The Essence and the Structure of the Online Questionnaires in the Education

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Abstract: *The main goal of the report is to present the essence, the role and the advantages of online questionnaires. Types of questions are discussed, as well as special rules for formulation of questions and answers. In the paper model of the structure and architecture of the online survey modules are shown.*

Key words: *Online Questionnaires, Type of Questions, Model, System Architecture, Analysis of the Survey System.*

INTRODUCTION

The inquiry in the World Wide Web began to impose and replace the popular ways of consultation and surveys.

The construction of such survey in the Internet space must be conformed to the target groups, sampling and the type of consultation. With their help the sociologists have the opportunity to collect, process, store and analyze data from surveys, to do comparative analysis, sorting and classifying the results by various criteria: age, sex, IQ, skills, etc. Not all surveys are useful for online marketing.

Very successful and popular example of computer-generated investigation is the questionnaires. These types of studies are readily applicable in the online space. They shorten the time for preparation and optimization of the costs for results processing and analyzing.

The report examines:

- ✓ The essence and the role of online questionnaires.
- ✓ The structure of the online questionnaires.

The development may be viewed in the following modules:

- ✓ registration (login) form;
- ✓ different levels of accessibility to the requests, according to the target groups;
- ✓ administrator access for questionnaires development;
- ✓ questionnaires module;
- ✓ data processing.

THE ESSENCE AND THE ROLE OF ONLINE QUESTIONNAIRES

Definition of the online questionnaire: Examination of the public opinion in the global network to collect information.

The each questionnaire consists of two main parts:

1. **Introductory-constructive section.**

There it is stated who conducted the questionnaire and why. Some necessary instructions and comments on the work of the respondent are given. In terms of indirect communication, the introduction is the only tool for respondent motivation for completing the survey, for forming the attitude for sincerity answers.

2. **Question module.**

This is the main part of the inquiry. Construction of an unambiguous, productive and unrepresentative questionnaire is a difficult process. It is very important all possible options to be offered [2, 4].

Types of questions:

- ✓ **Direct** - they offer the respondent to express his own position.
- ✓ **Indirect** - to the respondent is given an opportunity to express agreement or disagreement with the position of other people.

- ✓ **Questions filters** – They are called so because it is possible to select the respondents according to given indicator. For example - gender, age, profession, etc.
- ✓ **True - false statement** - suggest two mutually exclusive response options (type 'yes-no ").
- ✓ **Question-menu** - requires answers when the respondent can choose a combination of variants of answers.
- ✓ **Questions - rocks** – those questions which answer is putting in order something in preliminary determined scale.
- ✓ **The Table issues** - suggest as a response to fill table.
- ✓ **Open questions** - do not contain any version of the response, a respondent answers his opinion in certain place in the questionnaire.
- ✓ **Half-questions** – part of the variants of the answers are preliminary suggested, but the interviewed may write something additional.

There are some special rules for formulation of questions and answers, compliance with which ensures maximum reliability of the answers of the respondents [1, 3].

The most important are:

- ✓ Questions and answers must not contain suggestion that one way or another direct to some answers or make them more desirable or more prestigious.
- ✓ Creating artificial opportunity some of the answer to be given more frequently than others;
- ✓ When the question is "closed" (i.e. there are pre-defined options), all possible cases, have to be predicted;
- ✓ Question and all answers must be formulated in an equivalent manner so that the various responses to have the same conceptual value;
- ✓ The answers should form a unified scale and relate to one and a same sign;
- ✓ The questions and answers should be understandable to the lowest part of the educated respondents, but it does not sound offensive to the highest educated.

One of the things that cannot be controlled by the development and publication in the Internet survey is user hardware and software (monitor, browser) and as a result the way of perception of the layout of the questionnaire, the font of the text and graphics. This (color, brightness, time of loading) must be accounted by the developer, as it can play a large role in the survey.

The results of research in the Internet network are influenced by the characteristics of the questionnaire extract.

In education a well constructed survey can be a tool for feedback, which can significantly enhance quality in education. In this case there must be adequate and rapid response as a result of the aggregated answers of students in order to change their approach and training companies.

STRUCTURE AND ARCHITECTURE OF THE ONLINE EDUCATION QUESTIONNAIRE ON THE WEB

One of the essential problems in doing market research via the Internet is how the collected data could be stored and transmitted to the software for processing and analysis. One of the most commonly used products for the processing of the results of the market research is software for statistical analysis SPSS (Statistical Package for the Social Sciences). Characteristic of the latest versions of SPSS is the ability to analyze data retrieved from a relational database, accessible by the programming interface ODBC. Such systems are MS Access, SQL Server, dBase, Paradox. This opportunity allows

SPSS survey results collected through the Internet and stored in a database to be used as direct input for statistical processing.

Architecture of the link between the web site and database consists of three components: web server, browser and client database. Handling and recording data is realized by using scripts that run the web server. User connects to the web server using a client browser. The server receives the request and processes it by script.

CGI - Common Gateway Interface is a specification for the interaction of Web-server with other applications [9]. A typical CGI-program that runs Web-server implementation of the task, returns the results to the server and ends his performance (Fig.1).

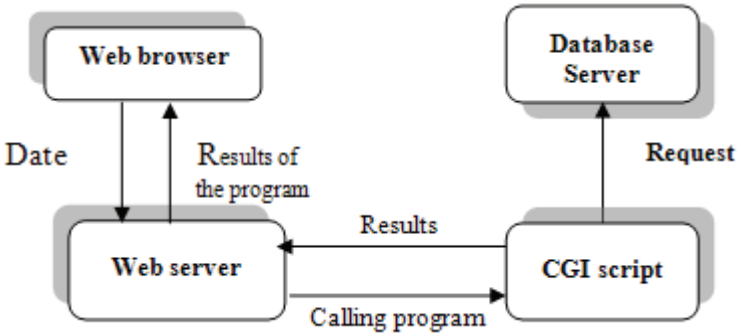

Fig.1. Typical CGI-program

The architecture of the system is shown in Fig.2.

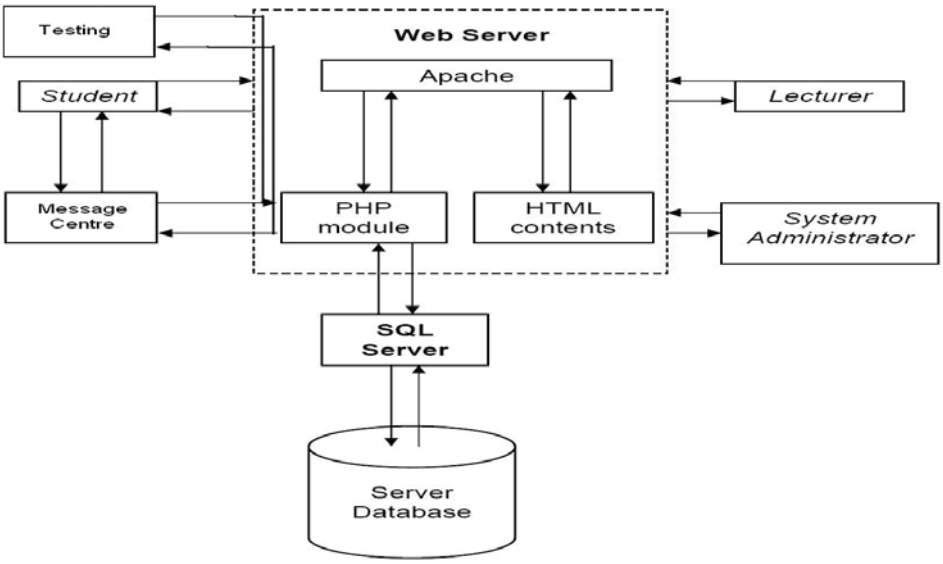

Fig.2. The architecture of the system

The great advantage of using CGI gateway in processing the entried in HTML form data is the language independence - almost every programming language (C / C + +, Perl, Pascal) can be used; processor isolation - each CGI - Gateway creates a separate process on the web - server and incorrect script cannot damage the server or obtain access to confidential information; CGI interface is applicable to any web server. That each query for execution creates a new process on the other hand is a disadvantage, because this reduces the speed of performance of the server and the script itself.

Upgrade ISAPI technology is Active Server Pages technology which can also save data filled by the respondents in any database. The connection is through ODBC or ADO technology.

Records are a base for further steps in statistical processing with specialized statistical packages SPSS, Statistics, etc. The only prerequisite is to install ODBC driver for the database in which data is stored. Thus data from Microsoft SQL, Access, Visual FoxPro, Excel files can be read. In the script itself must be set encoding of data required by the statistical software so that data can be processed. The results of processing in the next stage can also be presented in the web site, where market research is done.

MODEL OF THE MODULES OF THE SURVEY SYSTEM

Data Flow Diagram (DFD) is a graphical representation of data in the information system. Data processing diagrams can be used for visualization of data processing (structured design). On the bases of [5, 8] we propose a model shown in Fig.3. This is common practice for designers to draw DFD Level 0 (Fig.3) which shows the interaction between the system and the users.

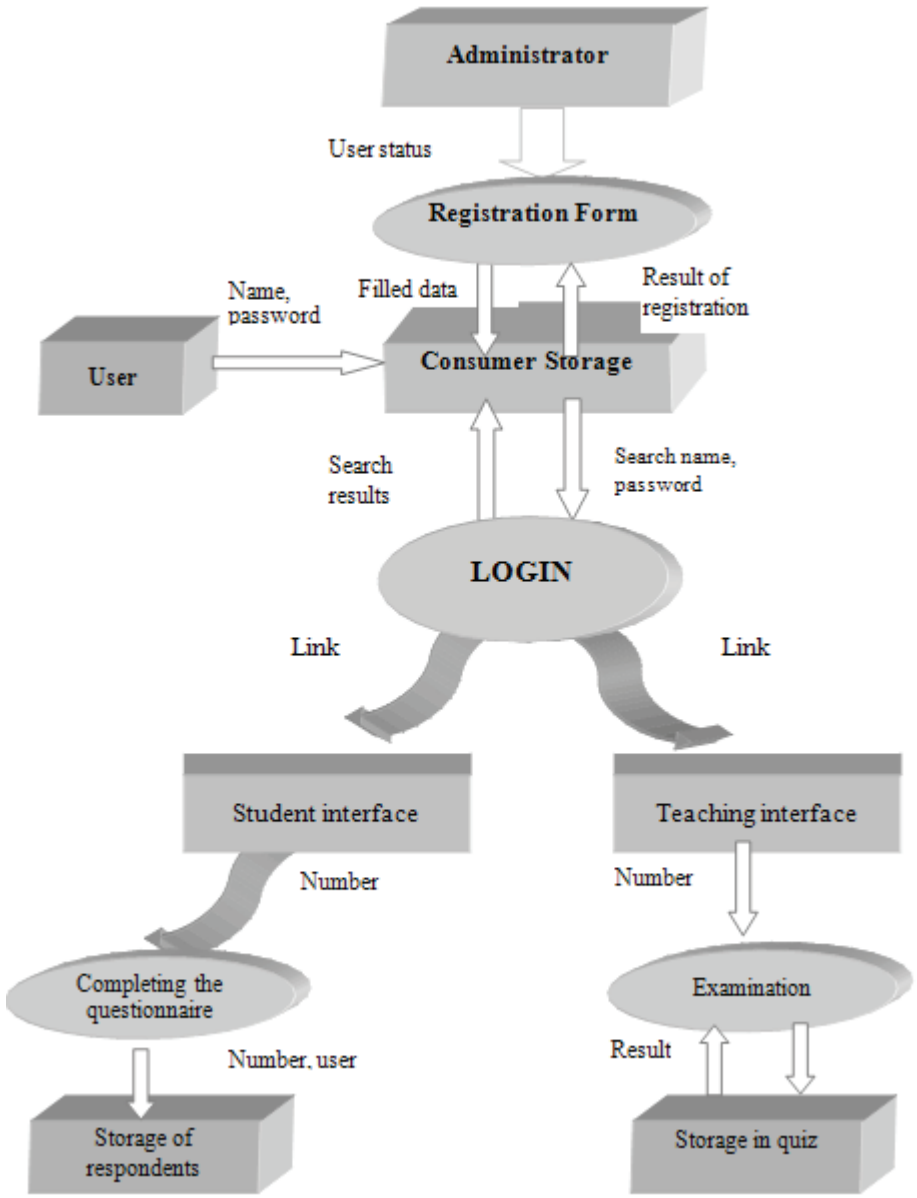

Fig.3. DFD 0-level

CONCLUSIONS AND FUTURE WORK

The practical application of the developed model in the modules of the survey system has led to the following conclusions: the online questionnaire on the Web is effective for the realization of feedback training.

The system has to answer to the requirements: performance, security, extensibility, usability, understandability.

The future work is aimed at achieving these requirements and also providing the experiment.

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