

# Bestact – Software for Visualization of Digitalized Family Registers and Civil Status Acts

Assoc. prof. Mariana Mateeva Petrova, PhD

“St. Cyril and St. Methodius” University of Veliko Turnovo, 32 Al. Burmov str., Veliko Turnovo 5000, Bulgaria  
E-mail of the corresponding author: petrova\_mariana@abv.bg

## Abstract

The introduction of new IT in public administration is a prerequisite for improving its efficiency and improving the administrative services.

According to the legal requirements registers of civil status acts are formed for each municipality, stored in the territorial units Directorate "General Civil Registration and Administrative Services" for 130 years, then transferred to the State Archives. The oldest family registers are from the 1893 and their physical state in most municipalities is very bad. The logical outcome of the situation is the digitalization of these records.

The software BestAct, developed by the author is planned, designed and developed to automate the handling of old family registers and civil status acts. Visualization of digitalized family registers and civil status has the ability to search by criteria.

**Keywords:** IT, digitalization, registers and civil status acts, software

## 1. Introduction

Civil status acts for various events (birth, marriage and death) are recorded in the registers of civil status and in the population registers, as they are bound in separate books in the sequence of their numbers.

Registers of civil status and family situation in Bulgaria are retained for 130 years from the date of their creation, and then transferred to the State Archives.

The maintenance of Unified system for civil registration is carried out by the municipal administrations and the Ministry of Regional Development by the Directorate General Civil Registration and Administrative Services (CRAS) and its territorial units.

For every act of civil status established in written form, an electronic equivalent is created in the National electronic register of civil status acts.

The oldest such registers are from 1893 and their status in most municipalities is very bad. Information from these registers does not appear in electronic form, which requires the employees to consult these old books, which is time-consuming task. However, each dealing with these books, poses serious risks to the deterioration of their condition. The logical way out of this is the introduction of these registers in electronic form (digitizing them).

Digital copies (images) must be organized so that it is possible to consult them from all the working places in the departments of Unified System for Civil Registration and Administrative Service to the Population (USCRASP) and Administrative and legal services to the population (ALSP), to search by criteria, e.g. Personal identification number (PIN) and / or names.

## 2. Subject of the technical assignment

Subject of the technical assignment is: development of software BestAct for visualization of digitalized family registers and civil status acts, searchable by criteria. The technical assignment reflects the minimum requirements based on the design function of the product, the required characteristics and intended use.

The software BestAct is planned, designed and developed to automate the handling of old family records and civil status acts. It consists of three modules: "Family registers", "Civil status acts" and "Entering civil status acts".

The purpose of the software is to significantly improve customer service in division "CRAS" by drastically reducing the processing time for consultation at the personal record cards (PRC) and facilitate the work of the employees.

In BestAct there is an opportunity to attach a photo of the act to the record in the database. This option is widely used by the municipal administrations and is in a process of full implementation of all acts - old and new, that are stored in the municipalities.

## 3. Module „Family registers”

Module "Family registers" supports and has the following features:

- Display all added volumes for family registers in a folder specified in the system. When creating a new folder (volume), it is automatically displayed by the system as a separate volume;

- View all books for a given volume. Each book is a folder in the volume. When creating a new folder in the volume, the system automatically must display it as a separate book in a volume;
- The names of the volumes and the books are set in Roman numerals, as in the visualization system, they must be sorted in ascending order and shall appear with their names in Bulgarian language (for example: I – First volume, I – First Book).
- Showing all pages from the selected volume as the page number is displayed (for example: p. 1, p. 2). Each page of a volume is a image in JPG format, and is located in the folder of the volume. The name of the page is of the type XXXXCFR.jpg, as in the place of XXXX stands the specific page number by 4-character record (for example: 0001CFR.jpg, 0025CFR.jpg, 0240CFR.jpg, 1023CFR.jpg);
- Visualization of the selected page, as the whole page is visible, with the ability to zoom to specific locations on the page;
- When viewing a page, there is an option to navigate to the next and previous page of the relevant volume;
- Ability to search by specific volume (from the dropdown menu), book (from the dropdown menu) and page (freely entering the page number in the text box);

#### **4. Module for entering civil status acts in the database**

The module of BestAct for entering civil status acts in the database has the following features:

- Displaying all added years of the civil status acts in a folder specified in the system. If there are acts yet to be entered for a particular year, the number of acts is displayed (e.g. "1930 (34)" means that there are 34 acts for 1930 year which have not yet been entered in the database);
- If there are no acts, pending to be entered, for a particular year, the year is not clickable.
- Displaying the three types of acts (birth, marriage, death) for each added year. The pending acts for the year shall be divided by type, showing their number (for example: "Marriage (12)" means that there are 12 marriage acts pending to be entered);
- Displaying all pending acts for a selected year and type, as for each one, the number of the acts is displayed.
- When selecting an act, the document is displayed with the option to zoom to specific locations. Every act is in JPG format.
- Above the document there is a form to fill in the names (in separate fields) of the owner of the act. When the form is completed, the act is added to the database and the system automatically redirects the user to the first act of the chosen year and type, that has not yet been added to the database.

#### **5. Module “Civil status acts”**

The module “Civil status acts” of BestAct has the following features:

- Civil status acts are stored in the database containing the names of the owner of the act (for birth or death) and the name of the husband (for a marriage certificate).
- Displaying all years, for which there are civil status acts added in the database;
- When selecting year, the three types of acts are displayed – birth, marriage, death;
- When selecting a type, the names of the owners of the acts, entered into the database, are displayed
- When selecting an act, the document is displayed with the option to zoom to specific locations;
- Ability to search by criteria – year, type of document, first name, middle name, last name. The blank field of a given criteria, shall be disregarded by the search.
- The results of the search are displayed as a table with 3 columns – year, type of document, name of the owner of the document. When selecting document, particular document is visualized with the ability to zoom to specific locations.

#### **6. Technical characteristics of BestAct**

Software tools for developing BestAct are:

- PHP: script language for server programming;
- MySQL: database management system;
- Apache HTTP Server;
- PHPLib (PHP Base Library): a set of tools for developing web based applications, including classes and functions for working with templates, user authentication, session management, etc.

PHP, MySQL and Apache are the three key technologies working together for most active web servers today. These tools are free and distributed with open source, which is one reason for their choice.

The software for the visualization of family registers and civil status acts BestAct is built as a web application and works equally well on different browsers (Internet Explorer, Mozilla Firefox, Google Chrome). BestAct works on Linux or Windows operating system running a Web server that supports PHP and MySQL; Windows XP/Vista/7 for all client stations, which are intended to open the software application. BestAct has a clear, simple and intuitive graphical user interface.

## 7. Conclusion

BestAct was created to support the activities of the regional units "CRAS" and the municipal administrations in the application of modern and approved software solutions, creating conditions for technological development and providing better administrative services to citizens, as well as improving the quality and safety of work of the municipal administrations as a whole. Uniform and consistent with the Bulgarian legislation BestAct can be implemented in each of the 264 municipal administrations in Bulgaria.

BestAct is designed so that in the future, when the Bulgarian law allows, to offer a wide range of additional services.

For security reasons the software product for visualization of family registers and civil status acts BestAct is with a protected source code.

## References

Regulation № RD-02-20-9 from 21 May 2012 on the functioning of the unified system for civil registration, issued by the Ministry of Regional Development, [Online] Available: [www.grao.bg/normact/Naredba-RD-02-20-9.doc](http://www.grao.bg/normact/Naredba-RD-02-20-9.doc), retrieved 20th august 2013.

Civil registration law, [Online] Available: [www.grao.bg/normact/ZGR.doc](http://www.grao.bg/normact/ZGR.doc), retrieved 20th august 2013.

Directorate General Civil Registration and Administrative Services, [Online] Available: [www.grao.bg](http://www.grao.bg), retrieved 20th august 2013.

## Mariana Mateeva Petrova

Ph.D. in Physics and Mathematics

Associate Professor: Application of IT in the economy, Department of Information Technology, "St. Cyril and St. Methodius" University of Veliko Turnovo, Bulgaria

Head Master Program "Information Technologies in the Legal and Executive Power" (full time/ part time / distance)

Head specializations: Business information technologies; Information management (part time / distance)

Project №1491-02/27.06.2008 "Computer crimes and information security" – head of project

Project №1491-10/27.06.2008 "Entrepreneurship in the social sphere"- Project Coordinator

Project №366-08/28.04.2009, Informational-resource insurance of the quality systems, Project Coordinator

Project №366-11/28.04.2009, E-justice, E-management and information security, head of project

Project №09-590-07/10.04.2013, E-voting - technology, innovations and challenges - Project Coordinator

Project №09-590-13/10.04.2013, Integrated electronic services for the citizens and the business - head of project, 2013-2015

*\*The research is financed by project №09-590-13/10.04.2013, Integrated electronic services for the citizens and the business of St.Ciryl and St.Methodius University of Veliko Turnovo*

This academic article was published by The International Institute for Science, Technology and Education (IISTE). The IISTE is a pioneer in the Open Access Publishing service based in the U.S. and Europe. The aim of the institute is Accelerating Global Knowledge Sharing.

More information about the publisher can be found in the IISTE's homepage:

<http://www.iiste.org>

## CALL FOR JOURNAL PAPERS

The IISTE is currently hosting more than 30 peer-reviewed academic journals and collaborating with academic institutions around the world. There's no deadline for submission. **Prospective authors of IISTE journals can find the submission instruction on the following page:** <http://www.iiste.org/journals/> The IISTE editorial team promises to review and publish all the qualified submissions in a **fast** manner. All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Printed version of the journals is also available upon request of readers and authors.

## MORE RESOURCES

Book publication information: <http://www.iiste.org/book/>

Recent conferences: <http://www.iiste.org/conference/>

## IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

