



Food and Agriculture Organization  
of the United Nations

# Use of CAPI for agricultural surveys

Intermediate Designer 1: Special Qs,  
Validation and C#

# Overview

- Special question types (GPS, barcode, picture)
- Data validation
- Basic C# syntax for creating validation and enablement conditions

# Learning Objectives

- Know what validation conditions and messages are
- Apply basic C# syntax for creating validation and enablement conditions

# Special question types

# Special question types

- 3 types for now:
  - GPS
  - Barcode
  - Picture

# Special question types: GPS

Designer

Question Type

 Geo Location 




**Take GPS coordinate**

*Tap to record GPS*



**Take GPS coordinate**



**12.4880962, 41.8823389**

*Tap to record GPS*


Interviewer

# Special question types: Barcode

Question Type

 QR Barcode 

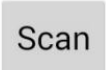
Designer

Barcode of the gift given to the household 



Interviewer



Barcode of the gift given to the household  
9781464801334 

# Special question types: Photo

## Designer

Question type

 Picture 

## Interviewer

Photo graph product

*Tap to take a photo*

Photo graph product



*Tap to take a photo*



# Data validation

# Data validation: description

- Data validation expressions are to:
  - Confirm responses are consistent, and/or responses meet realistic expectations
  - Examples
    - A man cannot be pregnant. *\*Consistent w/ gender, enabled when household member is male.*
    - No one can be more than 110 years old, and younger than 0. *\*Realistic expectations (likelihood).*
- These expressions are written in C# in the **validation condition field.**

# Data validation: description

- What happens when validation is violated?
- A warning message is shown to enumerator

# Data validation: description

MAIN RESPONDENT (ROSTER) / HOUSEHOLD MEMBER / BASICS /

Question type:  Numeric

Variable name(?):

Variable label(?):

Question text:

Integer Roster upper bound:

ADD INTERVIEWER INSTRUCTION

Enabling condition (?):

Validation condition (?):

Error message (?):

Mandatory question Question scope:

SAVE CANCEL DELETE CLONE MOVE TO ▾

C#

Message enumerator  
sees if condition violated

# Data validation: description

HOLDING QUESTIONNAIRE /  
HOUSEHOLD MEMBER ROSTER: DEMOGRAPHIC CHARACTERISTICS AND  
EDUCATION /

☰ Household member roster - Joe ☰

**Joe is**

Male

Female

**How old is Joe?**

INSTRUCTION  
*Please insert age in completed years*

110 ✖

ANSWER IS INVALID  
*Please check that age is inserted correctly*

Value that violates  
condition

Message enumerator  
sees if condition violated

# **Basic C# syntax for creating validation and enablement conditions**

# Data validation: Building expressions

- How?
  - Connect a variable name with values or another variable using logical operators.
  - Connect expression creating multiple conditions using “||” or “&&”
- Example
  - age > 18 || age < 65

# Data validation: Building expressions

- Steps:
  1. Identify unleash and recipient question
  2. Refer to operator table to identify operator
  3. Create expression using operators and variable names of unleash and recipient questions.



# Data validation: Operators

Operator	Description
>	Greater than
<	Less than
==	Equal too
!=	Not equal to
<=	Less than or equal to
>=	Greater than or equal to
&&	and
	or
<code>variableName==1    variableName==2</code>	(single select) contains in
<code>variableName.InList(2, 3)</code>	(single select) contains in
<code>variableName.Contains(1)</code>	(multiselect) single values
<code>variableName.ContainsAny(1, 3)</code>	(multiselect) single values, multi values

**Operators  
depend on  
type of  
UNLEASH  
QUESTION!**

# Data Validation examples

Question type

12 Numeric 

Variable name(?)

 M3\_Q6

Variable label(?)

Age of the holder

Question text

How old are you?

Integer

# Data Validation examples

- Validation condition, we want the response to be less than 100 and positive.

● Validation condition 1 (?) ✕

M3\_Q6 < 100

Error message (?)

Check again if you have inserted age correctly

● Validation condition 1 (?) ✕

(M3\_Q6 < 100) && (M3\_Q6 > (-1))

Error message (?)

Please verify the entered age of respondent is correct.

# Enablement and validation

Question type

Numeric 

Variable name(?)



Variable label(?)

Question text

Integer


**KEY CONCEPT AHEAD**

# Enablement and validation

- **Enable** only if there is a manager
- **Validate** that value is less one 100 and positive.

# Enablement and validation

Question type

 Categorical: Single-select


Variable name(?)

 M3\_Q18

Variable label(?)

Question text

Does the holding have a manager?

1	Yes	
2	No, the holder is the manager	

ADD OPTION

SHOW STRINGS

Question type

12 Numeric

Variable name(?)

 M3\_Q22

Variable label(?)

Age of the manager

Question text

How old is %M3\_Q19%

Integer

# Enablement and validation

HOLDING QUESTIONNAIRE / HOLDING OVERVIEW /

Question type

Numeric

Variable name(?)

Variable label(?)

Question text

Integer

Use 1000 separator (?)

Instruction (?)  Hide instruction (?)

✖

Enabling condition (?)  Hide if disabled (?)

Validation condition 1 (?) ✖

Error message (?)



# Enablement: Another Example

HOLDING QUESTIONNAIRE / LABOR OVERVIEW /

Question type

 Categorical: Multi-select 

Variable name(?)






 M5\_Q9

Variable label(?)

Impact on farming activity

Question text

How did the labour shortage affect your farming activity?

1	Reduce productivity	
2	Limit cultivated land	
3	Reduce product quality	
4	Reduce marketable surplus	
5	Other	

[ADD OPTION](#) [SHOW STRINGS](#)

# Data validation: Operators

Operator	Description
>	Greater than
<	Less than
==	Equal too
!=	Not equal to
<=	Less than or equal to
>=	Greater than or equal to
&&	and
	or
<code>variableName==1    variableName==2</code>	(single select) contains in
<code>variableName.InList(2, 3)</code>	(single select) contains in
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# Enablement and validation

Question text

If other, please specify

Pattern (?)

[ADD INTERVIEWER INSTRUCTION](#)

Enabling condition (?)  Hide if disabled (?)

`M5_Q9.Contains(5)`

[ADD NEW VALIDATION RULE](#)

Questions?