PLATFORM FOR ADMINISTRATION OF THE EDUCATIONAL PROCESS

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This paper presents the results from the development of an Internet based platform, which has been going on for five years. It has been used with several different subjects. Some peculiarities related to the results from educational tests and the setup of classes and their visualization are shown.

Keywords: web-based administration, educational process, C, PHP

1. INTRODUCTION

Electronically based educational systems in different forms have been developed during the last five years at the Technical University of Sofia [1, 2]. The course in Surface Mounted Devices Technique also employed Internet based technologies. At first they were used for the purposes of educational tests [3] and after that for other purposes as well. The different systems put the stress on educational information, its multimedia presentation, the contact between a lecturer and a student, etc. Together with the above mentioned activities, there also is a significant volume of administrative processing of the educational information. It can be supported by the Internet technologies to a considerable extent. Part of those activities have been realised in an educational web site by the authors of the paper [4].

2. THE OBJECTIVE

The first version of the platform was developed using the C language for the generation of dynamic HTML pages, because the PHP scripting language was not so widely distributed at that time. The second version was derived from the first one and was completely rewritten in PHP. Some extra functionality was added at the same time. The usage of the Internet based platform with different subjects during the last year revealed the need of extension of its functions and improvement of existing ones.

3. BASIC CONFIGURATION

The main version of the site comprises four zones.

The firs zone is the entrance one. After the successful login the user sees the menu in the left frame of the browser window and the forum in the right one. The left frame also contains links to all other zones, personal messages, online users, etc. (fig. 1).

The second zone is the work one. It contains students and system directories. Each student directory is divided into subdirectories. Their number is equal to the number of laboratory exercises. Each subdirectory has two parts – one for reports from laboratory exercises and one for questions for self training. The system

directory has the same structure but without the self training part. In addition it has three literature parts. The third part is visible only by the lecturers.
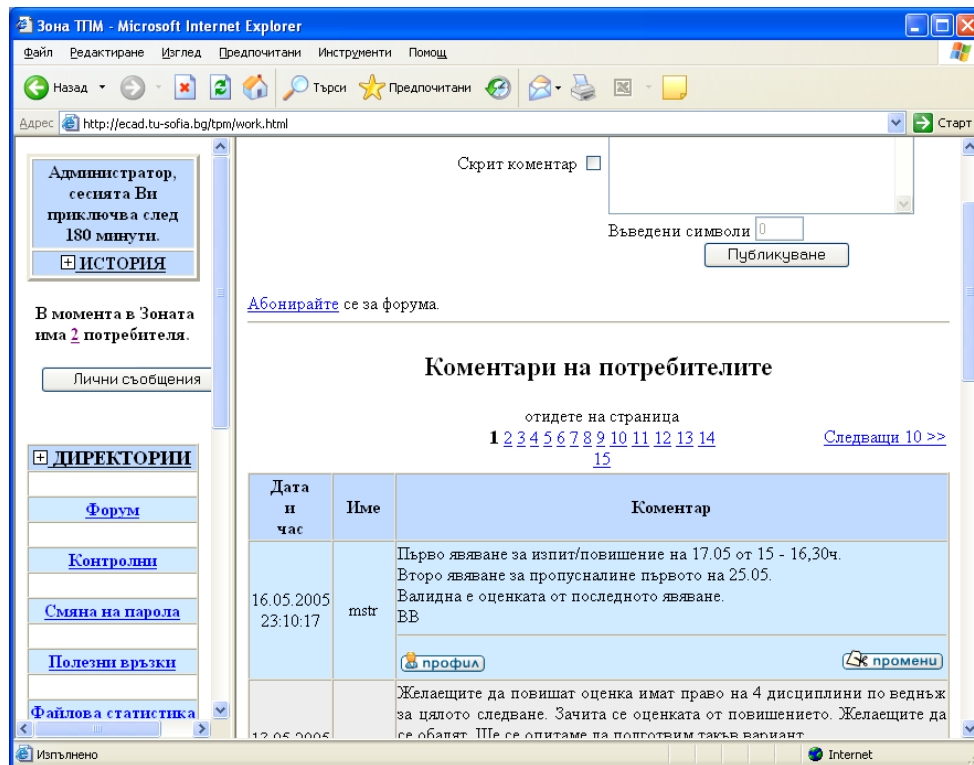

Fig. 1.

When a student has attended a laboratory exercise the lecturer uploads e template report in the corresponding subdirectory. Then the student downloads it, fills the results and uploads it back (fig. 2). The report is accessible by all users for reading.
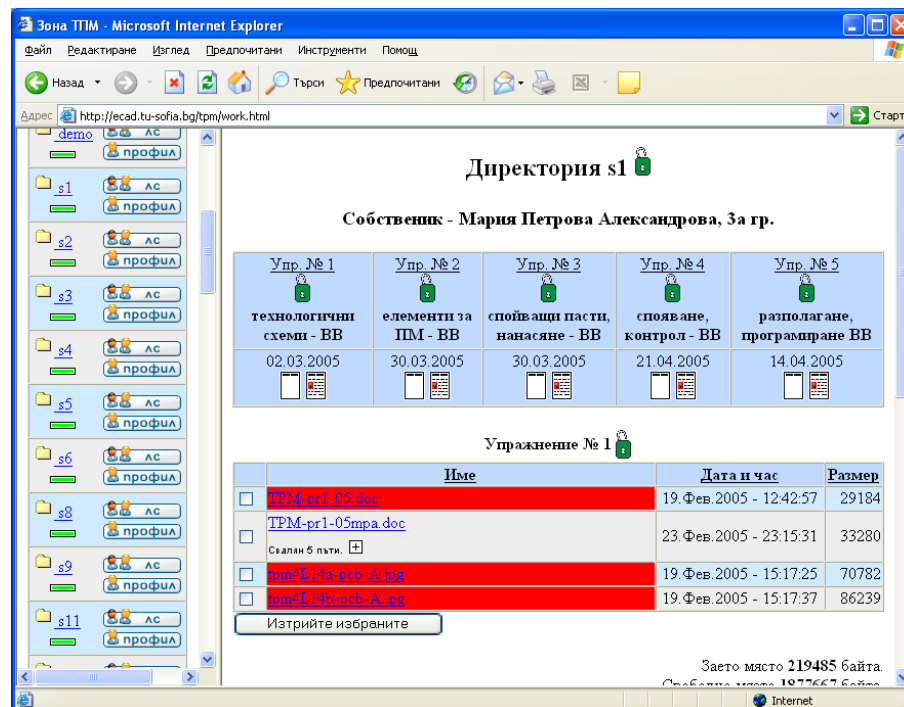

Fig. 2.

The third zone is related to tests. Students can perform trial and real tests. The questions are randomly drawn form a database. The questions have a couple of right and wrong answers. The trial tests can be performed on any computer, which is connected to the Internet, at any time. The real tests are carried out on computers, whose IP addresses are registered and in the presence of a lecturer. The results are available right after the completion of the tests.

The fourth zone is administrative. Various system options are being set here. The activities are related to definition of the number of exercises, test questions, report reviews, answers to questions for self training, test results, class attendance, anonymous inquiry, etc.

4. THE NEW FEATURES

At first the subdirectories for laboratory exercises had only consecutive numbers. The idea was to just follow the number of each exercise. The experience with different subjects showed that it was not suitable, since the orientation was lost. It was necessary to introduce topics, which were to be assigned to each exercise and visualise them in each subdirectory (fig. 3).
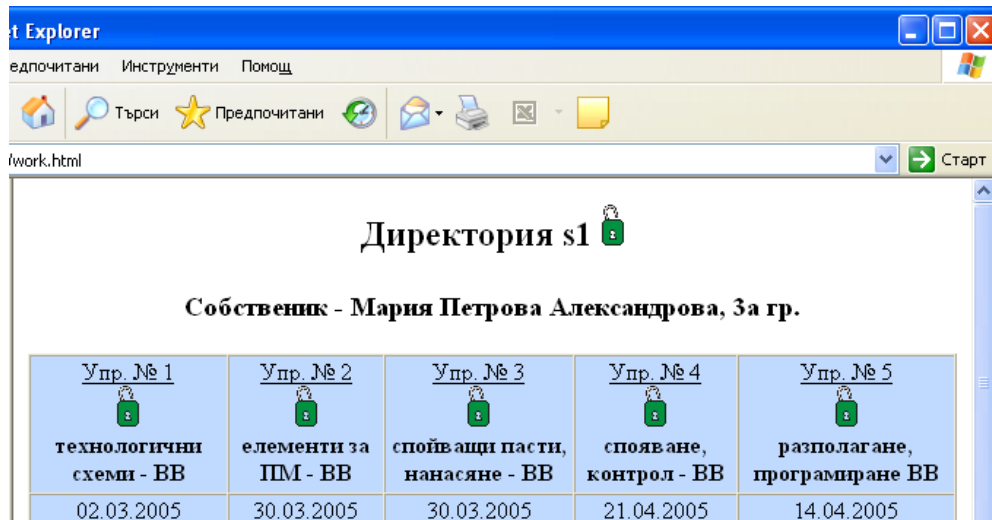

Fig. 3.

There was also a problem with keeping an account of class attendance. In general the system keeps tracks of the attendance, but it was hard to easily check it. The lecturer had to open each subdirectory and look for a report template. So it was decided to introduce graphical representation (icons) of each attendance. The icons are displayed at the root level of students directories (fig. 4). One is for the presence of a template and the other for report.
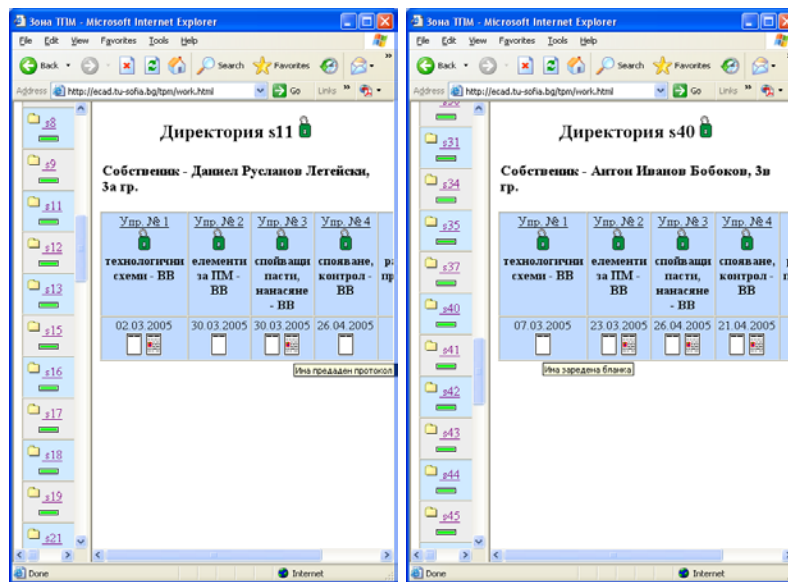
Fig. 4.

The statistics of online users was only showing their personal information in the previous version. Now it is possible to see which zone the users are at. An example window is shown in fig. 5.
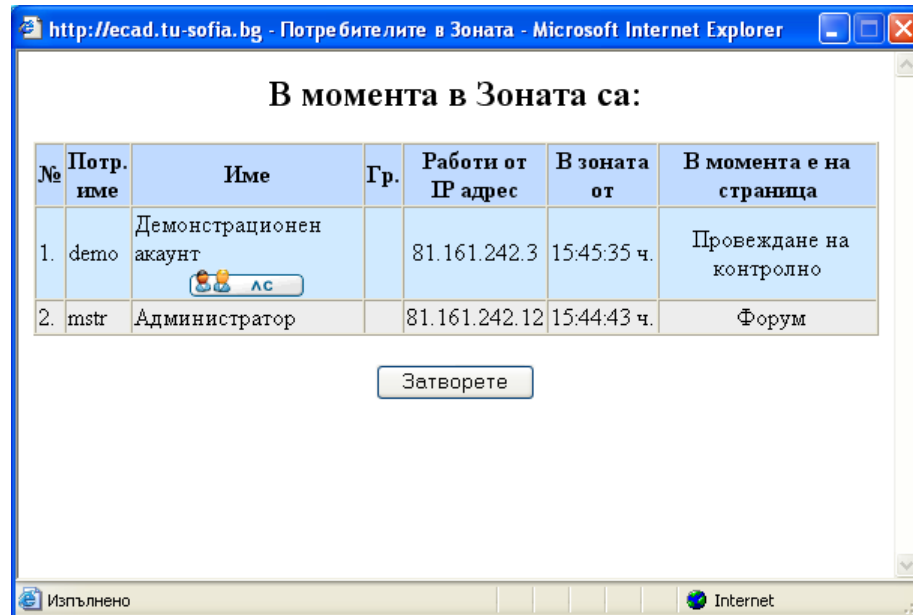

Fig. 5.

The results from real tests and points from exercise reports are available in both text and graphics. This is displayed in the "Intermediate/Final Results" section. Intermediate means that the points are constantly changing until they reach the final result. There two kinds of marks – relative and absolute. The relative one shows the position of each student compared to the best one (fig. 6).
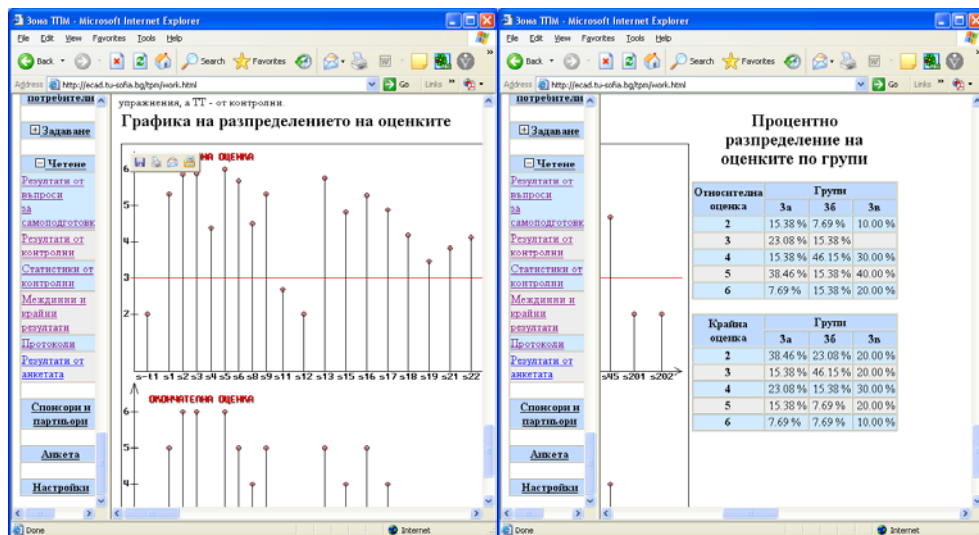
Fig. 6.

5. CONCLUSIONS

This web-based platform turned out to be suitable for the administration of the educational process of auditorium-based subjects. It assists in the quicker review, sorting and processing of the educational information. In addition to all of the above-mentioned, it helps for the planning of the time for completion of part of the activities in a suitable time, which does not mean prolongation of the educational process, since the deadlines are strictly observed. The visual demonstration of the results is e prerequisite for publicity of the educational and assessment processes.

6. REFERENCES

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