TESAF Dipartimento Territorio e Sistemi Agro-Forestali Università di Padova

FORESTE VETUSTE
STRUTTURA E BIODIVERSITA' 2.0

Centro Studi Ambiente Alpino "L. Susmel", via F. Ossi 41 - S.Vito di Cadore (BL)

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WORKSHOP

Form apps to collect and digitalise field data

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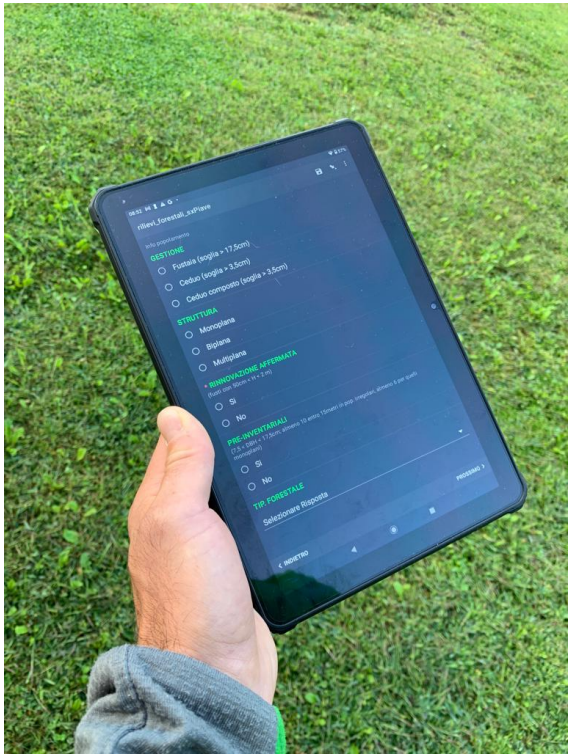
Forest fires and wildland-urban interface

Introduction - Form apps in forest surveys

- Field data collection is a fundamental part in foresters work
- As an alternative to paper forms, recently some *form apps* have been created
- *Form apps* are smartphone/tablet apps that may:
  - Simplify field data collection
  - Speed up digitalisation
  - Limit errors
  - Make the work more efficient



Introduzione - Form apps in forest surveys

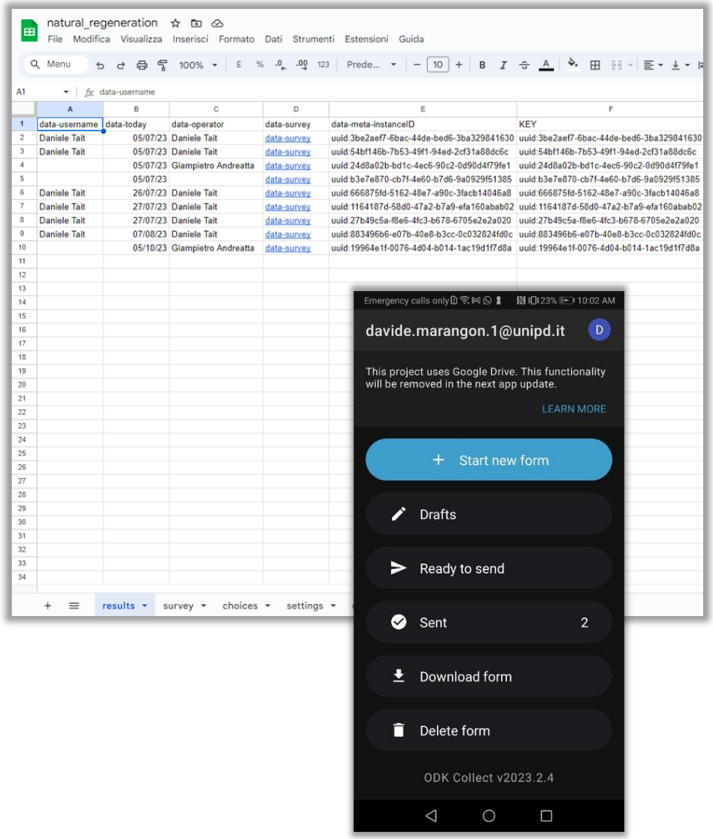
Several form apps are available

- **ODK Collect (Android)**
- **GIC Collect (iOS)**
- Epicollect 5 (https://five.epicollect.net/)
- ArcGIS Survey123
- Ona (https://ona.io/home/)
- openforis (https://openforis.org/)
- …

openforis

ODK Collect - Data collector

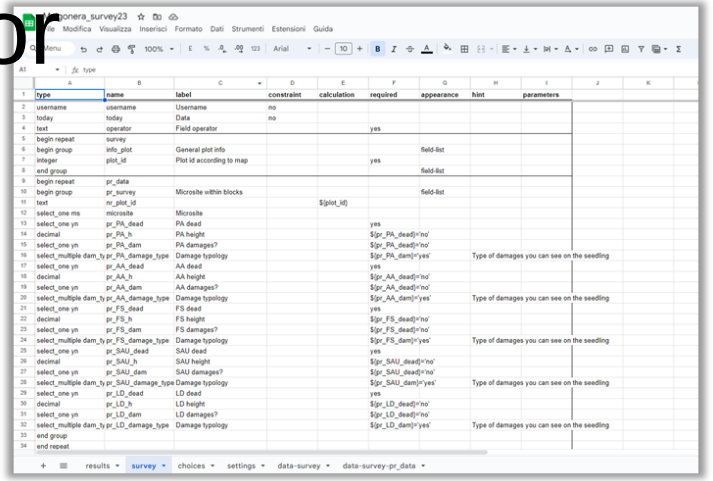
- Powerful tool to collect and digitalise field data
- Integration of web and app sides
- ODK Platform: ODK Central (server), Google Drive (*discontinued*)
- https://docs.getodk.org/collect-intro/



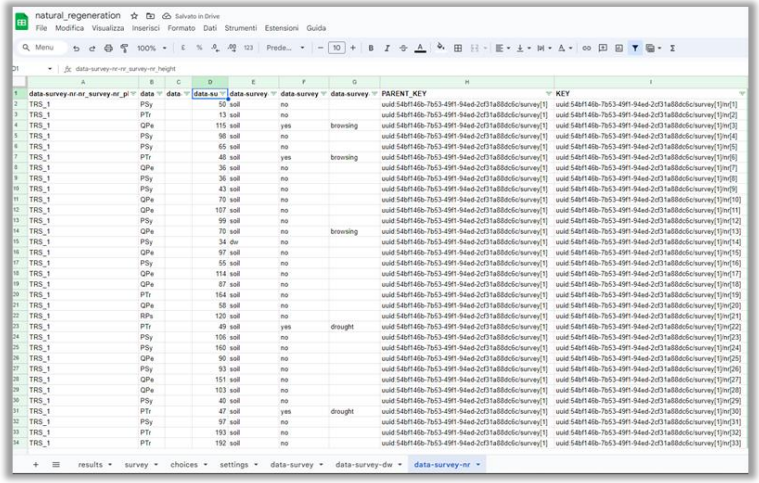
OPEN DATA KIT

ODK Collect - Data collector

- One matrix to collect and store data, even with different accounts and devices
- Standard survey protocol



type	name	label	constraint	calculation	required	appearance	hint	parameters
username	username	Username	no					
today	today	Data	no					
text	operator	Field operator			yes			
begin repeat	survey							
begin group	info_plot	General plot info				field-list		
integer	plot_id	Plot id according to map			yes			
end group						field-list		
begin repeat	pr_data							
begin group	pr_survey	Microsite within blocks				field-list		
text	nr_plot_id			$(plot_id)				
select_one ms	microsite	Microsite						
select_one yn	pr_PA_dead	PA dead			yes			
decimal	pr_PA_h	PA height			$(pr_PA_dead)='no'			
select_one yn	pr_PA_dam	PA damages?			$(pr_PA_dead)='no'			
select_multiple dam_ty	pr_PA_damage_type	Damage typology			$(pr_PA_dam)='yes'		Type of damages you can see on the seedling	
select_one yn	pr_AA_dead	AA dead			yes			
decimal	pr_AA_h	AA height			$(pr_AA_dead)='no'			
select_one yn	pr_AA_dam	AA damages?			$(pr_AA_dead)='no'			
select_multiple dam_ty	pr_AA_damage_type	Damage typology			$(pr_AA_dam)='yes'		Type of damages you can see on the seedling	
select_one yn	pr_FS_dead	FS dead			yes			
decimal	pr_FS_h	FS height			$(pr_FS_dead)='no'			
select_one yn	pr_FS_dam	FS damages?			$(pr_FS_dead)='no'			
select_multiple dam_ty	pr_FS_damage_type	Damage typology			$(pr_FS_dam)='yes'		Type of damages you can see on the seedling	
select_one yn	pr_SAU_dead	SAU dead			yes			
decimal	pr_SAU_h	SAU height			$(pr_SAU_dead)='no'			
select_one yn	pr_SAU_dam	SAU damages?			$(pr_SAU_dead)='no'			
select_multiple dam_ty	pr_SAU_damage_type	Damage typology			$(pr_SAU_dam)='yes'		Type of damages you can see on the seedling	
select_one yn	pr_LD_dead	LD dead			yes			
decimal	pr_LD_h	LD height			$(pr_LD_dead)='no'			
select_one yn	pr_LD_dam	LD damages?			$(pr_LD_dead)='no'			
select_multiple dam_ty	pr_LD_damage_type	Damage typology			$(pr_LD_dam)='yes'		Type of damages you can see on the seedling	
end group								
end repeat								



data-survey-nr-nr_survey-nr_pl	data	data-su	data-survey	data-survey	data-survey	PARENT_KEY	KEY
TRS_1	PSy	50	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[1]
TRS_1	PTr	13	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[2]
TRS_1	QPe	115	soil	yes	browsing	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[3]
TRS_1	PSy	98	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[4]
TRS_1	PSy	65	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[5]
TRS_1	PTr	48	soil	yes	browsing	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[6]
TRS_1	QPe	36	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[7]
TRS_1	PSy	36	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[8]
TRS_1	PSy	43	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[9]
TRS_1	QPe	70	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[10]
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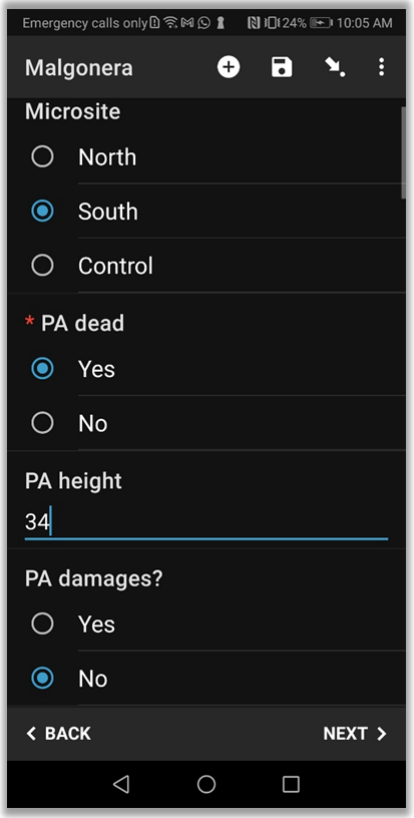
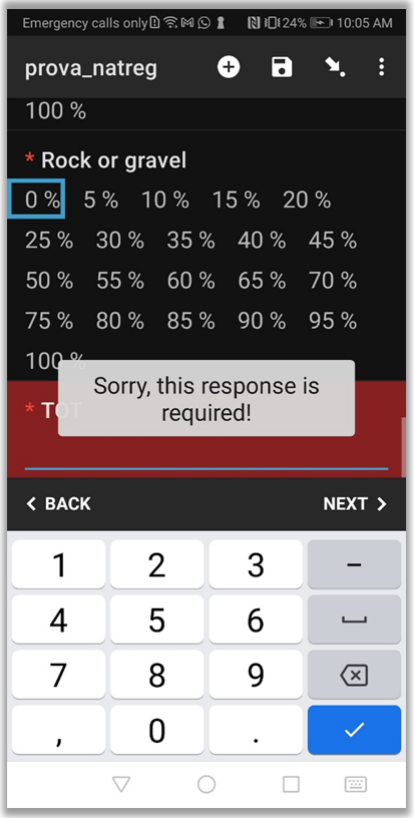
TRS_1	PSy	99	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[12]
TRS_1	QPe	70	soil	no	browsing	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[13]
TRS_1	PSy	34	dw	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[14]
TRS_1	QPe	97	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[15]
TRS_1	PSy	55	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[16]
TRS_1	QPe	114	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[17]
TRS_1	QPe	87	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[18]
TRS_1	PTr	164	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[19]
TRS_1	QPe	58	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[20]
TRS_1	RPs	120	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[21]
TRS_1	PTr	49	soil	yes	drought	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[22]
TRS_1	PSy	106	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[23]
TRS_1	PSy	160	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[24]
TRS_1	QPe	90	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[25]
TRS_1	PSy	93	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[26]
TRS_1	QPe	151	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[27]
TRS_1	QPe	103	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[28]
TRS_1	PSy	40	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[29]
TRS_1	PTr	47	soil	yes	drought	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[30]
TRS_1	PSy	97	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[31]
TRS_1	PTr	193	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[32]
TRS_1	PTr	192	soil	no		uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]	uuid:54bf146b-7b53-49f1-94ed-2cf31a88dc6c/survey[1]/nr[33]

ODK Collect - Data collector

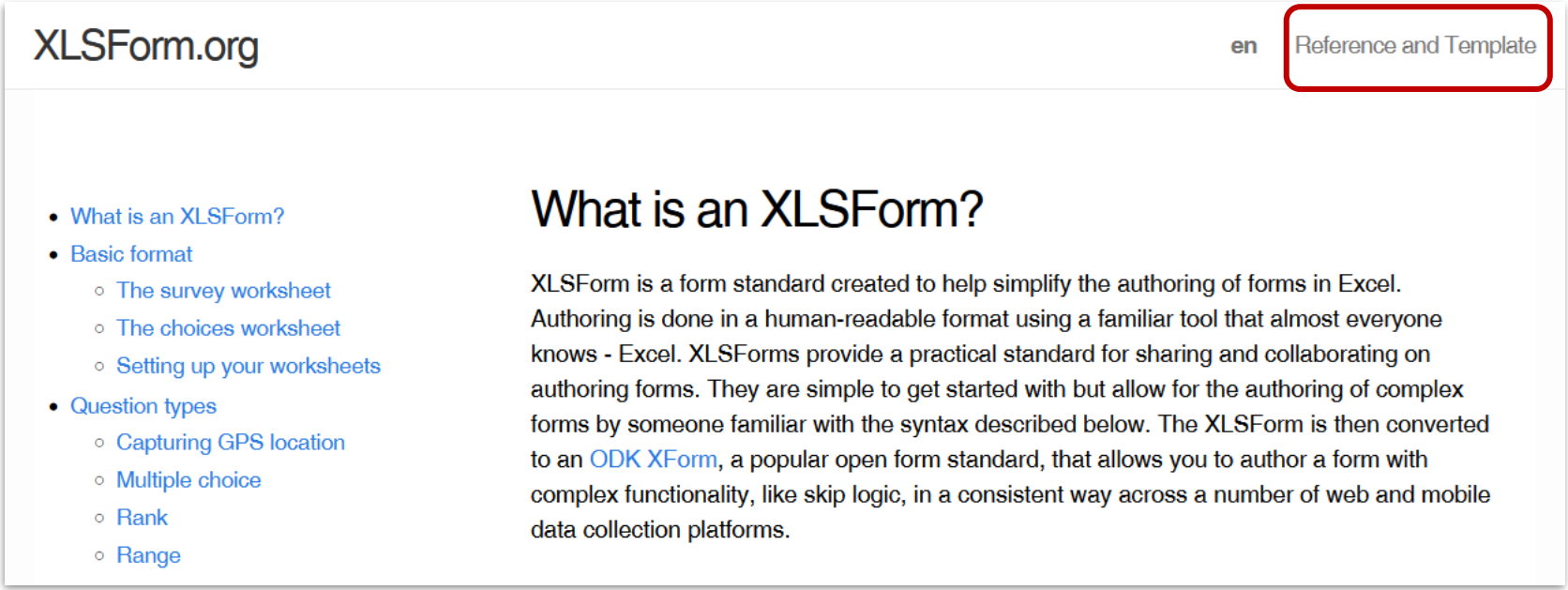
- User friendly interface
- Possibility to insert warnings and restrictions that reduce the probability to commit errors



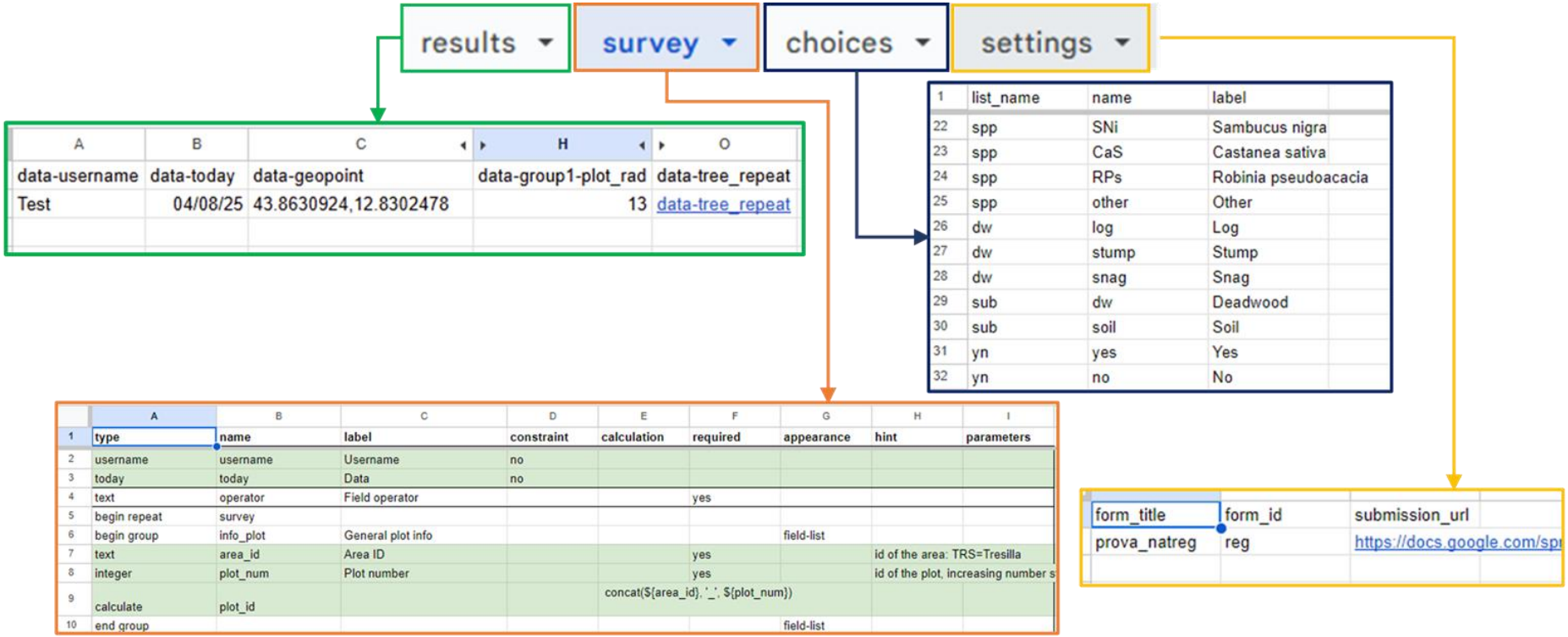


How to programme - XLSform

https://xlsform.org/en



How to programme - Google Sheet



How to programme - results

- Sheet where the results of the survey are stored (see *settings*)
- Links to additional items, if present (sub-tables, images, audio,…)

A	B	C	H	O
data-username	data-today	data-geopoint	data-group1-plot_rad	data-tree_repeat
Test	04/08/25	43.8630924,12.8302478	13	data-tree_repeat

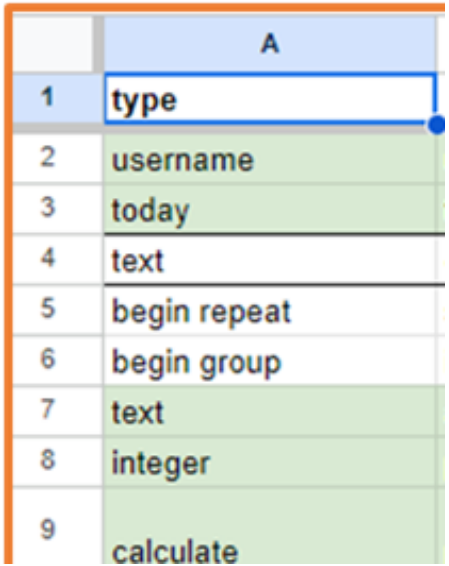
How to programme - survey

- Sheet that allows to design the survey form

1. Which questions will appear on the screen
2. Order of the questions
3. Sets of questions, loops, automatic calculation

	A	B	C	D	E	F	G	H	I
1	type	name	label	constraint	calculation	required	appearance	hint	parameters
2	username	username	Username	no					
3	today	today	Data	no					
4	text	operator	Field operator			yes			
5	begin repeat	survey							
6	begin group	info_plot	General plot info				field-list		
7	text	area_id	Area ID			yes		id of the area: TRS=Tresilla	
8	integer	plot_num	Plot number			yes		id of the plot, increasing number s	
9	calculate	plot_id			concat(${area_id}, '_', ${plot_num})				
10	end group						field-list		

How to programme - survey



	A
1	type
2	username
3	today
4	text
5	begin repeat
6	begin group
7	text
8	integer
9	calculate

- Required elements (for the functioning of the app)
- **Type**: type of element
  - integer = integer number
  - decimal = decimal number
  - text
  - select_one [option] = select only 1 option
  - select_multiple [option] = multiple choice
  - begin_group/end_group = for sets of questions
  - begin_repeat/end_repeat = for loops

Question type	Answer input
integer	Integer (i.e., whole number) input.
decimal	Decimal input.
range	Range input (including rating)
text	Free text response.
select_one [options]	Multiple choice question; only one answer can be selected.
select_multiple [options]	Multiple choice question; multiple answers can be selected.
select_one_from_file [file]	Multiple choice from file; only one answer can be selected.
select_multiple_from_file [file]	Multiple choice from file; multiple answers can be selected.
rank [options]	Rank question; order a list.
note	Display a note on the screen, takes no input. Shorthand for type=text with readonly=true.
geopoint	Collect a single GPS coordinate.
geotrace	Record a line of two or more GPS coordinates.
geoshape	Record a polygon of multiple GPS coordinates; the last point is the same as the first point.
date	Date input.
time	Time input.
dateTime	Accepts a date and a time input.
image	Take a picture or upload an image file.
audio	Take an audio recording or upload an audio file.
background-audio	Audio is recorded in the background while filling the form.
video	Take a video recording or upload a video file.
file	Generic file input (txt, pdf, xls, xlsx, doc, docx, rtf, zip)
barcode	Scan a barcode, requires the barcode scanner app to be installed.
calculate	Perform a calculation; see the Calculation section below.
acknowledge	Acknowledge prompt that sets value to "OK" if selected.
hidden	A field with no associated UI element which can be used to store a constant
xml-external	Adds a reference to an external XML data file

How to programme - survey

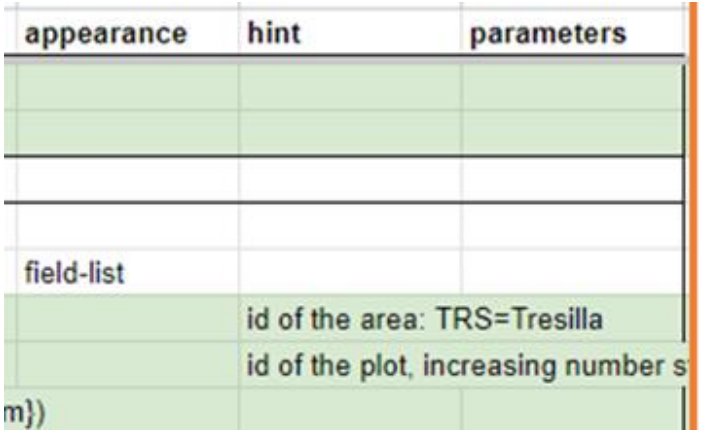
- Required elements (for the functioning of the app)

- **Name**: univocal identifier of the element
- **Label**: text that will appear on the screen

B	C
name	**label**
username	Username
today	Data
operator	Field operator
survey	
info_plot	General plot info
area_id	Area ID
plot_num	Plot number

How to programme - survey

- Useful settings
- **Appearance:** how the questions and variables will appear on the screen
- **Hint:** an hint is provided alongside the question (e.g., measurement unit, specific aspect of the protocol, etc.)



appearance	hint	parameters
field-list		
	id of the area: TRS=Tresilla	
	id of the plot, increasing number s	
m})		

How to programme - survey

- Useful settings
- **Required:** you cannot go forward in the questionnaire if the field is left blank. It's useful to provide a *required_message*
- **Constraint:** threshold, minimum values (e.g., height, DBH threshold)

constraint	calculation	required
.>50		${nr_species}='other'
.<0		yes
		yes
		yes
		${nr_damage_presence}='yes'

How to programme - choices

- Sheet where the single/multiple choices are collected

1. list_name: group of options for each variable (connected to the sheet *survey*)
1. name: unique name for each variable
2. label: name of the variable as showed on screen

NB: it is useful to include an “other” option for unpredicted answers (e.g., species)

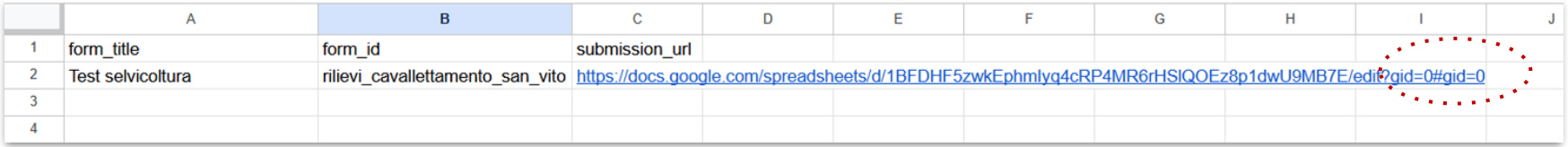
1	list_name	name	label
22	spp	SNi	Sambucus nigra
23	spp	CaS	Castanea sativa
24	spp	RPs	Robinia pseudoacacia
25	spp	other	Other
26	dw	log	Log
27	dw	stump	Stump
28	dw	snag	Snag
29	sub	dw	Deadwood
30	sub	soil	Soil
31	yn	yes	Yes
32	yn	no	No

How to programme - settings

- Sheet with form title, form ID and link where results will be sent

1. form_title is the name of the form as appears on screen
2. form_id is the form name internally used by the software
3. submission link **MUST** end with "**#gid=0**"!

→ it is necessary to create Google Sheets from scratch, do not copy/paste an existing file! *(it's possible to copy/paste the content)*



	A	B	C	D	E	F	G	H	I	J
1	form_title	form_id	submission_url							
2	Test selvicoltura	rilievi_cavallettamento_san_vito	https://docs.google.com/spreadsheets/d/1BFDHF5zwkEphmlyq4cRP4MR6rHSlQOEz8p1dwU9MB7E/edit?gid=0#gid=0							
3										
4										

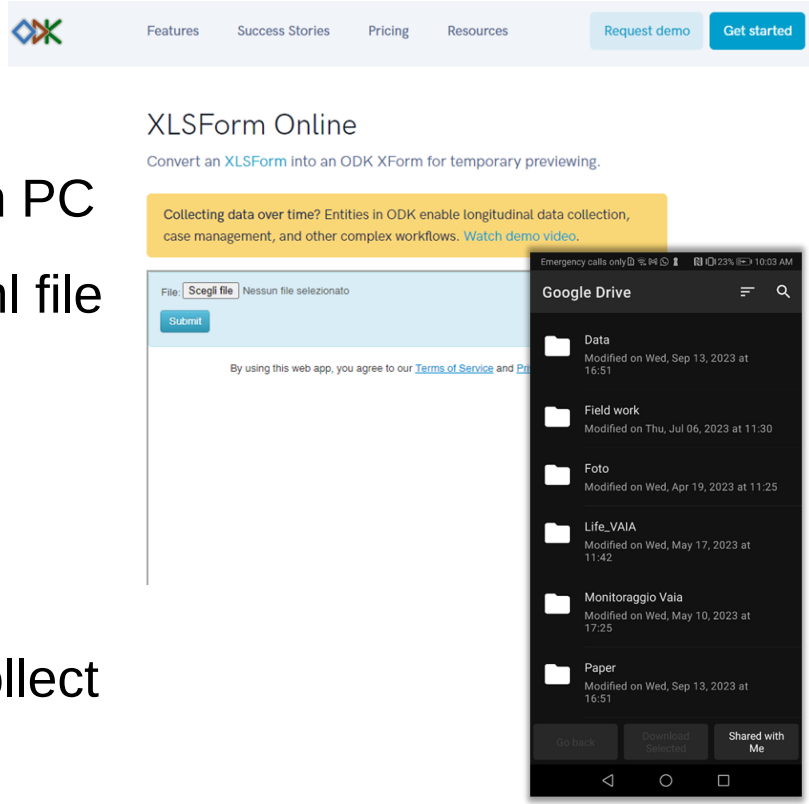
	A	B	C	D	E	F	G	H	I	J	K
1	**type**	**name**	**label**	**constraint**	**calculation**	**required**	**appearance**	**hint**	**parameters**		
2	username	username	Username	no							
3	today	today	Data	no							
4	text	operator	Field operator			yes					
5	begin repeat	survey									
6	begin group	info_plot	General plot info				field-list				
7	text	area_id	Area ID			yes		id of the area: TRS=Tresilla			
8	integer	plot_num	Plot number			yes		id of the plot, increasing number starting from 1			
9	calculate	plot_id			concat(${area_id}, '_', ${plot_nr})						
10	end group						field-list				
11	begin group	soilcover	Soil cover				field-list	Percentage of soil cover. MUST be 100%			
12	integer	graminoids	Graminoids	.<=100		yes					
13	integer	herbs	Herbs	.<=100		yes					
14	integer	tall_herbs	Tall herbs	.<=100		yes					
15	integer	nat_reg	Natural regeneration <150cm	.<=100		yes					
16	integer	trees	Trees >150cm	.<=100		yes					
17	integer	cwd	Deadwood	.<=100		yes					
18	integer	branches	Branches	.<=100		yes					
19	integer	soil	Bare soil	.<=100		yes					
20	integer	rock_gravel	Rock or gravel	.<=100		yes					
21	calculate	tot	TOT	.=100	${soilcover} + ${graminoids} + ${herbs} + ${tall_herbs} + ${cwd} + ${branches} + ${soil} + ${rock_gravel}						
22	integer	total	TOTAL		${tot}						
23	end group						field-list				
24	begin repeat	nr	Natural regeneration survey								
25	begin group	nr_survey					field-list				
26	text	nr_plot_id			${plot_id}						
27	select_one spp	nr_species	Species			yes					
28	text	nr_add_species	Add species			${nr_species}='other'		Write the species ONLY if not present in the list			
29	integer	nr_height	Height cm			yes					
30	select_one sub	nr_substrate	Substrate			yes		Growing substrate			
31	select_one yn	nr_damage_presence	Presence of damages			yes					
32	select_multiple dam_ty	nr_damage_type	Damage typology			${nr_damage_presence}='yes'		Type of damages you can see on the seedling			
33	end_group										
34	end repeat										
35	begin repeat	dw									
36	begin group	dw_survey	Deadwood survey				field-list				
37	text	dw_plot_id			${plot_id}						
38	integer	dw_id	ID deadwood					id of each deadwood element, increasing number starting from 1			
39	select_one dw	dw_type	Type of deadwood								
40	integer	dw_dbh_cm	DBH (cm)	.>=10				diameter of the smaller end			
41	decimal	dw_lenght_m	Lenght (m)	1<.<=12				only the portion within the plot radius			
42	end group										
43	end repeat						field-list				
44	geopoint	ads_gps	GPS of the center			yes		Gps coordinates measured on the center of the plot.			

	A	B	C	D
1	list_name	name	label	
22	spp	SNi	Sambucus nigra	
23	spp	CaS	Castanea sativa	
24	spp	RPs	Robinia pseudoacacia	
25	spp	other	Other	
26	dw	log	Log	
27	dw	stump	Stump	
28	dw	snag	Snag	
29	sub	dw	Deadwood	
30	sub	soil	Soil	
31	yn	yes	Yes	
32	yn	no	No	
33	dam_type	browsing	Browsing	
34	dam_type	mechanical	Mechanical	
35	dam_type	frost	Frost	
36	dam_type	fungi	Fungi	
37	dam_type	drought	Drought	
38	perc	0	0 %	
39	perc	5	5 %	
40	perc	10	10 %	
41	perc	15	15 %	
42	perc	20	20 %	
43	perc	25	25 %	
44	perc	30	30 %	
45	perc	35	35 %	
46	perc	40	40 %	
47	perc	45	45 %	
48	perc	50	50 %	
49	perc	55	55 %	
50	perc	60	60 %	
51	perc	65	65 %	

How to programme - convert in XLSform

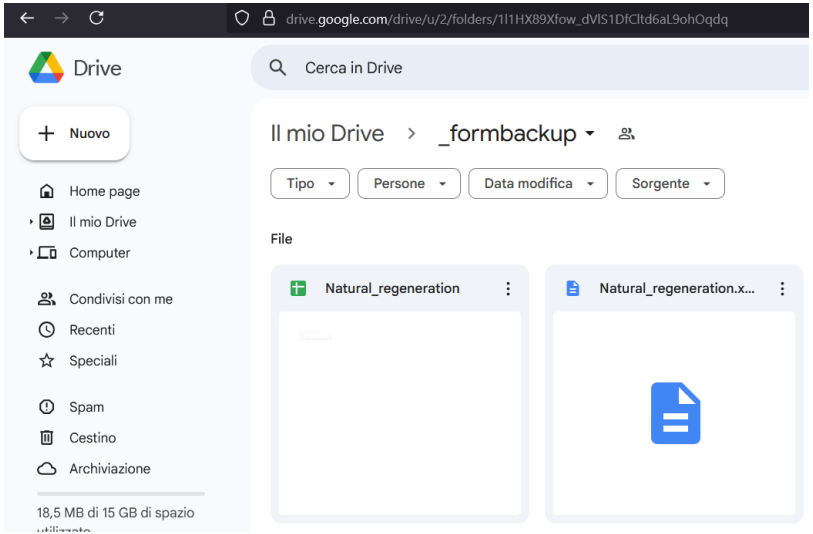
- ODK works through XLSform

1. Download the Google Sheet (.xlsx) on PC
2. Use the online converter to get an .xml file (https://getodk.org/xlsform/)
3. Download the .xml file on PC
4. Upload the .xml file on Google Drive
5. Download the form in the app ODKCollect



How to programme - convert in XLSform

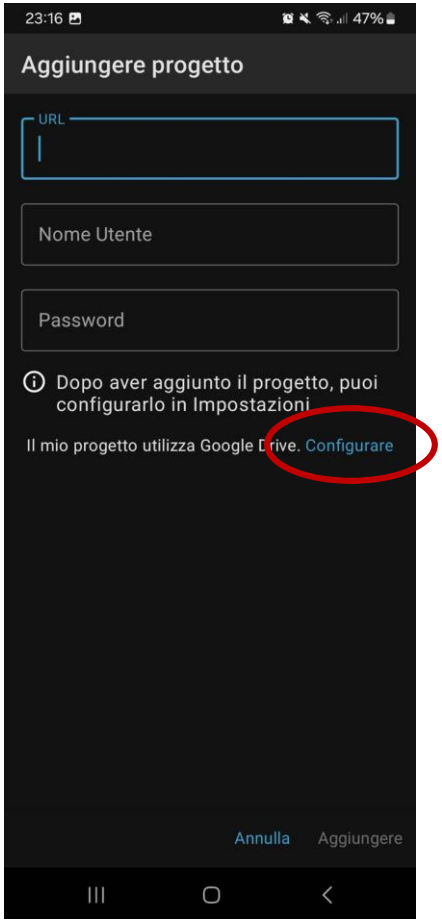
- This procedure works with Google Drive
- **XLSform** is a standard used in great part of the form apps, also those not examined in this workshop!



Use of ODK Collect

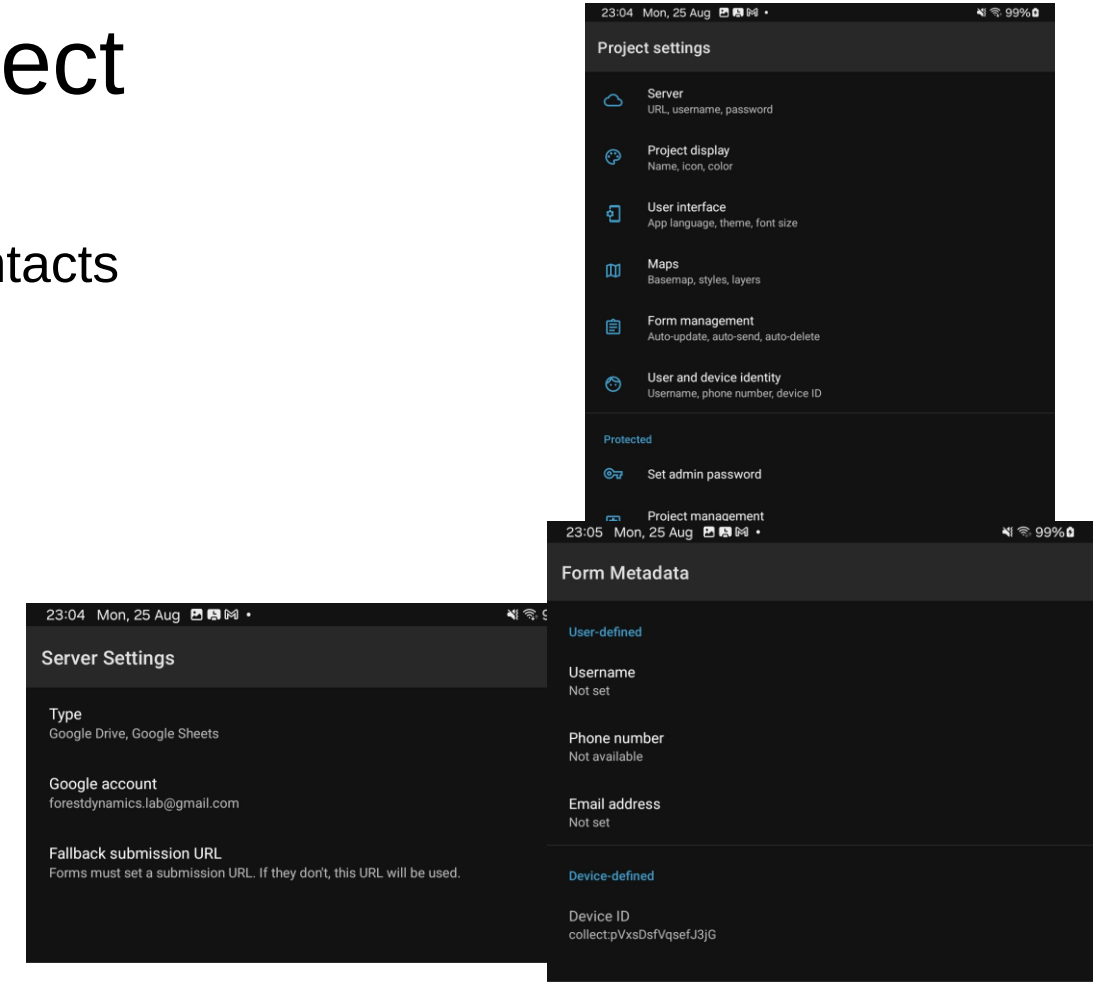
- Enter the Google credentials in the app. The form will be in the Google Drive, or will be shared with us from someone else

NB: last ODK versions do not support the connection with Google (see conclusions)



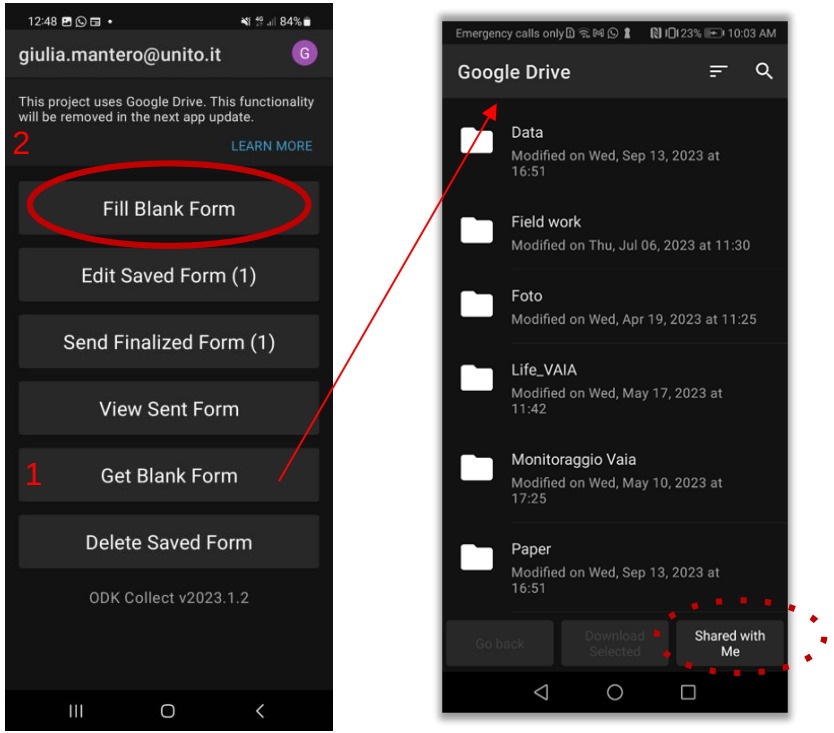
Use of ODK Collect

- Setup username and contacts (for tracking users)



Use of ODK Collect

- Download the form to compile
- Compile an empty form

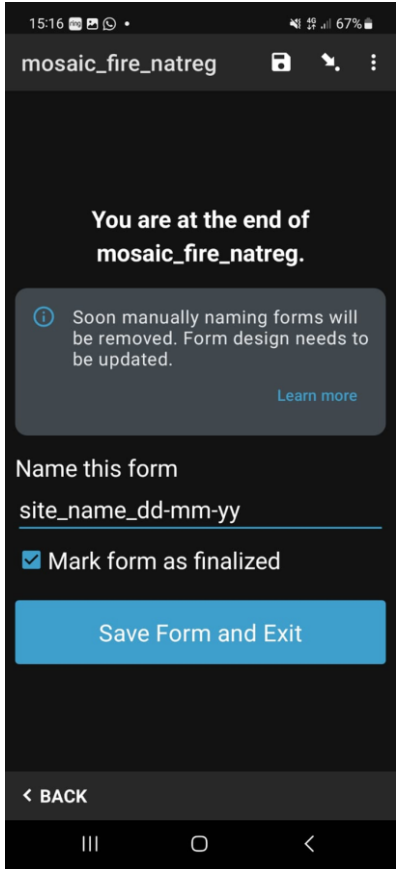


Use of ODK Collect

- Save the compiled form with an univocal name

  A) Save each sampling plot in a different file

  B) Save all the survey (several sampling plots) in a single file

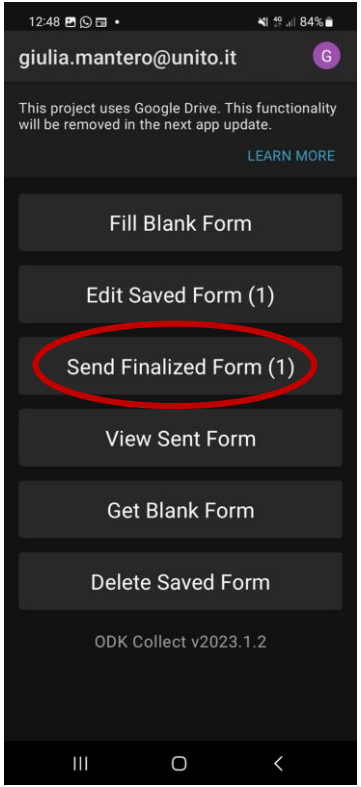


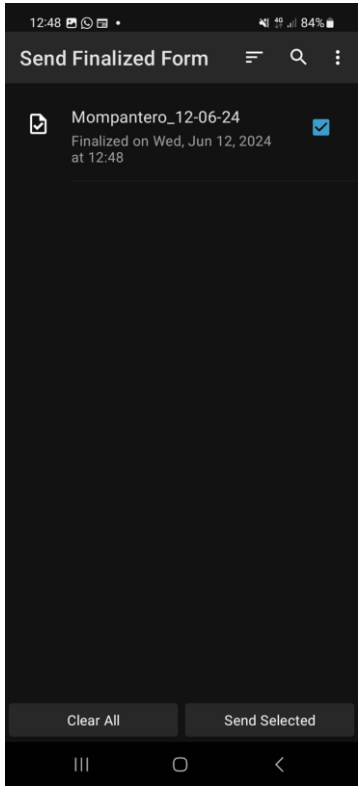
Use of ODK Collect

- Save the compiled form with an univocal name

  A) Save each sampling plot in a different file

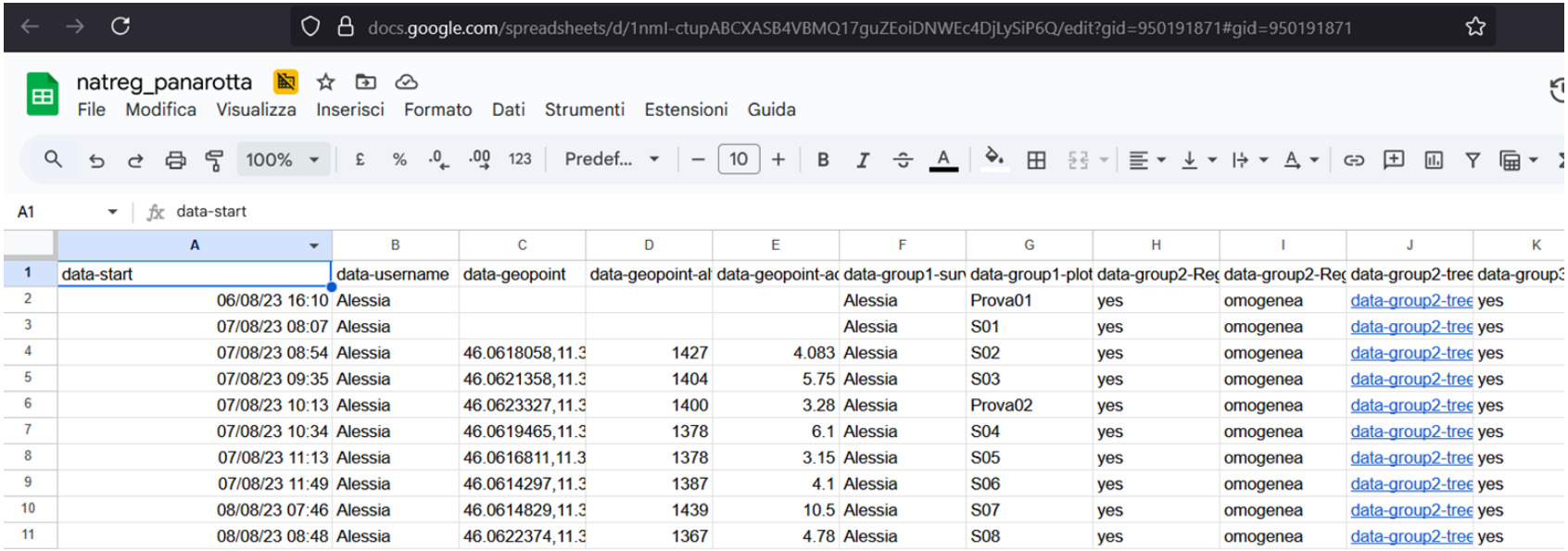
  B) Save all the survey (several sampling plots) in a single file
- Send the compiled forms as soon as possible





Use of ODK Collect

- The collected data will be visible on Google Sheet



	A	B	C	D	E	F	G	H	I	J	K
1	data-start	data-username	data-geopoint	data-geopoint-al	data-geopoint-ac	data-group1-sur	data-group1-plot	data-group2-Re	data-group2-Re	data-group2-tree	data-group3
2	06/08/23 16:10	Alessia				Alessia	Prova01	yes	omogenea	data-group2-tree	yes
3	07/08/23 08:07	Alessia				Alessia	S01	yes	omogenea	data-group2-tree	yes
4	07/08/23 08:54	Alessia	46.0618058,11.3	1427	4.083	Alessia	S02	yes	omogenea	data-group2-tree	yes
5	07/08/23 09:35	Alessia	46.0621358,11.3	1404	5.75	Alessia	S03	yes	omogenea	data-group2-tree	yes
6	07/08/23 10:13	Alessia	46.0623327,11.3	1400	3.28	Alessia	Prova02	yes	omogenea	data-group2-tree	yes
7	07/08/23 10:34	Alessia	46.0619465,11.3	1378	6.1	Alessia	S04	yes	omogenea	data-group2-tree	yes
8	07/08/23 11:13	Alessia	46.0616811,11.3	1378	3.15	Alessia	S05	yes	omogenea	data-group2-tree	yes
9	07/08/23 11:49	Alessia	46.0614297,11.3	1387	4.1	Alessia	S06	yes	omogenea	data-group2-tree	yes
10	08/08/23 07:46	Alessia	46.0614829,11.3	1439	10.5	Alessia	S07	yes	omogenea	data-group2-tree	yes
11	08/08/23 08:48	Alessia	46.0622374,11.3	1367	4.78	Alessia	S08	yes	omogenea	data-group2-tree	yes

Projects where we used ODKCollect

- EU Projects: CROSSIT SAFER, MOSAIC, ReEnforce, LIFE VAIA
- Support to forest management plans (Sinistra Piave, Val Grigna)
- PhD Teses, MSc and BSc students, …

Interreg Co-funded by the European Union MOSAIC
Alpine Space

Interreg CENTRAL EUROPE Co-funded by the European Union
RE-ENFORCE

Interreg ITALIA-SLOVENIJA
CROSSIT SAFER

Life LIFE VAIA

Publication connected

Sherwood digital n.6 (2024)

https://www.rivistasherwood.it/filevari/sfogliabili-sd/2024/sherwood_digital-06-2024/sherwood_digital-06-2024.html#p=91

Carta, penna e... smartphone

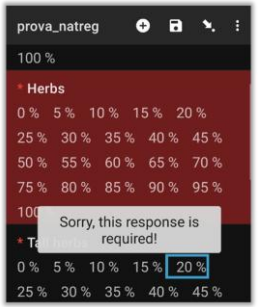
Le form app per la raccolta dati in bosco

Raccogliere dati in campo è parte del lavoro del professionista forestale. Oggi sono disponibili degli applicativi per smartphone che possono semplificare la raccolta e soprattutto la digitalizzazione dei dati, velocizzando il lavoro e limitando il rischio di commettere degli errori di trascrizione. Questo articolo riporta l'esperienza del Gruppo di Selvicoltura dell'Università degli Studi di Padova nell'uso di ODK Collect e QFIELD.

di ***Flavio Taccaliti, Niccolò Marchi, Claudio Betetto, Davide Marangon***

Negli ultimi anni, l'informatizzazione ha ridotto la quantità di tempo passata

Pros and Cons



PROs:

- User-friendly interface
- Harmonised and syncronised data collection
- Less errors
- Rigid system
- Ancillary data (e.g. pics)

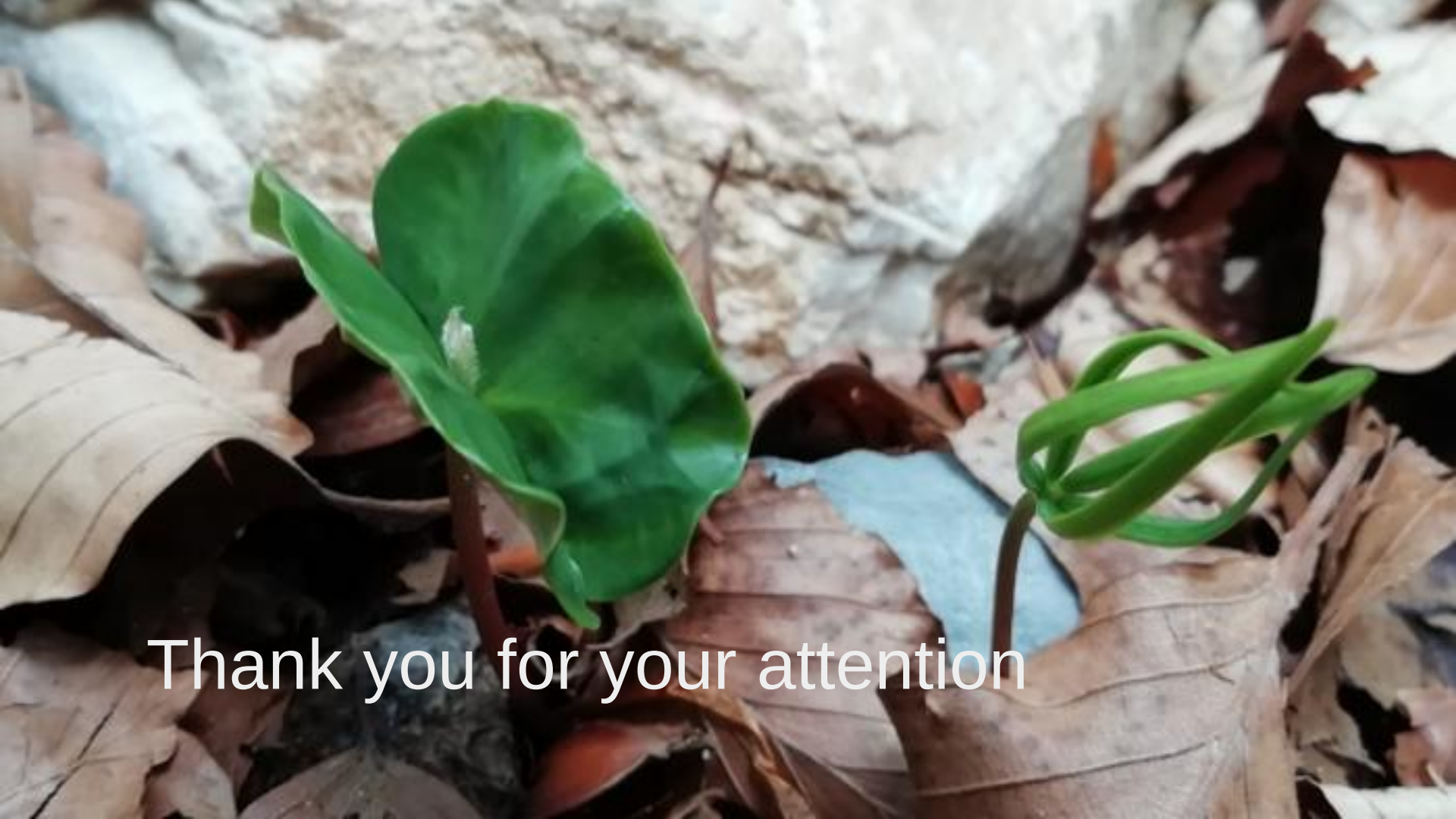
CONs:

- Carefull planning and validation at the desk
- Works better with Android (iOS compatibile)
- Last versions do not support Google Drive (since v2023.1.2)
- Rigid system

Conclusions

- *Form app* can help foresters job
- Need to learn a new tool
- Always have a reserve plan! → Paper and pencil

Special thanks to Niccolò Marchi for having introduced us to ODKCollect


Thank you for your attention