



# Prim8 Mobile: User's Guide

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# INSTRUCTIONS

## Getting Started with the Droid A855 or Other Android Smartphone

To get started, you will need an Android-based smartphone with a MicroSD card and a charged battery as well as wifi access to the internet (just to get everything setup). If you are powering on your smartphone for the first time, you will be prompted to go through the setup. Use the smart phone's instructions for setting up the device, with the following word of caution:

**Note:** Unless you are planning to use the phone with a service provider, do not choose “Activate” on the first screen. Simply bypass this screen by clicking the “Home” button. If your phone will only be used as a data collection device, the safest option is to not “Activate” (you can always do this later)

## Setting up Gmail and WiFi Access

Android devices require Gmail accounts, so you will need (and probably want) to set up a Gmail account on your device. This requires a wifi connection to the internet. When prompted during setup, you simply enter your Gmail credentials (or select to create a new account if you do not yet have one or want to use a separate account). For those of you that are really remote, you will want to do this before going to the field.

Prim8 Mobile only needs a wifi connection to the internet to initially setup your smartphone. It does not require internet either to operate or to import files from or export files to a computer. If this is you, you can opt to not setup the wireless as described in the next paragraph.

**Note:** you can enable the wifi in your phone by clicking on the “Settings” icon ► Wireless and Networks ► Wifi Settings)

Once the Gmail account has been set up, you can use the device to browse the internet (using the Browser application already on the device) and to check email (using the Gmail application already on the device) anytime you connect to a Wifi hotspot.

The email and internet capabilities that are possible through the wifi connection (or 3G/4G if available and you have signed up for service through a provider) are useful for importing and exporting data files for the Prim8 Mobile

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## PRIM8 SOFTWARE

software application; however, as explained later, you can also handle importing and exporting through a USB cable connected to a computer or by copying files directly to the MicroSD card you use in your smartphone.

### ***Setting up Applications***

Use the smart phone's instructions on how to find and use the device's applications. Browse through the applications on your device. Select "Play Store". We suggest you download the following (or similar) free Android applications, which will be useful when using this device to collect field data:

- Jota + (or other) free text editing application
- Google Recorder – free voice recorder
- Blackmoon File Browser – free application for managing and viewing the device's files (very useful)

Once these applications have been downloaded to your phone, go into the phone's applications, long click and move the above mentioned applications to the main desktop, along with the camera and Settings applications that were already on the device. This makes it convenient to access these applications later.

### **Setting up the Phone (time to pay attention)**

Before anything else, we are going to set up the date and time, which will be used to timestamp all of your data. Open the "Settings" application ► Choose "Date and Time" ► Set the date, time, and time zone (when you are in the field) manually, and make sure they are set correctly at all times.

This is important, so let's go over it again: When setting the date and time, you will not want it to use the "Automatic network provided values"; rather, you will want to set the Date and Time manually. Why is this important? If your battery runs out, and you have this on automatic, but you do not have service on the phone, the date and time will revert to the default (which is a long time ago), and all successive data will be stamped incorrectly. Also, things like daylight savings time and quirks of time zones can play havoc if you are moving between locations; it is best to be safe and consistent by keeping time referenced to a single time zone.

### ***Downloading the Prim8 Mobile Software to the Device***

Open the "Settings" Application. Click "Applications" and make sure that the box that says "Unknown sources (allow installation of non-Market applications)" is checked. If not, do so. If this box is not checked, the Prim8 Mobile software will not install.

Download the Prim8 Mobile software from this website to your computer. Keep track of where it is saved.

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Save the software (*mdb.apk* file) to your Android smartphone device's MicroSD card. You can generally do this in one of two ways:

1. Download the software directly to the smart phone device from the website by clicking on the link on the website. This should put the file in the "downloads" directory of your MicroSD card
2. Download the software to your computer. This should put the file in the "Downloads" directory in your user account on your computer. You will now need to transfer the file to your phone's MicroSD card with one of the following options:
  1. Use a USB cable (this may or may not need to be purchased separately)
    1. Open the "Settings" application ▶ choose "USB settings" ▶ make sure that the "Ask on plug" box is checked and that USB mode is set to "Mass storage mode"
    2. Connect your smartphone to your computer with the USB cable. This lets your computer "see" the contents of your phone's MicroSD card.
    3. Once the smartphone appears, you can drag the *mdb.apk* file to the MicroSD card (make sure you know where on the MicroSD card you have put the *mdb.apk* file)
  2. Use the MicroSD card (if you have a MicroSD to SD adapter and a SD card reader in your computer)
    1. Turn off your smartphone
    2. Remove the SD card from your smartphone
    3. Insert the SD card into your computer's SD card reader

Open the "Blackmoon File Browser" (or your favorite file browser) on your smartphone device. This application (or others like it) let you view the contents of your phone's MicroSD card. Find and select the Prim8 Mobile *mdb.apk* file that you just downloaded (if you do not know where you put this file on the MicroSD card, then check the main directory of the sdcard). Click on the file ▶ Choose to open with "Package Installer" ▶ Follow the prompts to accept the permissions.

Once it has been installed: Find the application in amongst your phone's other applications ▶ Long-click on the application's icon ▶ Drag it to your "desktop" screen.

**Note:** if you need to reinstall the software or install a new version, you will have to uninstall the old version first: Open the "Settings" application ▶ Choose "Manage Applications" ▶ Navigate to the old version of the software ▶ Select "Uninstall".

The software is now ready to configure!

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### ***Configuring the Prim8 Mobile Software on your Device***

Populating the necessary database relationship tables is suggested before importing your ethogram and individuals.

The Primate Mobile Software is a data collection device and a relational database. The following is a complete list of the relationship tables along with a notation about whether it is a table that must be populated (required) before the ethogram and individuals files can be uploaded.

- Sites (required)
- Locations (required)
- Coordinate system (required)
- Species (required)
- Groups (required)
- Individuals (required)
- Behavior types (required)
- Behaviors (required)
- Field assistants (at least one is suggested)
- Work calendars
- Biological samples (e.g., feces - created during data entry)
- Behavior instances (created during data entry)
- Focal follows (created during data entry)
- Focal follow behaviors (created during data entry)
- Scans (created during data entry)
- Scan behaviors (created during data entry)
- Modifiers (created during data entry)
- Group behavior instances (created during data entry)
- Ad lib data (i.e., unstructured data - created during data entry)

### ***Data to Add before Importing your Ethogram and Individuals***

Open the Prim8 Mobile application ▶ Select the “Settings” tab (you can think of this as the “configuration” or “preferences” tab as well). All of the relationship tables can be found in the drop down menu on this tab. You will need to manually enter some information into the Sites, Locations, Groups, and Behavior Types tables (noted as “required” above) using your device before you are able to import your ethogram or individuals information.

Open the “Sites” table by selecting it from the drop down menu ▶ Click the “Edit this table” button ▶ Click “Add” ▶ Fill out the new entry by typing in a name for your site (e.g. Ngoma, Zambia) ▶ Click “Add” to accept your entry.

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Click the device's back button ▶ Select the "Locations" table from the drop down menu ▶ Click the "Edit this table" button ▶ Click "Add" ▶ Fill out the new entry by typing in a name of your location (e.g. Ngoma Airstrip) along with any GPS coordinates that might be useful to you (optional), coordinate system ▶ Choose the appropriate Site (required) ▶ Click "Add".

You can probably see the pattern here. Use the same instructions as above to edit the "Groups" table. For these entries, you can name your group(s) (e.g. Zoo group), choose the appropriate Site (required), and accept your changes (again by using the "Add" button).

Also, repeat the process to edit the "Behavior Types" table: Choose "Add" and enter the names of your behavior types (e.g. Proximity) ▶ Enter an abbreviation for this (e.g. PRX), and a description (optional). The abbreviation should correspond to the one you use in your ethogram file's *behaviortype* column.

Also choose whether you want behaviors of this type to be included in a focal follow by checking (or unchecking) the appropriate checkbox. Since most behaviors in your Ethogram will be used in the context of a focal follow, in general, you will want this box to be checked. For independent variables or behaviors that you may only want to record once a day (e.g. weather) or once per individual per day (e.g. female reproductive status), you will want leave this box unchecked. Essentially, checking this box assists with the organization of exported data by exporting the independent variables separately from the follow behavior instances in some of the export files. If desired, these values can be joined again after exporting the data. Repeat this process to enter all behavior types in your ethogram.

**Note:** Because it is easy to accidentally forget to do this before attempting to upload your ethogram and individuals, the software will create default entries in the database for you; however, you will not like the entries it creates. Please go back and look at the BehaviorTypes, Sites, and Groups tables after importing to make sure that any entries it created for you (because you forgot to enter them before importing your ethogram and individuals) are set to something rational.

If you would like to keep track of who is collecting data on the device you can add names to the "Field Assistants" table and have the field assistant login before use by going to this table and long-clicking on her(is) name. You can then have her(im) log their hours by having her(im): Go to the "Work Calendars" table ▶ Choose her(is) initials (required) ▶ Type in her(is) "Time In" and "Time Out" using the specific format in the example given.

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If you want to enter individuals or ethogram behaviors manually into the device, you can do so at any time via these tables or via the Ethogram and Individuals tabs. However, this is generally easier to do (at least initially) in bulk by importing these as comma-separated value formatted (.csv) files instead (see these instructions below).

### ***Importing your Ethogram and Individuals***

Download the sample *prim8\_import\_individuals.csv* and *prim8\_import\_ethogram.csv* files from the website and alter them in Excel or create new files directly in Excel using these sample files as guides. Note: the column headings must be exactly the same as those in the sample files, and these files must always keep the file names *prim8\_import\_individuals.csv* and *prim8\_import\_ethogram.csv*, respectively, and they must be saved in the main directory of the smartphone's MicroSD (i.e., /sdcard/). You will want to keep a copy of these files on your computer for backup.

The Individuals file (*prim8\_import\_individuals.csv*) contains variables relating to each of your individuals. The following explains how to create this file and which fields are required:

*abbreviation* (required) - enter the abbreviations of each individual. These can be any number of letters and/or numbers (with no spaces), but a unique 2-3 character set that does not conflict with any of your behavior abbreviations is recommended.

*name* (required) – enter the name of each individual. Spaces between two word names are fine.

*description* (optional but recommended) – enter a description for each individual that will help you identify it. These can be quite long, but are optional

*groups* (required) – enter the name of the group. This must be entered EXACTLY as it was entered into the “Groups” table in the device itself. If this does not happen, the file will not import properly.

*age* (optional) – enter the age of the individual if known (optional).

*gender* (optional) – enter the sex of the individual “m” for male, “f” for female or “u” for unknown (optional).

*species* (required) – this specifies the common name for the species to which this individual belongs

The ethogram file (*prim8\_import\_ethogram.csv*) represents your complete ethogram, where all behaviors and variables are defined. The following explains how to create this file:

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*name* (required) – enter the name of each behavior. Spaces between words are fine.

*abbreviation* (required) – enter the abbreviation for each behavior. These can be any number of letters and/or numbers (with no spaces), but a unique 2-3 character set that doesn't conflict with any of your individuals abbreviations is recommended.

*behaviortypes* (required) – enter the behavior type abbreviation EXACTLY as you entered them into the “Behavior Types” table in the device itself. If this is not done correctly, the Behavior file will not import properly.

*hasrecipient* (required) – enter TRUE if this behavior MUST have a recipient otherwise the software will not parse the behavior and will give you an error message (e.g. approach). Enter FALSE if the behavior will not have a recipient. If you enter FALSE you can still enter a recipient from time to time when known, but it will not be required (e.g. play; can record the recipient when known but can also simply record without a recipient).

*isstate* (required) – enter TRUE if this behavior is a state behavior and a duration will be calculated for it (e.g. forage, rest, etc). Otherwise, enter FALSE and it will be treated like an event behavior (e.g. hit, scream, etc).

*isalloccurrence* (required) – enter TRUE for all behaviors in which you plan to record every observed instance of a behavior whether or not it is during a follow (e.g. recording every observed copulation both during and outside of a focal follow). These behaviors will then be sorted into the AllOccurrence export file (see this section below). Otherwise, enter FALSE.

*isscan* (required) – enter TRUE if this behavior should be associated with each scan beep. This will result in these behaviors being assigned a Scan ID when entered; all scan behaviors entered between scan beeps it will be associated with the previous scan beep and will be included in the Scans export file. Otherwise, enter FALSE.

*description* (optional but recommended) – enter a description for each behavior. These can be quite long but is optional.

Once you have completed both the individuals and ethogram files, save them to your computer and transfer them to your device. They must be saved in the MicroSD card's main directory (i.e., /sdcard/) and they must be entitled *prim8\_import\_individuals.csv* and *prim8\_import\_ethogram.csv*, respectively. Otherwise, they will not import.

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Open the Prim8 Mobile application ▶ Go to the "Settings" tab ▶ Choose "DELETE + Import Individuals". This will delete any current or default individuals and import the new file. Note: the attributes associated with each individual can be changed at any time on the device itself, but when changes are made, it is recommended that they be changed in the original .csv file and saved on your computer, as well, for backup purposes - it is seriously annoying to restore outdated individual entries.

Open the Prim8 Mobile application ▶ Go to the "Settings" tab ▶ Choose "DELETE + Import Behaviors". This will delete any current or default behaviors and import the contents of the new file. Note: the attributes associated with each behavior can be changed at any time on the device itself but when changes are made, it is recommended that they be changed in the original .csv file saved on your computer, as well, for backup and restore purposes - it is seriously annoying to restore outdated behavior entries.

Double check that these files imported properly by going to the "Individuals" and "Ethogram" tabs, respectively, and scrolling through the entries. You can also check specifics regarding each entry by clicking on an individual or behavior within these tabs. This is where you can make changes "on-the-fly", as well. From the "Individuals" and "Ethogram" tabs, you can also just choose to view the descriptions by long-clicking (rather than short clicking) on any of the entries. This can be useful when first learning the individuals, behaviors, and their codes.

You are now finally ready to start collecting behavioral data!

## **Recording Focal Follow Behavioral Data**

Once the above modifications have been made, you are ready to collect behavioral data.

Open the Prim8 Mobile application ▶ On the "Follows" tab, click "Start Follow" ▶ Choose an individual from the drop down menu ▶ Select the amount of time you want your focal follow to be ▶ Select the scan frequency you want (if any) ▶ Click "Start Follow".

This takes you back to the data collection screen and begins the countdown timer for your follow (with an indication of who your focal individual is).

Using the individual and behavior codes (you can reference these on the "Individuals" and "Ethogram" tabs, respectively, during the follow if you forget some of the codes), enter your behavior into the text box in the following order: actor-behavior-recipient (and/or modifier) (each code separated by a space), then hit the Enter button on the keyboard.

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The following are some examples:

*Suzie is your focal.*

*Suzie (su) is foraging (fo):* Enter **su fo** or just **fo**, as the focal individual will be assumed.

*Suzie (su) grooms (gm) Nala (na):* enter **su gm na** or just **gm na**.

*Nala (na) grooms (gm) Suzie (su):* enter **na gm su** or just **na gm**.

*Suzie (su) is feeding (fd) on leaves:* enter **su fd leaves** (or any abbrev you want to consistently use for “leaves”) or just enter **fd leaves**.

**Note:** If the actor of the behavior is your focal individual, you can simply enter the behavior and the recipient, and the software will know that the actor is your focal individual. Conversely, if the recipient of the behavior is your focal individual, you can simply enter the actor and behavior, and the software will know that the recipient is your focal individual.

The timestamp for your behavior instance will be calculated as soon as you begin typing in the box. When you are finished typing the behavior instance, hit the Enter button (on the keyboard), and the behavior instance will be translated from the shorthand language to the full names and behaviors then displayed in a list below the behavior entry text box for verification by the user.

If a behavioral instance needs to be changed, simply click on the behavior instance in the list below the data entry screen and retype it in the text box in the same manner mentioned above then press the “Accept” button to accept the change (don’t worry, your behavior instance will keep the original time stamp). Note, that if you are changing the behavior after the end of the follow, you must enter the actor behavior and recipient/modifier, as these will no longer be assumed. You should see the behavior as altered in list on the normal viewing screen.

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## Recording Ad lib, All Occurrence, and Scan Data

### **Unstructured Data**

To enter Ad lib (i.e., “unstructured” data), simply put an exclamation point in the text box and then start typing notes any way you desire.

For example, if a lion starts chasing your group, you can type: **! lion chasing group**, then hit the Enter button.

The entry will be time stamped as soon as typing begins. When you click the Enter button on the keyboard, the entry disappears and is stored in the database. This entry will not be displayed in the lists, but it can be viewed and altered by going to the "Settings" tab ► Selecting “Unstructured” from the list of tables ► Selecting “Edit this table”. It is also one of the files that gets exported each time you export your data (e.g., *prim8\_unstructured0001.csv*)

### **All Occurrence Data**

Simply enter the all-occurrence behavior instance in the same manner as you do for any behavior associated with a focal follow. However, you can enter this information at any time, regardless of whether you are in or out of a follow. Behaviors that are marked as All Occurrence will be found in the following export files: *prim8\_raw0001.csv* and *prim8\_alloccurrence0001.csv*. If your all-occurrence behaviors are also follow behaviors, those that deal with your focal individual at the time will also be found in the *prim8\_follows0001.csv* file. These files are explained in more detail later.

### **Scan Data**

The scan data feature can be used in conjunction with continuous follows or to support non-continuous focal follow protocols in which, rather than recording data continuously, data is recorded at defined intervals, or scans.

After having selected the time between scans when starting your follow, simply enter the scan behavior instance in the same manner as you do for focal follows, only enter the behavior instance(s) when you hear the scan beep. You can then enter the behavior(s) any time between this scan beep and the next scan beep, and the behavior instance(s) in this time interval will be given a scan ID that is associated with the previous scan beep. Behaviors that are marked as Scan Behaviors will be found in the following export files: *mdb\_raw0001.csv* and *prim8\_scans0001.csv*. If your scan behaviors are also follow behaviors, those that deal with your focal individual at the time will also be found in the *prim8\_follows001.csv* file. These files are explained in more detail later.

### **Non-follows Data**

Simply enter the behavior instance that uses these behaviors (i.e., those where you did not check the “Will this be picked up in a follow” checkbox in the behavior edit screen) in the same manner as you do for focal follows. However, you can enter this information at any time, regardless of whether you are in or out of a follow. Behaviors

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that are marked “not in follow” in the BehaviorTypes table will be found in the following export files: *prim8\_raw0001.csv* and *prim8\_non-follows0001.csv*. For more details, see the section about editing the “Behavior Types” table above and the section about the “Exporting Data” below.

## Exporting Data

When the ready to export the data: Go to the "Settings" tab ► Click the “Export” or “DELETE+Export” button. “Export” will export the data but will retain it in the smartphone’s database such that additional data is appended to this original data. “DELETE+Export” will export the data and delete it from smartphone’s database, so the next data session will only have the new data. In both cases, the data will be saved to the MicroSD card on your device. It is good practice to check to make sure that the files exported by going to the Blackmoon File Browser (or your favorite file browser app) and noting that the files are there and have the appropriate time and date of when you exported them.

Currently, the data is exported as nine different files, each described below, along with an example of the way these file include.

*Database backup file (e.g. prim8\_0001.csv)* – contains all of the information populating all of the application’s tables, including the “Individuals” and “Ethograms” tabs, all biological samples information entered, and all behavioral instances of all kinds that have been entered since the last DELETE+Export.

*Raw (e.g. prim8\_raw0001.csv)* - contains all behavioral instances (including follow, scan, all-occurrence, non-follow, and any other behavior data entered) in the order in which it was entered.

*Changes (e.g. prim8\_changed0001.csv)* – contains all original behavioral instances that were later altered on the device itself.

*Follows (e.g. prim8\_follows0001.csv)* – contains all behavior instances that were taken as part of a focal follow, so long as the “Will this be picked up in a follow” checkbox is checked for this behavior type in the BehaviorTypes table.

*Scans (e.g. prim8\_scans0001.csv)* – contains all Scan data (so long as these behaviors have been designated as scan behaviors in the *prim8\_import\_behaviors.csv* file)

*Non-follows (e.g. prim8\_non-follows0001.csv)* – contains all data in which you indicated it “would NOT be picked up in a follow” in the BehaviorTypes table.

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*AllOccurrence* (e.g. *prim8\_alloccurrence0001.csv*) – contains all All Occurrence data (so long as these behaviors have been designated as all occurrence behaviors in the *prim8\_import\_behaviors.csv* file)

*Unstructured* (e.g., *prim8\_unstructured0001.csv*) – contains all *ad libitum* data entered (i.e., all data that is entered by first typing an ! followed by notes).

*Biological Samples* (e.g. *prim8\_biologicsample0001.csv*) – contains all information pertaining to biological samples that has been entered.

These data can be easily backed up on a laptop computer and/or portable hard drive by simply connecting the device to a laptop via a USB port. These files can be opened on your device in “Jota+” or any other text editor application you download from the “Google Play” application or in Excel on your computer for easy modification and viewing. It can also be opened directly in the R Statistical Package.

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## Frequently Asked Questions (FAQ's)

### ***What is the typical battery life of the Droid A855 and how long does it take to charge?***

It should last at least 12 hrs of continuous use with the Prim8 Mobile software and much longer when not in continuous use. The Droid A855 charges relatively quickly in about 1-2 hrs.

### ***Is the Droid A855 waterproof?***

No. The user must find or make a waterproof case or bag.

I am in the field and the battery is running low, what do I do?

It is wise to have several charged spare batteries with you, just in case. When your battery is running low, simply finish your follow, export your data (just to be safe), turn the device off, and switch batteries. However, once you turn the device back on, you will need to reset the time, date, and time zone for where you are taking data before collecting more data. This is described in the first section of this document. If you don't do this, the time stamps on your data may be incorrect for future follows and may need to be adjusted later in the exported data.

### ***Can I enter multiple receivers for a behavior?***

Multiple recipients can be entered in a single line.

For example, for Jack (ja) is 2-6 meters (2) from (gm) Nala (na), Joe (jo), and Suzie (su), simply enter: **2 na, jo, su.**

Note, since Jack is the focal, his name is assumed and does not need to be entered. Thus, the above will translate into the three following lines (all with the same time stamp):

*Jack is 2-6 meters from Nala.*

*Jack is 2-6 meters from Joe.*

*Jack is 2-6 meters from Suzie.*

A modifier of "mutual" (for example) could be used to retrieve behaviors with multiple recipients at a later time.

### ***Can I enter multiple actors for a behavior?***

Multiple actors for a behavior are not allowed; the user must enter the behavior multiple times with the various actors.

For example, If Jack (ja) is your focal and Nala (na), Joe (jo), and Suzie (su) groom (gm) Jack (ja), the user has to enter this as three separate lines three lines (note, because Jack (ja) is the focal individual, he doesn't have to be entered (but can be if desired):

**na gm** (will read Nala grooms Jack)

**jo gm** (will read Joe grooms Jack)

**su gm** (will read Suzie grooms Jack)

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For continuous focal follows this is not a problem because the chances of all three individuals beginning to groom Jack at the same time is small; however, this may be an issue if follows are not continuous but rather behaviors are recorded at regular intervals.

To compensate for the lag time in typing in this case, the user could add a modifier of “mutual” (for example) to help retrieve these behaviors with multiple actors or make an *ad libitum* note to change all three groom times to that of the first one either in the BehaviorInstances table on the smartphone or after the data has been exported. A modifier of “mutual” (for example) could be used to retrieve behaviors with multiple actors at a later time.

### ***Can I enter multiple modifiers?***

Yes, any number of modifiers can be entered once the behavior has been entered. This modifier is free form so you can enter one multiple word modifier or multiple (space-separated) modifiers. If you do the latter, you will need to divide this multiple modifier column into multiple columns after exporting it and opening it in Excel or a statistical program.

For example if defecate (de) is a behavior and you want to indicate it is “solid brown”, you could enter: **de solid brown**. “solid brown” will then show up in the modifier column of the exported data. You could leave it that way, as a two-word modifier, or you could separate it into two modifiers after export, one to describe consistency and another color: *solid* (consistency) and *brown* (color).

### ***I recently reinstalled (or installed a new version) of the Prim8 Mobile application and my tables are empty? How can I fix this?***

You will need to re-enter all of this information. Hopefully, you have an updated copy of the Individuals and Behaviors files saved as back up on your computer. You will have to re-enter all of the initial table info into the device as mentioned in the first section of this document. If you have forgotten what information was contained in these tables, find your most recently exported and saved Database back-up file (e.g. *prim8\_0001.csv*). Open this in Excel or a text editor. It will list everything most recently listed in these tables, so you can populate them again.

### ***I am trying to import my Individuals and Behavior .csv files, but they are not importing properly. What can I do?***

Check to make sure that the individuals file is called *prim8\_import\_individuals.csv* and that the behavior file is called *prim8\_import\_ethogram.csv*.

Check to make sure the behavior types listed in the *behaviortypes* column of the behaviors file have already been entered into the BehaviorTypes table via the “Settings” tab on the device.

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Check to make sure the group name listed in the groups column of the individuals file has already been entered into the Groups table via the “Settings” tab in the device.

Check to make sure that the columns in the individuals and behaviors files match those in the sample files on the website.

If it is importing some but not all of the entries, note which is the last successful entry. Go back to the original file and look at the line after this; the problem will be found in that line.

***I entered a behavior and it is returning an error message. What did I do wrong?***

Check to make sure that the codes you entered were correct.

Check to make sure that you are entering a recipient if the behavior has been marked as requiring a recipient.

***The Prim8 Mobile application exports 9 different files. Can I tell it to export only some of these files?***

No. At this time, it exports all of these files. If you do not use some of these files, feel free to delete them.

However, it is recommended that you keep at least the database back-up file (e.g. *prim8\_0001.csv*), and the raw file (e.g. *prim8\_raw0001.csv*), as these are good sources of back-up.

***I want to be able to record a general behavior type during a scan or focal follow, in the case where a more specific behavior under that category is not obvious. How can I do this?***

Simply create behaviors with the same name as the behavior type (e.g. BehaviorType: Social, Behavior: Social, compared to BehaviorType: Social, Behavior: Groom).

For example, you may usually record specific behaviors such as Jack (ja) hits (hi) Joe (jo), where hit is a form of the behavior type “Aggression”. However, say that an aggression bout occurs very quickly, and you are unsure what exactly happened, but you know that it was of the behavior type “Aggression”. If you create a general behavior called “aggression” in your ethogram, you can simply enter Jack (ja) aggression (agg) Joe (jo) **ja agg jo**, to ensure that, at the very least, the more general behavior was recorded.

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