

## **Building your questionnaire in Microsoft Excel**

We will now go through a demonstration of how to create an example questionnaire using some example questions about hens.

Bert has already set up the Excel form and will show us how to enter each question.

Before starting is it good to set the meta-data. The meta-data is the data collected in the background. You won't see any questions in your forms but the data will appear in the final .csv file. This includes the times of the start and end of data collection, the identification of the device and the user and if a phone is used the SIM and IMEI numbers. Bert will show how to add the metadata. The start and end times are added as **start** and **end** in the type and name columns. The labels are 'timestamp of start (or end) of data collection' the device and user ids are called **deviceid** and **subscriberid** with labels 'device ID used to collect data' and 'data on the device'. The SIM number is called **simserial** in type and name and IMEI, **phonenumber** with appropriate labels.

The first question is 'did your hen lay eggs today?'. What type of question is this?

**select\_one**

**select\_multiple**

**date**

**text**

The correct answer is **select\_one** with options '**yes**', '**no**' and '**don't know**'.

In the survey sheet we will therefore add **select\_one** under the column 'type'. We will call the variable 'today' under the column 'name' and add the question to the label column. We could make this question required as the person answering should be able to do so. To do this we add a 'yes'. There are no preceding questions so there is nothing to add in the relevant column. There is also nothing to add in the constraint column as it is not a numeric question. In the choices sheet, we will add 'yes\_no\_dk' under the column 'list\_name'. In the name column we will add 'yes' 'no' and 'dk' and ensure that 'yes\_no\_dk' is repeated for all answers. The label could be 'Yes', 'No' and 'Don't know'. Alternatively, in the name column you could substitute yes for 1, no for 0 and dk for 99 for example. We will now go back to the survey sheet and add 'yes\_no\_dk' after 'select\_one' in the 'type' column. This will then allow this variable to refer to these choices. If we want to use these options again for another variable, we do not add again in the choices sheet.

The second question is 'how many eggs did your hen lay today?' What type of question is this?

**time**

**integer**

**select\_one**

decimal

The correct answer is **integer or select\_one**

Are there any other components to this question you'd like to add?

relevant

appearance

constraint

repeat

The correct answers are **relevant** and **constraints**.

In the survey sheet we will therefore add integer under the 'type' column. We can give the variable the name '**number\_eggs**' and add the question to the label column. Under the relevance column we need to add the correct syntax so that this question will only appear if we answered 'yes' to 'did your hen lay eggs today'. We can look up the syntax at [xlsform.org](http://xlsform.org). Burt will now show how to do this. We start the syntax with the dollar sign and then within curly brackets, add the previous variable name we refer to. As we want this question to appear only if the previous answer was 'yes' we then add equals yes in inverted commas. Secondly, we will add a constraint. We may want to say that a hen cannot lay more than 20 eggs in one day. We can also look up how to add this syntax at [xlsform.org](http://xlsform.org). The syntax includes a dot followed by a less than sign and then twenty. We will choose not to make this required as the number of eggs may not be known. There is nothing to add to the choices sheet.

Alternatively, we could add this a 'select\_one' question. In this case we could give options such as 0, 1-3, 4-6, more than 6 or don't know. If we go to the choices sheet we can add a new list\_name 'eggs' with the options added in the label column. We might want to call these '0', '1', '2', '3' and '99' in the name column. We don't have to categorise the number at this point, particularly if we want a continuous variable in our analysis. We can also give options 0,1,2,3,4,5 etc however, you should note that this will take up quite a bit of space on the form.

The third question is 'if your hen did not lay eggs today, when did she last lay an egg?' What type of question is this?

date

geopoint

select\_one

image

The correct answers are **date or select\_one**

Are there any other components to this question you'd like to add?

**required**

**relevant**

**constraint**

**media**

The correct answers are **relevant** and **constraints**.

In the survey sheet we will therefore add date under the 'type' column. We can give the variable the name 'date' and add the question to the column. Under the relevance column we will add the syntax to show this question if the answer to the original question was 'no'. We also need the date to be before today and therefore in the constraint column we add a dot followed by a less or equals sign and followed by today with open brackets. We will leave the appearance column empty so that a thirty-day calendar is used. We will also leave the required column empty as people may not know when the hen last laid an egg.

Alternatively, we can add this as `select_one`. We will call this 'time\_egg' under the 'list\_name' in the choices sheet. We can give different times e.g. yesterday, 2-3 days ago, 4-7 days ago, more than a week ago or don't know. Again, we could label these 0,1,2,3,99 in the name column. We will add 'time\_egg' after 'select\_one' in the survey sheet. We could then make this required.

The next question is 'which days of the week does your hen normally lay eggs?'

**select\_multiple**

**select\_one**

**date**

**time**

What type of question is this?

The correct answers are: 'select\_multiple' or 'select\_one'

If we choose `select_multiple` we should note that although it may be in an easier format for the person completing the questionnaire, the final output will be more difficult for the purpose of analysis as all of the days of the week selected will be entered into one column as a string variable. However, we will add this now so we can see the output. Under type, we add 'select\_multiple'. We could name this 'days' and label with the question. There are no constraints and the relevance column can also be left blank. In the choices sheet we can add 'week\_days' to the list\_name and label and names these with the days of the

week. We can also add a 'don't know' option. We can then add 'week\_days' after 'select\_multiple' in the survey sheet. We can also make this required as there is a 'don't know' option.

We can also add this as a 'select\_one' question. For each day of the week we'd need the option 'yes', 'no' or 'don't know'. We therefore add 'select\_one' to the type and add the name 'days2'. We call it 'days2' as we already have a question with the name 'days'. The label however, can be the same. We don't need to add anything new to the choices sheet as we already have 'yes\_no\_dk' listed. Again, we don't need to add anything to 'relevance' and 'constraint' but can make this required.

The final instruction is 'add the GPS coordinates of the place where the hens live'.

What type of question is this?

[select\\_one](#)

[geopoint](#)

[image](#)

[barcode](#)

The correct answer is: geopoint.

Under type we will add 'geopoint' and name 'coordinate'. We will add the instruction to the label.

There are no constraints and the relevance column is left empty. We could make this required but should bear in mind that it may be difficult to obtain GPS coordinates indoors. There is nothing to add to the 'choices' sheet.

Now that we have added all of the questions, we will complete the 'settings' sheet. We will call the questionnaire 'Hen questionnaire' under the column 'form\_title' and give this the 'form\_id', 'hens'. The version will be the date today in the format year, month, day and then the time. We will set the default language to English by adding "English (en)" and complete the change log with the name of the person making the changes, the time (same as the version number) and as we haven't made any changes we can state 'NA'. Finally, we will add our public key. The public key is in a .pem file so we will need to copy and paste for example, from a text file.

We should ensure that we now save the form as a .xlsx file.