



Case Management System for Computer Assisted Personal Interviewing

Highlights

Complete Computer Assisted Personal Interviewing (CAPI) Solution;

Integrates with Blaise which is de-facto standard for Computer Assisted Interviewing (CAI);

Supports all processes necessary for Interviewer to conduct his work – receive surveys from households, open survey, collect and send data;

Supports off-line interviewing - interviewer does not have to be connected to the Internet to conduct an interview;

Supports conducting multiple surveys by the same interviewer which can significantly reduce survey costs;

Supports delivery of new surveys to interviewers in the field without the need for them to travel to their regional or central office;

Supports business processes of the survey organization's central office – management of interviewers, surveys, transfers and data aggregation;

Supports preparation of progress, performance and accounting reports for the Interviewers.

Product Sheet

Case Management System in the field of Statistics for providing IT support to the Computer Assisted Personal Interviewing process

Introduction to Personal Interviewing

Face-to-face household interview surveys require a **substantial flow of information between the geographically dispersed interviewing staff and the survey organization's central offices**. When paper-and-pencil methods are used, training materials, interviewing assignments, and blank interview forms typically are mailed to the interviewers or distributed during group training sessions. Completed interview forms, reports on the disposition of uncompleted cases, and related information are mailed back. Once received in the survey

organization's central office, completed forms are **manually typed into the survey database**, codes are manually assigned by operators who perform typing and correct as many errors as possible. This inefficient process results in a **lot of manual work and long intervals between the actual data collection and the data processing** and production of statistical materials for publications.

CAPI

Computer Assisted Personal Interviewing (CAPI) **significantly enhances** this process.

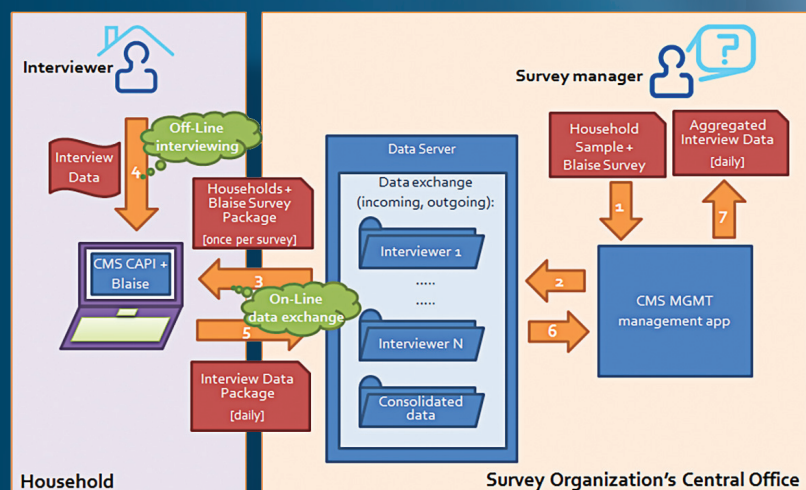


Figure 1. Computer Assisted Personal Interviewing model

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To begin with, each interviewer must be equipped with a **portable computer, general software to run CAPI applications** (Case Management System), and a **CAI questionnaire program**, for a given survey.

Once CAPI interviewers are equipped with the basic hardware, general CAPI software, questionnaire and CMS, the **major information flow consists of sending interviewing assignments to the field and completed interview data and case disposition reports back to the central offices**. Using CAPI changes what is sent to and from the field, how it is transmitted and how the data is finally processed by the survey organization's central office. The **two-way flow of paper documents between the central office and interviewers**

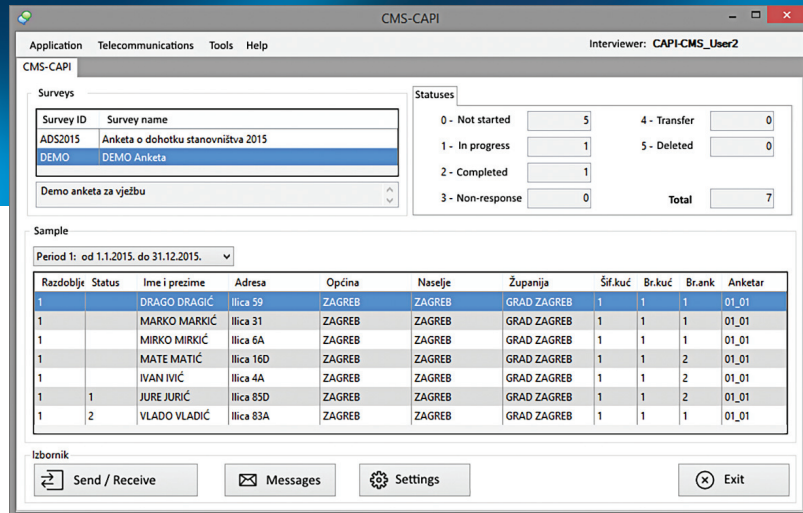


Figure 2. CMS CAPI application for the Interviewers. Interviewers can see the list of surveys, list of households for a particular survey and their performance

is replaced by an initial shipment of computing hardware and software followed, in most cases, by a **two-way flow of computer data and messages** via radio data networks (2G, 3G, and 4G).

CMS CAPI

Case management is one of the most important and complex parts of a CAPI information system, since it deals with the core

functions of the system, i.e. the collection and transference of data relating to sample points (persons, households, companies etc.). Crucial also, of course, is the CAI-software which is usually a package solution, such as **Blaise**, that does not need any designing.

The object-oriented case management (**Kuusela V., Parviainen A.:** "An Object-Oriented Case Management System for CAPI Surveys", Statistics of Finland, 1997.) part of our CAPI information system supports the **following core functions** (**W. L. Nicholls, K. K. Kindel:** "Case Management and Communications for Computer Assisted Personal Interviewing", Journal of Official Statistics Vol. 9. No. 3, 1993.):

- Acceptance and storage of interviewing assignments;
- Display of list of assignments for each interviewer;
- Selection of a 'case' (e.g. household) to interview;
- Storage of interview data and retrieval, when necessary for partially completed interviews;
- Recording the status or disposition

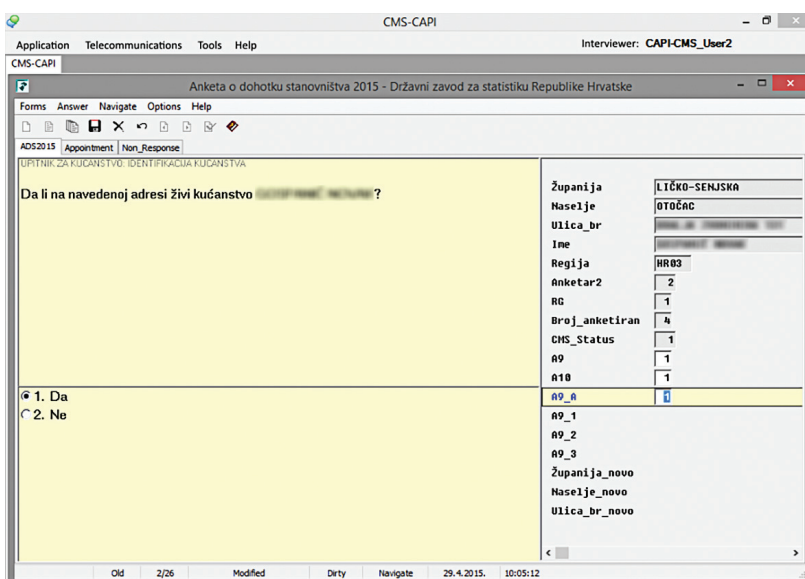


Figure 3. Integration of CMS CAPI with Blaise survey. CMS CAPI launches Blaise (de-facto standard CAI survey software) for collecting data

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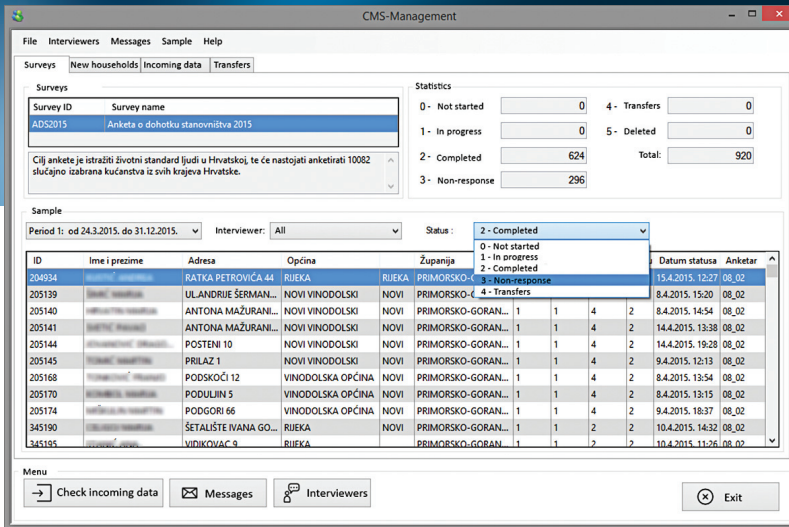


Figure 4. CAPI Management Application. Overview of data collection process status

tion of each case, such as completed, in-progress, not started, etc.

- Initiates telecommunications;
- Provides unidirectional communications between interviewers and supervisors.

Although ideas of object-oriented case management systems and the definition of functions of CAPI case management systems exist for nearly 20 years, they are still relevant, and the system we have designed implements those ideas by using state of the art technology.

CMS Management

The CMS Management module facilitates operations at survey headquarters (and at regional or other specialized offices) to manage, supervise, and support CAPI data collection in the field. It begins with the need to assign CAPI cases to interviewers, followed by obtaining reports of their costs and progress, redirecting the cases and resources as needed to complete the work, and finally coordinating the retrieval of case records and data

to complete the survey. Its functions expand to include a variety of supplementary sampling, supervisory, management, and accounting activities. To accomplish these activities, our system supports the following functions:

- Manages interviewer user accounts and data;
- Assigns cases to interviewers for each survey;
- Provides an overview of all running surveys, households for each survey and status of each case;
- Provides an overview of incoming survey data and combines

them into one consolidated database of survey data;

- Gives an overview of transfer requests and enables management of transfers between interviewers;
- Sends messages to interviewers;
- Prepares statistical progress reports on the data collection process;
- Prepares interviewers' accounting reports.

Case Study

Our Case Management System for Computer Assisted Personal Interviewing was implemented in the Croatian Bureau of Statistics (CBS) in 2015. The first survey implemented in CMS CAPI in the CBS was a **Survey on Income and Living Conditions (SILC)** which is an instrument aiming to collect timely and comparable cross-sectional and longitudinal

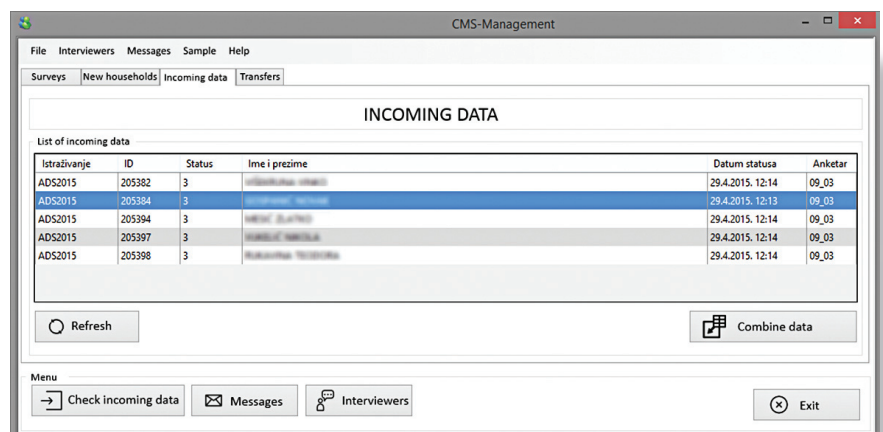


Figure 5. CAPI Management Application. Processing of incoming data

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multidimensional microdata on income, poverty, social exclusion and living conditions in EU countries. This survey covers more than 10,000 households which were assigned to more than 100 interviewers in the field. Interviewers were trained on usage of the CMS and SILC survey, and, once equipped with a laptop and 3G USB stick, they started with data collection. **The system was found to be very simple to use both by interviewers and survey managers.** CBS plans to migrate all existing pen-and-paper (PAPI) surveys onto the new CMS CAPI platform starting with the **Labour Force Survey (LFS), Household Budget Survey (HBS) and Usage of ICT in Households.**

Benefits of implementing CMS CAPI

The development of a CAPI case management system provides many opportunities to automate, enhance, and streamline survey office functions beyond the exchange of information between office and interviewers. Managers and supervisors may **identify**

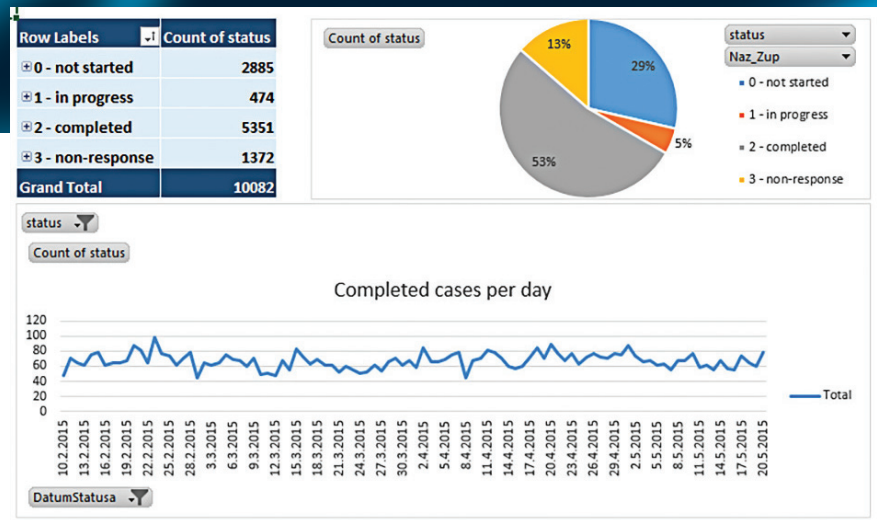


Figure 6. CAPI Management Application. Progress report with information regarding the overall status of data collection and daily trends

problems and track costs more rapidly, interviewer performance reports can be generated more quickly, payroll processes can be expedited, while labour intensive clerical activities are eliminated. Automation of both office and interviewer activities also may permit **new and more effective ways of performing key survey tasks that were previously hindered by pen-and-paper technology.**

The object-oriented approach built into our CMS CAPI provides many benefits as well: the **assignment of cases to interviewers is straightforward** and there is no danger that the same sample point goes to two interviewers;

case transfers from one interviewer to another are handled reliably; if a data file is corrupted only **the corrupted case needs to be resent** in an object-oriented system; moreover, in the CMS Management module, used within the statistics office, each case may be processed separately in a so-called 'flow basis' which significantly decreases the time needed for data processing.

Month	Payment report					
Count of status	tip_opcine	status		Grand Total		Total (€)
	1 - City	2 - Rural	2 - Completed	3 - Non-response	2 - Completed	
Interviewer	2 - Completed	3 - Non-respon	2 - Completed	3 - Non-response		
01_01	13		3		16	268,00 €
01_02	20	5		9	34	394,00 €
01_03	58	13	16	4	91	1.324,00 €
21_07	27	10			37	472,00 €
21_08	30	9			39	516,00 €
21_09	8	2			10	136,00 €
21_10	23	3			26	380,00 €
Grand Total	1178	292	499	159	2128	30.950,00 €

Figure 7. CAPI Management Application. Accounting report per interviewer.

Contact us

If you would like to find out more about Case Management System (CMS) for Computer Assisted Personal Interviewing (CAPI), please contact us.

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