MosquitoDB

Release 25th August 2021

Janice Maige

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CONTENTS


MOSQUITO DATABASE
MANAGEMENT SYSTEM
Visit at www.mosquitodb.io
mosquitoDB

CHAPTER

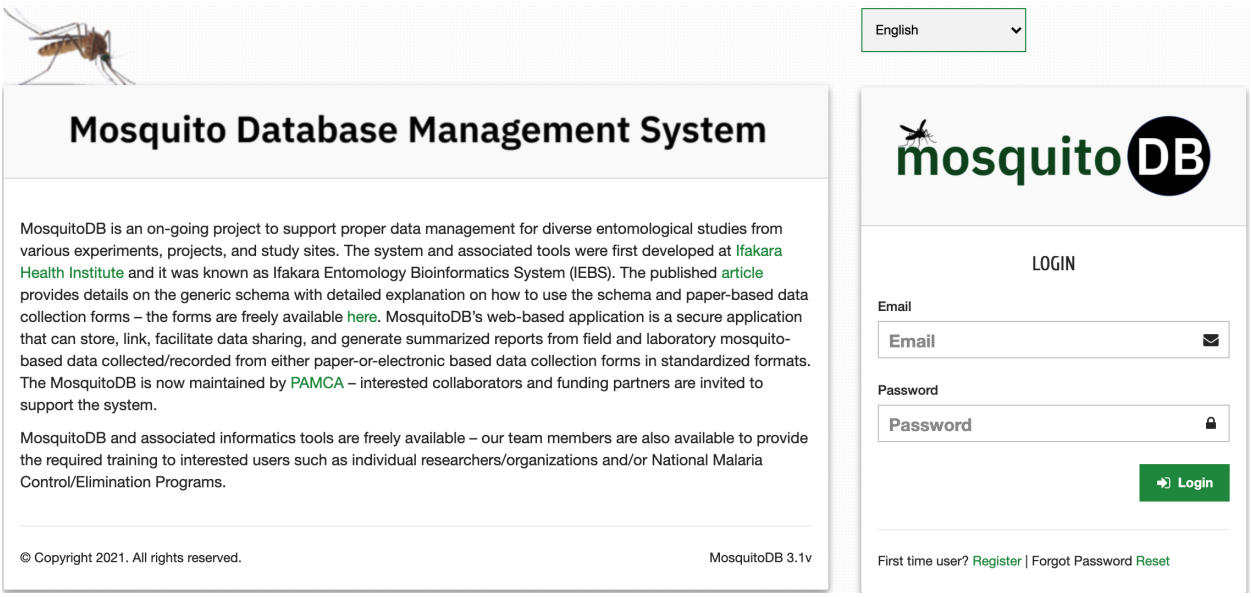
ONE

OVERVIEW

1.1 Overview

MosquitoDB's web-based application is a secure application that can store, link, facilitate data sharing, and generate summarized reports from field and laboratory mosquito-based data collected/recorded from either paper-or-electronic based data collection forms in standardized formats.

It ensures Quality data collection, proper linkage between projects and users, secure storage, standardised datasets, easy sharing of data within the team and interactive visualisation of stored data.



1.2 Key Features

MosquitoDB's key features include ;

- It facilitates data collection for all person's in the research team
- It facilitates the secure storage of field data
- It facilitates data sharing for relevant persons in the team and in other organizations
- It facilitates interactive visualisation of stored data.

CHAPTER

TWO

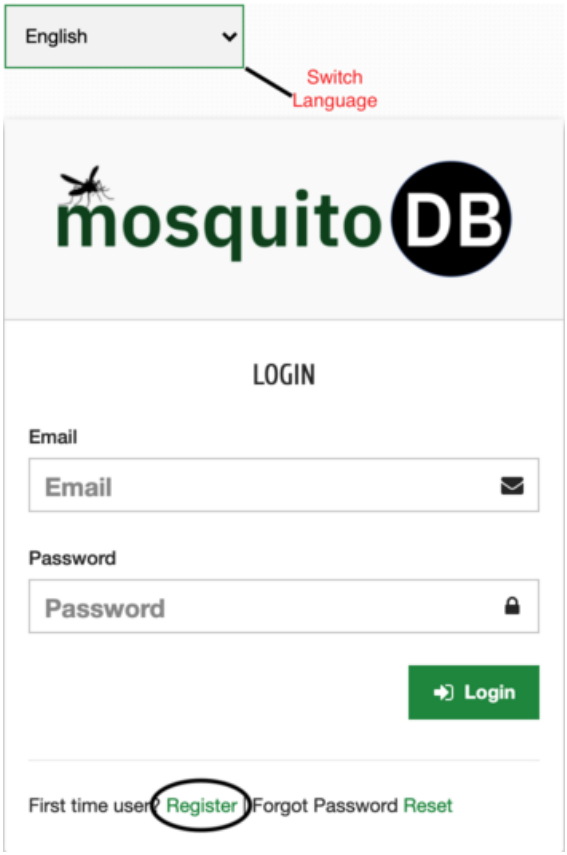
GETTING STARTED

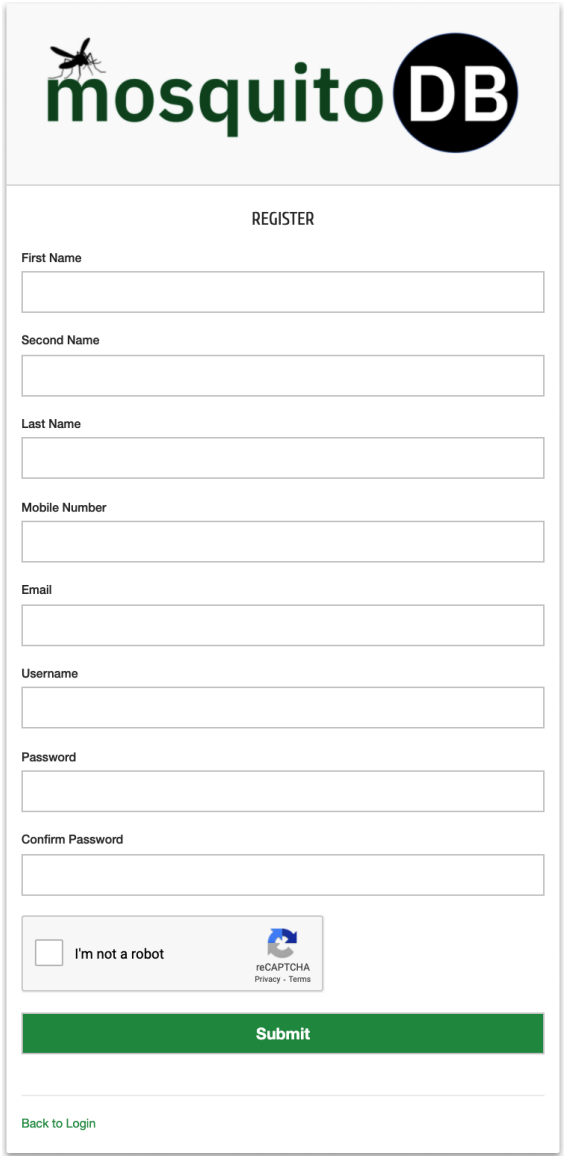
2.1 Register your account

Click on “Register” button, found on the login page as per image below. This will take you to the registration page where you can enter your details.

Upon submitting the system will send an “Activation Email” to your registered email for security purpose, if you don’t find it in your inbox, kindly check your spam folder. Click Activate account button on the received mail and your account will be activated.

If you’re a French speaking user, click the language button to switch to your preffered language.





2.2 Login to your account

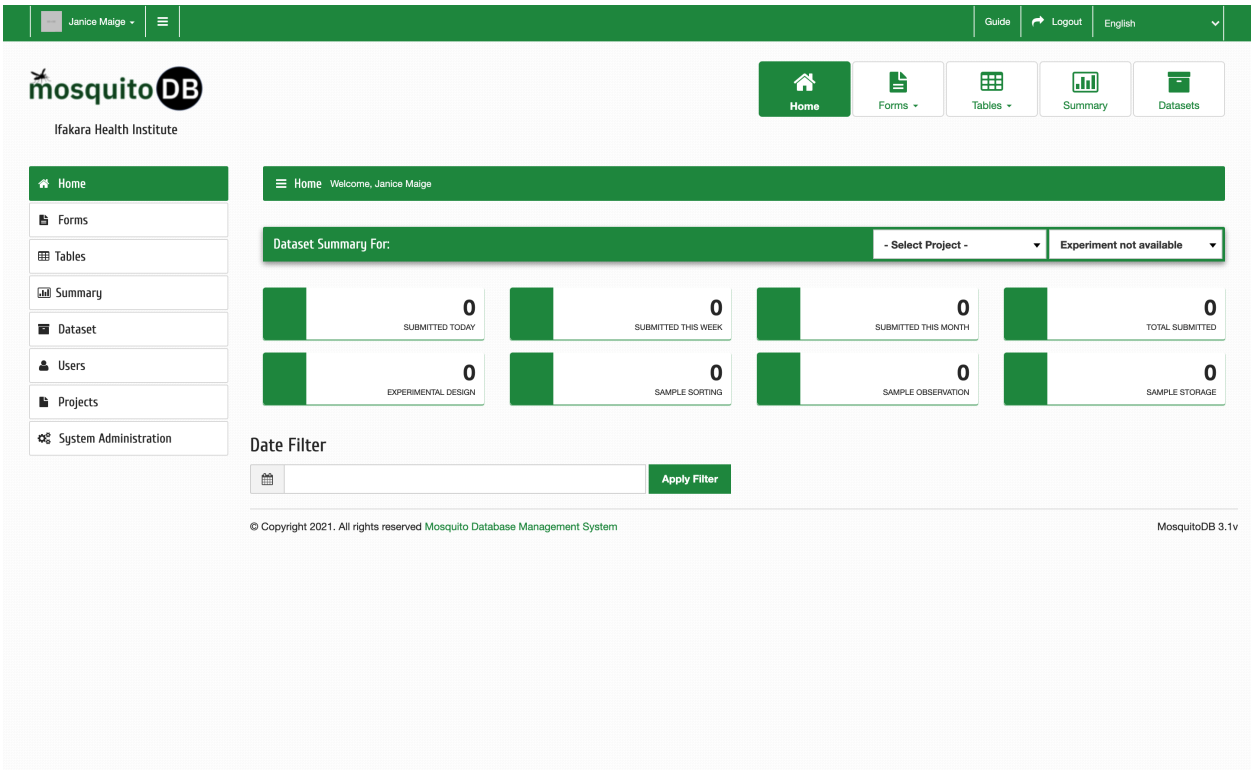
- Enter your registered email address e.g. newuser@ihi.or.tz
- Enter your registered password ******
- Then Click the "Login Button" to login to Mosquito database

If you can't remember your registered password click Reset, an email will be sent to your email for password reset instructions.

2.3 Working with home page

Once logged in note that;

- Only users provided with access to a specific project(s) can access those projects
- Only projects added into the system can be accessed
- Only Project Investigators or Leaders add project to the system
- Only Project Investigators or Leaders who have added a project can grant access to registered users
- Only give access to members in your team and collaborators – or those you have agreed to share data with.



2.4 Working with the main menu

Once logged in note that;

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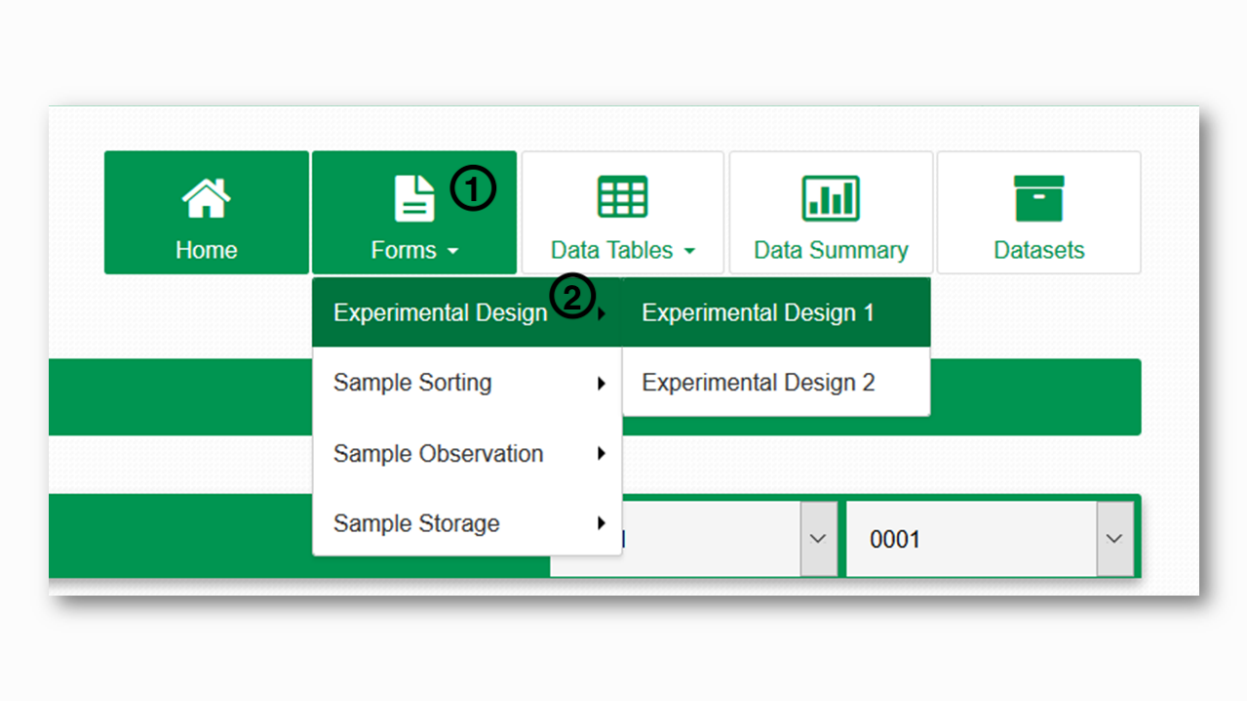

Home
Forms
1
Data Tables
Data Summary
Datasets
Experimental Design
2
Experimental Design 1
Experimental Design 2
Sample Sorting
Sample Observation
Sample Storage
0001

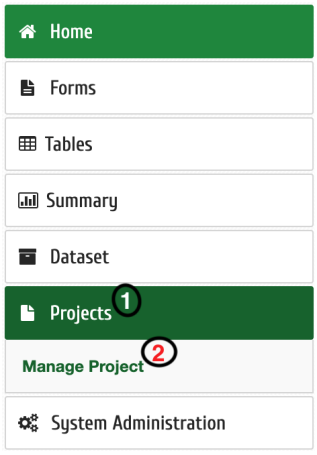
CHAPTER

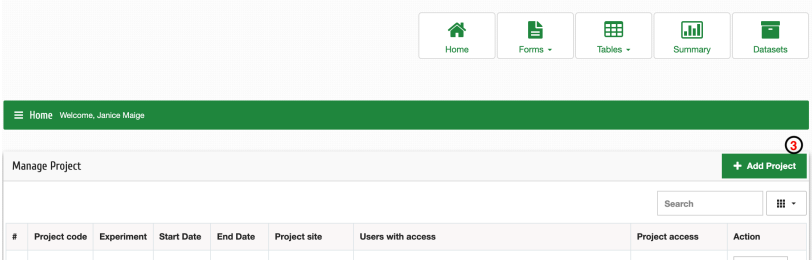
THREE

PROJECT MANAGEMENT

3.1 Add a project

Step 1: Click Projects
Step 2: Click Manage Projec
Step 3: Click +Add Project

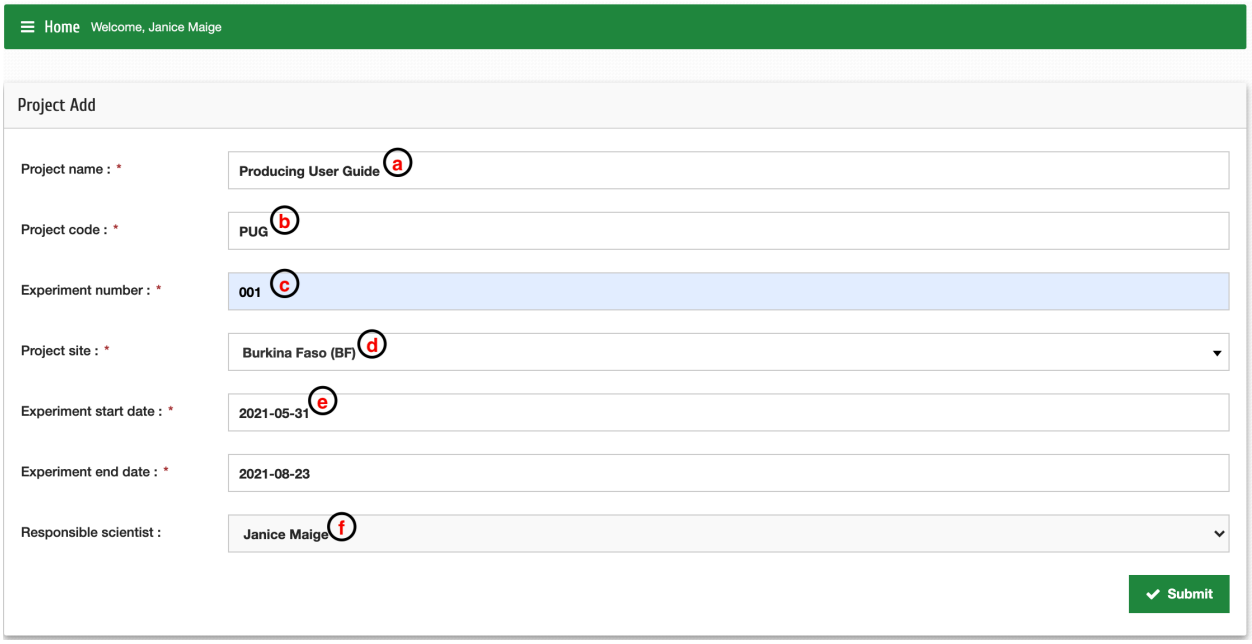




Step 4: Enter project details;

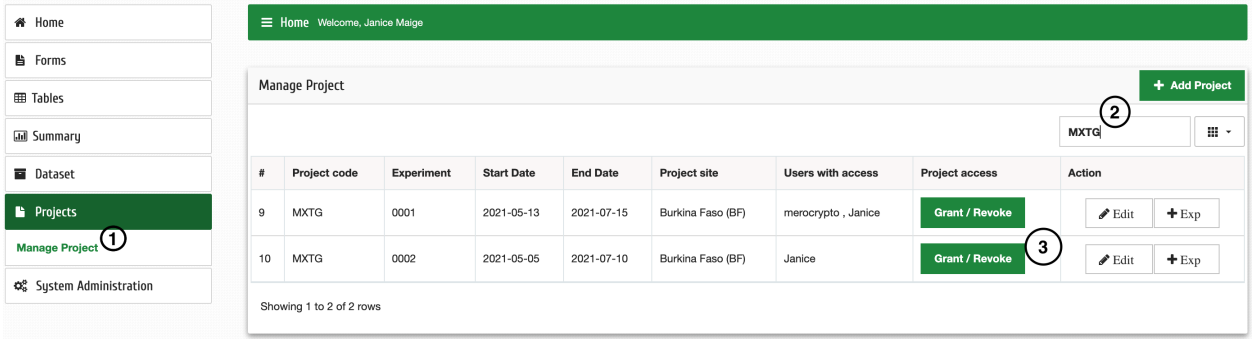
a: Project name – long format (e.g., Producing User Guide)
b: Project code – Abbreviation of the project name(e.g., TEG)
c: Experiment number (e.g., 1 if it's the first experiment for the project
d: Select site name from a drop downmenu (if not available – Add a site?)
e: Select appropriate date - same for expected end date
Select responsible scientist from dropdown menu (e.g., Project Leader)

Then click “Submit”



3.2 Grant access to an existing project

Step 1: Click Projects then Manage Project
Step 2: Search your project based on the project code (e.g., MXTG)
Step 3: Click on Grant/Revoke button

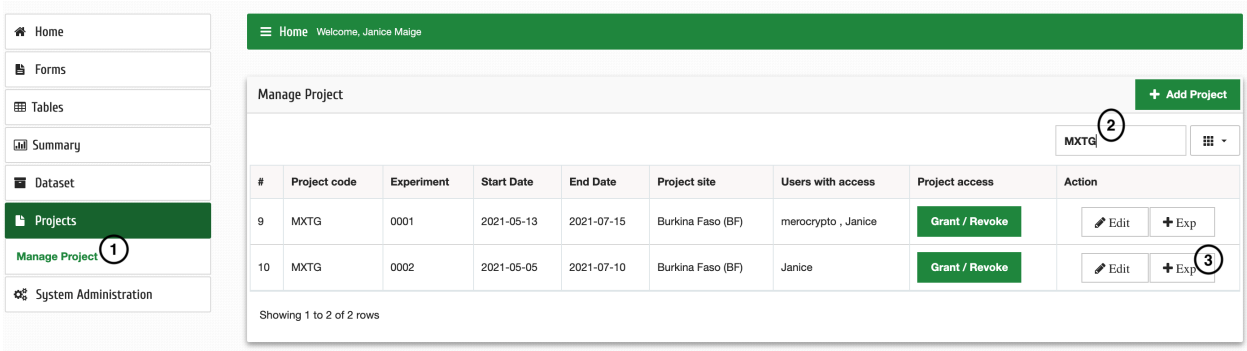


Step 4: Select the user you want on the user dropdown

Then click “Submit”

3.3 Add an experiment to a project

Step 1: Click Projects then Manage Project
Step 2: Search your project based on the project code (e.g., MXTG)
Step 3: Click on **+Exp** button



Step 4: Enter new experiment details;

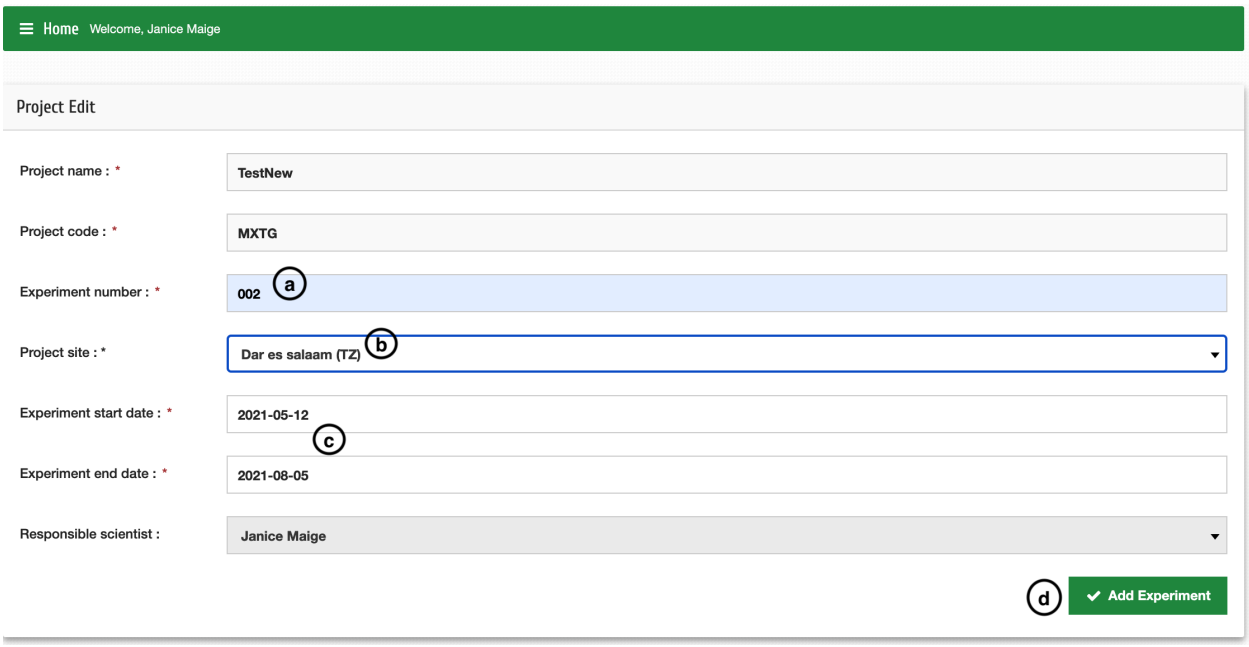
a: Experiment number (e.g., 002)

Select site name from a drop downmenu (if not available – Add a site?)

c: Select appropriate date - same for expected end date

NB: The rest of the fields are filled by default

d: Click "Add Experiment"


Home
Welcome, Janice Maige
Project Edit
Project name : *
TestNew
Project code : *
MXTG
Experiment number : *
002
a
Project site : *
Dar es salaam (TZ)
b
Experiment start date : *
2021-05-12
c
Experiment end date : *
2021-08-05
Responsible scientist :
Janice Maige
d
Add Experiment

CHAPTER

FOUR

FORMS MANAGEMENT

4.1 Forms Management

MosquitoDb assists with data collection through data collection forms, that are customised and readily available to fit different vector specific projects and/or experiments. Though they were previously made specifically for mosquito data collection, they are now being adapted to other vectors starting with Snails

The available forms are filled with specific field and the user can easily add other fields that they will need in their experiment.

4.2 Setting up the forms

In order to start working on the forms, make sure you have created a project first following the steps on 3.1.

The forms on MosquitoDb are used as below;

a: Experimental Design 1 is used to collect field data
b: Experimental Design 2 collects from semi-fields
c: Sample Sorting 1 collects mature mosquito data
d: Sample Sorting 2 collects immature mosquito data
e: Sample Sorting 3 collects resistance data
f: Sample Sorting 4 collects snail data
g: Sample Observation 1 laboratory data collected from field
h: Sample Observation 2 laboratory data collected from semi-field
i: Sample Storage 1 collects storage data from field
j: Sample Storage 2 collects storage data from semi-field

After creating a project select the project and experiment then;

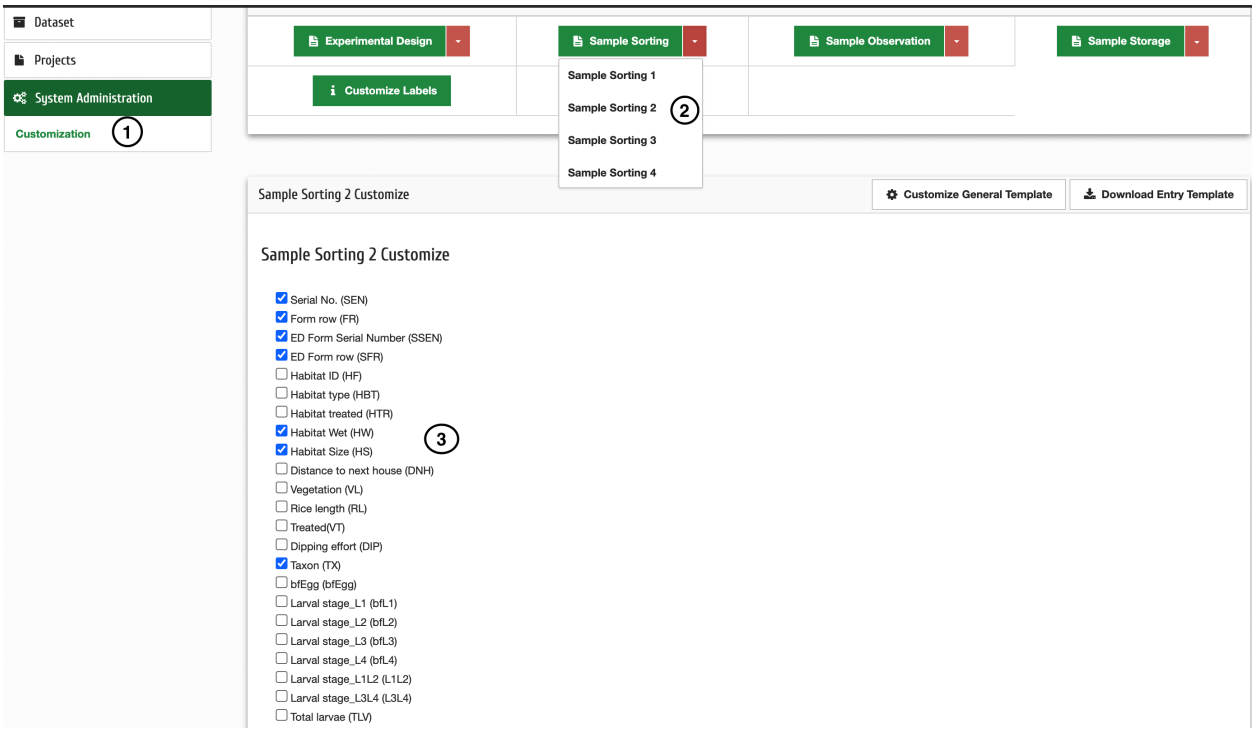
4.2.1 Customise form fields

Step 1: Click System Administration then Customisation
Step 2: Choose the forms that you want to have in your experiment e.g Experimental Design, then choose either Experimental Design 1 or 2

Step 3: Check or uncheck any non-mandatory field

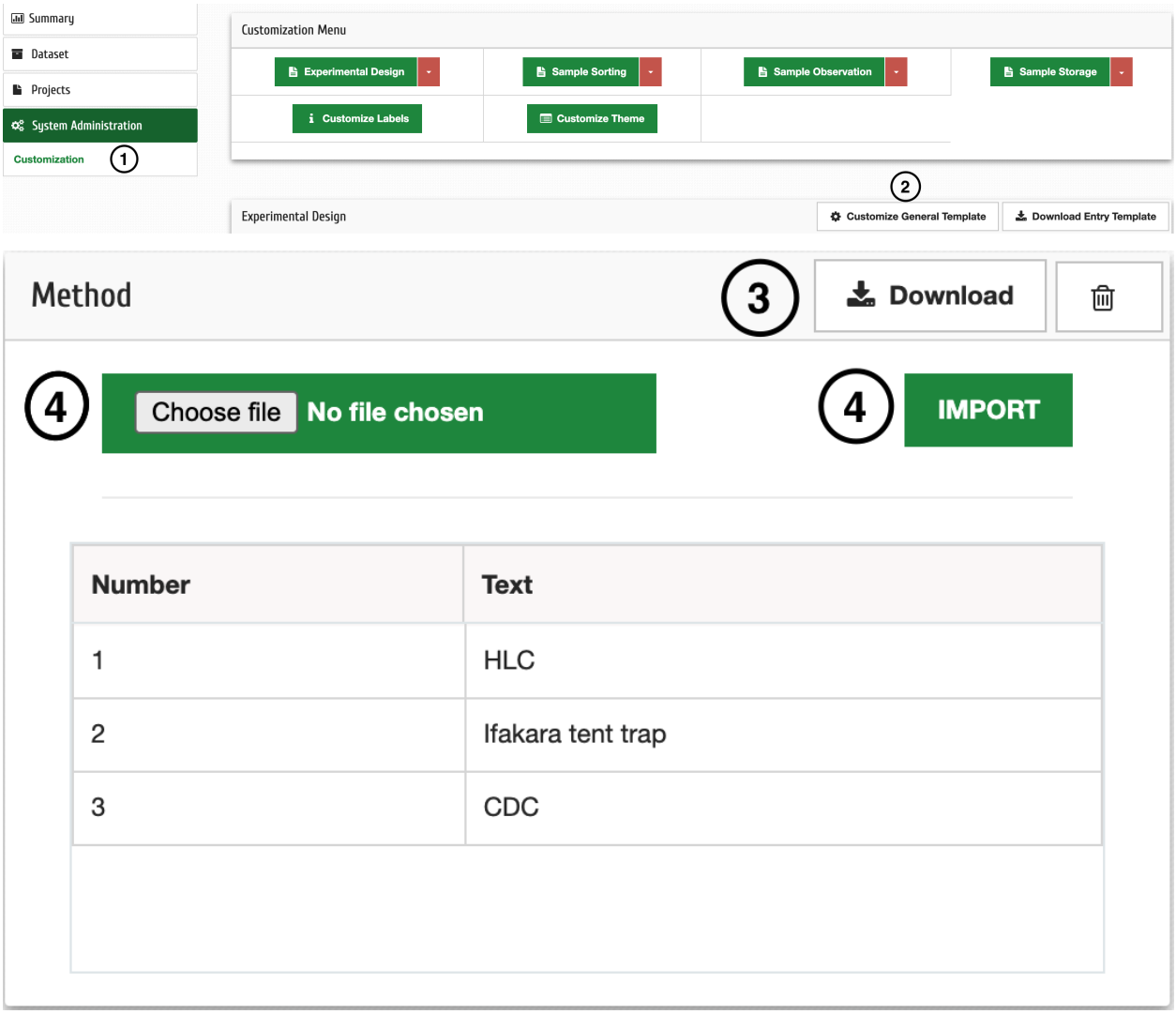
Click Save Fields or Delete Saved to uncheck the non-mandatory fields"

Do the same for all forms that you need in your experiment



4.2.2 Customize template

Step 1: Click System Administration then Customisation
Step 2: Click Customise General Template
Step 3: Click Download on the field you want to customise e.g Methods
Step 4: After editing the Methods on excel file, click Choose File, choose the edited excel file then click Import to upload the data



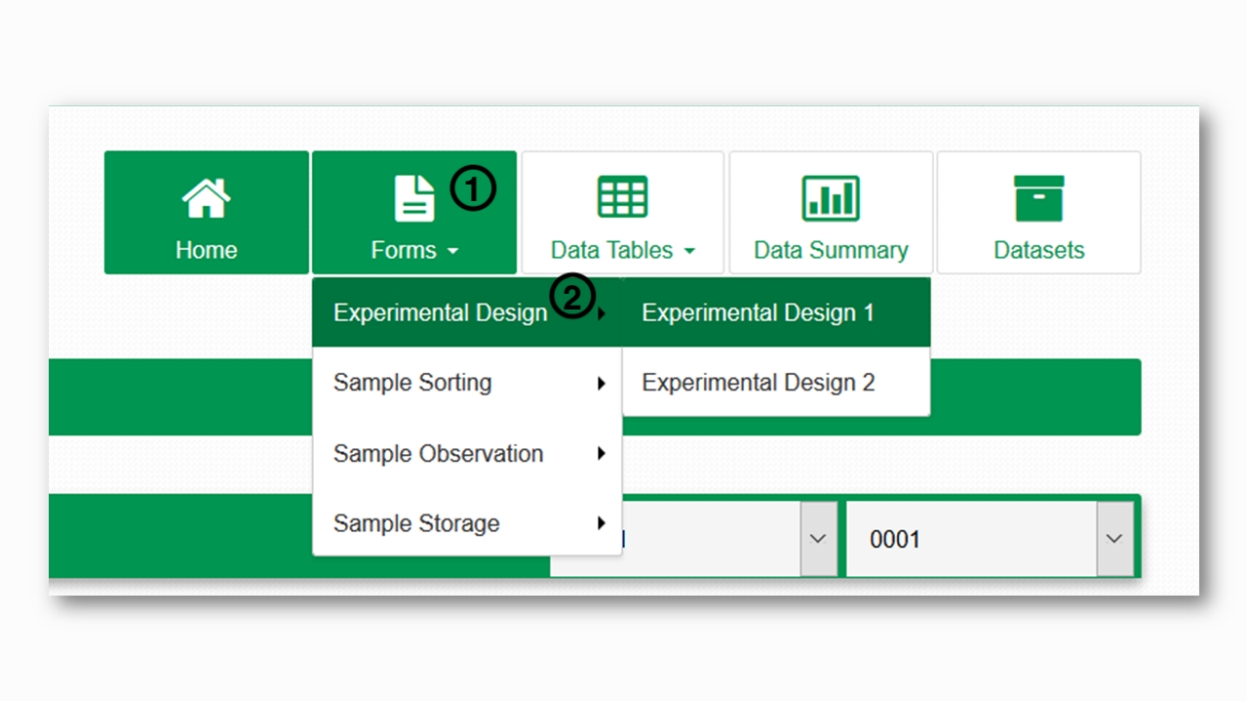
4.3 Data entry

On completion of your experiment, you can upload data to the system through the Web application or the android application.

NB: This can be done after customizng the forms following the steps in 4.2.1

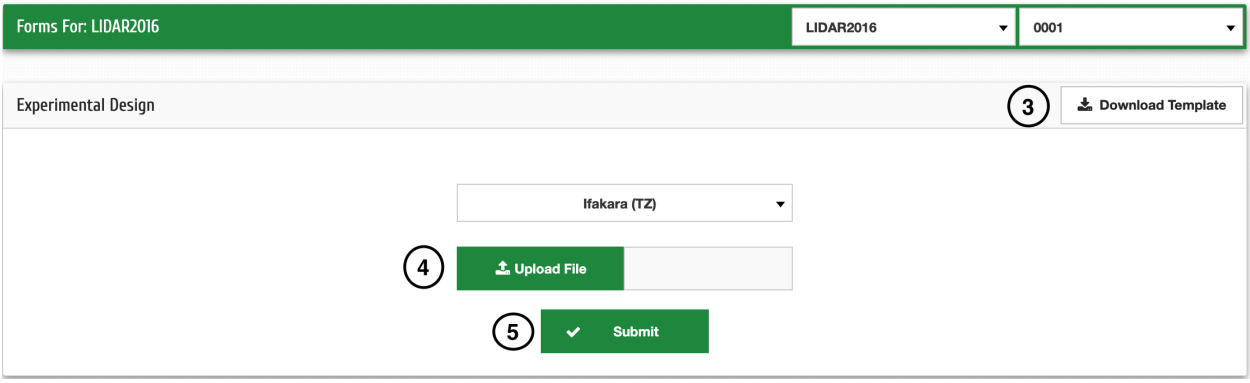
4.3.1 Selecting the data entry form

Step 1: Click Forms on the Menu
Step 2: Guide the cursor to the top of the form type that you want the select the specific form from the dropdown



Step 3: Click Download Template, then enter the data in the downloaded excel sheet

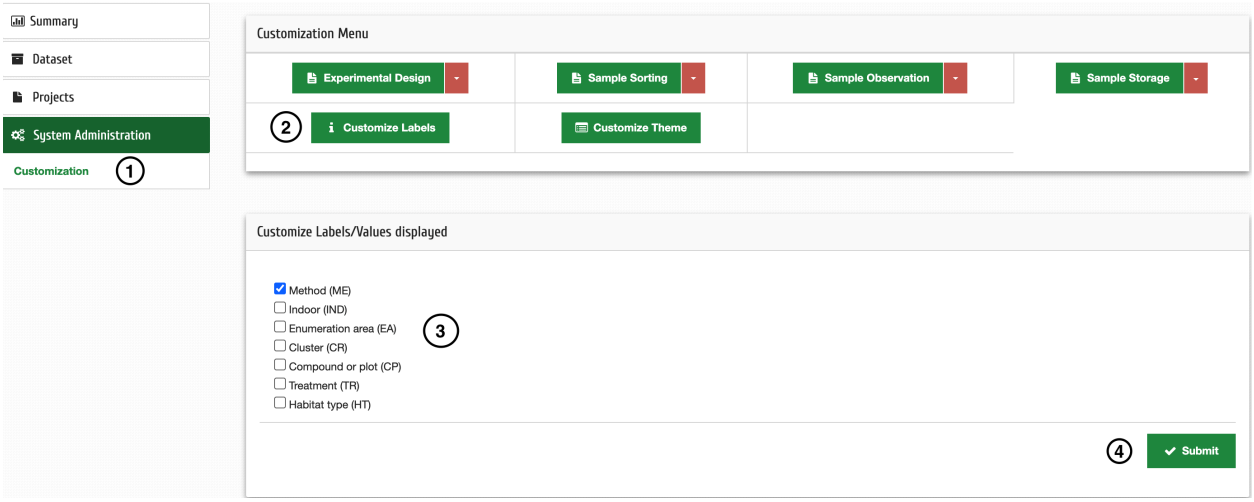
Step 4: Click Upload File and select the filled excel file
Step 5: Click Submit



4.4 Customise data table labels

You can edit the name label names of the data tables.

Step 1: Click System Administration then Customization
Step 2: Click Customize Labels
Step 3: Select the labels you want and deselect the one you don't want
Step 4: Click Submit



CHAPTER

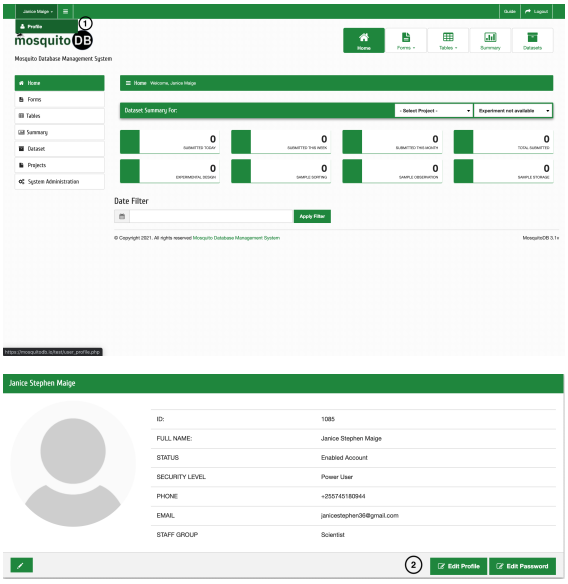
FIVE

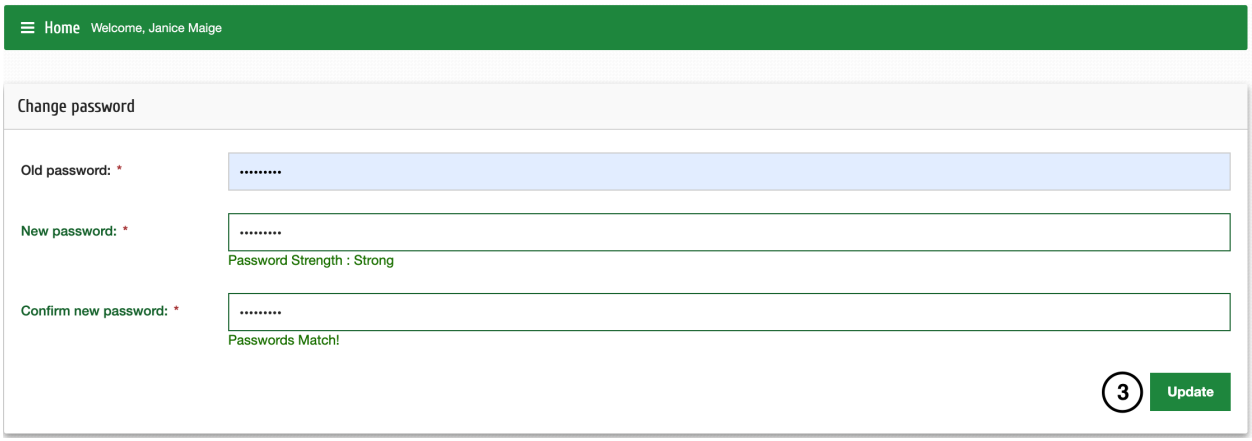
USER MANAGEMENT

5.1 Edit Profile

Once registered in MosquitoDb you can change your user details through the steps below;

Step 1: Click on your name on the top left of the page, then select Profile on the dropdown
Step 2: Click Edit Profile to change your details or Edit password to change your password
Step 3: After editing, click Update to save your changes




Home
Welcome, Janice Maige
Change password
Old password: *
New password: *
Password Strength : Strong
Confirm new password: *
Passwords Match!
3
Update

CHAPTER

SIX

DATA VISUALIZATION

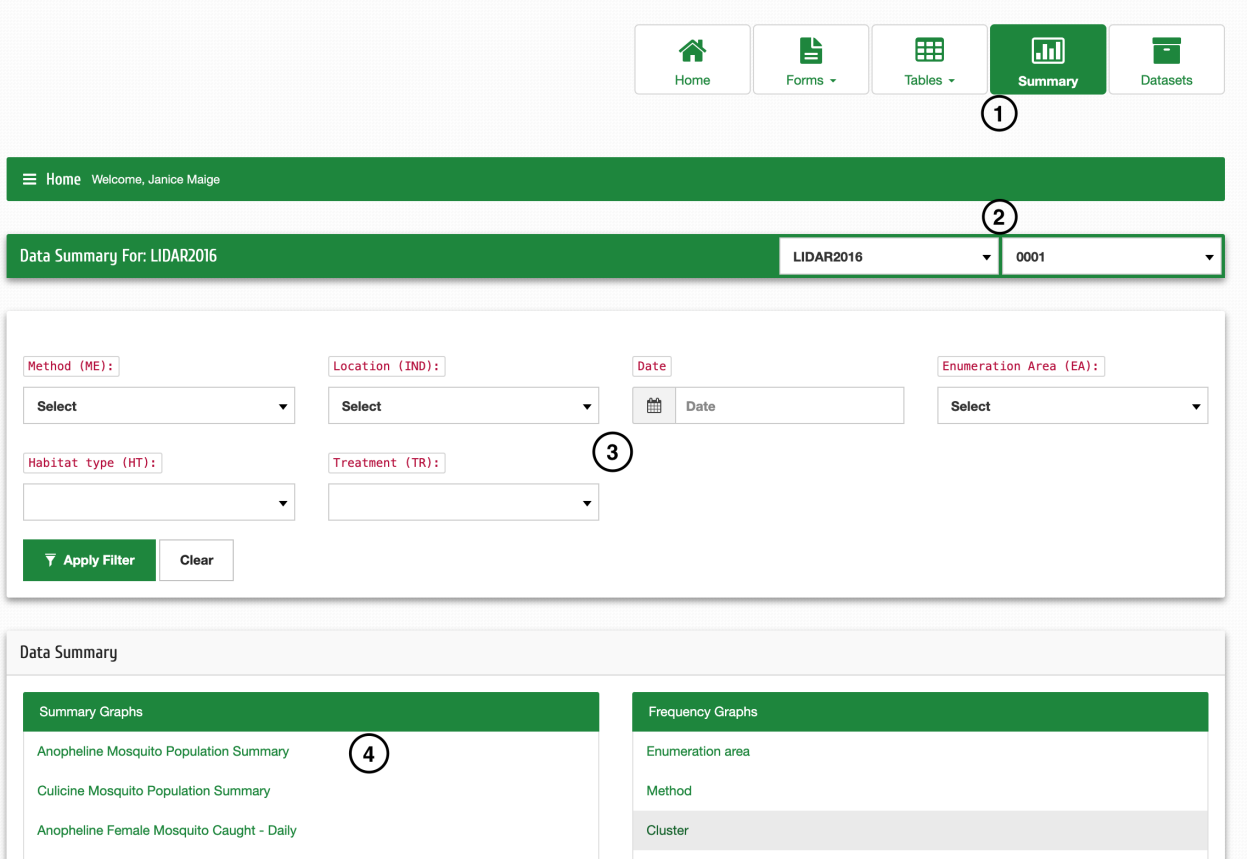
6.1 Data Summary

Step 1: Click Summary

Step 2: Select the project code and Experiment number you want to view data

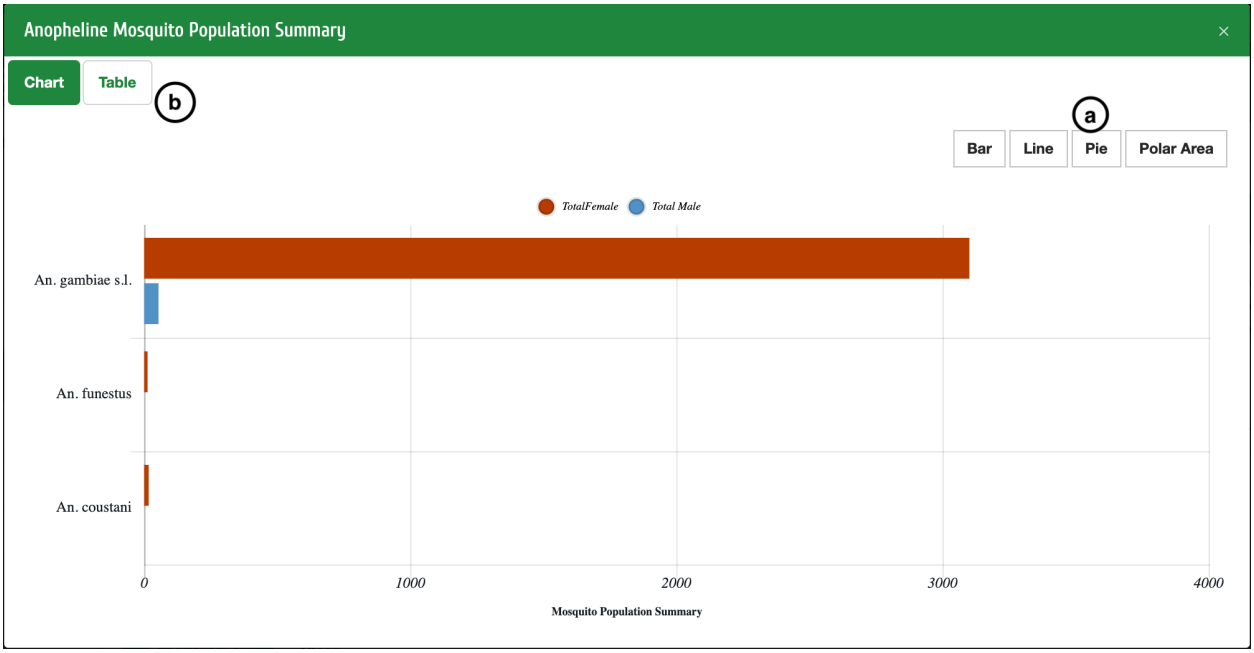
Step 3: Filter data from the tabs i.e Method, Location, Date e.t.c click “Clear” to clear the selections for re-entry.(Optional Step)

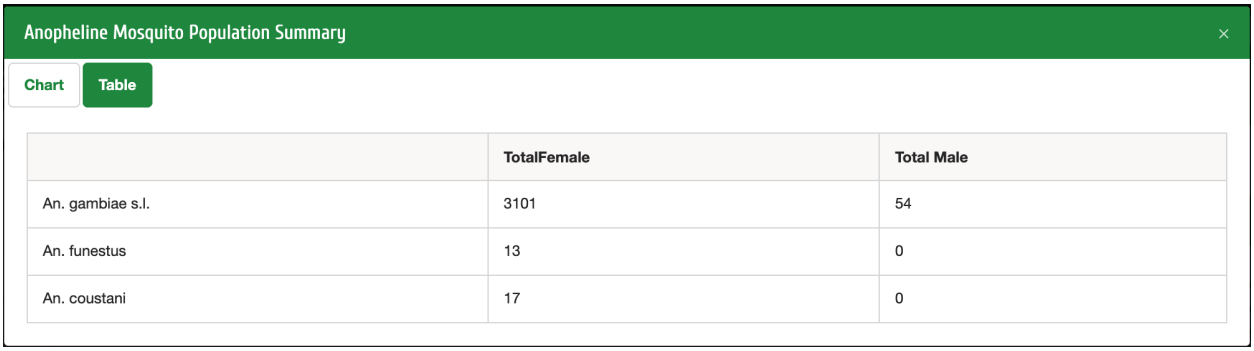
Step 4: Click the summary you want to view on Data summary table or Frequency graphs based on the data available and/or filtered.



6.2 Working with Charts

You can view different charts by selecting either Bar, Line , Pie or Polar Area
b: You can select Table to view the data in tabular form



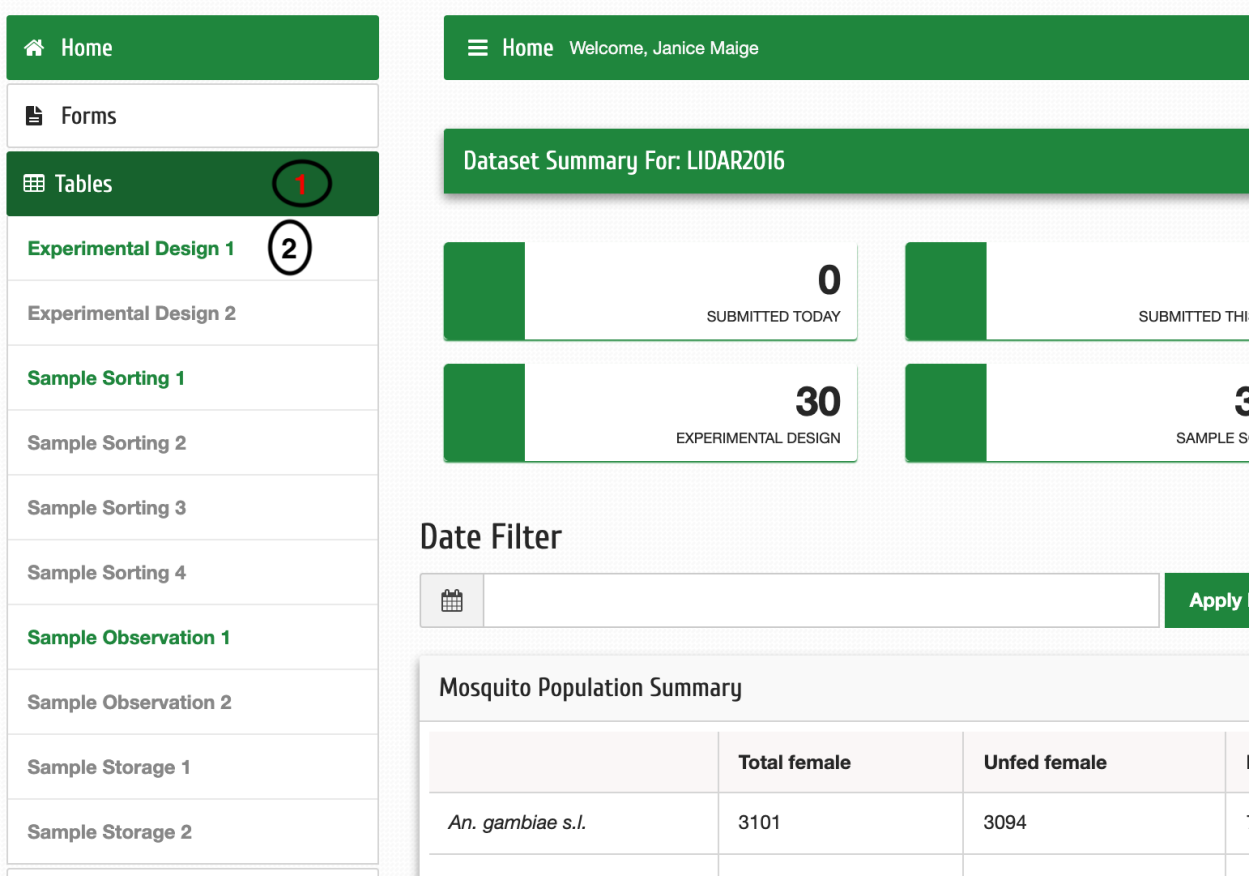


	TotalFemale	Total Male
An. gambiae s.l.	3101	54
An. funestus	13	0
An. coustani	17	0

6.3 Datasets

To view datasets of a specific project, select the project and experiment number then;

Step 1: Click Tables on the Menu
Step 2: Select the form from which you want to view the data e.g Experimental Design 1 to view the data collected using ED1
Step 3: You can now view and search for specific data



Experimental Design

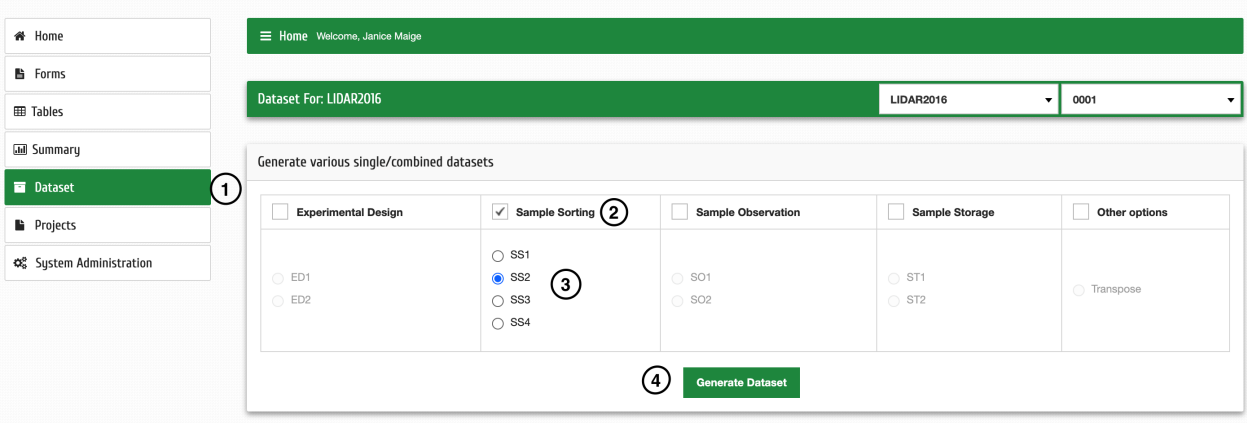
3 Search

Showing 1 to 30 of 30 rows

ID	Serial No. (SEN)	Formrow (FR)	Date of collection (DT)	Method (ME)	Indoor (IND)	Start time (ST)	Finish time (FT)	Valid catch (VC)	Destination Form Serial (DSEN)
1	16781	1	2016-08-31	CDC	1	1800	1900	1	16782
2	16781	2	2016-08-31	CDC	1	1800	1900	1	16783
3	16781	3	2016-08-31	CDC	1	1800	1900	1	16784
4	16785	1	2016-09-01	CDC	1	1800	1900	1	16786
5	16785	2	2016-09-01	CDC	1	1800	1900	1	16787
6	16785	3	2016-09-01	CDC	1	1800	1900	1	16788
7	16933	1	2016-09-02	CDC	1	1800	1900	1	16934
8	16933	2	2016-09-02	CDC	1	1800	1900	1	16935
9	16933	3	2016-09-02	CDC	1	1800	1900	1	16936

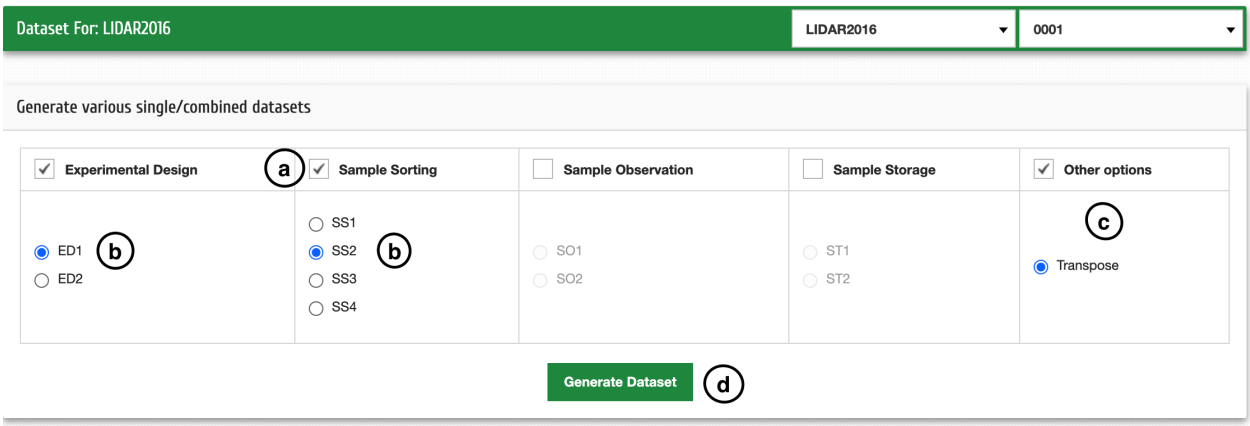
6.4 Downloading Data

Step 1: Select project and experiment then Click Dataset
Step 2: Select the form from which you want data from e.g Sample Sorting Data
Step 3: Then select the specific Sample Sorting data e.g SS2
Step 4: Click Generate Dataset



If you want to select data from different forms then;

a: Select the forms you want e.g Experimental Design and Sample Sorting
b: Select the specific forms e.g ED1 and SS2
c: Select Other options, then click Transpose
d: Click Generate Dataset



CHAPTER

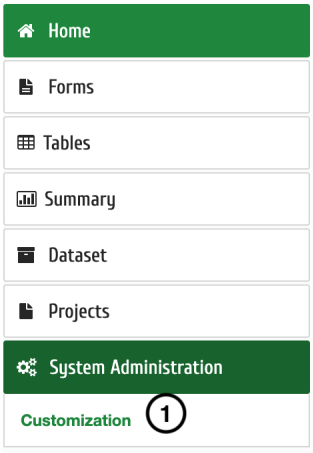
SEVEN

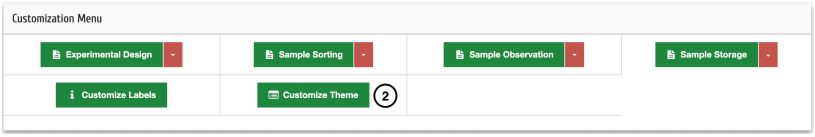
SETTINGS

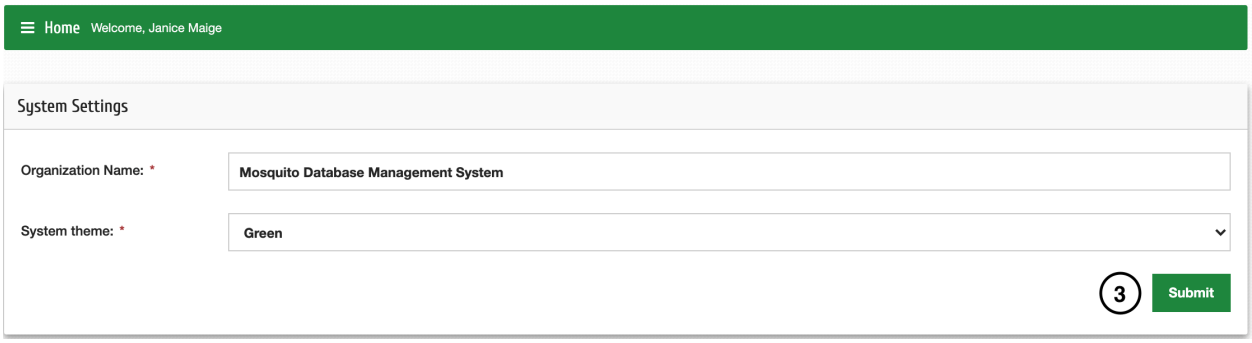
7.1 Appearance

You can customise MosquitoDb to suityour organisations theme;

Step 1: Click System Administration then Customization
Step 2: Click Customise Theme
Step 3: Enter the organization name and select your theme of choice from the dropdown , click Submit to save your changes






Home
Welcome, Janice Maige
System Settings
Organization Name: *
Mosquito Database Management System
System theme: *
Green
3
Submit

CHAPTER

EIGHT

MOSQUITODB APP

8.1 Overview

The MosquitoDb application is used for data collection in the field and also view data from particular experiments when working in the field.

Requirements: Operating system OS Android – <4.0 Version | SmartPhones or Tablets | Access to Internet – Upload & Downloading Projects | Install Android Package Kit(APK's)- for MosquitoDB file

8.2 App setup

To use MosquitoDb App, first download the App from PlayStore by searching MosquitoDb

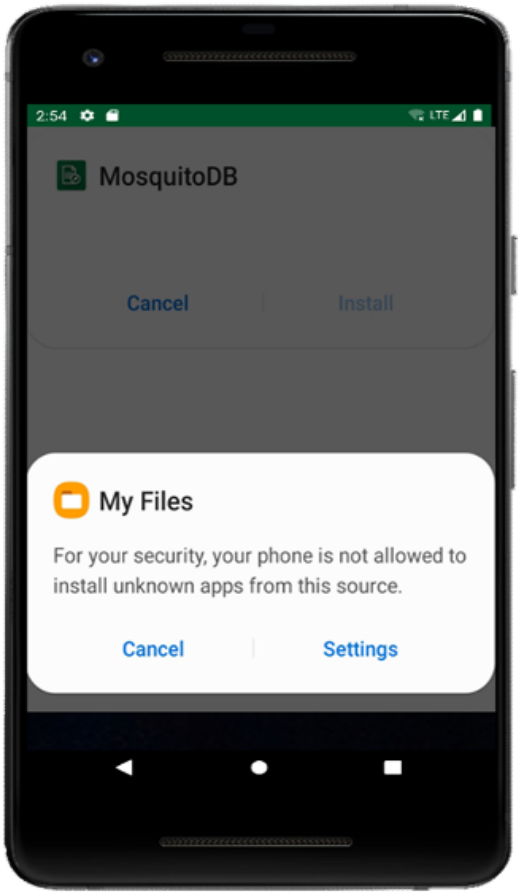
Install the first app who's owner is **Samson Kiware**

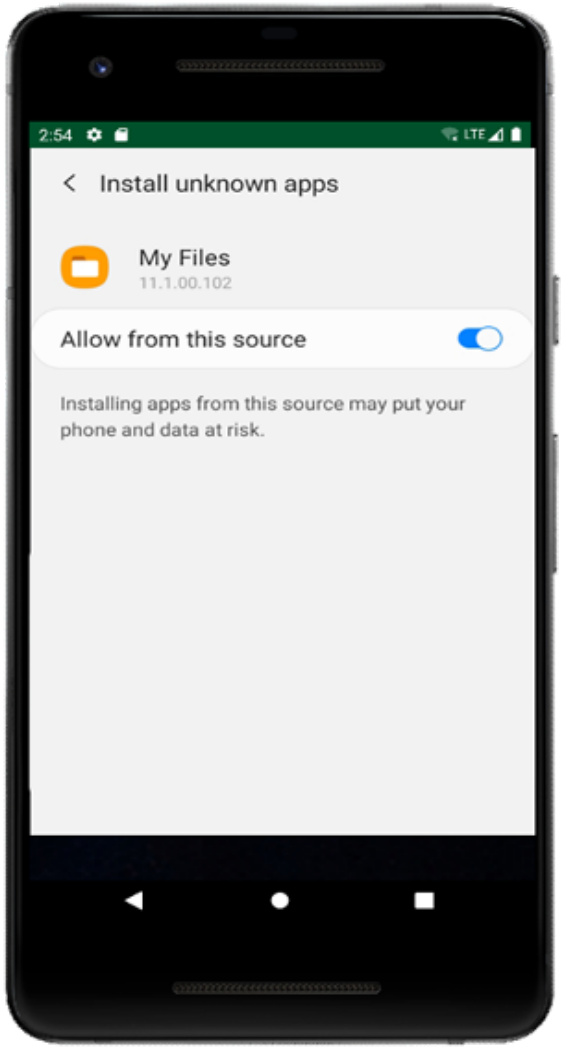
OR

If you have the apk, then;

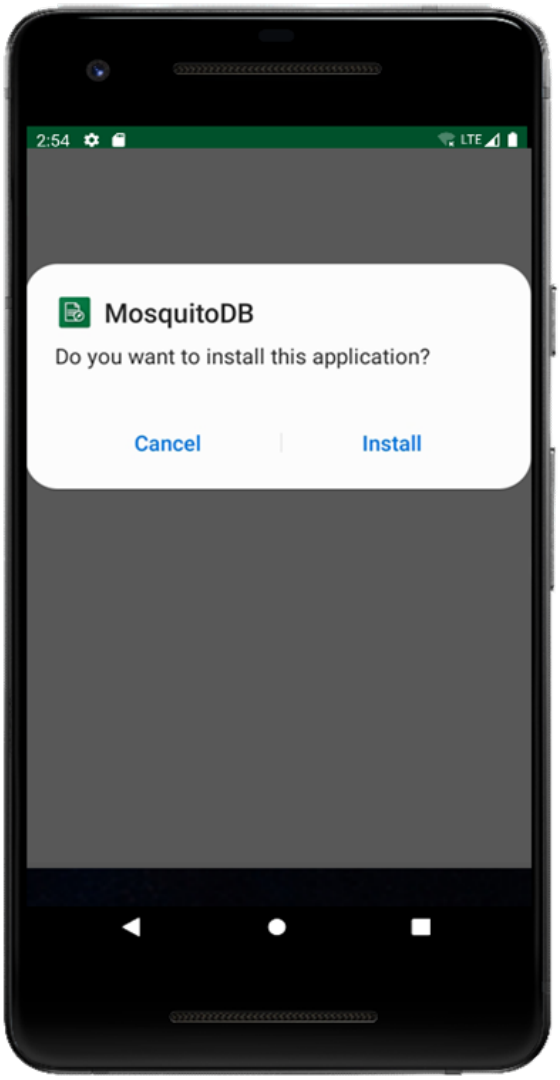
Step 1: Allow Unknown sources to install apps on your phone

- **a:** Go to Settings, then apps
- **b:** Select the app from which you got the apk e.g WhatsAp
- **c:** Scroll down to "Install Unknown apps" and allow it.


2:54
LTE
MosquitoDB
Cancel
Install
My Files
For your security, your phone is not allowed to install unknown apps from this source.
Cancel
Settings



Step 2: Install the app



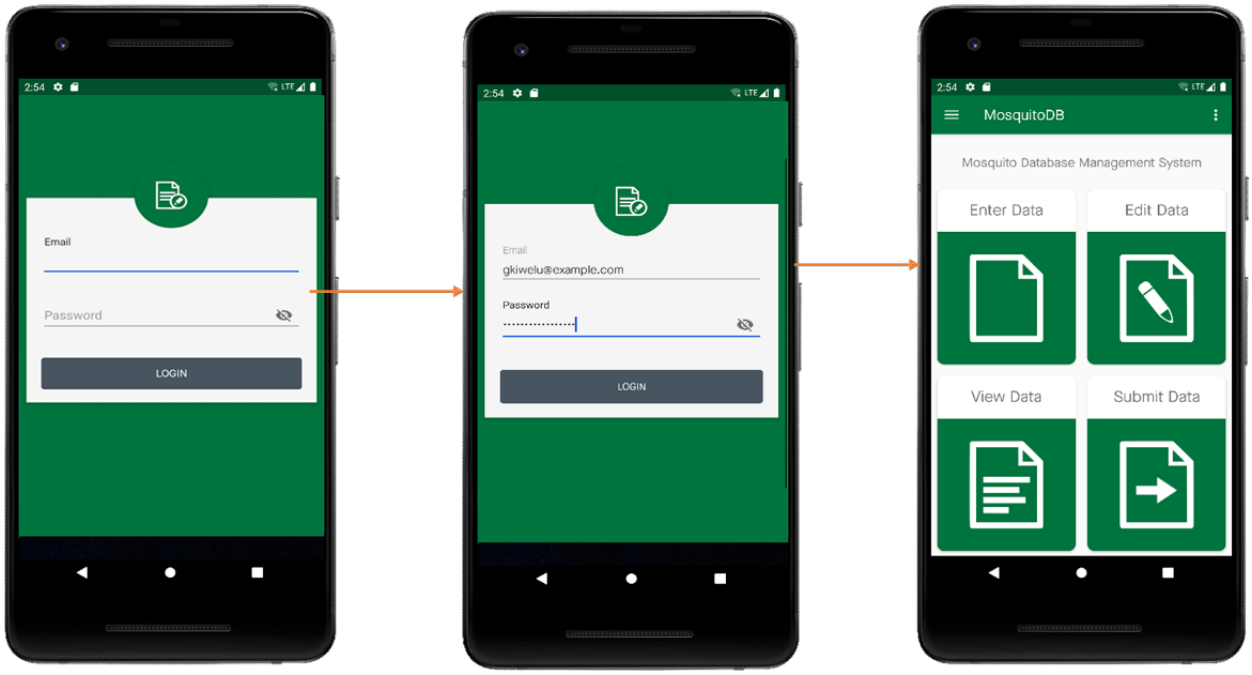
8.3 Using the App

8.3.1 Login

NB: You can only use the app after creating an account on MosquitoDb Web

Step 1: On running the app you'll be prompted to select the language of your choice either French or English.

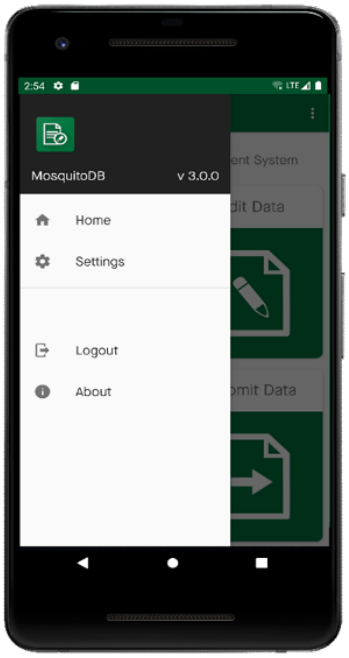
Step 2: Enter your login credentials then click Login.

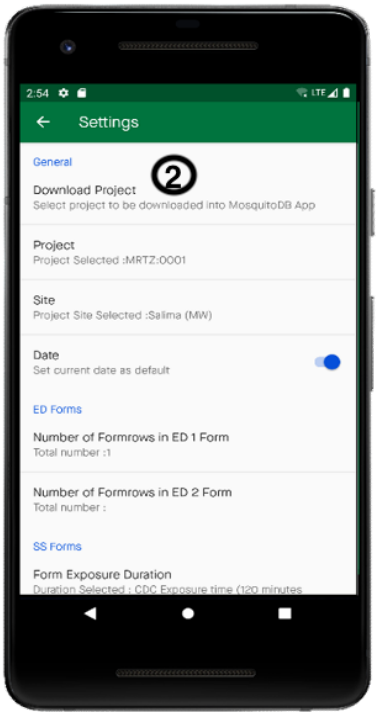


8.3.2 Accessing a project

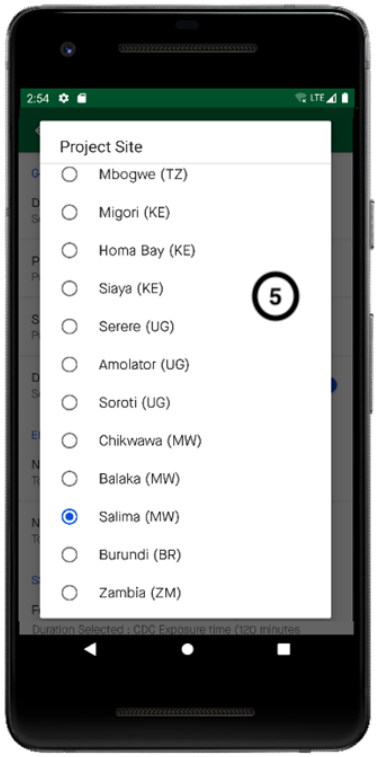
NB: Inorder to access a project, you should have been given access from MosquitoDB Web, by the Project Owner or create your own project in MosquitoDB Web, then access it from the App.

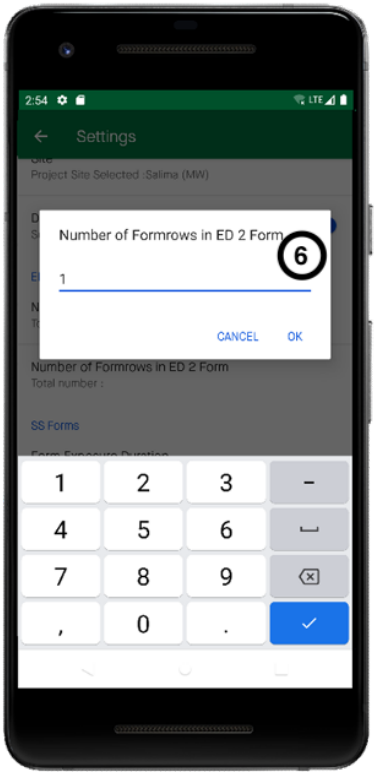
Step 1: Click on the Menu Bar, then select Settings
Step 2: Select Download project
Step 3: Click on the dropdown to select the project you want to access, then click **Download Project**
Step 4: Click **Download Sites**


2:54
MosquitoDB
v 3.0.0
Home
Settings
Logout
About


2:54
Settings
General
Download Project
Select project to be downloaded into MosquitoDB App
Project
Project Selected :MRTZ:0001
Site
Project Site Selected :Salima (MW)
Date
Set current date as default
ED Forms
Number of Formrows in ED 1 Form
Total number :1
Number of Formrows in ED 2 Form
Total number :
SS Forms
Form Exposure Duration

Step 5: On the Settings page, click **Site**, then choose the Site that your project is in
On the same page, click "Number of Formrows in ED1" if you are using ED1 or "Number of Formrows in ED2" if you're using ED2. Then set the no of rows you'll use in your ED Form and click **OK**


2:54
Project Site
Mbogwe (TZ)
Migori (KE)
Homa Bay (KE)
Siaya (KE)
Serere (UG)
Amolator (UG)
Soroti (UG)
Chikwawa (MW)
Balaka (MW)
Salima (MW)
Burundi (BR)
Zambia (ZM)
5


2:54
Settings
Project Site Selected :Salima (MW)
Number of Formrows in ED 2 Form
6
1
CANCEL
OK
Number of Formrows in ED 2 Form
Total number :
SS Forms

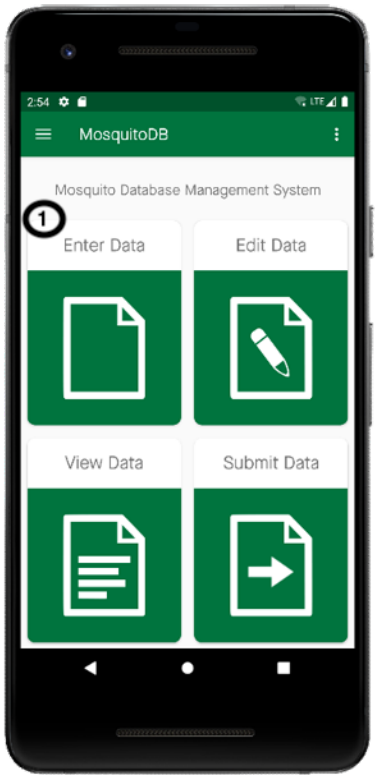
8.3.3 Enter Data

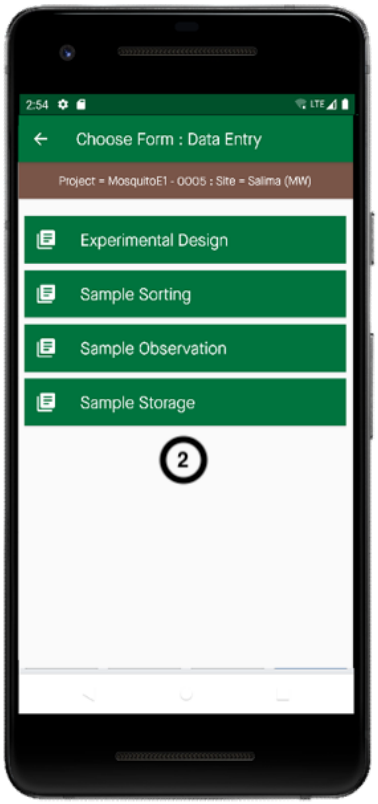
Experimental Design

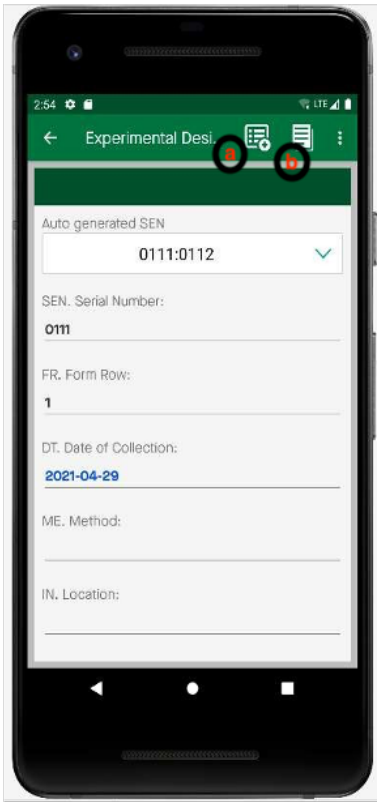
Step 1: On the Home Page, Select **Enter Data**
Step 2: Select the form for which you want to enter Data e.g Experimental Design Form (Review Chapter 4.2, for the use of the forms). Then choose the form number according to your experiment e.g if you're working on the field, then use ED1

NB: You have to fill in data in ED Forms, then you can continue adding data in other forms e.g SS2

Step 3: On the ED Form, you can start filling in your data
a: Click to view pre-recorded data
b: Click to auto generate Serial No.







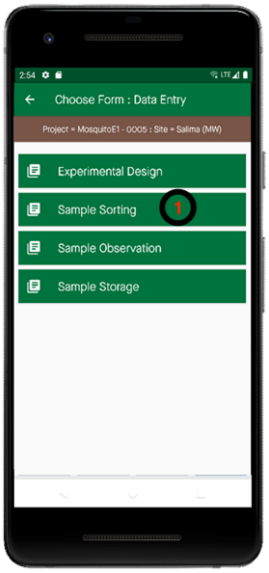
Step 5: When you're done entering Click Save. This saves the data in your device before pushing it to the cloud.

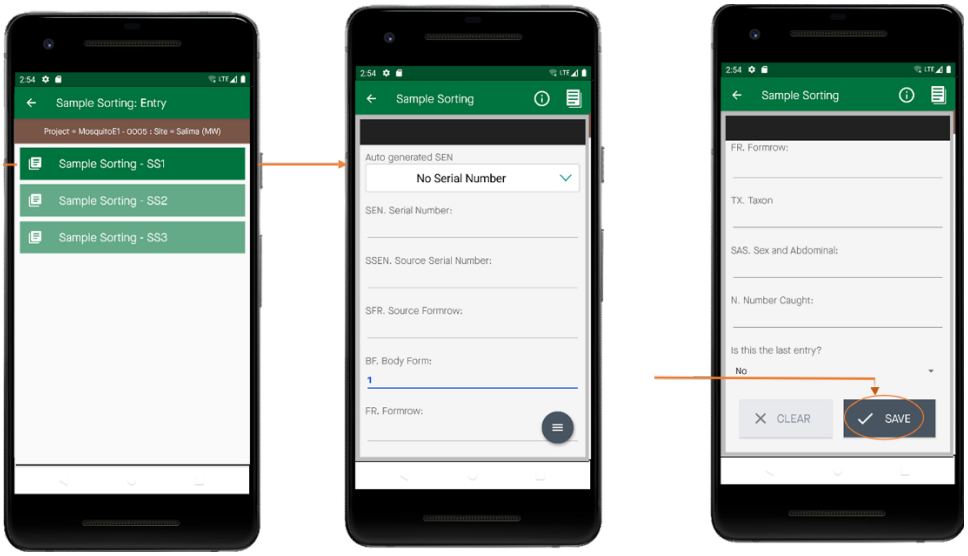
Step 6: To enter another set of data for the same experiment, click this is not the last entry on the popup.

Sample Sorting

NB: You have to fill in data in ED Forms, before you can enter Sample Sorting Data.

Step 1: Select Sample Sorting
Step 2: Select the form for which you want to enter Data e.g Sample Sorting 1
Step 3: SEN is generated automatically from ED1, you can continue filling your data.
Step 4: Save your data in your device, before sending to the cloud.

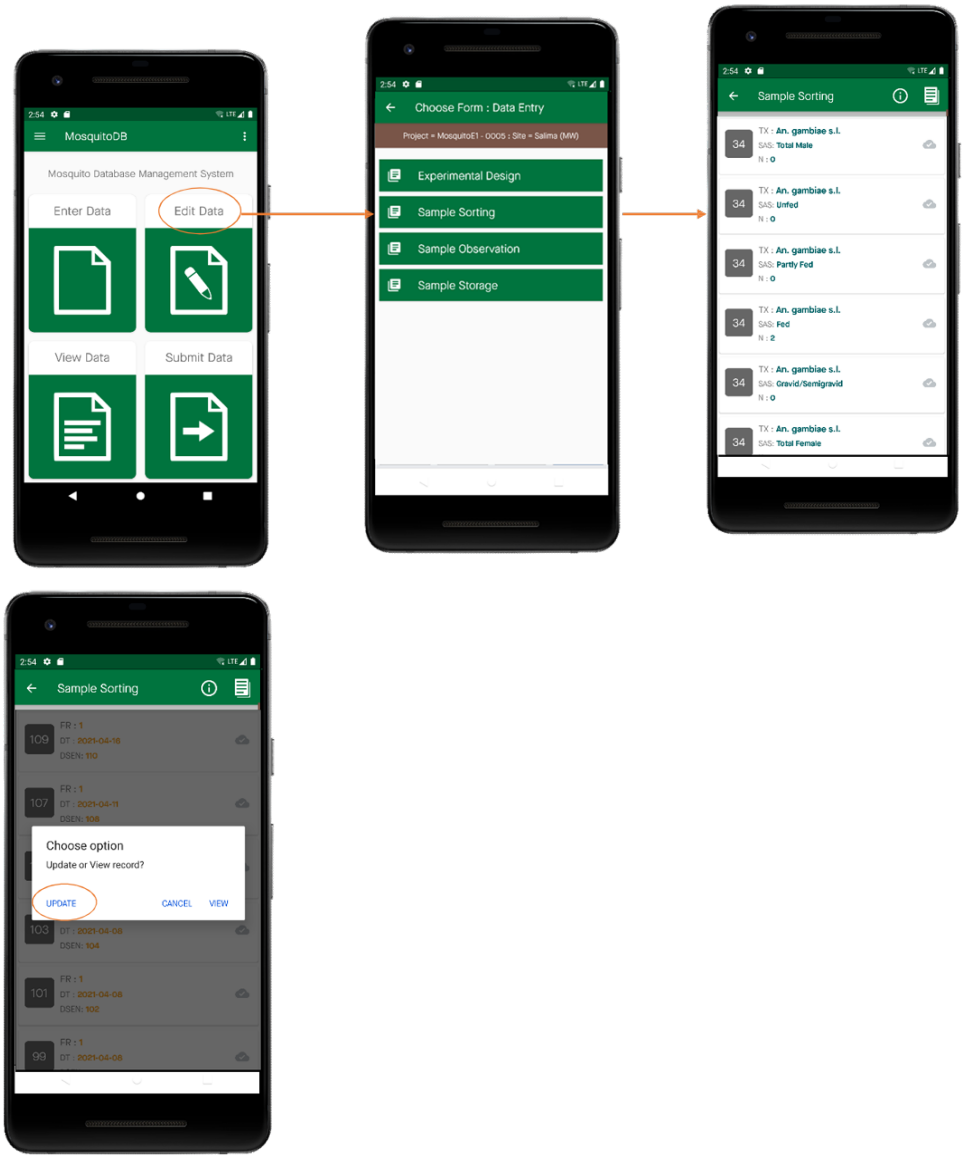




Please follow the same steps to enter Sample Observation(SO) and Sample Storage(ST) Data

8.3.4 Edit Data

Step 1: On the Home Page, Select **Edit Data**
Step 2: Select the form whose data you want to edit e.g Sample Sorting
Step 3: Select whether to view or Update the Data. On clicking update you'll be able to edit the data.
Step 4: Click Save to keep your updated changes.

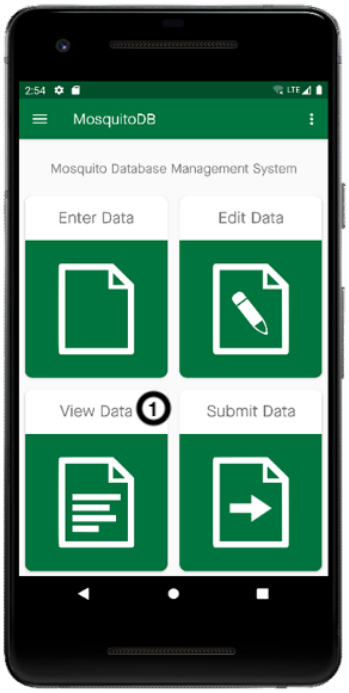


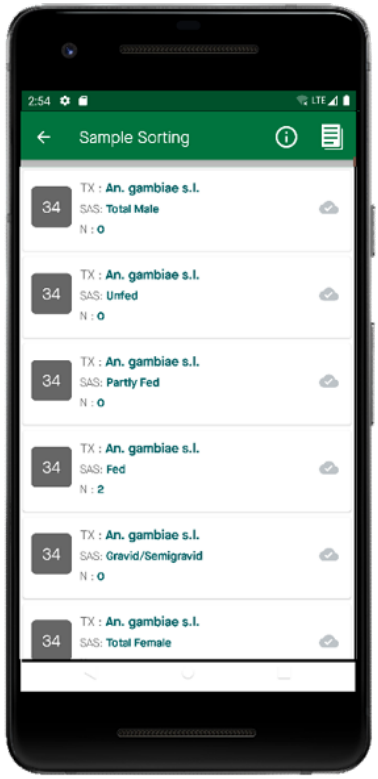
8.3.5 View Data

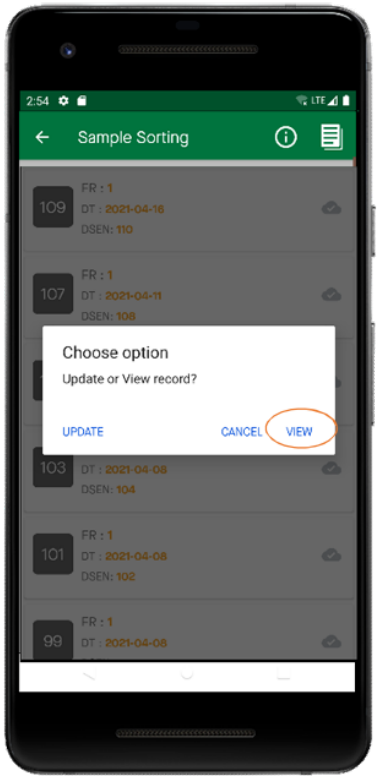
Step 1: On the Home Page, Select **View Data**, then select the form whose data you want to view and e.g Sample Sorting

Step 2: Select the data set you want to view

Step 3: Click View



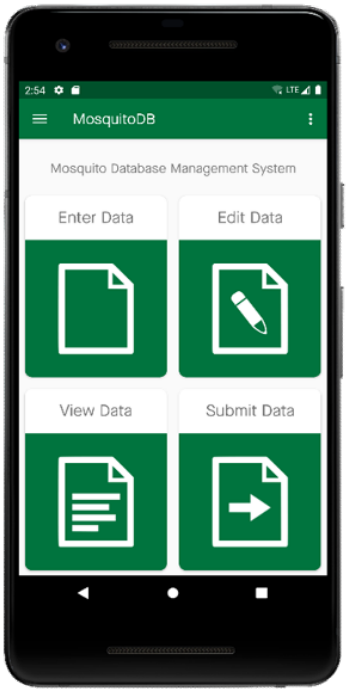

2:54
Sample Sorting
34
TX : An. gambiae s.l.
SAS: Total Male
N : 0
34
TX : An. gambiae s.l.
SAS: Unfed
N : 0
34
TX : An. gambiae s.l.
SAS: Partly Fed
N : 0
34
TX : An. gambiae s.l.
SAS: Fed
N : 2
34
TX : An. gambiae s.l.
SAS: Gravid/Semigravid
N : 0
34
TX : An. gambiae s.l.
SAS: Total Female

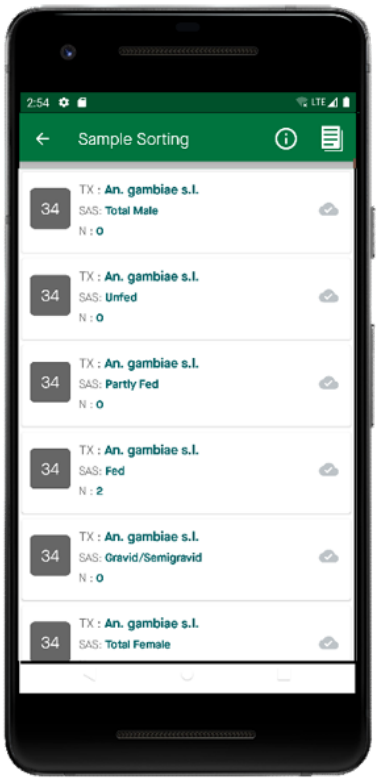

2:54
Sample Sorting
109
FR : 1
DT : 2021-04-16
DSEN: 110
107
FR : 1
DT : 2021-04-11
DSEN: 108
Choose option
Update or View record?
UPDATE
CANCEL
VIEW
103
DT : 2021-04-08
DSEN: 104
101
FR : 1
DT : 2021-04-08
DSEN: 102
99
FR : 1
DT : 2021-04-08

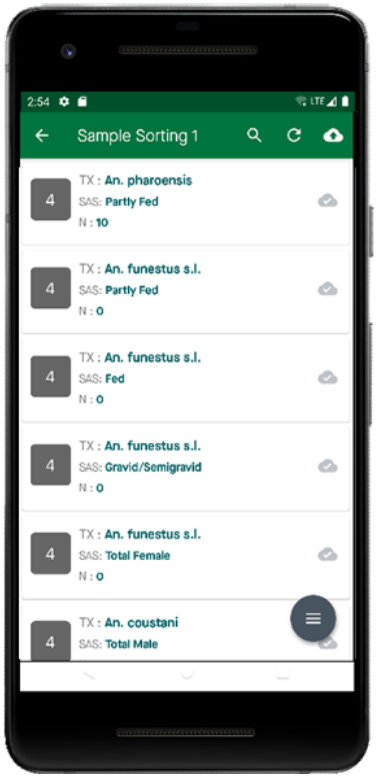
8.3.6 Submit Data

NB: This feature is used to send data to the cloud, to use it, you must have already entered data through the forms.

Step 1: On the Home Page, Select **Submit Data**, then select the form whose data you want to submit and e.g Sample Sorting
Step 2: You'll see all the data sets that you have entered.
Step 3: Click the cloud icone, to push all your data simultaneously.




2:54
Sample Sorting
34
TX : An. gambiae s.l.
SAS: Total Male
N : 0
34
TX : An. gambiae s.l.
SAS: Unfed
N : 0
34
TX : An. gambiae s.l.
SAS: Partly Fed
N : 0
34
TX : An. gambiae s.l.
SAS: Fed
N : 2
34
TX : An. gambiae s.l.
SAS: Gravid/Semigravid
N : 0
34
TX : An. gambiae s.l.
SAS: Total Female


2:54
Sample Sorting 1
4
TX : An. pharoensis
SAS: Partly Fed
N : 10
4
TX : An. funestus s.l.
SAS: Partly Fed
N : 0
4
TX : An. funestus s.l.
SAS: Fed
N : 0
4
TX : An. funestus s.l.
SAS: Gravid/Semigravid
N : 0
4
TX : An. funestus s.l.
SAS: Total Female
N : 0
4
TX : An. coustani
SAS: Total Male

CHAPTER

NINE

APPENDIX

9.1 Data Dictionary

9.1.1 Experimental Design 1

Method

Experimental Design 1		
Method (ME)	Key	Value
	1	HLC
	2	ITT
	3	CDC
	4	RB
	5	ERS
	6	Floor
	7	Entry Window
	8	Entry Eave
	9	Entry
	10	Exit Window
	11	Exit Eave
	12	Exit
	13	Dip
	14	Sub
	15	EM
	16	OVI
	17	EG
	18	DN

Location

Indoor/Outdoor	Key	Value
	1	IN
	2	OUT

9.1.2 Sample Sorting 1

Taxon

Sample Sorting 1 (SS1)		
Taxon	Key	Value
	1	An. gambiae s.l.
	2	An. funestus
	3	An. coustani
	4	An. pharoensis
	5	An. squamosus
	6	An. maculipalpis
	7	An. pretoriensis
	8	An. paludis
	9	An. wellcomei
	10	An. ziemanni
	49	Anopheles sp.
	50	Culex sp.
	60	Mansonia sp.
	70	Aedes sp.
	80	Coquilettidia
	71	Ae. aegypti

Sex & Abdominal Status

Sample Sorting 1 (SS1)		
Sex & Abdominal Status	Key	Value
	1	Total male
	2	Unfed
	3	Partly fed
	4	Fed
	5	Gravid/Semi gravid
	6	Total female