The Application of Blaise CARI in Chinese Family Panel Studies

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Abstract

There are 4 kinds of questionnaires in Chinese Family Panel Studies 2011 (abbreviated as CFPS2011) includes community, family, adult and child questionnaire. To supervise the activity of interviewers and to guarantee the quality of survey data, we hope each question in the questionnaire can be recorded by sound.

In CFPS2010 we used a external record program. Interviewers terminated the record program according to the answer of respondent (when the respondent said she/he don't want to be recorded anymore). But there are several problems. Firstly, interviewers are easy to make a mistake of operation. Secondly, the record program can not terminate automatically as the questionnaire ends. Finally, all the questions are recorded to one sound file in a questionnaire, it's difficult to locate the question we want. To solve such problems, in CFPS2011 we used Blaise CARI.

This paper presents the solution of CFPS2011's CAPI questionnaires integration with Blaise CARI, and discusses the challenges that we meet when using CARI in CFPS2011, and also discuss the questions we still have in using CARI.

1. Background

Chinese Family Panel Studies (CFPS) is aimed at three levels data collection, including individuals, families and communities. The project studies the changes of society, economy, population, education and health, which is reflected by the collected data. It is a key social science project that serves academic research and policy decision supporting. The first phrase of the survey is 12 years (2008-2020). CFPS is early funded by   phrase || of 985 plan of the Ministry of Education, beginning preparations in 2005, setting up an institution in 2006. In 2007, preliminary work completed, including   two test surveys, 140 families totally, in Beijing, Hebei, Shanghai, and the questionnaire tools basically mature. Exploratory survey in 2008 in Beijing, Shanghai, Guangdong, expanded scale to 2400 families. Tool testing follow-up survey in 2009 in Beijing, Shanghai, Guangdong, tested the stability and reliability of CAPI technology, real-time management techniques for survey process, real-time technical support system for survey process, real-time data quality monitoring techniques. In 2010, the survey all over China (Tibet, Qinghai, Xinjiang, Ningxia, Inner Mongolia, Hainan, Hong Kong, Macao and Taiwan are not listed) was formally implemented, the scale was up to 16,000 families, and a follow-up survey was implemented annually. Every year from 2010, field surveys are being conducted from March to July, data is being cleaned up from August to October, and from November to February of next year, provide the cleaned data for the teachers and students in Peking University and partner universities, write the key indicators report "China Report", which is published by Peking University Press. The key indicators report and data is published to public in March.

There are 4 kinds of questionnaire in CFPS, including community, family, adult and child questionnaire. The community questionnaire is used to obtain the household residence of the basic environmental information; family questionnaire is used to obtain family economic, demographic status information; adult and child questionnaire is used to obtain the individual social, economic, educational and health information.

In order to ensure data quality and supervise the behavior of the interviewers, the interview process needs recording. In 2010, we used an external recording program. Its advantages are respondents who encountered sensitive issues can deny the recording and the recording program can be interrupted at any time without affecting the interview. Recording program's switch can be controlled separately. When the program starts another time, a new audio file will be generated. But the drawback of this approach is as following:

There is no way to record one by one field, and finally the entire interview generates a single audio file with more than one field. So it is unable to quickly navigate to the recording position of some

field, which causes great inconvenience in the data quality checks and takes more time to listen to some field in need of verification.

If Interviews forget to turn off the recording program, it has been recording, which results in larger files that take a lot of space, and the file uploading process will be relatively slow.

2. Introduction to CARI

Computer Audio Recoded Interviewing (CARI) is a technique that records the conversation between the interviewer and the respondent on the computer during an interview. The Blaise Data Entry program (DEP) supports CARI. CARI does not require interviewer intervention for starting or stopping the recording in the DEP. Besides sound recording and screen capturing during the data entry process, the DEP can also play back the recorded files.

The system offers various setting to influence the recording process, for instance which questions to record, it allows respondent consent to be given or revoked at any time and it offers ways to specify the naming of the sound files that contain the recordings. The CARI settings can be specified in a CARI settings file. In this CARI settings file the recording process can be configured such that neither the respondent nor the interviewer knows exactly which portions of the interview are being recorded. Blaise CARI is an important product, which has following advantages: audio files can record questions one by one which means it can generate an audio file for each question, this is very convenient to search; it has several formats for record file including wav, wma and mp3; audio files' naming is flexible, it can be named as sample's key value and question field's name; audio files' storage directory can also be specified in the setting file; it can also choose questions to record, not all questions, for saving disk spaces.

3. Application of CARI

At CFPS in 2011, the Institute of Social Science Survey at Peking University (ISSS) decided to apply CARI. The Blaise DataModel file in CARI is same as in other Blaise products, e.g. CAPI. After the completion of DataModel file for questionnaire's logic, should configure CARI for the questionnaire. This paper presents the configuration and the CARI's application in CFPS family questionnaire.

Run Blaise Control Center, open the CARI configuration window through menu *Tools->CARI Specification.* Enter the node *Audio->Record->File Parameters* in the left tree, shown in Figure 1. There are two parameters can be set in the right panel: *File Name* and *Path*. *File Name* parameter specifies the audio file's naming style, its default value is $KEYVALUE+$FIELDNAME, which means the file will be named by sample's key value and question's field name. *Path* parameter specifies the questionnaire audio files' storage directory, its default value is '.\SoundRecordings', which means the audio files will store in a subdirectory named as *SoundRecordings* under the questionnaire's data directory.
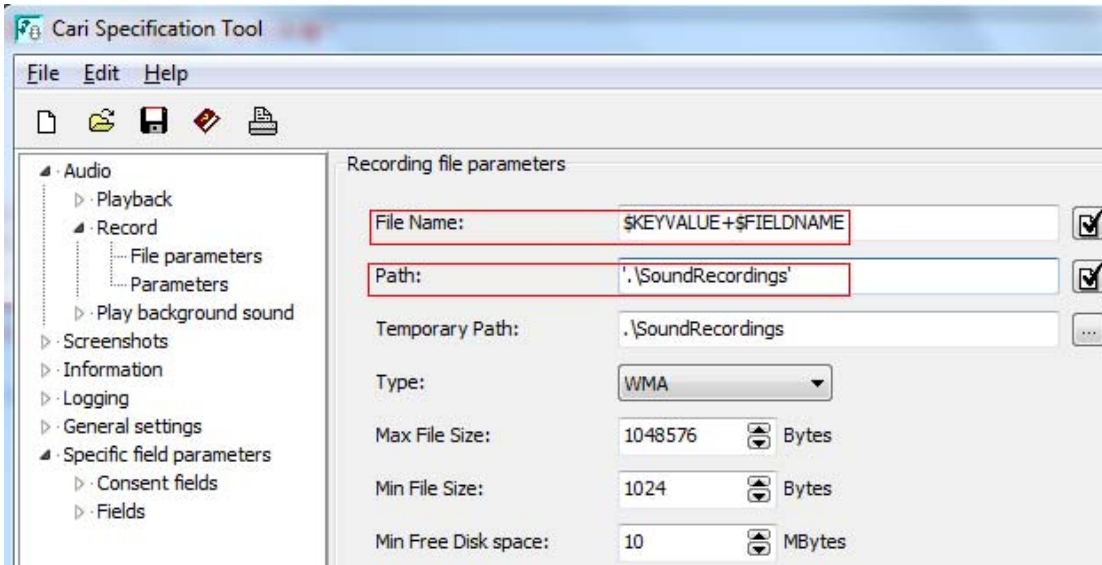
Figure 1. CARI Audio Record File Configuration

Next, enable CARI recorder. Enter the node *Audio->Record->Parameters* in the left tree, shown in Figure 2. The default value of parameter *Enabled* is false, set the value to true to enable the recorder. The parameter *Max. nr of fields* specifies the maximum number of fields to record, its default value is 40. If the recorded fields' number exceeds the parameter's value, the CARI recorder will stop. Set the value to -1 means the number of fields is unlimited.

Other parameters can all be with default values, and more information can be got through F1 help. After all the settings are specified, save them as a .bci file.
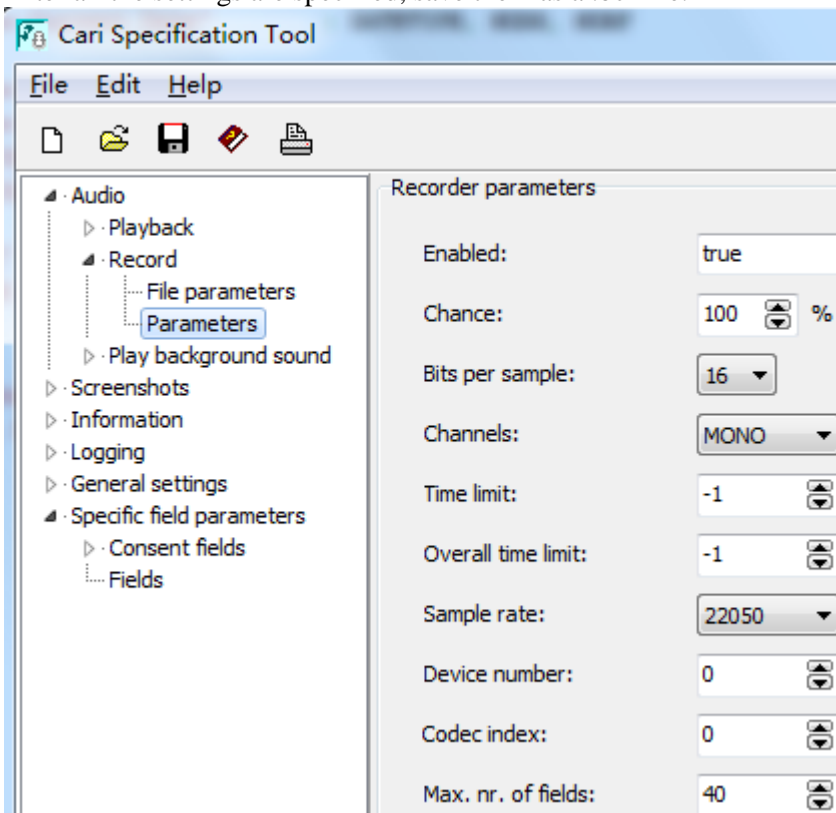

Figure 2. CARI Recoder Parameters Specification

Two approaches to run CARI, one is to run with Blaise Control Center. This approach should set the DEP's run parameter: CARI settings file, shown in Figure 3. Run Blaise Control Center, open the *Run*

Parameter window through menu *Run->Parameters*. Enter the panel *DEP->Files*. Specify the parameter *CARI setting file*. Set its value as the Blaise CARI specification file (*.bci) that is saved previously.
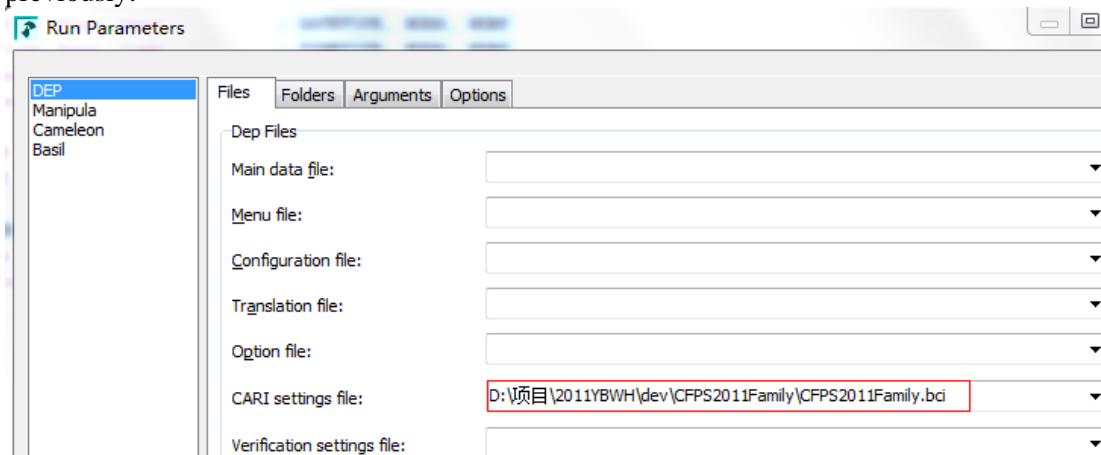

Figure 3. Specify CARI Settings File

Additionally, need to enable CARI. Same as specifying CARI setting file, enter the panel *DEP->Options*, check the option *Enable CARI* and *Record*, as show in Figure 4. After above setting is completed, run DEP in Blaise Control Center, then CARI recording is started at the same time.
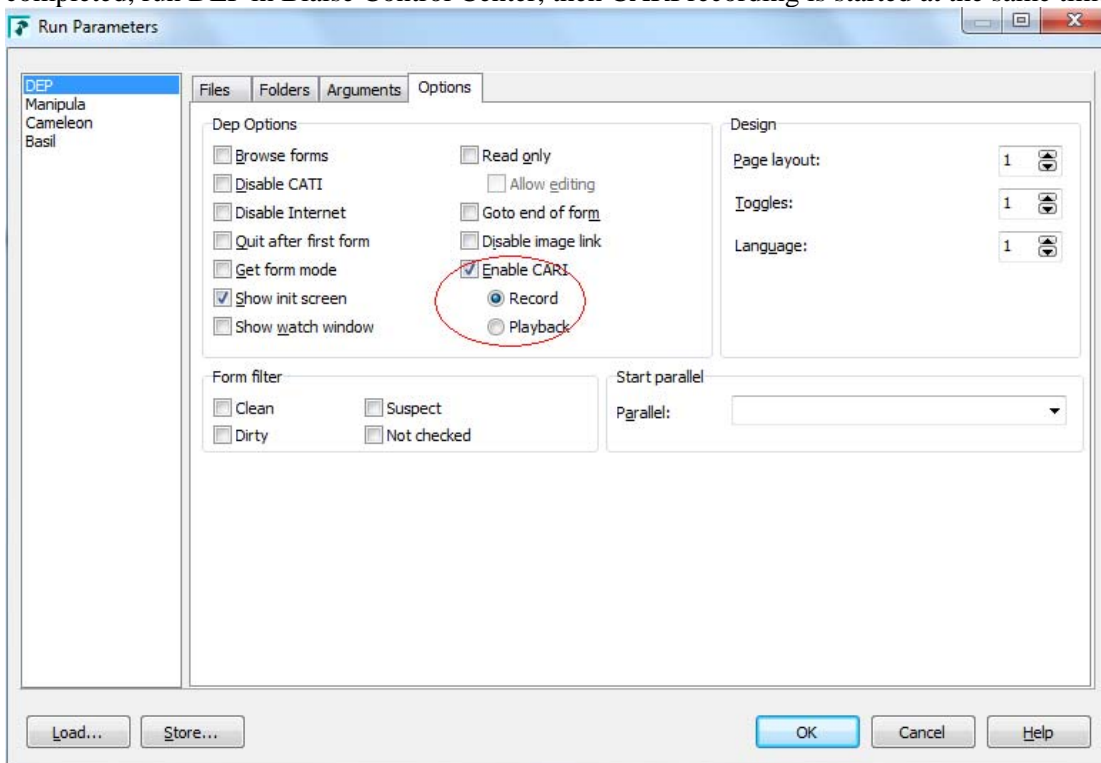

Figure 4 Enable DEP with CARI

Another approach to run CAI is to set DEP's command parameter with CARI relative parameters. An example is as following:

```
C:\blaise\blaise48\DEP.EXE C:\BLproj\CFPS2011\CFPS2011Family\work\CFPS2011Family.bmi
/MC:\BLproj\CFPS2011\CFPS2011Family\work\CFPS2011Family.bmf
/CC:\BLproj\CFPS2011\CFPS2011Family\Work\CFPS2011Family.diw
/EC:\BLproj\CFPS2011\CFPS2011Family\work /WC:\BLproj\CFPS2011\CFPS2011Family\work
/BCI=C:\BLproj\CFPS2011\CFPS2011Family\work\CFPS2011Family.bci /CARI=RECORD
/#C:\BLproj\CFPS2011\mm\blaise.tra /X /K
```

The first approach as development mode applies to questionnaire programmers. It can be used in the debugging process. And the second approach as production model applies to the actual course of survey.

4. Problems

After the application of CARI, we hope that CARI should make some improvements. When respondents who encounter sensitive questions refuse to record, CARI should be paused. Because the audio files record questions one by one, if some question's time is very short and the interviewer goes on next question, then question's recoding will be incomplete. So the audio file should also records previous and next questions' recording.

5. Summary

During the survey of CFPS in 2011, ISSS applied Blaise CARI. The application achieved that audio files record fields one by one and faicilitates inspectors to locate each question. Practice has proved that the application with CARI compared to approach with external recording programs, which greatly facilitates the inspectors for verification, and improve the work efficiency of the inspectors. CARI is running with interview at the same time, the recording automatically closed at the end of the interview. So the interviewers do not need to concern the recording is turned on whether to stop, and thus also to some extent it improves the work quality of the interviewers.