

# Doggy Detector User Manual

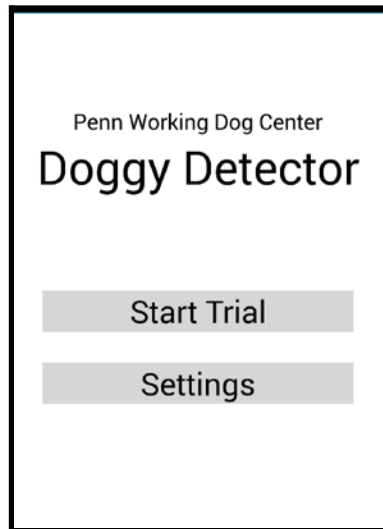
## Contents:

Managing application settings.....	3
Running trials.....	5
Managing data.....	9
FAQ .....	10

## Managing Settings

How to change the settings in the application. These settings will be the **defaults** for the application. Whenever you initiate a set of trials, the settings defined in the settings section will be those used for the test.

### Getting to the settings screen



Click the **Settings** button on the home screen to access the settings screen

## Changing the Settings

### Setting Sample Locations, tester, handler, recorder, dog, temperature, humidity

#### Change Sample Location

Adjust the number selectors to the proper location of each sample.

If a given sample is not present in the test (if, for example want to leave out the Control sample), set that selector to **0**.

**Settings**

Default Configuration:

Control :	Benign :	Malignant :
12	11	1
0	12	2
1	0	3

Tester: NewTest    Handler: Sun    Recorder: Lorenzo R

Dog: McBaine

Temp: 30 F    Humidity: 20 %

### Change tester, handler, recorder, dog,

These are all changed in the same way. Simply click on the field under the desired attribute, and then select the name of the tester/recorder/etc you want to use for the tests.

If you want to add or remove testers/handlers/recorders/dogs, simply click **Edit List** on the selector list and follow the onscreen instructions, inserting or removing names separated by commas.

The screenshot shows the 'Settings' screen with a list of personnel on the left and configuration options on the right. The personnel list includes Annemarie D, Jonathan B, Ken V, Sun, Lorenzo R, NewTest, and Edit List. The configuration options are as follows:

Benign :	Malignant :
11	1
12	2
0	3

Below these are fields for 'Handler:' (Sun) and 'Recorder:' (Lorenzo R). At the bottom, there is a 'Dog:' field (McBaine) and temperature/humidity settings (Temp: 30 F, Humidity: 20 %).

This screenshot shows the 'Settings' screen with the 'Edit Personnel List' dialog box open. The dialog box contains the following text:

**Edit Personnel List**

Please enter names separated by commas  
Example: Name1, Name2, Name3, Name4

Annemarie D, Jonathan B, Ken V, Sun, Lorenzo R, NewTest, Tester1

At the bottom of the dialog are 'Cancel' and 'Ok' buttons. The background settings are dimmed but visible.

### Change humidity, temperature

Simply click on the value next to the number and type to change value.

### When done changing settings



Click the back button on the bottom of the screen, and settings will be confirmed.

## Running Trials

How to run trials. We will walk through how to conduct a set of trials. Note that the maximum number of trials in a given set is **20**.

*\*\*\*Note: In this section each round of trials is referred to as a “set of trials” where each individual test is referred to as a “trial”. So, each time you click start trial you are initiating a “set of trials” with multiple single “trial”s.*

### Starting a Trial



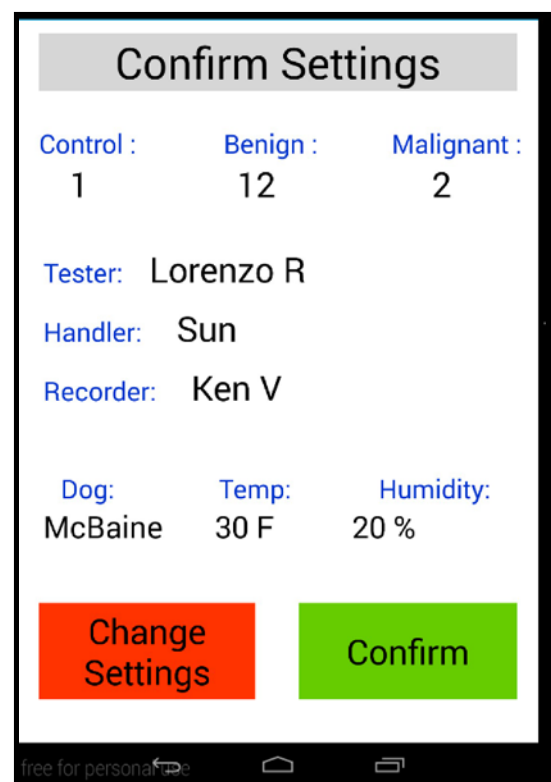
Click the **Start Trial** button on the home screen to start a set of trials

### Confirming Settings

Before each set of trials, you will be taken to a screen asking you to confirm your settings. If you see anything you want to change before you start, you can click **Change Settings** and modify your settings as outlined in the previous section.

When you click the back button at the bottom of the screen you will be taken back to the confirmation test and ready to begin!

Click **Confirm** to Begin



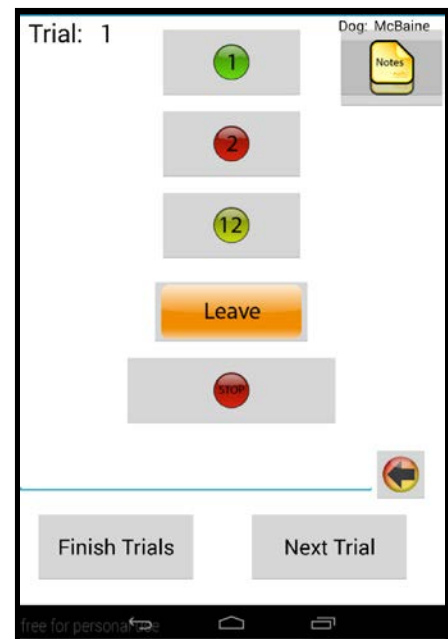
## Inputting Data

### Monitoring Dog Movements: Passes

During each trial you click the sample slot number the dog passes as he/she passes the spot on the wheel.

### Monitoring Dog Movements: Leave

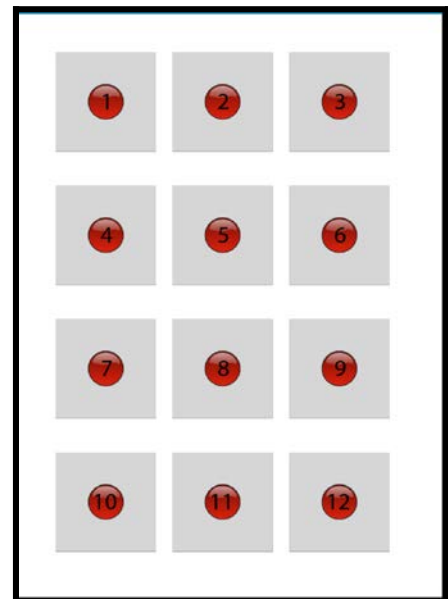
When the dog leaves the wheel click the **Leave** button. When he/she returns you may continue pressing the pause/stop buttons.



### Monitoring Dog Movements: Stop

When the dog stops, click the **Stop** button. You will be prompted to select at which slot the dog stopped. Select that spot.

**BUG: BACK BUTTON ON STOP CRASHES APP**



### Adding Notes

Click the notes button in order to add notes for a given trial within a set of trials. Click **Finish** to return to test. You can access the notes for a trial multiple times throughout each trial, and when go onto next trial notes will be saved and cleared for next trial. (So, for 10 trials, can have up to 10 different notes).

There are also hot keys in the notes section to allow you to easily input commonly used phrases like sleepy, etc.

### BUG: BACK BUTTON ON NOTES CRASHES APP

### Editing Output

The **orange back button** next to the trial output line acts as an undo button, so if you accidentally click a wrong button, just click that back button to undo.

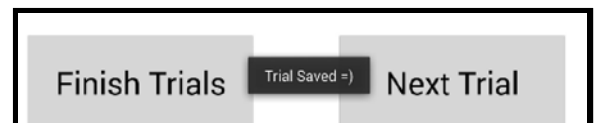
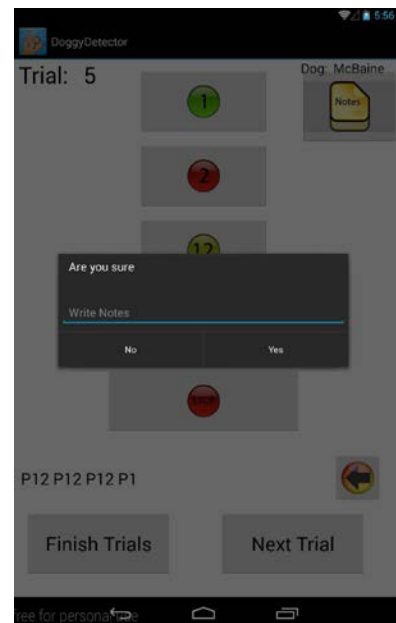
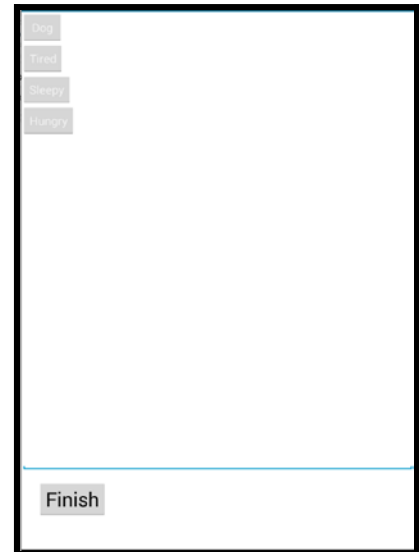
### Going to the next trial

Click the **notes button** in order to add notes for a given trial within a set of trials. Click **Finish** to return to test. You can access the notes for a trial multiple times throughout each trial, and when go onto next trial notes will be saved and cleared for next trial. (So, for 10 trials, can have up to 10 different notes).

There are also hot keys in the notes section to allow you to easily input commonly used phrases like sleepy, etc.

### Finishing set of trials

Click the **Finish Trials** button in order to finish your set of trials and send them to the google spreadsheet. You will be prompted to confirm that you are finished. Click **Yes** if done, **No** if want to keep testing. If the trials saved successfully you'll see the image at right at bottom of screen. At this point you will be set to being a new set of trials.



If you need to change the settings again, click the **Back button** at the bottom of the screen and modify. Otherwise, a new set of trials will begin with same settings as before.



## Managing Data

Data is output to a Google Spreadsheet. For working with spreadsheet data, ***it is recommended that all calculation and modification is done on a separate spreadsheet since modifying data on the output sheet may affect data output from app.***

It is possible to change positions of the columns for better viewing, but any summations, modifications to format should be done on a separate sheet (simply copy and paste the data to a separate sheet).

## **FAQ**

### **What happens if I'm not connected to the internet?**

Currently the app needs an internet connection to send data to the database. If there is no internet connection, the records cannot be saved. Check to make sure the Wifi on the device is on before beginning test. For more information on AirPennNet see here:

<https://secure.www.upenn.edu/computing/resources/category/pennnet-airpennnet/article/airpennnet-help-xpressconnect-wizard>

### **What happens if the app crashes?**

We've tested the app rigorously, but if the app does crash, it is most likely due to an internet connectivity issue. Try restarting the app and making sure the internet is functioning.

### **I'm stuck on screen and don't know where to go**

The back button at the bottom of the screen will take you to the previous page

### **How many trials can I do within a trial set**

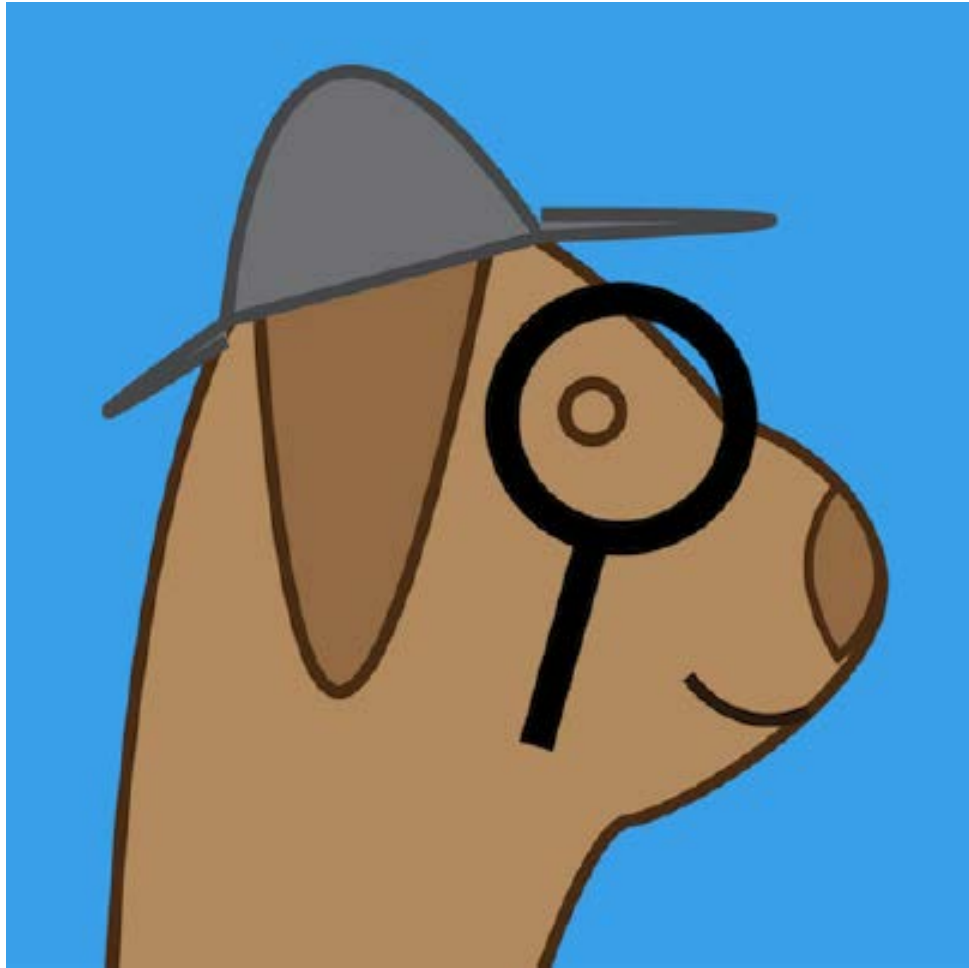
The maximum number is 20 trials. The minimum is 1.

### **What are the device/android version constraints?**

The app currently runs on Android 4.4, but has compatibility back to at least 4.0. Its display is optimized for a Google Nexus 7.

### **When I add a new dog, tester, etc, it is not showing up as an option**

Make sure there is a comma between each dog/tester/etc



# Doggy Detector Technical Documentation



Activity Class: LauncherActivity.java

This class created an instance of BloodWheel.java, please see Note 1 at the bottom of the document for more information

The corresponding XML document for the screen you see to your left is called activity\_launcher\_new.xml

Test Class: LaunchActivityTest.java

**Settings**

Default Configuration:

Control :	Benign :	Malignant :
12	11	1
0	12	2
1	0	3

Tester: NewTest    Handler: Sun    Recorder: Lorenzo R

Dog: McBaine

Temp: 30 F    Humidity: 20 %

Activity Class: EditDefaultActivityNew.java

This class created an instance of BloodWheel.java and manipulates SharedPreferences, please see Notes 1 and 2 at the bottom of the document for more information

The corresponding XML document for the screen you see to your right is called activity\_editdefaults\_new.xml

Test Class: EditDefaultActivityNewTest.java

Activity Class: EditDefaultActivityNew.java

Note that the comma separated string seen in the image to the right stored in SharedPreferences in the personnel file. To find out more about where the files are stored please see Note 2 at the bottom of the document.

**Settings**

Default Configuration:

Control :	Benign :	Malignant :
12	11	1
0	12	2
1	0	3

Tester: NewTest    Handler: Sun    Recorder: Lorenzo R

Dog: McBaine

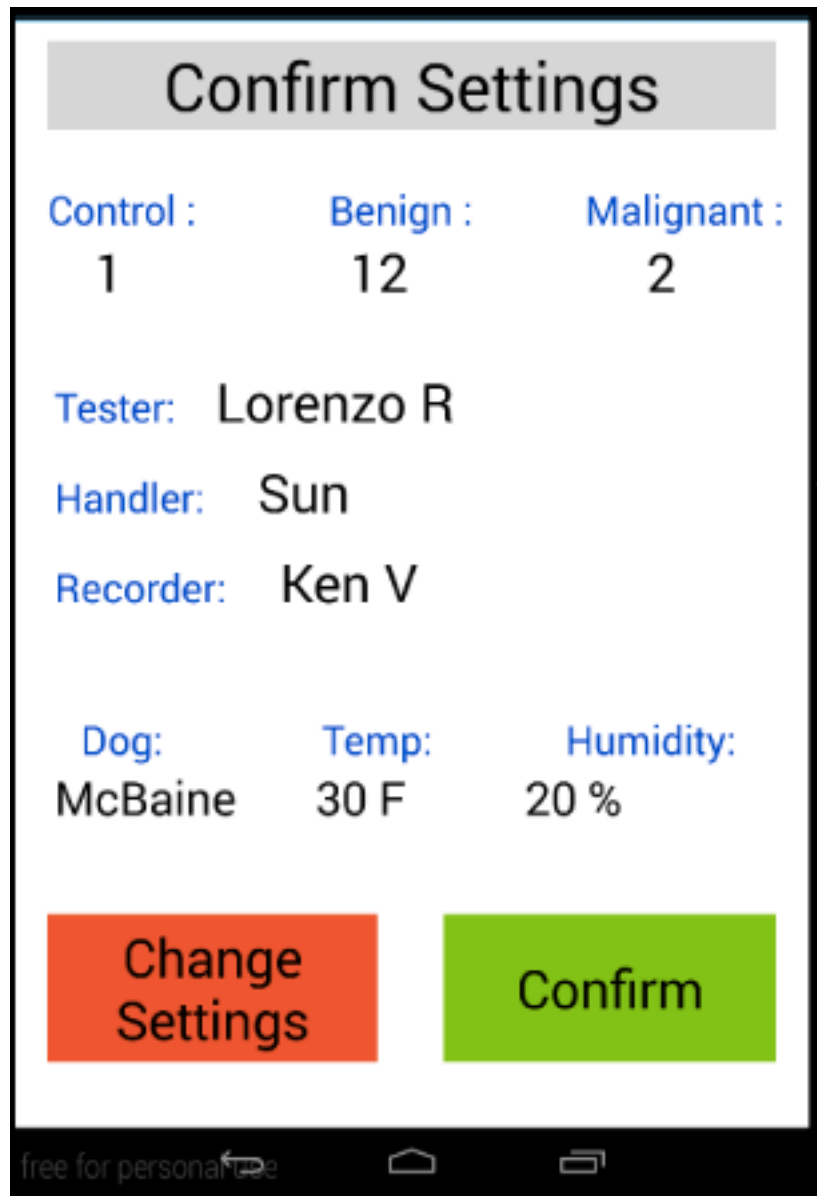
Temp: 30 F    Humidity: 20 %

**Edit Personnel List**

Please enter names separated by commas  
Example: Name1, Name2, Name3, Name4

Annemarie D, Jonathan B, Ken V, Sun, Lorenzo R, NewTest, Tester1

Cancel    Ok

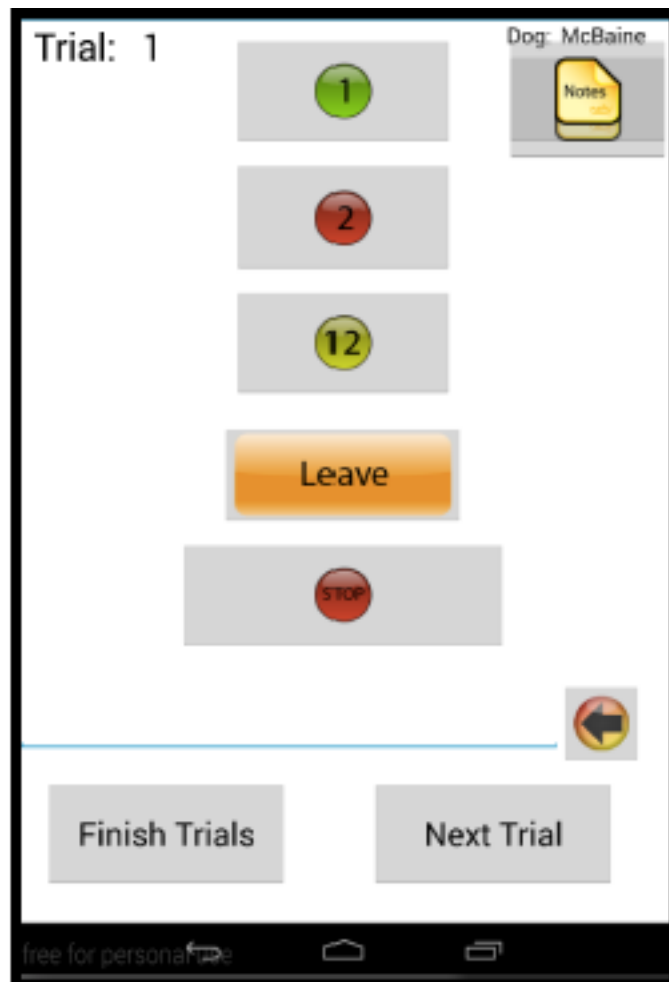


Activity Class: confirmSettings.java

This class created an instance of BloodWheel.java and manipulates SharedPreferences, please see Notes 1 and 2 at the bottom of the document for more information

The corresponding XML document for the screen you see to your right is called confirm\_settings.xml

Test Class: ConfirmSettingsTest.java



Activity Class: trialRunActivity.java

This class created an instance of BloodWheel.java and manipulates SharedPreferences, please see Notes 1 and 2 at the bottom of the document for more information

This class also creates an instance of HttpRequest.java. This class is used to send the trial data to a Google document. See Note 3 for more information.

There is also an instance of TrialCalculation. This class is used to perform statistical calculations that will be posted to our Google spreadsheet. See Note 3 for more information about our spreadsheet.

The corresponding XML document for the screen you above is called activity\_trial\_run.xml

Test Classes: trial calculations are tested in TrialCalculationTest.java and TrialRunTest.java



Activity Class: NotesActivity.java

This class saves the notes string as an Extra in an Intent object.

The corresponding XML document for the screen you see to your right is called activity\_notes.xml

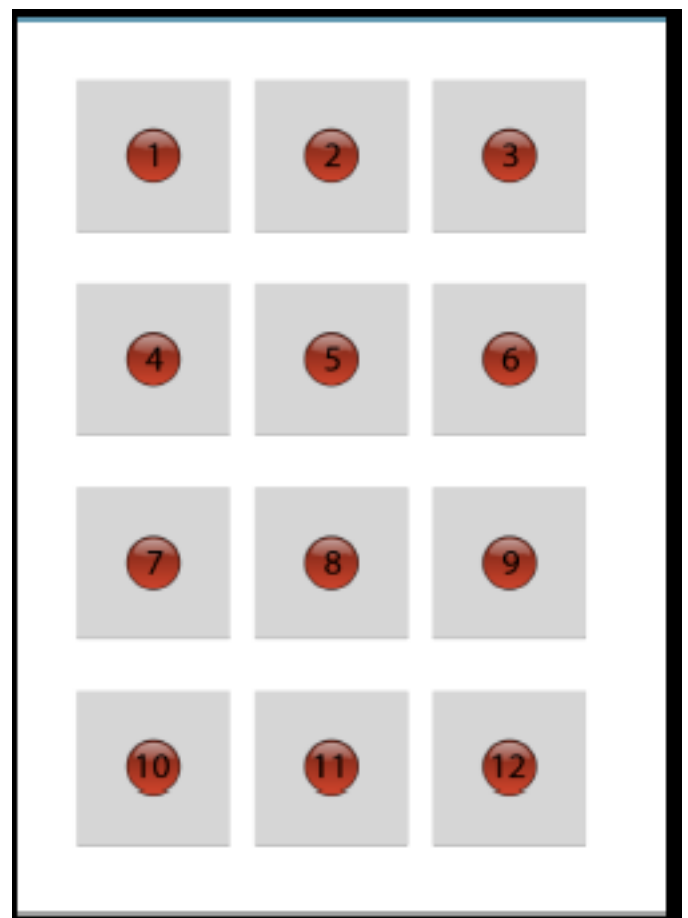
Test Class: NotesActivityTest.java

Activity Class: StopActivity.java

This class saves the stop button pushed as an Extra in an Intent object.

The corresponding XML document for the screen you see to your right is called activity\_stop.xml

Test Class: StopActivityTest.java





### NOTES:

1. Each class creates an instance of the BloodWheel.java class. This is used for retrieving or saving the numbered slots for control, malignant and benign samples. When saved, they are stored as Extras in Intent object.
2. The following fields are saved in shared preferences, which are XML documents that are stored on the device. The list of personnel is used to populate the Tester, Handler and Recorder fields. In the same XML document, the current tester, current handler and current recorder are also saved. The next XML document contains the list of dogs as well as the current dog, which is populated in the Dog field on the settings page. Temperature and Humidity are stored in a separate XML file, which saves the current temperature, and current humidity, which is used to populate the Temperature and Humidity fields. The reason why we used shared preferences is because then the information can persist when the application is closed.

The following files can be found in Data → Data → filename using Eclipse's DDMS view

Filenames:

- i. edu.upenn.cis350.cancerDog.handlers
  - ii. edu.upenn.cis350.cancerDog.dogs
  - iii. edu.upenn.cis350.cancerDog.conditions
3. We deploy the trial results to a Google spreadsheet called DoggyDetector. An http request is sent from TrialRunActivity.java using the HTTP request class to send the data to the spreadsheet. Chris Murphy has access the spreadsheet, as does our client Lorenzo. At this point in time, our spreadsheet only accommodates up to 20 trials, which at this point is all the client has requested.