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https://icts.uiowa.edu/confluence/download/attachments/53149797/REDCap_Overview_RPN_Group.pdf

What is REDCap?

(Research Electronic Data Capture) is a web based application used to create and manage databases and surveys in order to support data capture for research studies.



Who can use REDCap?

Any University of Iowa investigator or research team can use REDCap.

People use REDCap by logging into

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

Video training modules are available here:

https://redcap.icts.uiowa.edu/redcap/index.php

?action=training

Why are people choosing REDCap over Excel and Access?

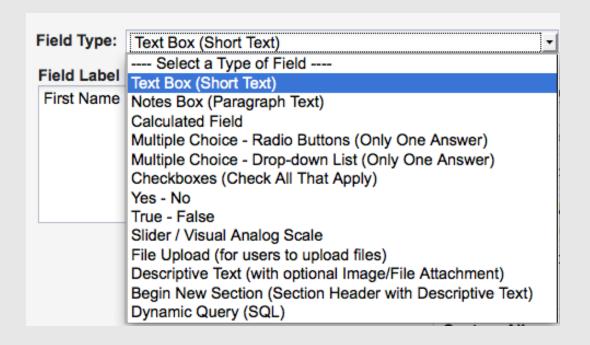
- Access is authenticated
 - Using University of Iowa LDAP hawkId and password
- Secure hosting and regular data backups
 - Data backups, software grades, and system maintenance are handled automatically by ICTS
 - More on security shortly
- Allows multi site access
 - research teams can input data simultaneously, from across the hall or across the country.

Why are people choosing REDCap over Excel and Access?

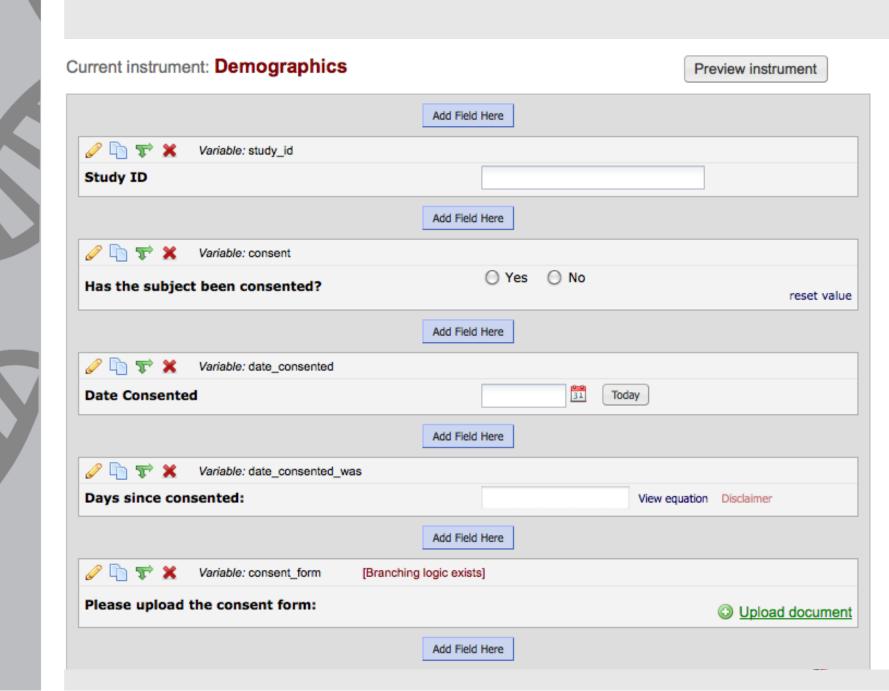
- Research teams can quickly develop databases
 - Any user can login in and start a project
- Research teams have autonomy
 - Creating a new database or survey
 - Assigning user permissions and roles
 - This should be in accordance to what is submitted to the IRB
 - Granting rights for data import and export

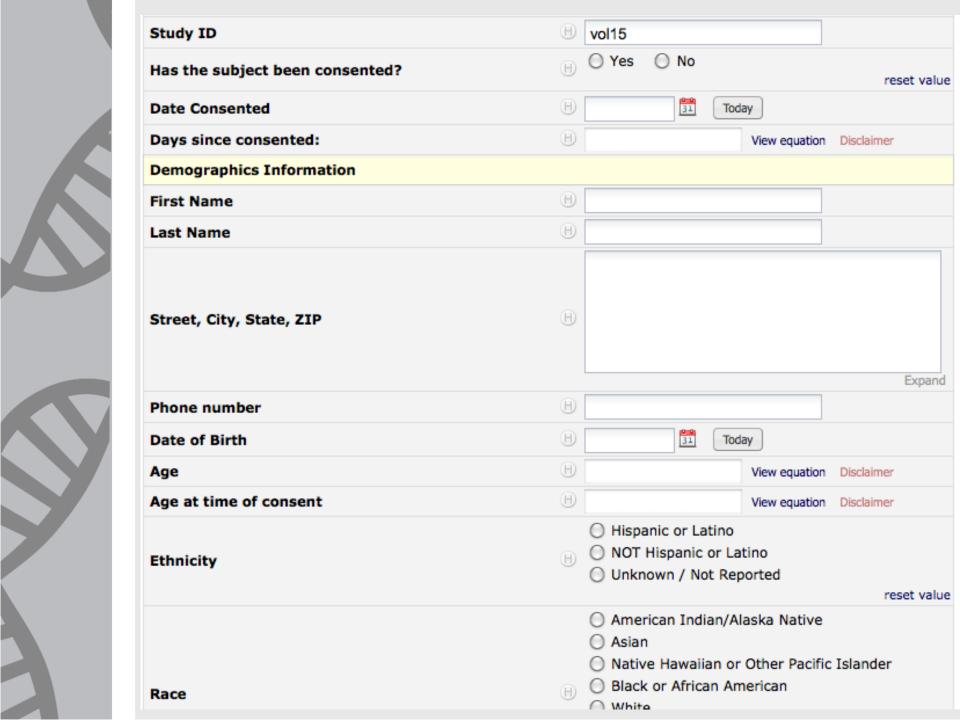


Form creation and data entry are easy in the web interface







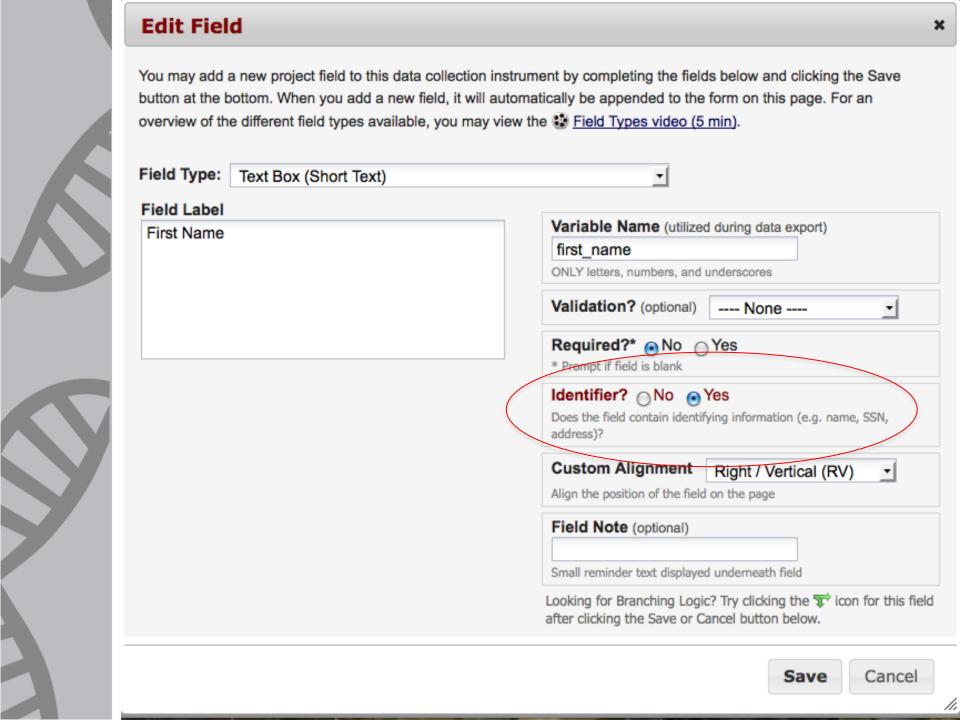


- Researchers can make modifications to their database at any time during the study
 - In draft mode
 - In production mode
- Questions using branching logic and calculated fields are supported
- Researchers can copy databases
- Researchers can clear all data from a database



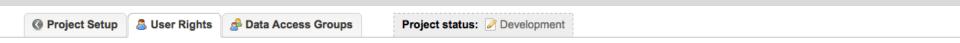
 Research teams can easily mark identified data in the interface and create access limits on those fields that include identifying information





- Researchers choose what people and groups have access to:
 - Data, both identified and de-identified
 - Data export & import capability
 - User rights management
 - View reports
 - View logging





This page may be used for granting new users access to the project and for editing the rights of current project users. You may edit the rights of a current user by selecting them from the dropdown list below or add a new user by entering their user name in the text box and hitting the Tab key.

Choose existing project user	select user 🕶							
OR type a new user and hit the TAB key								
New user name								

Comprehensive User Rights View

HawkID	Expiration	Calendar	Data Export Tool	Data Import Tool	Data Comparison Tool	Logging	File Repository	User Rights	Data Access Groups	Graphical Data View & Stats	Reports & Report Builder	Record Locking Customization	Lock/Unlock Records	Project Setup/Design	Create Records	Rename Records	Delete Records
hdavis	never	4	Full Data Set	4	✓	✓	✓	V	✓	✓	✓	×	×	✓	✓	×	×
khaggert	never	✓	De-Identified	×	×	✓	✓	×	×	✓	✓	×	×	×	✓	×	×
lheureuxj	never	✓	×	×	×	4	✓	×	×	✓	✓	×	×	×	✓	×	×
mckillipj	never	✓	×	×	×	4	✓	×	×	✓	✓	×	×	×	✓	×	×
mlhein	never	✓	×	×	×	×	×	×	×	×	×	×	×	×	✓	×	×

- Researchers can export data to a variety of statistical analysis packages (SPSS, SAS, R or Excel)
 - Researchers can grant or restrict access to export data for analysis
 - Data exports are customizable including all or some of the data forms and fields
 - Exports can include identified or only deidentified data depending on user and group rights

AP Window - Aortopulmonary Window (ap_window_aortopulmonary_w)	
ASD (PFO) Atrial septal defect (patent foramen ovale) (asd_pfo)	
AVC (AVSD) Atrioventricular Canal (Atrioventricular Septal Defect) (avc_avsd_atrioventricular Septal Defect)	cular)
Choose Any Diagnosis that applies (choose_any_diagnosis_that)	
Form Status	
Complete? (diagnostic_list_complete)	
Known Identifiers: Remove all known Identifier fields (tagged in Data Dictionary) Hash the Study ID (converts record name to an unrecognizable value)	
Free-form text: Remove unvalidated Text fields (i.e. Text fields other than dates, numbers, etc.) Remove Notes/Essay box fields	
Date fields:	

- Reports can be generated:
 - on the fly
 - saved and used over and over within the interface



New Test Report									
Study ID (study_id)	Has the subject been consented? (consent)	Date Consented (date_consented)	Age (age)	Ethnicity (ethnicity)	Race (race)	BMI (bmi)	Gender (sex)	Does this subject have asthma? (asthma)	Complete? (diagnostic_list_
vol1		2010-12-13	19	Unknown / Not Reported (2)	White (4)	28.3	Female (0)	No (2)	Incomplete (0)
vol12	Yes (1)	2011-03-15	19	Hispanic or Latino (0)	Asian (1)	17.4	Male (1)		Incomplete (0)
<u>vol14</u>	Yes (1)	2011-03-31	19	Unknown / Not Reported (2)	Unknown / Not Reported (6)				Incomplete (0)
vol2		2011-02-25	42	NOT Hispanic or Latino (1)	White (4)	20.8	Male (1)	Yes (1)	Incomplete (0)
vol3		2011-01-19	37	Hispanic or Latino (0)	Multiracial (5)	16.8	Male (1)	Yes (1)	Incomplete (0)
vol4		2010-02-10	26	NOT Hispanic or Latino (1)	Black or African American (3)	16.2	Female (0)	Yes (1)	Incomplete (0)
vol5		2011-02-14	68	NOT Hispanic or Latino (1)	White (4)	11.6	Male (1)	Yes (1)	Incomplete (0)
vol6		2011-02-23	29	NOT Hispanic or Latino (1)	White (4)	8.7	Male (1)	Yes (1)	Incomplete (0)
vol7		2010-12-31	67	NOT Hispanic or Latino (1)	White (4)	12.3	Female (0)	No (2)	Incomplete (0)
vol8		2011-02-21	58	NOT Hispanic or Latino (1)	White (4)	30.1	Female (0)	Yes (1)	Incomplete (0)
vol9	Yes (1)		28	NOT Hispanic or Latino (1)	White (4)	12.1	Female (0)	No (2)	Incomplete (0)



Data logging

- provides information about
 - who has changed the instrument
 - who has changed the data
 - who has accessed data
 - when these events occured





This module lists all changes made to this project, including data exports, data changes, and the creation or deletion of users.



Time / Date	HawkID	Action	List of Data Changes OR Fields Exported
5:55pm 04/04/2011	hdavis	Page View	Page accessed: https://redcap.icts.uiowa.edu/redcap/redcap_v4.0.3/Logging /index.php?pid=8&usr=&record=&logtype=page_view
5:55pm 04/04/2011	hdavis	Page View	Page accessed: https://redcap.icts.uiowa.edu/redcap/redcap_v4.0.3/Logging /index.php?pid=8
5:54pm 04/04/2011	hdavis	Page View	Page accessed: https://redcap.icts.uiowa.edu/redcap/redcap_v4.0.3 /edit_field_ajax.php?pid=8&field_name=first_name
5:54pm 04/04/2011	hdavis	Page View	Page accessed: https://redcap.icts.uiowa.edu/redcap/redcap_v4.0.3 /design.php?pid=8&page=demographics
5:54pm 04/04/2011	hdavis	Page View	Page accessed: https://redcap.icts.uiowa.edu/redcap/redcap_v4.0.3 /design.php?pid=8
5:54pm 04/04/2011	hdavis	Page View	Page accessed: https://redcap.icts.uiowa.edu/redcap/redcap_v4.0.3 /setup.php?pid=8
5:54pm 04/04/2011	hdavis	Page View	Page accessed: https://redcap.icts.uiowa.edu/redcap/redcap_v4.0.3 /calendar.php?pid=8

REDCap System Security

(This is what the IRB will want to know)

- Physical Security
 - Primary Data HCIS Pomerantz Data Center
 - Data backups ITS Lindquist Data Center
- Operating System Security
 - HawkID Based Logins
 - Data Encrypted at Rest
 - Remote System Logging
 - Configuration and Change Management

REDCap System Security cont.

- ITS System Security Scan
 - All identified issues mitigated
- ITS Web Application Evaluation
 - In progress
- FISMA Moderate
 - National Children's Study
 - Received Authority to Operate



REDCap Data Backups

- Backups are always encrypted both in flight and at rest
- Copies of data replicated to remote data center every 15 minutes
- 100+ point in time copies of data available at any time
- Tested good disaster recovery strategy

