Introduction to ODK/Kobo Collect

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Key Principles of Effective Questionnaire Design

Introduction

- There are seven steps in the design of the questionnaire.

Step 1: Decide what information is required

- The researcher refers to the proposal and brief and make a listing of all the objectives and what information is required in order that they are achieved.

Step 2: Make a rough listing of the questions

- A list is now made of all the questions that could go into the questionnaire.
- The aim at this stage is to be as comprehensive as possible in the listing and not to worry about the phrasing of the questions.

Cont'd

Step 3: Refine the Question Phrasing

- The questions must now be developed close to the point where they make sense and will generate the right answers.

Step 4: Develop the Response Format

- Every question needs a response. This could be a pre-coded list of answers or it could be open ended to collect verbatim comments.

- Consideration of the responses is just as important as getting the questions right.

Cont'd

Step 5: Put the questions into an appropriate sequence

- The ordering of the questions is important as it brings logic and flow to the interview.
- Normally the respondent is eased into the task with relatively straightforward questions while the more difficult or sensitive ones are left until they are warmed up

Step 6: Finalise the layout of the questionnaire

- The questionnaire now needs to be fully formatted with clear instructions to the interviewer, including a powerful introduction, routings and probes.

Step 7: Pretest and revise

- The final step is to pre-test the questionnaire.

Designing Effective Questionnaires

- There are five people to take into consideration when designing a questionnaire:

  i. **Client** - the client wants answers to their particular questions.

  ii. **Researcher** - the researcher needs to uncover information and balance the needs of three groups of people

  iii. **Interviewer** - the interviewer wants a questionnaire which is easy to follow and which can be completed in the time specified by the researcher.

  iv. **Respondent** - respondents generally want to enjoy the interview experience.

  v. **Data Processor** - the data processor wants a questionnaire which will result in data which can be processed efficiently and with minimum error

Sections of a Questionnaire

a. **The respondent's identification data** - such as their name,address, date of the interview, name of the interviewer.

b. **An Introduction** - It is normally scripted and lays out the credentials of the market research company, the purpose of the study and any aspects of confidentiality.

c. **Instructions** - the interviewer and the respondent need to know how to move through the questionnaire.

d. **Information** - this is the main body of the document and is made up of the many questions and response codes.

e. **Classification data** - establish the important characteristics of the respondent, particularly related to their demographics.

10 things to think about in effective questionnaire design

- Think about the objectives of the survey
- Think about how the interview will be carried out
- Think about the introduction to the questionnaire
- Think about the formatting
- Think about the questions from the respondents point of view
- Think about the possible answers at the same time as thinking about the questions:

Cont'd

- Think about the order of the questions
- Think about the types of questions
- Think about how the data will be processed
- Think about interviewer instructions

Important

The best questionnaires are constantly edited and refined until finally they have clear questions and instructions, laid out in a logical order.

Note

- To write a good question you need to make sure that the respondents:
  i. Can understand the question
  ii. Are willing to answer the question
  iii. Are able to answer the question

When Formulating individual questions:

a. Ensure that the questions are without bias

b. Make the questions as simple as possible

c. Make the questions very specific

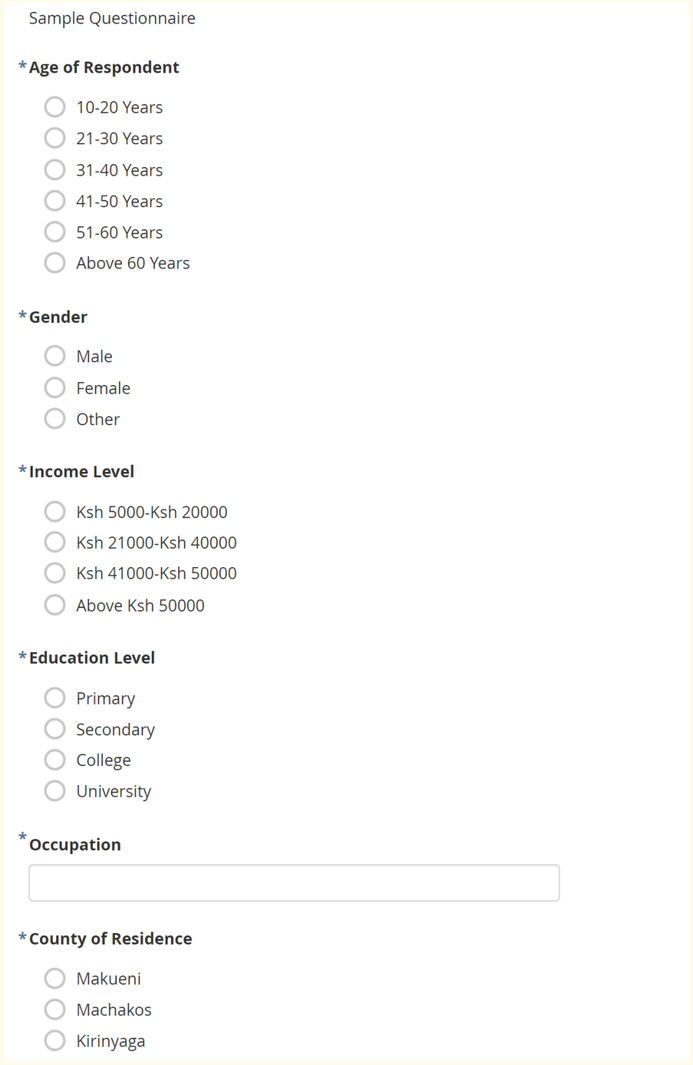
d. Avoid jargon or shorthand

e. Steer clear of sophisticated or uncommon words

f. Avoid ambiguous words

Example of a Questionnaire

Example



Sample Questionnaire

***Age of Respondent**

- 10-20 Years
- 21-30 Years
- 31-40 Years
- 41-50 Years
- 51-60 Years
- Above 60 Years

***Gender**

- Male
- Female
- Other

***Income Level**

- Ksh 5000-Ksh 20000
- Ksh 21000-Ksh 40000
- Ksh 41000-Ksh 50000
- Above Ksh 50000

***Education Level**

- Primary
- Secondary
- College
- University

***Occupation**

***County of Residence**

- Makueni
- Machakos
- Kirinyaga

Types of Questions

- `Open Ended`: No choices are given like the question on *occupation*
- `Closed Ended`: Choices are given like *question on age of the respondent*

Computer Assisted Personal Interviews (CAPI)

Introduction

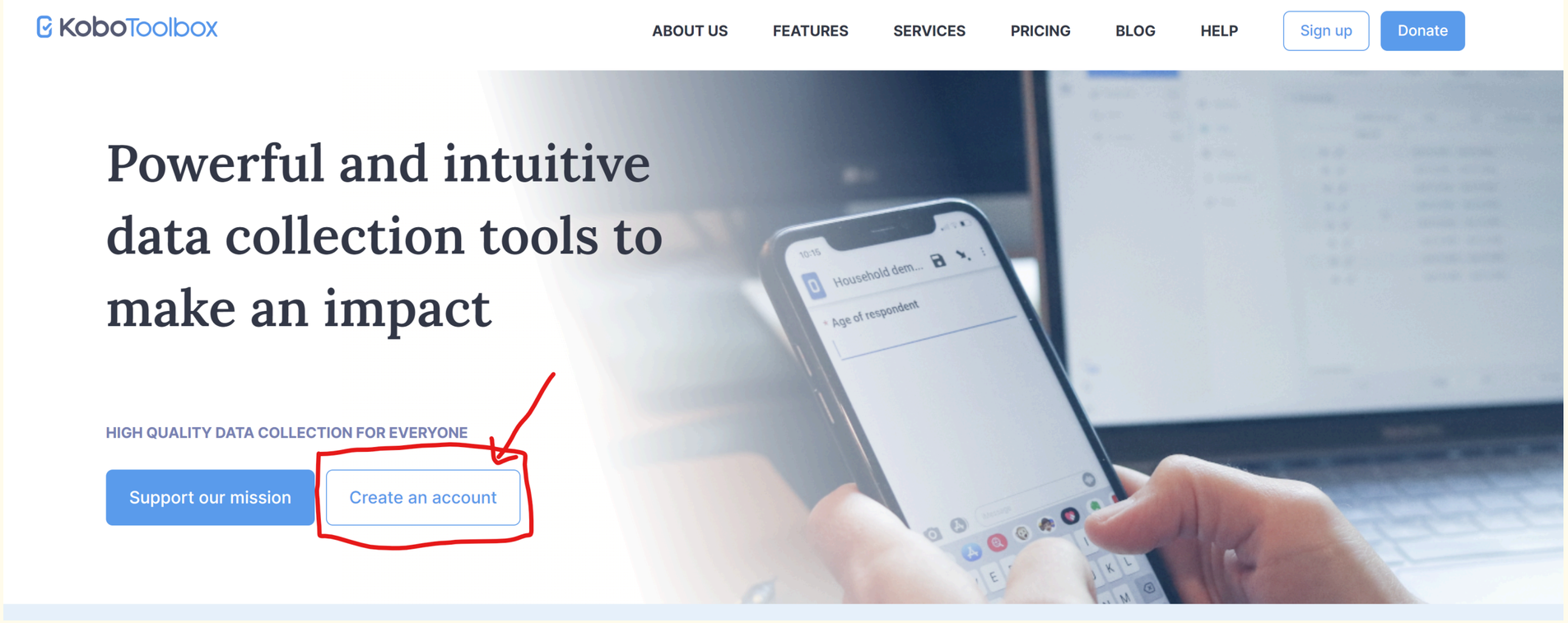
Options

- We will discuss how to code a questionnaire in *Open Data Kit (ODK) and KoboCollect*.
- *This is key for data collection exercises*

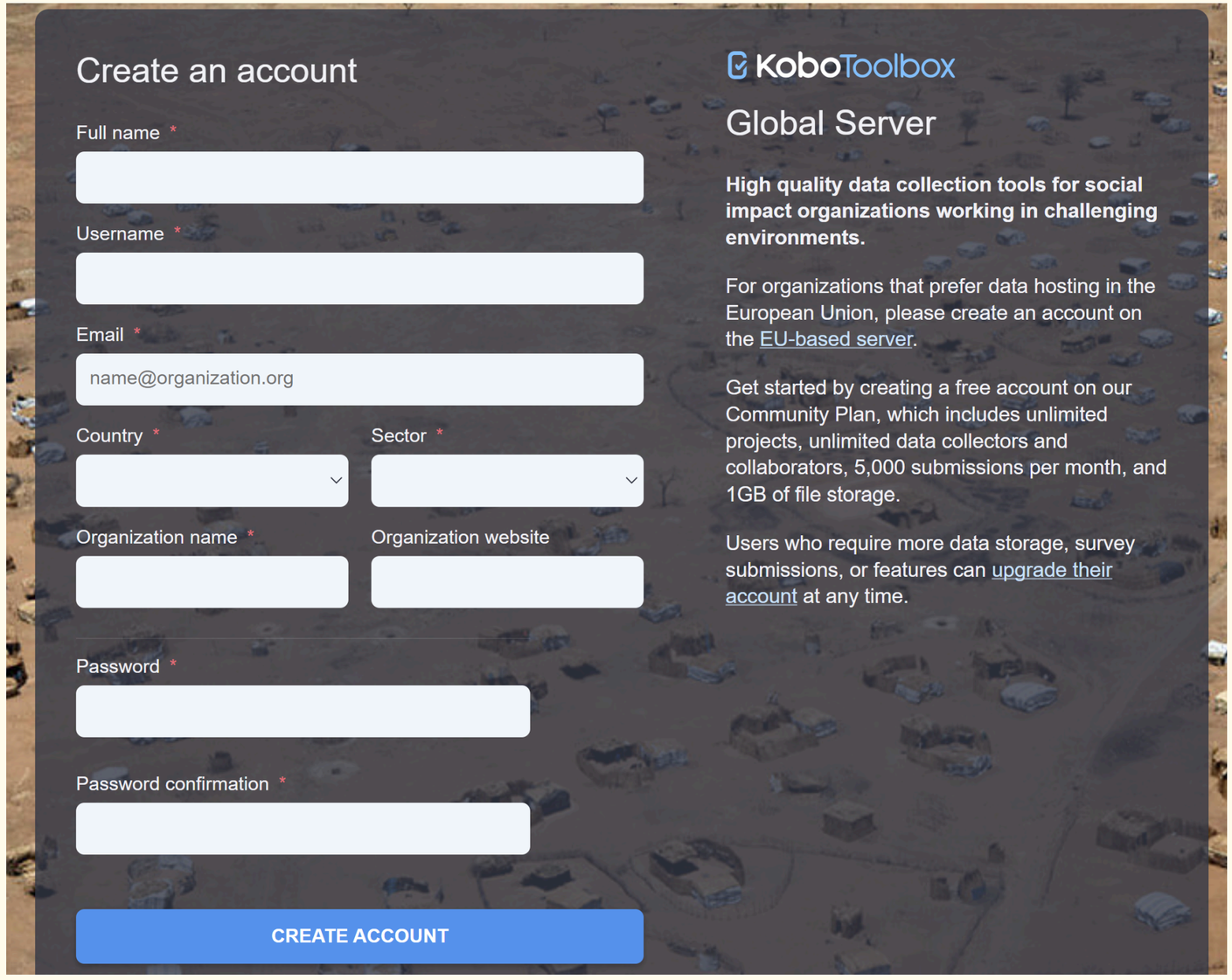
Form Programming

- To set up tools in KoboToolBox type www.kobotoolbox

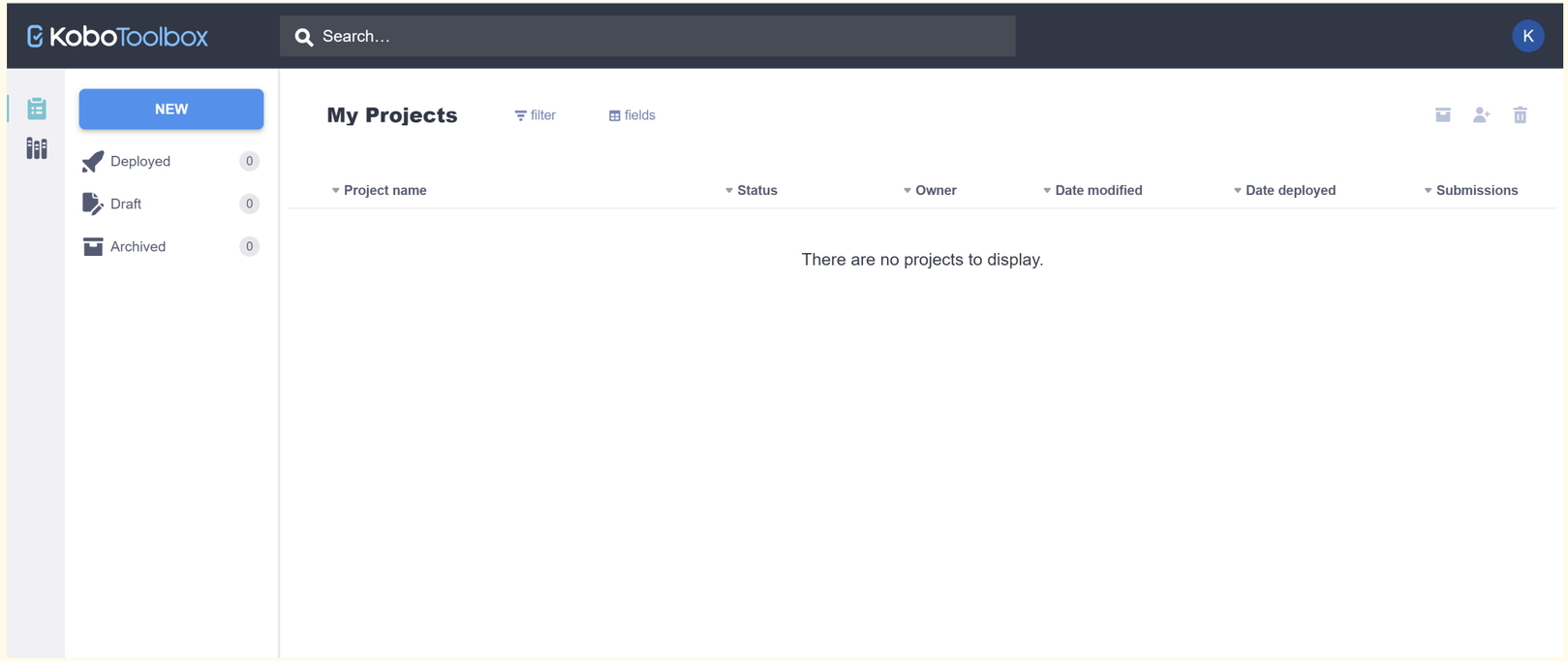
- Create an account: Remember the *password* and the *username* of your account.



Creating an Account



Account Appearance



- There are no *Projects* since we have not created any project that we intend to collect data on.

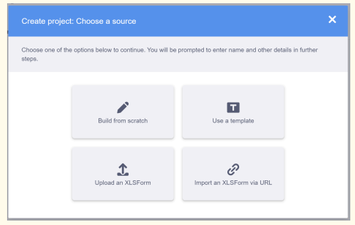
- No deployed questionnaires since we have not developed any questionnaire.

Install KoboCollect App on Mobile

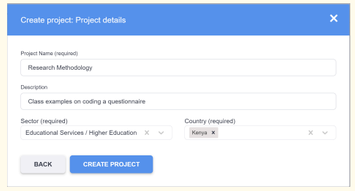
- It is necessary to install the KoboCollect App on ANDROID OS MOBILE DEVICE and configure it for collecting data

Configuring the App on Mobile

- Click on New under the account appearance



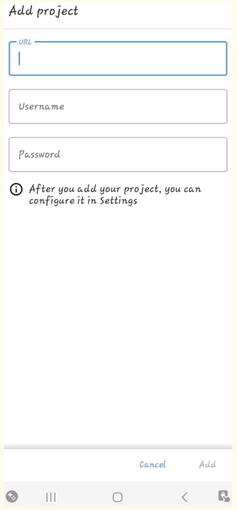
- Select Build from scratch and enter the details as shown



- We are ready now to configure the app on our phones

Cont'd

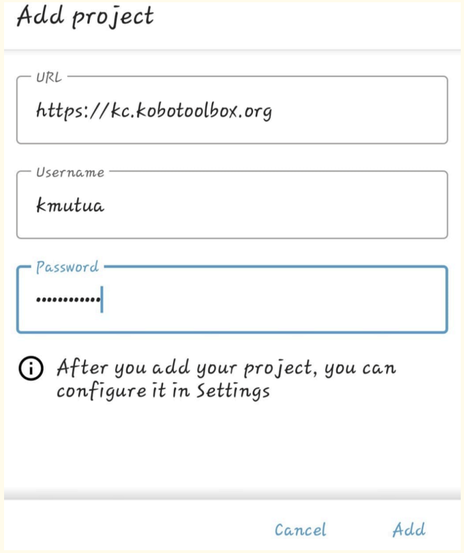
- We select Manually enter project details



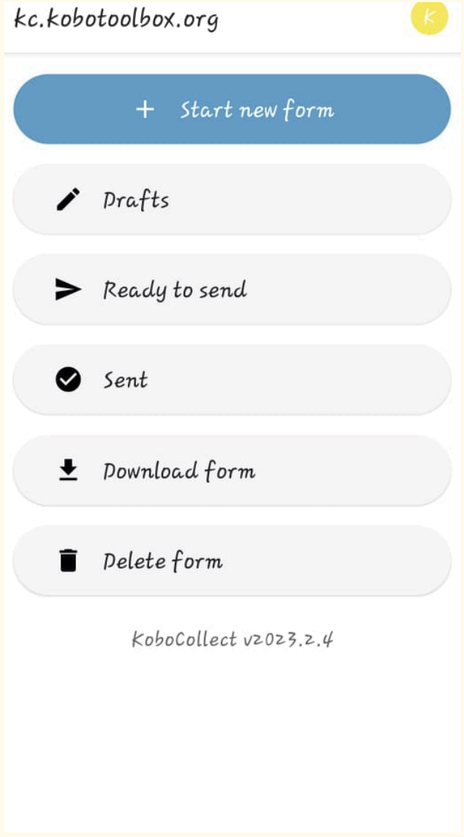
- If you created your user account on the global server the URL is `https://kc.kobotoolbox.org`
- Insert the `username` you created while creating the account
- Insert the `password` you created while creating the account on the server

Cont'd

- We select Manually enter project details and click add



- After clicking Add you will get the following screen



Setting up Blank Forms in KoboCollect

- Once you have configured the **URL,Username** and **Password** in the app correctly, you can send blank forms to your device from the **KoboToolbox** server

  i. Open **KoboCollect**

  ii. Make sure that you have at least one project set up in your **KoboToolbox** user account and that your device is connected to the internet

  iii. Select **Download Form** from the home menu

> ⚠ **Warning**
>
> *We have not created any questionnaire so you expect the message Nothing to Display at this stage.*

Creating XLSForm

Introduction

- *XLSForm* is a standard for designing form in Excel.
- XLSForm are a simple to get started with and can represent complex forms.
- XLSForms can be created and edited by an application that works with `.xlsx` documents.
- Once your form has been designed you can upload it to the server.

Contents of XLSForm

The Survey Sheet

- At a minimum an XLSForm has a sheet named **survey** to describe the types and order of fields in a form.
- It must have the following three columns:
  i. `type`: the type of field represented by each row
  ii. `name`: The name of the field represented by each row
  iii. `label`: the user-visible question text for the field represented by each row

Cont'd

The Choices sheet

- If you have *multiple choice questions* you will also need **choices** sheet to specify choices for those questions.

- It must have three columns:

  a. `list_name`: The unique ID that identifies a group of choices. It may not contain spaces and it must start with a letter or underscore

  b. `name`: The name of the field represented by each row. It may not contain spaces and must start with a letter or underscore.

  c. `label`: The user-visible text for the choice represented by each row.

Cont'd

The settings sheet

- You should also include **settings** sheet to uniquely identify your form definition and its current version.
- It is recommended we specify at least the following columns:
  i. `form_title`: The title that will be displayed by tools that list this form
  ii. `form_id`: The unique ID that identifies this form to tools that use it.
  iii. `version`: The unique version code that identifies the current state of the form.

Question Types

Introduction

- `ODK Collect` and `Kobocollect` supports forms with a wide variety of question types.

- The exact functionality and display of each question are specified in your `XLSForm` definition using the `type` and `appearance` columns

Terminology

- `question`: A prompt to the user usually requiring a response

- `widget`: A rendered question screen in collect

Text Widget

- All of the text widget share the `text` type and the inputs from them are saved as literal strings.
- The default text widget is given as:

type

`text`

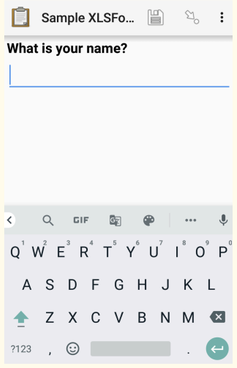
appearance

none

- This is a simple text input.
- The appearance in XLSForm will be as follows in the `survey sheet`

type	name	label
text	name	What is your name?

- The appearance in your android OS will be as:



Number Widgets

Integer Widget

- A whole number entry input
- Integer widgets will not accept decimal points and the entry fields has a limit of nine digits

type

`integer`

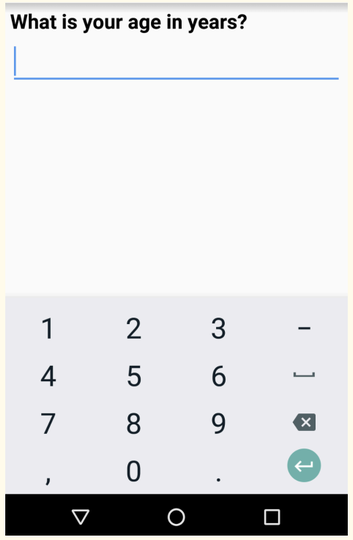
appearance

none

- In the XLSForm survey sheet the appearance will be

type	name	label
integer	age	What is your age in years?

- The ODK/Kobocollect screen appearance is:



Decimal Widget

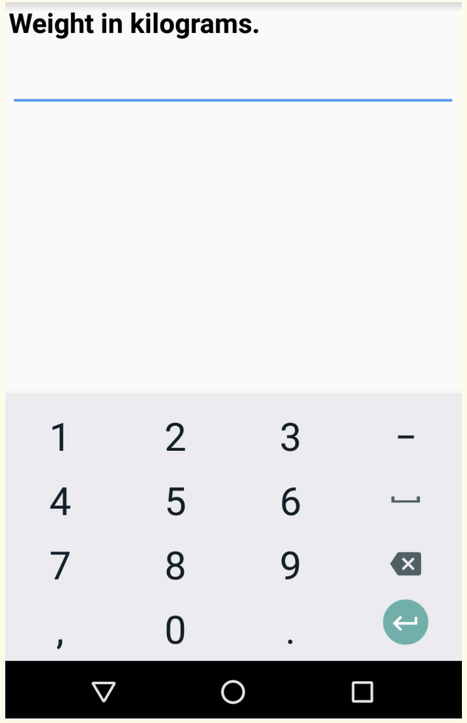
- A numeric input that will accept decimal points

type
`decimal`
appearance
none

- In the XLSForm survey sheet the appearance will be

type	name	label
decimal	weight	Weight in kilograms.

- The ODK/Kobocollect screen appearance is:



Date and Time Widgets

Default date widget

- The default date is given as:

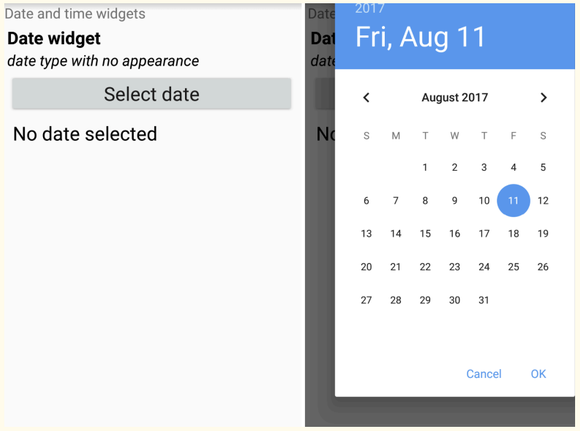
type

`date`

appearance

none

- The appearance in ODK/Kobocollect is given as:



- The XLSForm is given as:

type	name	label	hint
date	date_widget	Date widget	date type with no appearance

Date widget with spinner input

- The `no-calendar` appearance displays a spinner-style date selection.

type

`date`

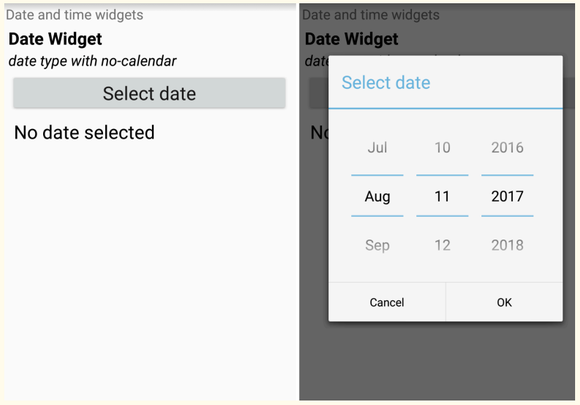
appearance

`no-calendar`

- The XLSForm is given as:

type	name	label	appearance	hint
date	date_widget_nocalendar	Date Widget	no-calendar	date type with no-calendar appearance

- The appearance in ODK/Kobocollect is given as:

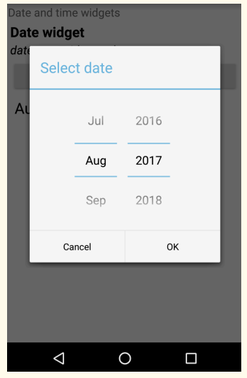


Month and Year Only

- The `type` is date and the `appearance` is month-year
- Collects only month and year

type	name	label	appearance	hint
date	date_widget_month_year	Date widget	month-year	date type with month-year appearance

- In ODK/Kobocollect appears as follows:

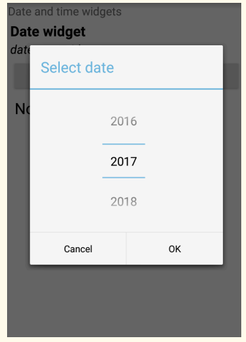


Year Only

- The `type` is date and the `appearance` is year
- Collects only year

type	name	label	appearance	hint
date	date_widget_year	Date widget	year	date type with year appearance

- In ODK/Kobocollect appears as follows:

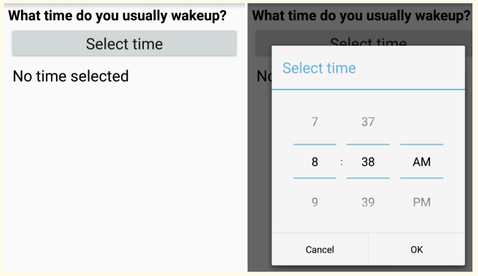


Time Widget

- The type is `time` and the appearance is `none`
- A time selector, captures only a specific time-of-day not a date and time
- The time widget does not accept any `appearance` attributes

type	name	label
time	wakeup	What time do you usually wakeup?

- The ODK/Kobocollect appearance is



Datetime widget

- A date and time selector
- The XLSForm appearance is:

type	name	label
dateTime	previous_meal	When was the last time you ate?

Select Widget

Introduction

- Select widget display choices to pick from.
- Single selects allow selecting a `single choice` and multi select allow `selecting multiple choices`
- Select can be displayed in different ways using `appearances`

Single select Widget

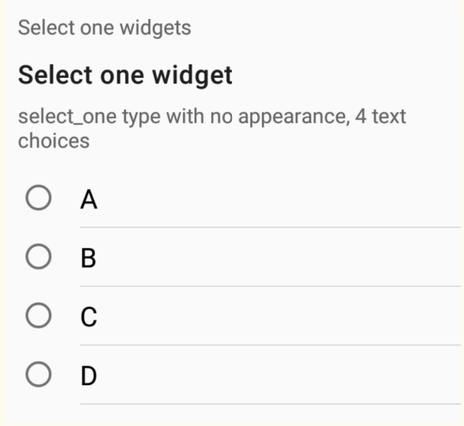
- The type is `select_one {list_name}`
- The appearance in XLSForm `survey sheet` is given as:

type	name	label	hint
select_one opt_abcd	select_one_widget	Select one widget	select_one type with no appearance, 4 text choices

- The `choices sheet` appearance is

list_name	name	label
opt_abcd	a	A
opt_abcd	b	B
opt_abcd	c	C
opt_abcd	d	D

- The ODK/Kobocollect appearance in OS is given as:



Multi select Widget

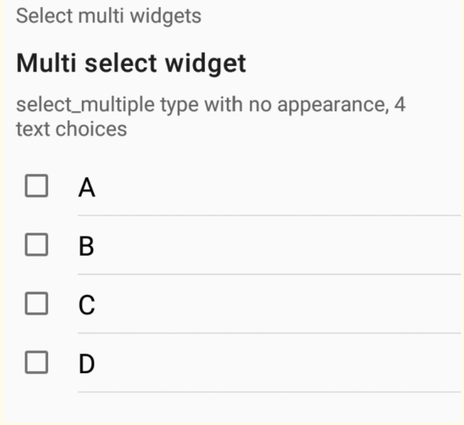
- The type is `select_multiple {list_name}`
- The appearance in XLSForm `survey sheet` is given as:

type	name	label	hint
select_multiple opt_abcd	select_multi_widget	Multi select widget	select_multiple type with no appearance, 4 text choices

- The `choices sheet` appearance is

list_name	name	label	image
opt_abcd	a	A	
opt_abcd	b	B	
opt_abcd	c	C	
opt_abcd	d	D	

- The ODK/Kobocollect appearance in OS is given as:



Rank Widget

- The `rank widget` allows the user to order options from a list.
- The value is saved in the form and sent to the server is a space separated ordered list of the options.
- The type is `rank {list_name}`
- The XLSForm appearance is

survey

type	name	label	hint
rank opt_abcd	rank_widget	Rank widget	rank type with no appearance, 4 text choices

choices

list_name	name	label
opt_abcd	a	A
opt_abcd	b	B
opt_abcd	c	C
opt_abcd	d	D

Location Widgets

Introduction

- Location widgets capture one or more points representing locations on earth.

- Each point is represented as four numbers separated by spaces: latitude, longitude, altitude in meters and accuracy in radius meters.

Geopoint widget

- The `type` is *geopoint* and the `appearance` is *none*
- Captures the current geolocation from the device
- The XLSForm with optional parameters is given as:

survey

type	name	label	hint	parameters
geopoint	geopoint_widget	Geopoint widget	geopoint type	capture-accuracy=10 warning-accuracy=10 allow-mock-accuracy=true

Geopoint with map display

- The `type` is geopoint and the appearance is maps
- The default **Geopoint widget** does not display a map to the user
- When the appearance attribute is maps, the widget displays a map to help the user get oriented and confirm that the selected point is correct and sufficiently accurate.

survey

type	name	label	appearance	hint
geopoint	geopoint_widget_maps	Geopoint widget	maps	geopoint type with maps appearance

Image Widget

- Mostly we work with default image widget.
- The type is `image` and the appearance is none
- Captures an image from the device. The user can choose to take a new picture with the device camera, or select an image from the device photo gallery.

survey

type	name	label	hint
image	image_widget	Image widget	image type with no appearance

Video Widget

- Records video, using the device camera

survey

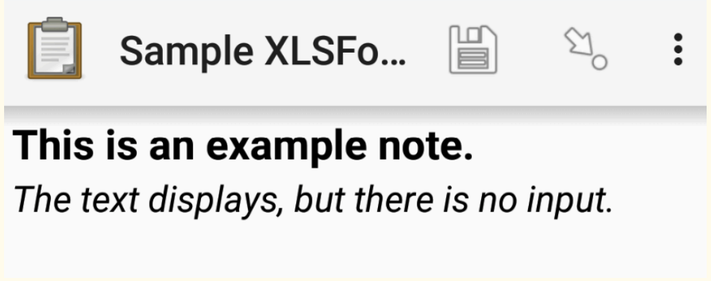
type	name	label	hint
video	blinking	Please record a video of yourself blinking.	Three times is probably sufficient.

Note Widget

- A note to the user, accepting no input.
- The type is `note` and the appearance is `none`
- The XLSForm is

type	name	label	hint
note	note_1	This is an example note.	The text displays, but there is no input.

- The appearance in the app is



Grid of selects on the same screen

- If you have multiple select questions with the same choices it can be helpful to group them on one screen.

- To do this put your select question in a `field-list` group and use the following `appearances` attributes:

  i. `label` Only the option labels are displayed, without checkboxes

  ii. `list-nolabel` Only checkboxes or radio buttons are displayed, without their labels. This is used for the question rows in the example above.

  iii. `list` The labels are displayed along with checkboxes for multi-select questions and radio buttons for single-select questions.

XLSForm

- The appearance of the xlsform is given as:

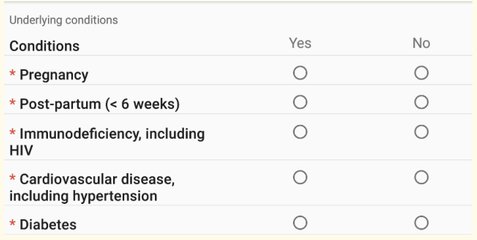
survey

type	name	label	appearance
begin_group	underlying_conditions	Underlying conditions	field-list
select_one yes_no	condition_labels	Conditions	label
select_one yes_no	Comcond_preg	Pregnancy	list-nolabel
select_one yes_no	Comcond_partum	Post-partum (< 6 weeks)	list-nolabel
end_group	underlying_conditions		

choices

list_name	name	label
yes_no	yes	Yes
yes_no	no	No

- The appearance of the ODK app is:



Form Logic

Introduction

- ODK Collect/ Kobocollect supports a wide range of dynamic form behaviour.

Variables

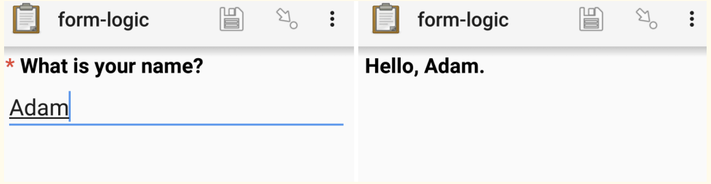
- Variables reference the value of previously answered questions.

- To use a variable in XLSForm put the question's `name` in curly brackets preceded by a dollar sign: `${question_name}`

survey

type	name	label
text	your_name	What is your name?
note	hello_name	Hello, ${your_name}.

- The appearance in the app is:



Group of Questions

- To group questions use the `begin_group...end_group` syntax

XLSForm — Question group

survey

type	name	label
begin_group	my_group	My text widgets
text	question_1	Text widget 1
text	question_2	These questions will both be grouped together
end_group		

Repeating Questions

- You can ask the same question or questions multiple times by wrapping them in `begin_repeat...end_repeat`

- By default enumerators are asked before each repetition whether they would like to add another repeat.

XLSForm — Repeating one or more questions

survey

type	name	label
begin_repeat	my_repeat	repeat group label
note	repeated_note	All of these questions will be repeated.
text	name	What is your name?
text	quest	What is your quest?
text	fave_color	What is your favorite color?
end_repeat		

Fixed repeat count

- Use the `repeat_count` column to define the number of times that questions will repeat

survey

type	name	label	repeat_count
begin_repeat	my_repeat	Repeat group label	3
note	repeated_note	These questions will be repeated exactly three times.	
text	name	What is your name?	
text	quest	What is your quest?	
text	fave_color	What is your favorite color?	
end_repeat			

Dynamically defined repeat count

- The `repeat_count` column can reference previous references

survey

type	name	label	repeat_count
integer	number_of_children	How many children do you have?	
begin_repeat	child_questions	Questions about child	${number_of_children}
text	child_name	Child's name	
integer	child_age	Child's age	
end_repeat			