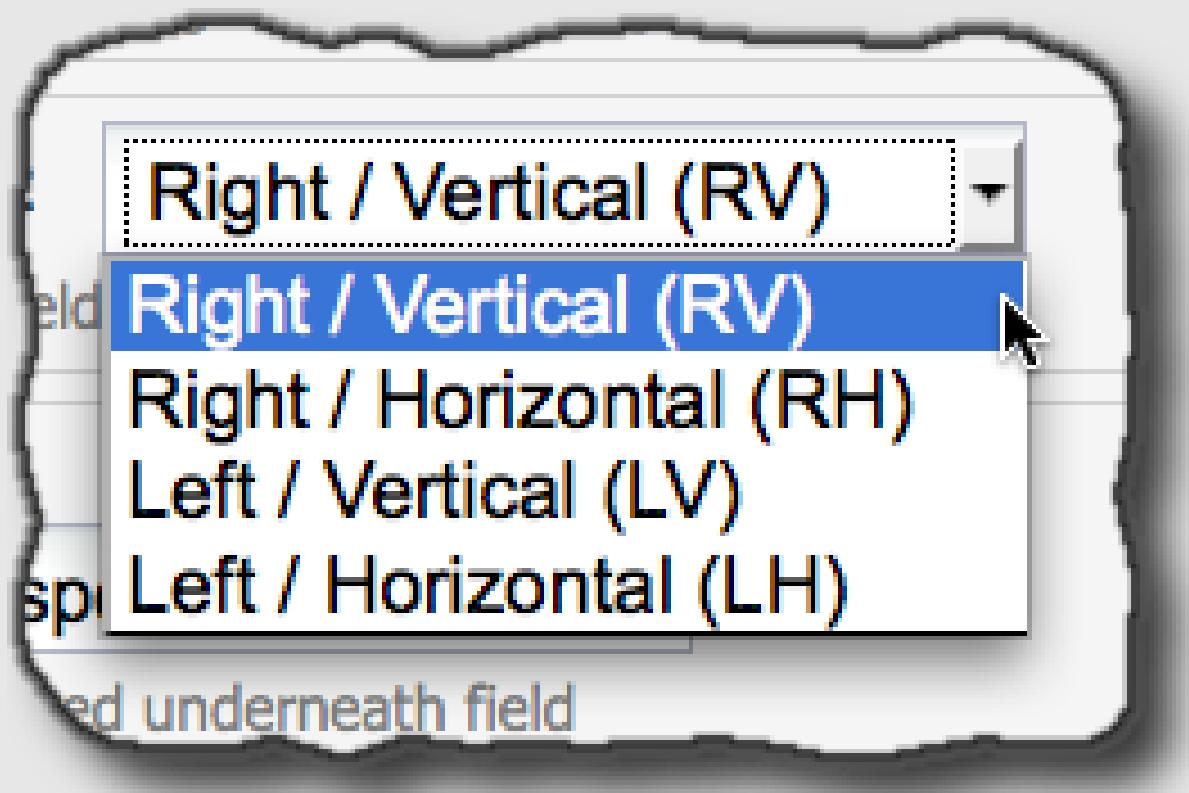
Right / Vertical (RV)

Align the position of the field on the page

Custom Alignment controls the position and orientation of the responses on the data entry form.

# Custom Alignment Types

- Defined: Screen location of the question response.



# Alignment: Right / Vertical

- These responses are aligned right of the Field Label (or Question) and arranged vertically.

**On a scale of 1 to 5, how much of a pain is your husband? Alignment: Right / Vertical (RV)**

- 1
- 2
- 3
- 4
- 5

# Alignment: Right / Horizontal

- These responses are aligned right of the Field Label (or Question) and arranged horizontally

On a scale of 1 to 5, how much of a pain is your husband? Alignment: Right / Horizontal (RH)

1    2    3    4    5

- Multiple fields with a right or left horizontal alignment specified is a good way to create a matrix



# Alignment: Left / Vertical

- These responses are aligned left of the Field Label (or Question) and arranged vertically.

**On a scale of 1 to 5, how much of a pain is your husband? Alignment: Left / Vertical (LV)**

1  
 2  
 3  
 4  
 5

# Alignment: Left / Horizontal

- These responses are aligned left of the Field Label (or Question) and arranged horizontally.

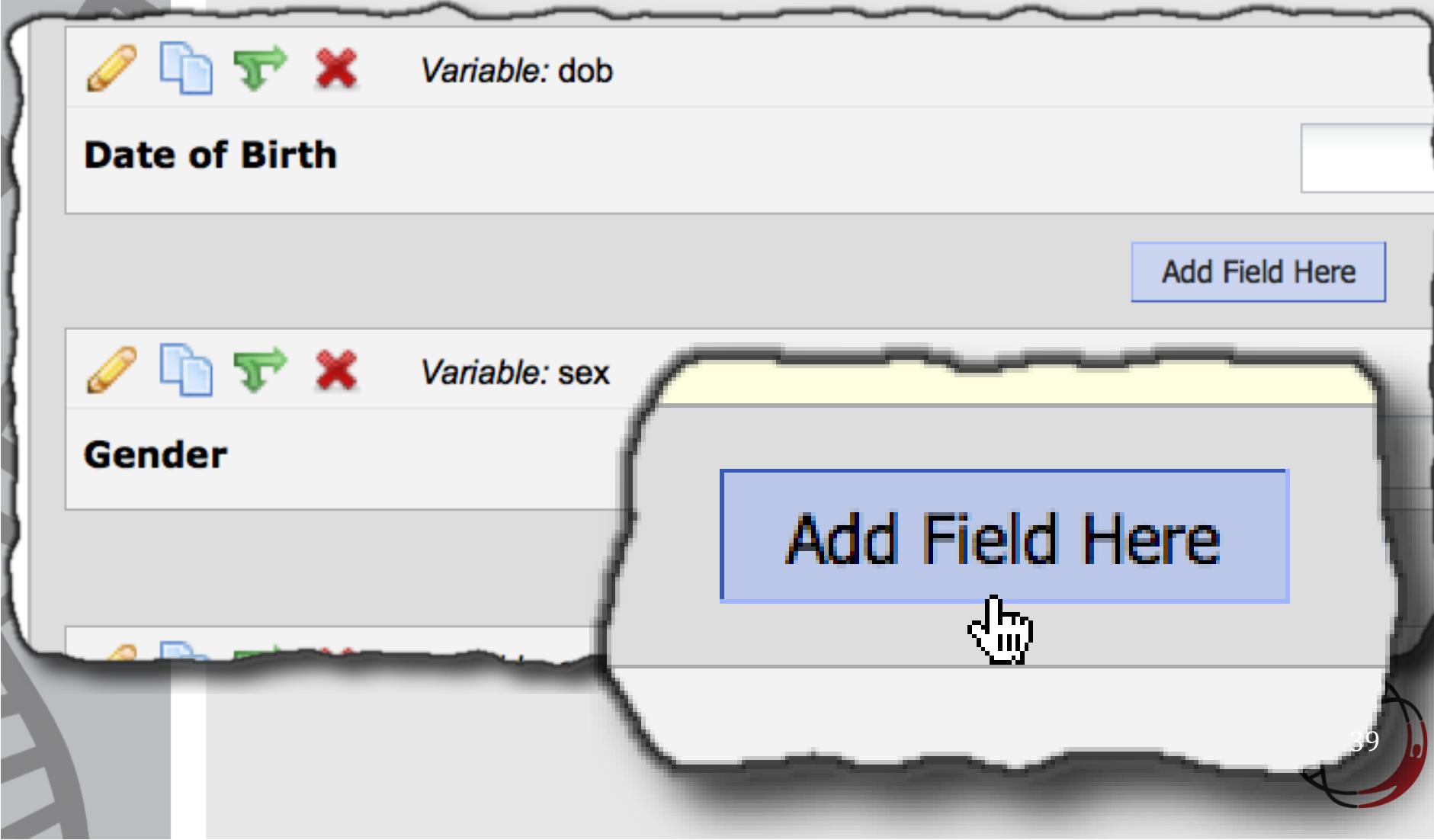
**On a scale of 1 to 5, how much of a pain is your husband? Alignment: Left / Horizontal (LH)**

1     2     3     4     5

Note: Use when creating a matrix

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# Adding a Field



# Inserting a New Field

- Select Field Type
- Enter Field Question (or Data Value Prompt)

**Field Type:** **Checkboxes (Check All That Apply)**

**Field Label**

What would you prefer your husband<br/> give you on  
your birthday day?

# Choices (Radio, Drop Down, Check)

A value is assigned to each choice

## Choices (one choice per line)

Chocolates

Clean the Bathroom

Clothes

Flowers

Pearls

Shopping Spree

Vacuum the House

Watch a Movie

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How do I manually code the choices?

# Same Choices, Different Field Types

Field Type: Multiple Choice - Radio Buttons (Only One Answer)

- Chocolates
- Clean the B
- Clothes
- Flowers
- Pearls
- Shopping Sp
- Vacuum the
- Watch a Mov

Please select your f

Field Type: Multiple Choice - Drop-down List (Only One Answer)

Clean the Bathroom

- Chocolates
- Clean the Bathroom
- Clothes
- Flowers
- Pearls
- Shopping Spree
- Vacuum the House
- Watch a Movie

Field Type: Checkboxes (Check All That Apply)

- Chocolates
- Clean the Bathroom
- Clothes
- Flowers
- Pearls
- Shopping Spree
- Vacuum the House
- Watch a Movie

# Creating a Conditional Field

Branching logic can be used to show fields that meet a certain condition



Variable: sex

Gender

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Variable: husband\_gift

Branching Logic

What would you prefer your husband give you on your birthday day?

# Using Advanced Branching Logic

Conditional fields can be created by specifying the variable and value of the field that makes the condition true

## Advanced Branching Logic Syntax

Show the field ONLY if...

**[sex] = '0'**

# Creating a Conditional Field

Alternatively, the Drag-N-Drop Logic Builder makes defining the condition easier

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Add/Edit Branching Logic

Drag-N-Drop Logic Builder

Field choices from other fields

sex = Female (0)

sex = Male (1)

address = (define criteria)

phone\_number\_threshold\_iv = 4 (3) editor

Show the field ONLY if...

ALL below are true

ANY below are true

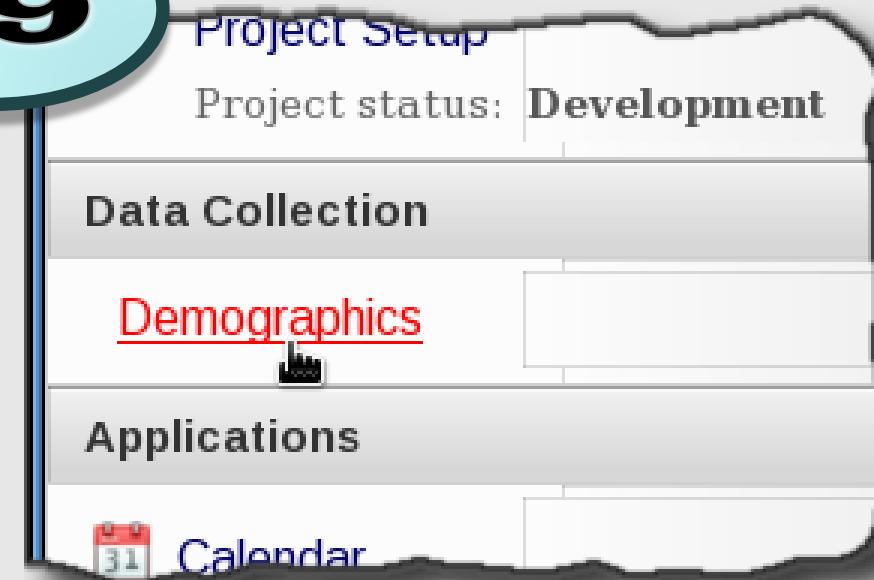
sex = Female (0) ✗

Drag and Drop

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# Starting Data Collection

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The Data Collection section in the navigation pane, lists the forms (also called instruments) that help organize data retrieved by the project.

In order to create a new record, the form that contains the Study ID must be entered first.

# Creating a New Study ID

<b>Incomplete Records (1)</b>	-- select record --
<b>Complete Records (0)</b>	-- select record --
<b>Enter a new or existing Study ID</b>	fmccclurg

- A new record is created when a non-existing identifier is entered on the first page to data collection interface.
- If the record already exists, that Study ID is retrieved.

# Using an Existing Study ID

The screenshot shows a user interface for managing study records. On the left, there are two sections: "Incomplete Records (1)" and "Complete Records (0)". On the right, there is a dropdown menu labeled "-- select record --". The dropdown list contains three items: "-- select record --", "-- select record --", and "fmccclurg", where "fmccclurg" is highlighted with a blue background.

Incomplete Records (1)	Complete Records (0)
-- select record --	-- select record --
-- select record --	fmccclurg

An existing Study ID can also be selected from the appropriate dropdown list on the first page of the data collection interface.

# User Rights and Permissions

Allows you to grant a user full or partial access to the database

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## User Rights and Permissions

You may grant other users access to this project or edit the user privileges of current users on this project by navigating to the User Rights page.

limit user access to  
or this project, you may  
groups, in which only  
Access Group can  
users within that group.

## User Rights



Data Access Groups

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# Adding a New User

A new user can be added to the database by entering their HawkID.

**Choose existing  
project user**

-- select user -- ▾

**OR type a new user and hit the TAB key**

**New user name**

hdavis

# Granting User Privileges

 Calendar	<input checked="" type="checkbox"/>
 Data Export Tool	<input type="radio"/>
 Data Import Tool	<input type="radio"/>
 Data Comparison Tool	<input type="radio"/>
 Logging	<input type="checkbox"/>
 File Repository	<input checked="" type="checkbox"/>
 User Rights	<input type="checkbox"/>
 Data Access Groups	<input type="checkbox"/>
 Graphical Data View & Stats	<input checked="" type="checkbox"/>
 Reports & Report Builder	<input checked="" type="checkbox"/>
 Project Setup/Design	<input type="checkbox"/>

Define user's role:

- Identifier Data visibility
- Ability to grant privileges to other users
- Allow/Deny other's access to project specifics

# Record Locking Privileges

An entire form can be locked which prevents modification of any record.

Settings pertaining to record locking and E-signatures:



Record Locking

Customization



Lock/Unlock Records

Users with locking privileges also have access to the E-signature and Locking Mgmt page on the left-hand Applications menu.



Disabled



Locking / Unlocking



Locking / Unlocking with E-signature authority

[What is an E-signature?](#)



[Watch video about locking](#)

Allow locking of all forms at once for a given record?



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# Record Privileges

Control of record creation, renaming, and deletion can be specified.

Settings pertaining to project records: [Explain these settings](#)



Create Records



Rename Records



Delete Records



Expiration Date  
*(if applicable)*

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# Data Entry Rights

Data entry rights are granted on a per form basis.

## Data Entry Rights

None Read Edit

Demographics



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# Data Entry Rights

Data entry rights are granted on a per form basis.

- Notify user of their project access via email?

Add User

- Cancel -

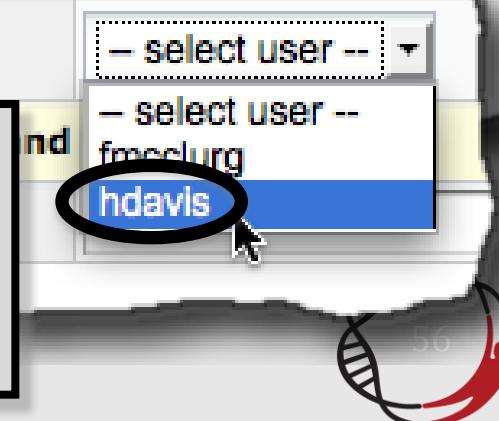
# User Rights View

HawkID	Expiration	Calendar
fmcclurg	never	✓
hdavis	never	✓

User rights can be modified by clicking on the HawkID link

	Data Export Tool	Data Import Tool	Data Comparison Tool	
Full Data Set	✓	✓		
Full Data Set	✗	✗		

Or by selecting the HawkID from the dropdown list



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# Deleting a REDCap Project

The procedure for deleting a project (which includes all the forms and the data):

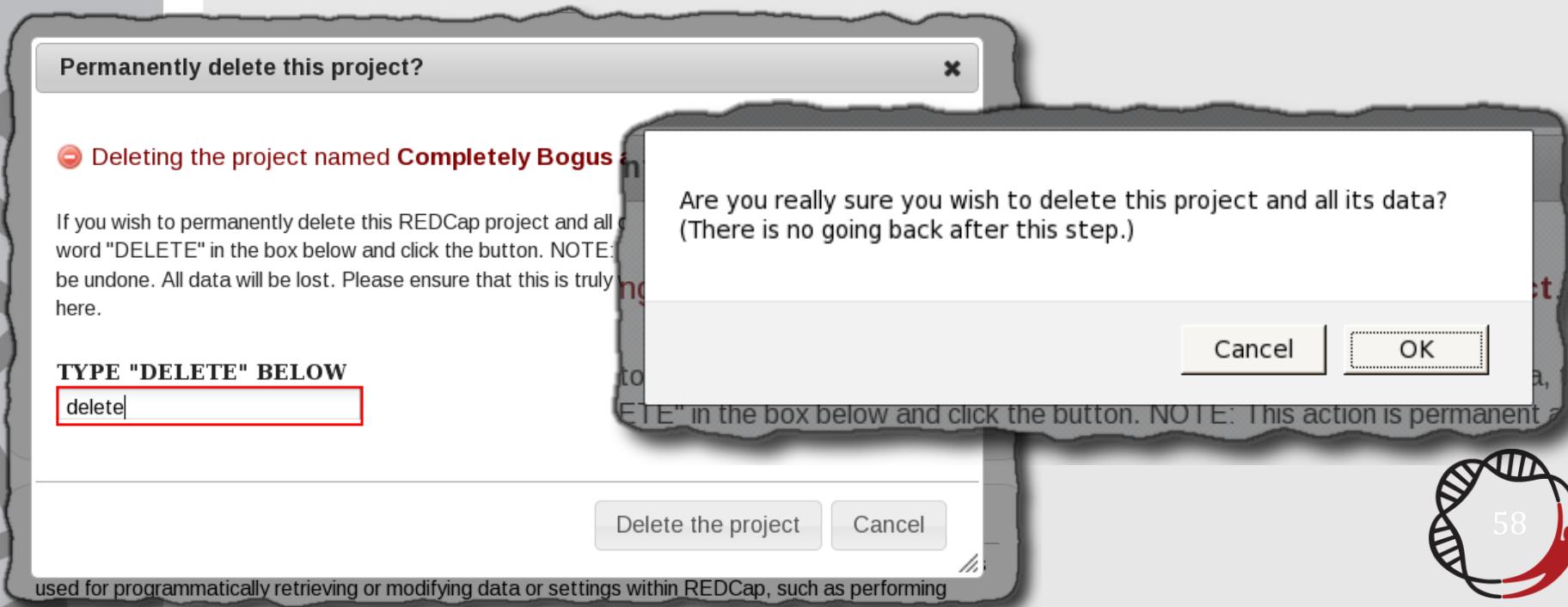
1. Select the project
2. Click “Other Functionality” tab
3. Press “Delete the project” push button

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# Deleting a Project (continued)

The procedure for deleting a project (which includes the all the forms and the data):

4. Type the word “delete” in the dialog text box.
5. Click “Ok” on the confirmation dialog.



# REDCap Documentation

- Training within REDCap:

- FAQs (Help & FAQ Tab):



<https://redcap.icts.uiowa.edu/redcap/index.php?action=help>

- Video (Training Resources Tab):



<https://redcap.icts.uiowa.edu/redcap/index.php?action=training>

- Local REDCap documentation:



<https://icts.uiowa.edu/confluence/display/ICTSIT/REDCap>

# REDCap Newsletter

- **Monthly REDCap Newsletter**
  - Upcoming Training
  - Helpful Tips
  - New REDCap Functionality
  - Frequently Asked Questions (and answers)
  - Featured REDCap Projects
  - Unique Uses of REDCap
- **REDCap LISTSERV Subscription:**
  - ❖ <https://list.uiowa.edu/scripts/wa.exe?SUBED1=REDCAP&A=1>

