WEB-BASED SYSTEM TO REFLECT THE MOVEMENT OF TRAINEE STUDENTS AND TRACK THE REALIZATION OF GRADUATE STUDENTS

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Abstract: *Each higher education institution is run daily with a huge volume of the database. It is reflecting the movement of student learners. More and more attention is distinguished to the quality of education in higher education institutions. Along with the quality of education in the accreditation of the higher education institution, accent is also on the successful realization of the graduate students. The aim of the article is to present a web based system that covers the whole process of processing and movement of information concerning the needs of Angel Kanchev University of Ruse. This system also provides the opportunity to monitor the realization of the training and graduate students. It includes a wide range of possibilities for making various report necessary for the efficient functioning of the university and supporting the accreditation process.*

Key words: *web base system, data base, student realization, reports, quality of education, status of realization, career development.*

INTRODUCTION

The shortage of qualified staff is a major weakness in education in Bulgaria. According to the Institute for Market Economics [2] in 2014, 15% of industrial firms can not find suitable qualified staff to recruit, which is twice as high as that in the EU (7.4%). In addition, the number of employers who have further qualified their workers has doubled in ten years.

Because of these statistics, in recent years, increasing attention has been paid to the quality of higher education schools. The quality of training depends on a number of factors, such as: motivation and annual additional qualification of the teachers; the provided material and technical facilities at the disposal of the higher education institution; the way the material will be presented to the learners; bilateral communication between a teacher and a student; consolidation of the acquired knowledge; a link between acquired theoretical knowledge and the acquisition of practical skills. A very important factor in the accreditation of a specialty in the higher education institution is the degree of realization of the students in the professional field who have graduated. This factor is directly related to both the quality of training and the regular updating of curricula tailored to the needs of the market. These updates apply particularly to all IT specialties. This is because information technologies are constantly evolving. There is also a development in the choice of programming languages and programming environments for the various fields of application in the field of information technologies - web programming; constructing, processing and managing relational and / or semantic databases; image processing; creating a number of visual language-based applications; working with programming languages for different operating systems, etc.

NEED TO BUILD THE SYSTEM

The National Evaluation and Accreditation Agency (NEAA) adopted in 2011 a Criteria for Assessment and Accreditation. This criterion system is fully in line with the European standards / ESG / - Bergen adopted in 2005. Over the years NEAA has gained experience and managed to impose transparency, objectivity and quality control in the accreditation process. This has made it possible to confirm its full membership in the European

Association for Quality Assurance in Higher Education (ENKA). According to ENKA, the main directions for the development of higher education are mainly aimed at: increasing the efforts of the governing bodies and the teachers to increase the level of successfully completed graduate students in higher education; minimizing the number of dropouts from higher education by improving the quality, practical relevance and attractiveness of courses; encouraging higher education institutions to invest in the constant professional development of their staff; fostering partnership and business co-operation [3].

Higher schools handle very large and complex information volumes in their everyday life. This led to the need to build and use electronic systems to support their activities, fully tailored to their specifics. The field of education is essentially a source of information and, in this regard, information systems are entering and developing here very quickly. In this regard, the Ministry of Education, Youth and Science (MEYS) introduces requirements for higher education institutions to bring their information systems in line with the data stored in the records of the students and staff [2].

Due to the topicality of the problem, increasingly higher education establishments create online systems to account for the realization of their students. For example, the "Angel Kanchev" University of Ruse has a Career Development Center, which provides the connection between the companies - users of the cadres and the students of the University of Ruse [6]. The center offers career counseling services; organization of career development seminars; holding days of career internships; ensuring interaction between business and university and organizing internship programs. "St. Kliment Ohridski" University of Sofia [4], Varna University of Economics [1] and the Technical University of Varna [5] also have an online system for collecting and maintaining information for the graduates. To date, none of the existing systems provide an opportunity to fully monitor student movements, their realization, and the preparation of a variety of reports that reflect this information. The purpose of the article is to present a web based system for tracking the movement of students in the "Angel Kanchev" University and their realization, as well as the possibility of automated preparation of the various reports necessary for the effective functioning of the University and supporting the accreditation process.

BUILDING A WEB BASED INFORMATION SYSTEM

The WAMP platform, which combines Windows, Apache, MySql, and PHP, is used to create the Web-based system, and offers many amenities and ease of use. The programming languages ~~which~~ used are HTML, CSS, PHP, version 5.6, SQL and JavaScript.

The Web-based system includes only an administrative module. It has access to the public. In order for a user to have access to this module, it requires authorized access via a username and password. The module allows for entering, editing, deleting, and managing all the information of each student in the "Angel Kanchev" University. It is a personal record of the trainee student. This information includes:

- the three names of the student;
- faculty number;
- PIN - this information is needed when a student is transferred to another specialty during his/her studies and receives a new faculty number;
- year of enrollment;
- faculty;
- specialty;
- group;
- form of education - full-time or part-time;
- Bachelor or Master degree;

- the city where he lives - this information is important for the student's subsequent realization;
- phone number;
- current e-mail address;
- place of work during his/her training (company name, position) - when the student works during his/her training;
- medium learning success;
- status of the student during his/her training - learner; interrupted or left;
- year of graduation.

Fig. 1 shows the main data entry window for a learner.

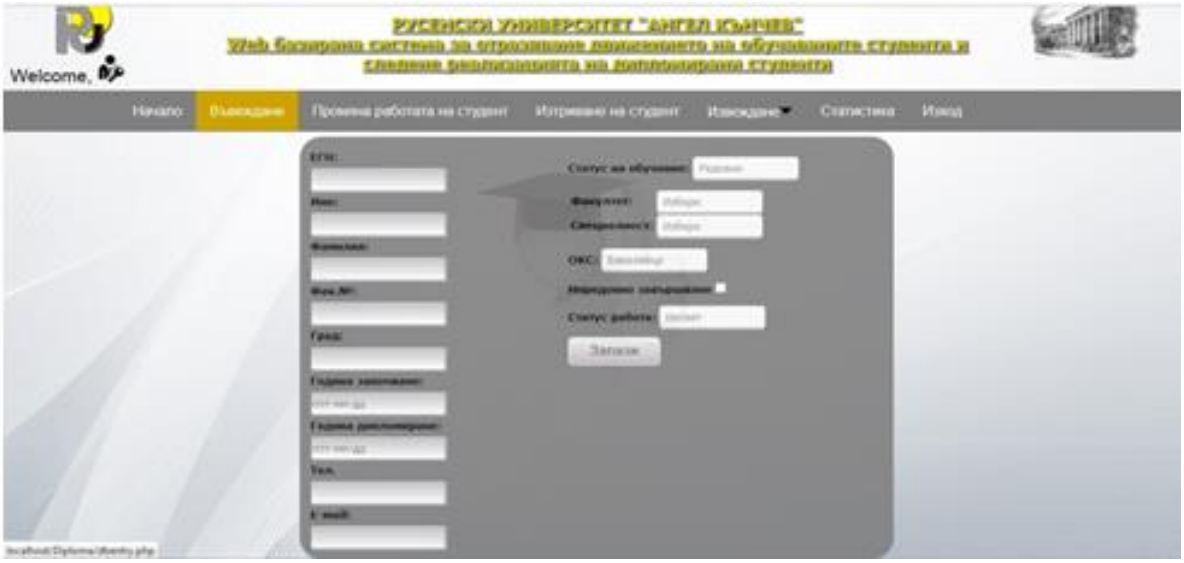

Fig. 1. Main window for entering the information for a trainee student

Through the detailed information from each student's personal record, the Web-based system enables multiple automated reports to be generated by a given criteria such as:

- Information about a particular student;
- Report the number of enrolled students from a specialty/faculty;
- Ability to track a student who write another specialty;
- Reporting the number of graduates during the given year;
- Reporting the number of interrupted /dropped students from a specified specialty / faculty;
- Reporting the number of students from a specified specialty/faculty who are trained in a Bachelor's degree who have an average grade higher than 4.50 and can enroll in a master's degree;
- Provide information about the status of the students from a particular specialty/ faculty for a certain period of time;
- Report the number of students from a specialty/faculty that have been realized directly in their specialty;
- Reporting the number of students from a specialty/faculty listed indirectly in their specialty;
- Reporting the number of students from a specialty/faculty that have been realized outside their specialty;
- Reporting the number of students from a specified specialty/faculty who are unemployed;

• Reporting the realization of the students from certain specialties for a certain period of time - the system makes it possible to store up to 4 positions for change of placement - this possibility is important as it provides periodic updating of the information about the students' realization.

All of these reports provide information about organization, efficiency and development of the "Angel Kanchev" University, such as: which are the most search specialties; which specialties are the most search in the labor market; in which specialties the student's realization is greatest, etc.

Fig. 2 presents the architectural model of the web based system and its basic functionalities.

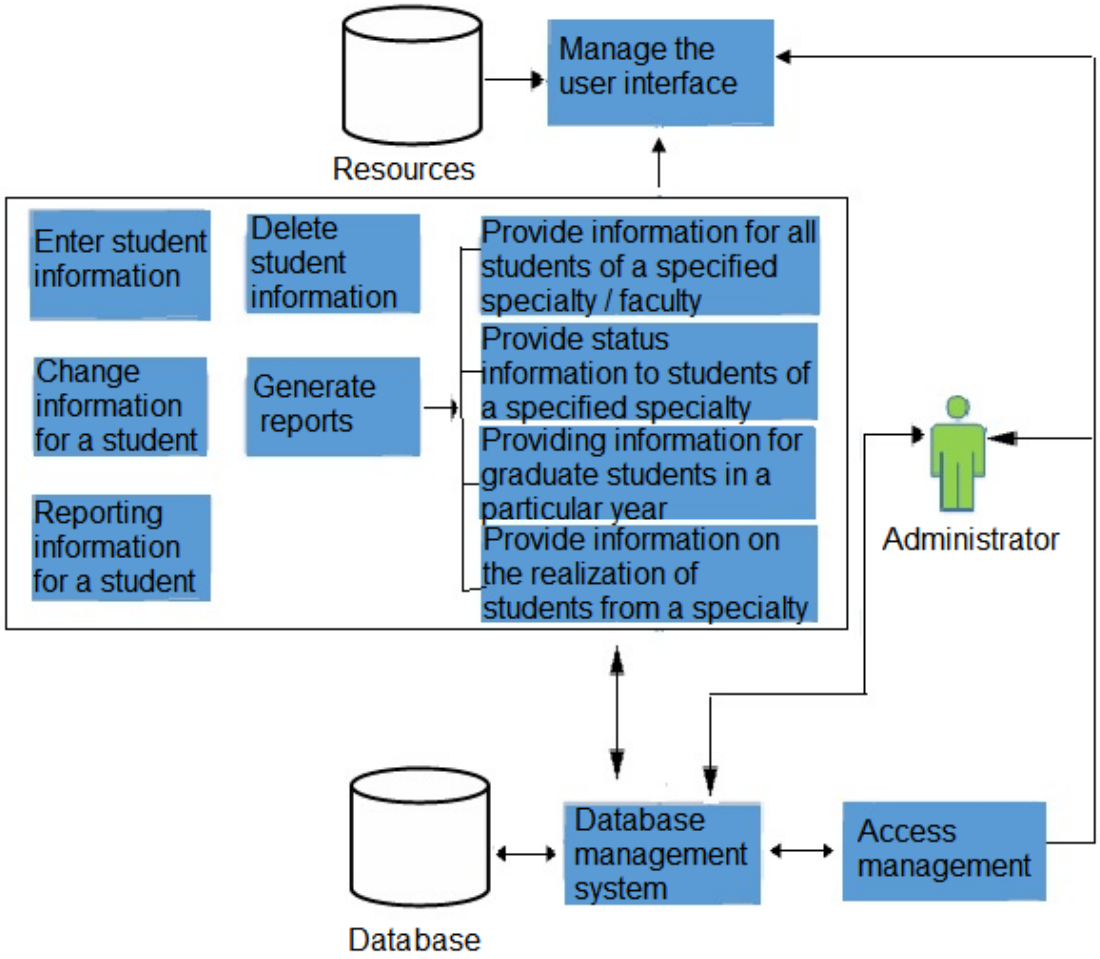

Fig. 2. Architectural model of the web based system

The system provides tools for formal and logical control. These tools make it easy for the user to get appropriate messages. Fig. 3 shows a report (request) for the number of students in the Faculty of Natural Sciences and Education.

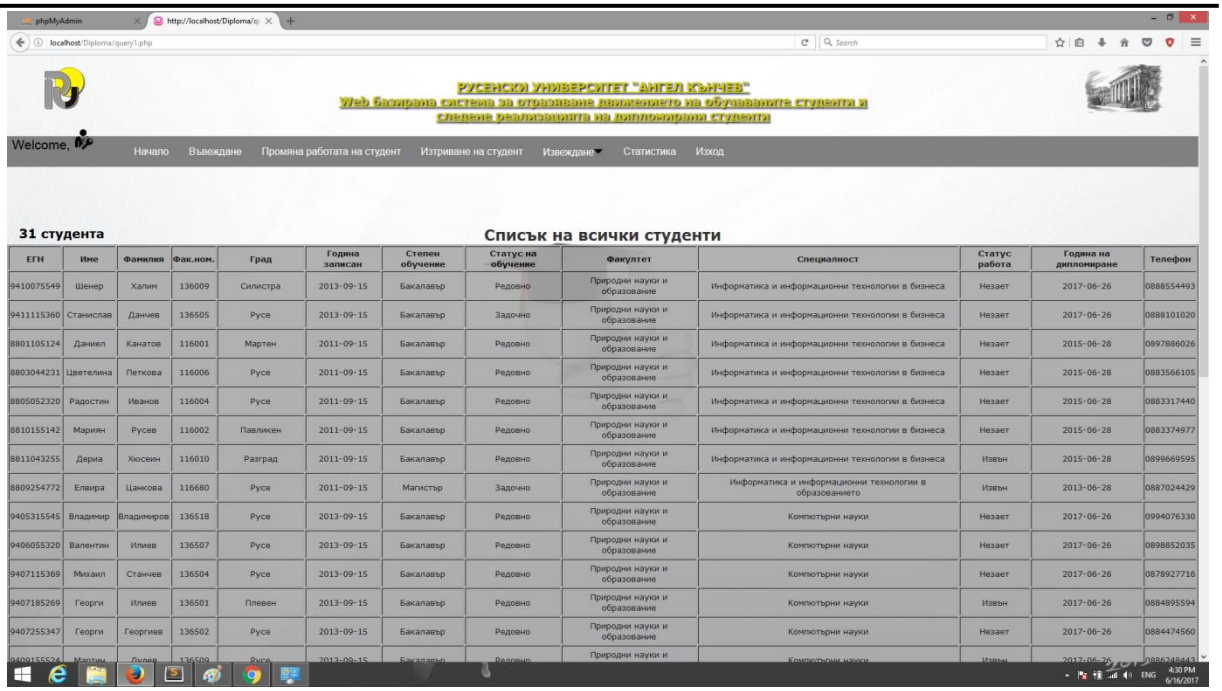

Fig. 3. Report for the Students of the Faculty of Natural Sciences and Education

CONCLUSION

The created Web-based system to reflect the movement of trainee students and track the realization of graduate students combines the basic functions that all the mentioned systems provide. It also adds new functionalities related to the automated tracking of the movement of the trained students from the chosen specialty at "Angel Kanchev" University of Ruse and reporting the realization of both the trainees and the graduates.

To complete the implementation cycle, it would be a good idea to add a client module to the built-in web-based system and integrate it into the existing Career Development Center of the "Angel Kanchev" University. This will enable students to have permanent access to job vacancies and a link between trainees and graduates with employers. This integration would increase the percentage of successful students. And this is the goal of any higher education institution.

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WEB БАЗИРАНА СИСТЕМА ЗА ОТРАЗЯВАНЕ ДВИЖЕНИЕТО НА ОБУЧАВАНИТЕ СТУДЕНТИ И СЛЕДЕНЕ РЕАЛИЗАЦИЯТА НА ДИПЛОМИРАНИТЕ СТУДЕНТИ

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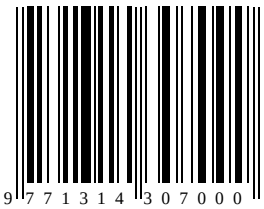
Резюме: *Във всяко висше учебно заведение се работи ежедневно с огромна по обем база от данни, отразяваща движението на обучаващите се студенти. Все по-вече внимание се обръща на качеството на образование във висшите учебни заведения. Наред с качеството на образованието при акредитирането на висшето учебно заведение се акцентира и върху успешната реализация на дипломираните студенти. Целта на статията е представянето на web базирана система, която да обхваща цялостния процес по обработката и движението на информацията, касаеща нуждите на РУ „Ангел Кънчев” . Тази система предоставя възможност и за следене реализацията на обучаващите се и дипломирани студенти. Тя включва широк набор от възможности за изготвяне на разнообразни справки, необходими за ефективното функциониране на университета и подпомагащи процеса на акредитация.*

Ключови думи: *web базирана система, бази от данни, реализация на студентите, справки, качество на обучение, качество на образование, статут на реализация, кариерно развитие.*

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