SETTING UP MOBILE DATA COLLECTION DEVICES

1. PURPOSE

This document describes the process by which DeWorm3 staff should initialize data collection devices and provides specific settings for the mobile devices and the data collection application, SurveyCTO Collect.

2. INTENDED USERS

The intended users of this SOP are the DeWorm3 site data managers and/or trial coordinators.

3. RESPONSIBILITIES

DeWorm3 study staff should understand and follow this SOP during set up of data collection devices to ensure that device and application settings are standardized and access restrictions on the devices are in place. It is the responsibility of the site PI to ensure compliance with this SOP.

4. DEFINITIONS

4.1. **App**: An application (app) or software programme installed on a mobile device
4.2. **Android:** Mobile device operating system
4.3. **Device:** A mobile smartphone or tablet used for data collection

5. REQUIRED MATERIALS

5.1. Device (Procedure here developed using a Samsung SM-T280 7" tablet but is applicable on any Samsung mobile device)

6. PROCEDURE

6.1. **Device initialization**

a. Turn on device using top-most button on right-hand side

b. You will be prompted to select the language for the device, select accordingly

c. You will be prompted to enter details to log in to Wi-Fi, select the local network and enter the login information

d. When asked to provide diagnostic and usage data, de-select this option, and then agree to user license

e. If connected to the internet, the device will check for updates and information

f. When prompted to enter a Google account, use the login details provided by the data manager for the project Google account that has been setup (DOB: 1 Jun 1990, declined to state gender):

   Username: [contact DeWorm3 for username if required]
   Password: [contact DeWorm3 for password if required]

g. You will then be prompted to select the screen lock type. A swipe rather than a unique pattern is recommended, though it is less secure, as the enumerators will need to enter it every time the screen powers off.

h. When prompted to enter a Samsung account, select "skip for now."

Apps

a. You are now ready to add the software applications for data collection. You will need to use the Google "Play Store" app to search for and add the following apps. Open the "Play Store" and use the search box to enter the app names below in bold:

b. **Barcode Scanner** by ZXing Team – This is a free app that we will use to scan and record QR codes and barcodes for the project. It is compatible with SurveyCTO and can be called from within the data collection form.


c. Once you have opened the Barcode Scanner application, click on the three dots in the top right of the screen to access the settings menu.
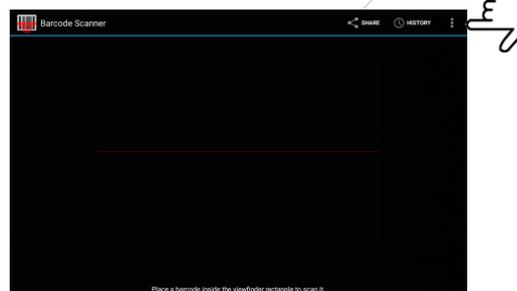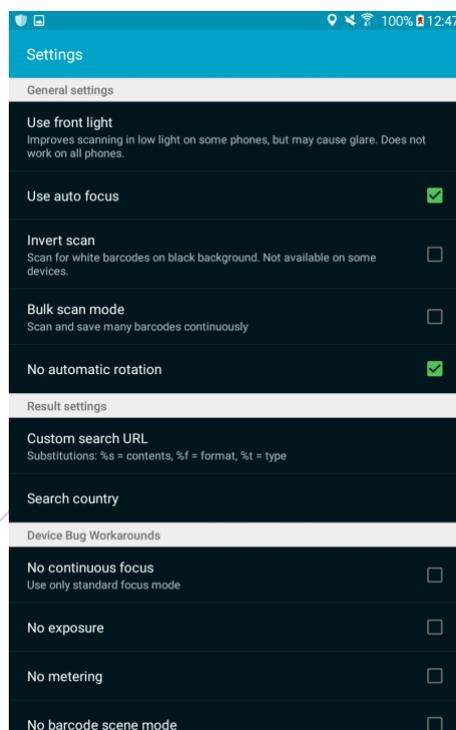

d. In the menu, make the following setting selections:

1. Select the following settings for <u>When scanning for barcodes, decode…</u> (Remove check by all options, only QR Codes will remain in grey)
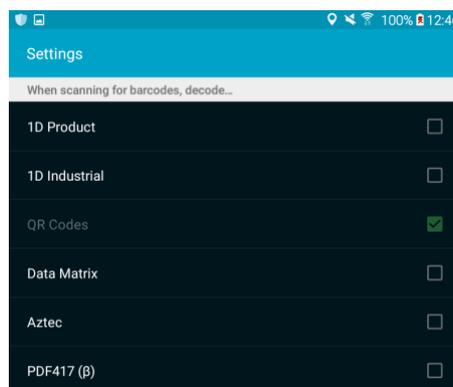
2. Select the following settings for <u>When a barcode is found…</u>
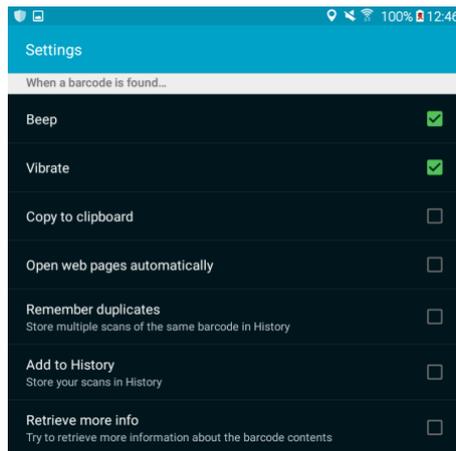
3. Select the following settings for <u>General settings</u> and <u>Device Bug Workarounds</u>

e. After setting up, try a few of the phones to double check that ALL devices can read QR codes on stickers before mass sticker printing.

f. **CM Security master** by Cheetah Mobile – This is a free app that allows you to lock the device settings and access to applications that are not used for data collection.


g. Once you have downloaded and opened the application you will be led through several steps to set up the application, primarily setting an unlock pattern. It is recommended that you use the same gesture on all the phones.


Record the unlock pattern in a safe location and do not share this with the enumerators. One way to record this information is to envision the points as a keyboard number pad, starting with 1 in the bottom left corner, then the second row starting with 4, and the third row starting with 7. Record the numbers in the order of the pattern you have used.

h. Once you have set the pattern, navigate to the applock settings menu. Under the lock tab, you will see a list of all the apps on the phone. Under Locked apps, click on the padlock on the right of the screen so it changes from grey and open to green and locked for each app. Under System & Switches lock everything except Wi-Fi. Under Installed apps leave the barcode scanner, calculator, and SurveyCTO Collect unlocked. These are the only three programs that enumerators will be able to access. The camera can be unlocked later if it is needed or a "torch" app may be added.
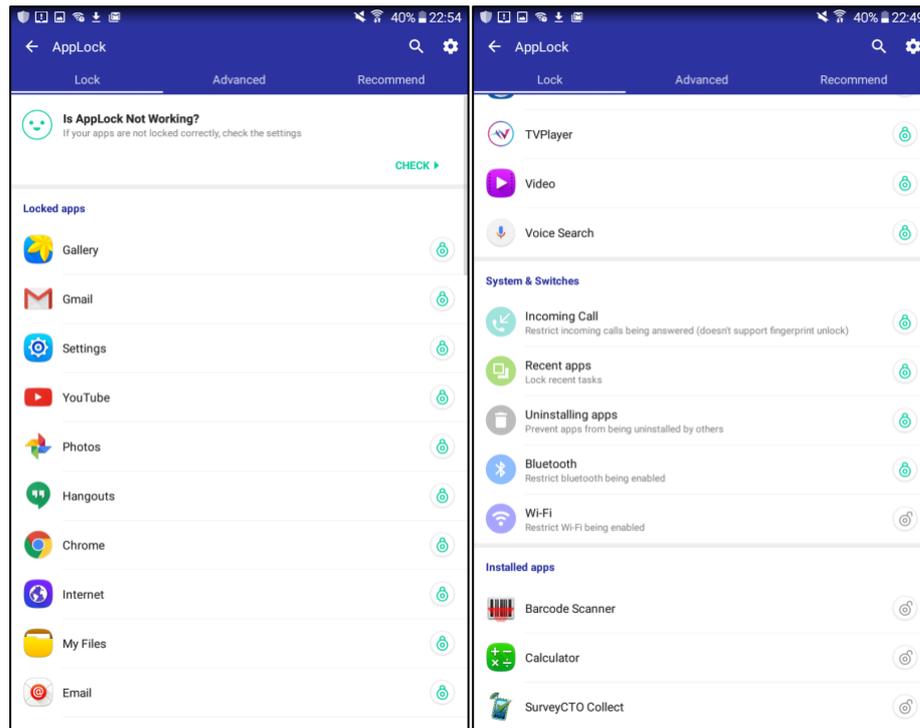
i. The CM Security master settings should look like this:
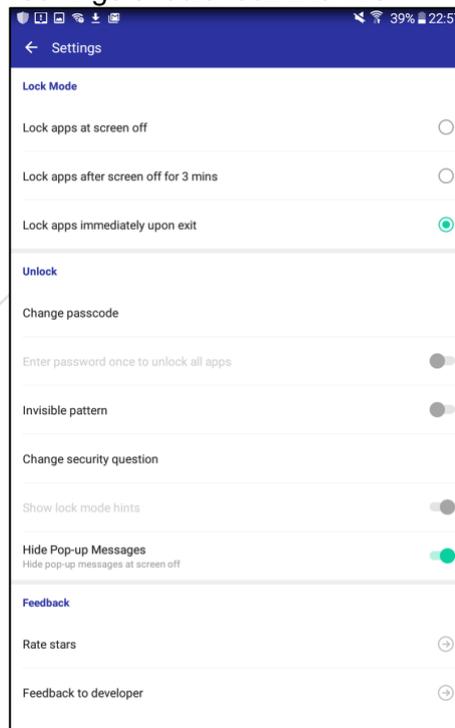
j. After setting up CM Security - check that access to the phone's settings is restricted (requiring the unlock pattern), so the date and time cannot be altered without entering the unlock pattern.

k. **SurveyCTO Collect** by Dobility – this is the data collection application that runs on Android devices.

l. To download this application, open the Internet app on the device and enter the following URL: [user here].surveycto.com/collect.

m. Click on the button to download the Android app

n. Find the SurveyCTO Collect.apk file in the download history folder and click on it. You may be shown a notification that the installation has been blocked. Follow the provided link to "Settings" and change the option to allow the application to be installed this time.

o. Once you have installed the Collect app, open it to display the main menu. The settings are available by clicking on the three dots in the top right of the screen.
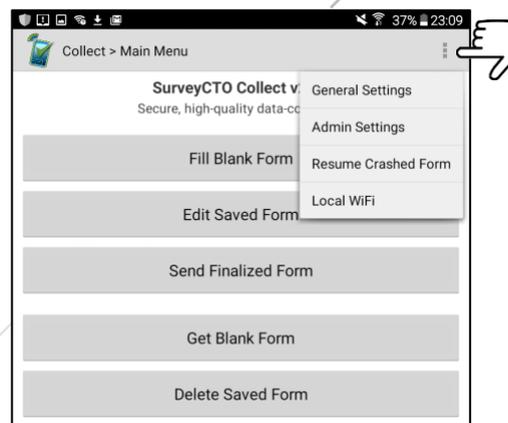

The Collect settings can be confusing because there are General settings and Admin settings.

General settings determine how the Collect app operates, including server settings, sending/receiving forms and updates, and the user interface while forms are being completed. Most of these settings will be locked to limit users' access to them by not displaying them in the relevant menus.

Admin settings allow you to choose which General settings are visible to users. You can also access the complete General settings menu through the Admin settings menu.

p. First go to Admin Settings and setup an Admin Password, which will restrict users' access to these settings. Use the same Admin Password on all of your phones (but don't use the same password as the server password).

Admin Password: [contact DeWorm3 for password if required]
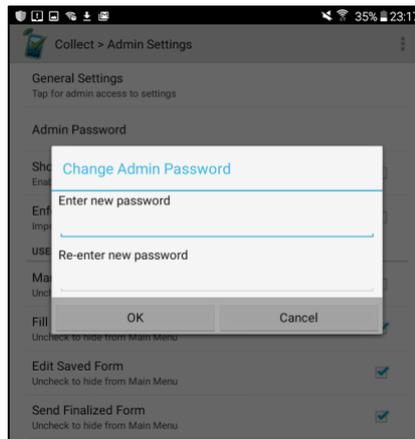
q. Access <u>General Settings</u> through <u>Admin Settings</u>. You will need to enter the admin password selected above. Use this to apply the desired settings, as follows, for SurveyCTO. "Show test forms" and "Enforce minimum times for fields" should not be enabled (as shown).
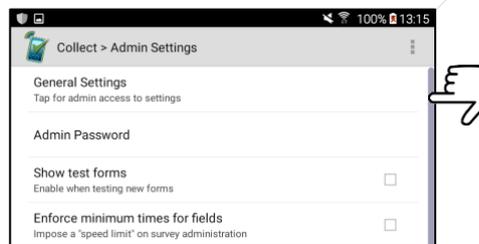
r. Enter the <u>Server Settings</u> in the General Settings menu. The server settings for the enumerators are provided below, but you may want to login to the server with your data manager username and password to access additional options for example:

> Server name: [server]
> Username: [contact DeWorm3 for username if required]
> Password: [contact DeWorm3 for password if required]
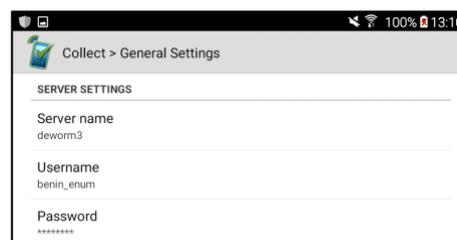
s. Select the following settings for <u>Auto Send/Receive</u> in the General Settings menu:
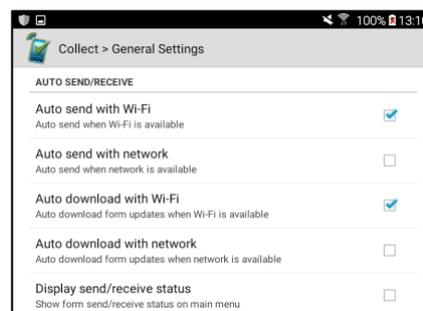
t. Select the following settings for <u>User interface</u> in the General Settings menu:

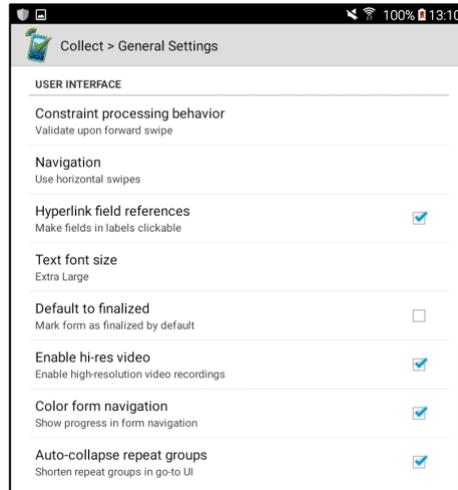u. Now, return to the Admin settings menu by using the back button on the bottom right hand side of the device. You will now select what settings are visible to users in the General Settings menu and in the menu while completing a form.

v. Select the following settings for <u>User can access main menu items</u> – these are what the user can see in the main menu screen. Enumerators should not have access allowing them to delete forms, but as data manager you will be able to log in as an administrator, check this option, and then delete any saved form that needs deleting.

    <u>Manage Cases</u> can be enabled after the baseline census if project activities are to be organized by household rather than by form.
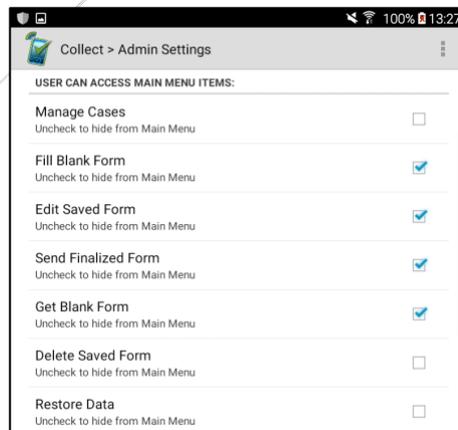
w. Select the following settings for <u>User can access change settings items</u> – these are what the enumerators can see under general settings, allowing them to modify how they navigate and see the forms to their preference. As data manager, you will still have admin access to these settings. Remove checks by everything except Navigation and Text font size.
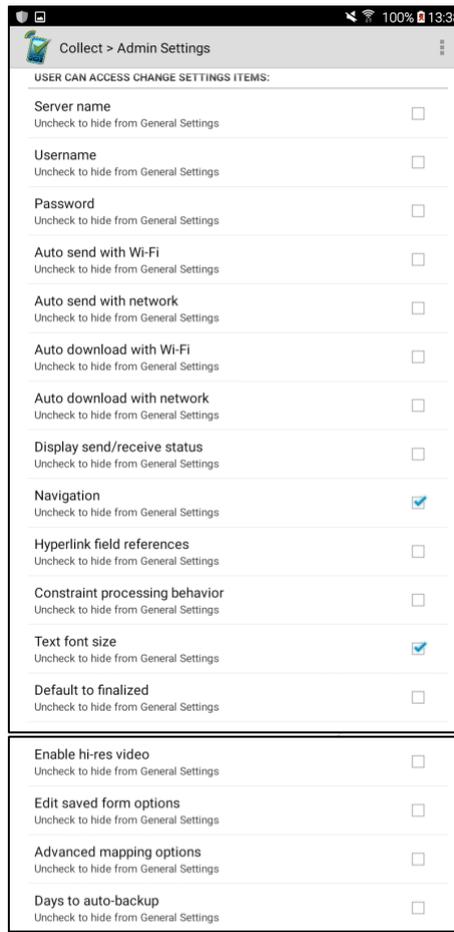
x. Select the following settings for <u>User can access form entry items</u> – these are what the users can access while entering a form
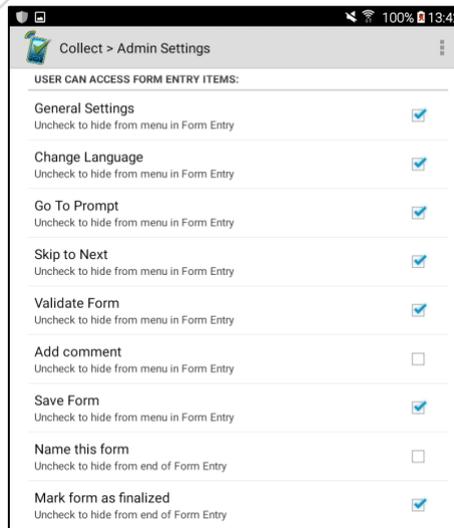
y. There is no need to modify Advanced Settings

z. General Settings should appear like this:
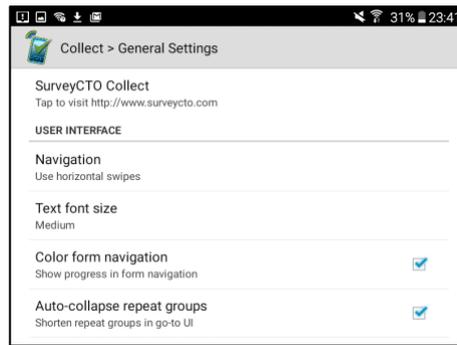
aa. Once you have the made above settings, the main menu screen will appear like this:
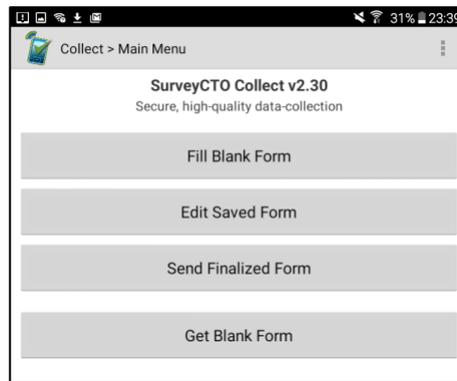
1. **Fill Blank Form** – used to open a new blank form on the device for data collection
2. **Edit Saved Form** – once a form has been begun, these can be saved (for example to return to a previously started form at a call-back visit). Saved forms will be listed by their file name (for example, in the baseline census, this will be village ID + time the household was visited)
3. **Send Finalized Form** – finalized forms will be sent automatically when Wi-Fi is available
4. **Get Blank Form** – used to download blank form definitions from the Deworm3 server. Place a check next to the form desired and click on get selected to download the form.

6.2. **General device settings and appearance**

    a. Go to Settings, then Display, and set the Screen timeout time to be 5 minutes
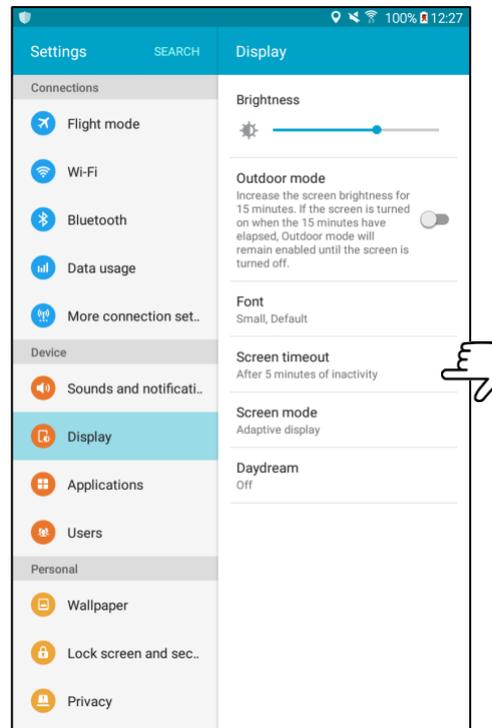
    b. Go to Settings, then Language and Input, then Samsung keyboard, then Smart typing on the left side, and turn off Predictive text. Predictive text is not recommended for use during surveys.
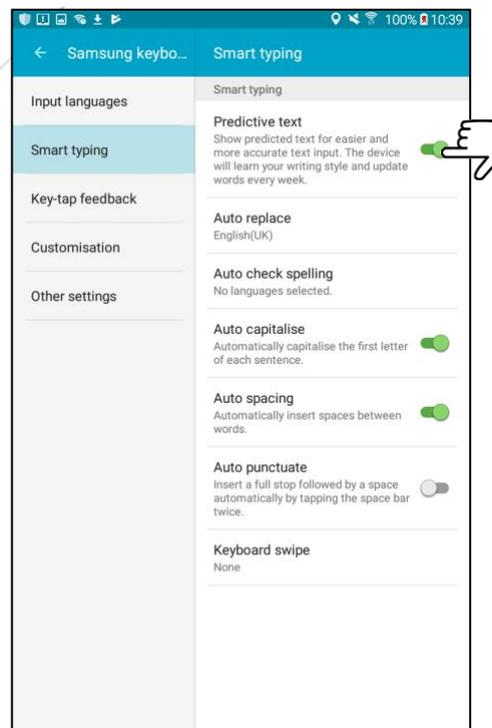
    c. By holding down on the icons on the home screen, you can remove the other apps

to only display the Collect app and the Apps folder. The other apps are all contained in the Apps folder, but the enumerators will only be able to access the unlocked ones.

6.3. **Copy SurveyCTO settings to other devices**

a. Once you have the settings in SurveyCTO just the way you want them on one device, you may want to copy those settings to other devices so that you don't have to manually enter all of the settings on every device. You can do this by following these steps provided by SurveyCTO.

b. Save your desired settings to a file. Press your device's Menu button from the main Collect menu and choose *Admin Settings*. Enter your admin password (if any), then click your device's menu button again and select *Save Settings to Disk*. This will save all of your current settings to the */SurveyCTO/settings/collect.settings* file on your device's SD card.

c. Copy that *collect.settings* file to your computer or to another location. (How you access the SD card and copy its files will depend on the device.)

d. Once you have installed *SurveyCTO Collect* onto another device and run it at least once, locate the /SurveyCTO directory on its SD card.

e. Copy the *collect.settings* file into the device's existing /SurveyCTO directory.

f. Run *SurveyCTO Collect* on the device and confirm that it has loaded all of your settings; when it finds the *collect.settings* file at start-up, Collect will show a small message to indicate that it has restored saved settings. If your settings are not restored when you run Collect, use your device's Task Manager to end the *SurveyCTO Collect* app, then run it again (or, alternatively, restart your device).

g. You can repeat this process to copy the same configuration to all of your devices. That way, you can ensure that they are all configured in exactly the same way.

6.4. **Copy both forms and SurveyCTO settings to other devices**

a. If you want to copy *everything* from one device to another – including saved forms – then you can copy the entire */SurveyCTO* directory tree from your model device, copy the *collect.settings* file from */SurveyCTO/settings* into */SurveyCTO*, then copy that entire directory tree onto another device's SD card. You can even copy the */SurveyCTO* tree onto a new device before *SurveyCTO Collect* has been installed onto it; in that case, you can install Collect and the first time it is run it will inherit all settings and data from the copied directory.

b. If you start copying /SurveyCTO directories around, the one thing you need to be careful about is to never combine the contents of multiple devices' /SurveyCTO directories. So before pasting in a new one, always delete the old one if there is already one present.

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Approvals
I have reviewed and approve this SOP for implementation.

Principal Investigator	**Signature**	**Date**
Site Principal Investigator	**Signature**	**Date**

Document History		
Version No.	**Effective Date**	**Author(s)**
1	18 July 2017	William Oswald, Katherine Halliday
2	16 July 2018	Removed passwords for public online access

SITE NAME
Read and Review Log
List of individuals who read and reviewed the SOP

Date	Name	Title	Signature*

*By signing this log, study staff confirm that they have read and understood the content of the SOP