Survey Solutions CAPI for surveys/censuses

Nadi, Fiji

Survey Solutions: Testing Your Questionnaire

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Why test?

- To confirm CAPI mirrors PAPI;
- To verify that CAPI captures all the relevant data for all relevant scenarios;
- To avoid making changes after the survey has launched.

What to test?

- Software
- Hardware, infrastructure
- Questionnaire
- Protocol
- Documentation

What to test (in questionnaire)?

- Questionnaire content (questions);
- Answer options;
- Enabling conditions (skip patterns);
- Validation conditions (and corresponding messages);
- Filtering conditions;
- Text piping;
- Grouping of questions and questionnaire navigation;
- Performance and usability.

Testing in designer.

- Designer tool provides a validation facility that verifies the questionnaire for omissions (e.g. variable names), syntax errors and other design-time errors.

- A questionnaire may contain errors of multiple types. They are listed after compilation is completed.

- Hover mouse pointer over the error to get a detailed message in case of syntax errors.

- Recompile allows to quickly re-verify the questionnaire once changes are made to fix the identified errors.

- Questionnaires with design-time errors <u>can't</u> be tested using other means.

- Compiler also may produce a number of warning messages and suggestions for questionnaire modification.
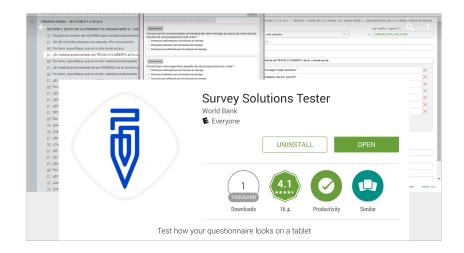
Testing in Survey Solutions Tester.

Tester:

- is a specialized Android tablet application.
- can be downloaded from Google Play (market). Search for Survey Solutions Tester.
- allows to get a look and feel of the actual data collection application.
- doesn't store or send the data anywhere.
- doesn't require Survey Solutions infrastructure (server).
- talks directly to the Survey Solutions Designer; use your Designer credentials to login to the Tester.

Install Survey Solutions Tester

Survey Solutions Tester

Warning

Since Survey Solutions Tester doesn't send the entered data anywhere, it may not be used to collect data.

Test using demo server

- The World Bank provides a fully functioning shared demo/test server:

https://demo.mysurvey.solutions

- The demo server is intended for testing only, NOT for real data collection: users worldwide may see activities performed at the demo server.
- The demo server allows creation of interviewer accounts and download of an actual interviewer application.
- With the help of the demo server one can test the questionnaire and the Survey Solutions system in general (all components).

Survey Solutions Demo Server

Warning

Since Survey Solutions Demo Server is periodically cleared and updated (without warning), hence it may not be used to collect real data.

Prefilled questions

- since there is no HQ to upload the prefill file, the prefilled questions are exposed for data entry, just as in census mode;

- during testing, the tester will specify values that can be realistically entered during the prefill;

- any assumptions, constraints, or requirements on the prefill data should be formulated clearly and made available to the person or team preparing the sample file.

Supervisor questions

- Since there are no roles at the tester, the supervisor questions are not available;

- In most cases however, this is not a problem, since the supervisor usually works after the interviewer, e.g. entering codes.

- In those cases where supervisor questions must be answered before the interview can take place, for testing these questions must be temporarily re-qualified as interviewer questions; after testing is complete, they should be switched back to supervisor questions.

- Not every question may be a supervisor question. First, design the questionnaire the way it should be, only then switch the question types, taking notes on the number of changes, and the variable names of the questions that must be supervisor questions.

Hidden questions

- Situation is similar to the supervisor questions: once the questionnaire is ready for testing temporarily switch the hidden questions' scope to 'interviewer';
- After testing is completed, switch the scope back to hidden;
- Track the requirements for the hidden questions.

GPS location questions

- do not allow entering coordinates;
- for testing purposes may be temporarily substituted with interviewer questions for latitude and longitude;
- alternatively, can be prefilled on a demo-server.

Track any temporary changes that need to be reverted later.

Timestamp questions

- do not allow entering time components directly;
- for testing purposes may be temporarily substituded with interviewer questions for date, hours, minutes, seconds;
- alternatively, can be prefilled on a demo-server.

Track any temporary changes that need to be reverted later.

Testing strategies

- Modular testing;
- Scenario-based testing;
- Retrospective data testing;
- Mock-interviews testing;
- Pre-testing in the field.

Compatibility testing

Inputs:

- What input information will be required?
- Who prepares the inputs?
- When and how the inputs are to be prepared?
- Which tools may be required for production of inputs?

Outputs:

- Does the CAPI system produce a datafile acceptable to data consumer?
- Does the datafile require any subsequent transformation/rearranging?
- Who, when and how will perform this transformation?

Test efficiently

- asymmetric penalties for skip conditions and for validation checks;
- test skip conditions first; then check validation;
- develop a test plan.

Test plan

A good test plan:

- is an extensive list of expected situations, and their handling in the questionnaire;
- includes difficult and rare situations;
- does not include redundant situations, which do not follow new trajectories in the questionnaire;
- can be converted into a documentation later, if needed.

Example test plan

Here checking age agreeing with date of birth when the day of birth may be omitted.

```
For an interview date 2016/01/28:
----------------------------------------
DATE OF BIRTH      AGE      VALIDATION
YYYY/MM/DD         FULLYRS  RESULT
----------------------------------------
1970/04/12         7        error
1970/04/12         45       no error
1970/04/.          45       no error
1970/04/.          50       error
1970/04/.          5        error
2016/01/.          0        no error
2016/01/01         0        no error
----------------------------------------
```

Test plan

- Update your test plan as necessary when you modify your questionnaire;
- Discuss the test plan with the colleagues;
- Re-run your test plan as you modify your questionnaire.