

SOME PECULIARITIES OF THE E-MANAGEMENT ENVIRONMENT, VERSION 6

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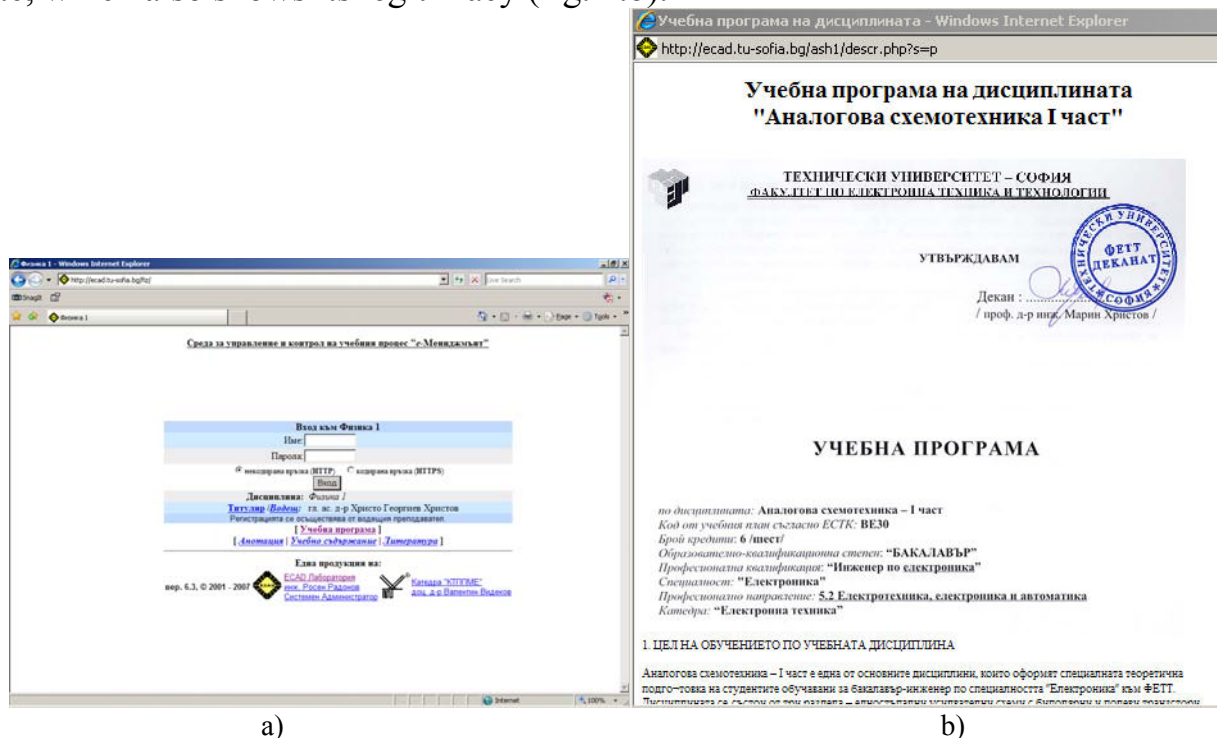
The paper presents the new capabilities of the environment for control and management of the auditorium based educational process – E-management. Since its new version 6 the environment follows the policy related to its implementation on a faculty level. The procedures for setting up and results reading are enhanced and made easier. Some of the results of its implementation are shown.

Keywords: education, management, control, internet

1. INTRODUCTION

There are a number of different systems for electronic accompanying of the education at the Faculty of Electronic Technologies, Technical University of Sofia, Bulgaria [1]. The main part of those systems is oriented towards the educational process itself [2, 3, 4]. A system oriented towards the auditorium based education and application of the Internet for the control of its process is being developed for several years [5].

The E-management system makes it possible to present a subject via an Internet site, which also shows its legitimacy (fig. 1.b).



a)

b)

Fig. 1

As with many systems this one allows access to the internal resources to registered users. A demonstrational account with partial functionality is embedded. Different materials in the form of files can be uploaded. They represent the library. The students can perform trial and real tests with different variants and configuration (number of questions, number of answers to each question, score points, and others). There are deadlines for the accomplishment of the assigned tasks and their results are being reported electronically. Each student has own space, divided into smaller parts for each type and number of classes. The communication between the students and the lecturer is carried out by the means of a forum and personal messages. A full site's archive is kept for the whole educational period. The lecturer can convey an anonymous survey among the students. The students have access to the results of their real tests and can review them in details.

2. SPECIFICS

In contrast to the other e-learning systems, the one described in this paper has some peculiarities. The most important are related to the whole concept for its development. The system is hierarchically based. There are three levels – lecturers, students and administration. Each lecturer has different access rights depending on the topics of the exercises and student groups (fig. 2).

5. Назначаване на права за другите администратори за нанасяне на точки и съставяне бланки за протоколи.

Администратор	Групи	Други права	През на т п
Лабораторни упражнения			
Тема №			
пурок - доц. д-р Никола Йорданов			
3 3 3 3 3 3 3 3			
3а 3а 3а 3а 3а 3а 3а 3а			
3б 3б 3б 3б 3б 3б 3б 3б			
77 77 77 77 77 77 77 77			
Протокол за тема			
1			
2			
3			
4			
5			
6			
7			
8			

Права на администраторите - Windows Internet Explorer
http://ecad.tu-sofia.bg/tp7/admr-show.php

Администратор	Групи	Други права
Лабораторни упражнения		
Тема №		
Милка Ръсовска		
1 2 3 4 5 6 7 8		
3а 3а 3а		
3б 3б 3б		
Тема №		
пурок - доц. д-р Никола Йорданов		
1 2 3 4 5 6 7 8		
3а 3а		
3б 3б		
Протокол за тема		
5		
6		
7		
3		
4		

Fig. 2.

The leading lecturer makes a schedule of the topics of each exercise and assigns the topics to the assisting lecturers. The educational schedule is automatically generated on that base, showing the time, room and lecturer (fig 3).

Each student can review the exercise reports, the answers to the self-study questions of the other students, as well as their score points. Each access is being logged and publicly shown (fig.4).

Учебен график
Данни за междинни и крайни резултати
Теми за лабораторни упражнения:
• ввжкелане
• разпределане
Изображения
Протоколи:
• Задаване на бланки
• Общи данни за защита
• Лични данни за защита
Срокове
Полезни връзки

□ 5. Назначаване на права за другите администратори за нанасяне на точки и съставяне на бланки за протоколи.

Администратор	Групи	Други права	През на п
Лабораторни упражнения			
Тема №			
пурок - доц. д-р Никола Йорданов			
+ 1	+ 2	+ 3	+ 4
3	3	3	3
3	3	3	3
3a	3a	3a	3a
36	36	36	36
77	77	77	77
Протокол за тема			1
			2
			3
			4
			5
			6
			7
			8

Права на администраторите - Windows Internet Explorer
http://ecad.tu-sofia.bg/tp7/admr-show.php

Администратор	Групи	Други права
Лабораторни упражнения		
Тема №		
Милка - доц. д-р Милка Ръсовска		
1	2	3
3a	3a	3a
36	36	36
Протокол за тема		
5		
6		
7		
Тема №		
пурок - доц. д-р Никола Йорданов		
1	2	3
3a	3a	3a
Протокол за тема		
3		
4		

Fig. 3.

ДИРЕКТОРИИ
Системна
ЛС
Учебен график
Форум
Контролни
Статистика
Анога
Учебна пр
Литерат
Полезни в
Лични д
Помо
ИЗХО

Статистика за най-разглежданите протоколи и потребителите, прегледали най-много протоколи

Протоколи						Потребители	
Собственост на		Упр. №	Брой разглеждания	Потребител	Брой разглеждания		
s56		3	13	s64	65		
s72		5	11	s74	61		
s57 - 1	s59 - 3	s60 - 1	s62 - 1	s64 - 1	s67 - 1		
		7	9	s71	59		
		3	9	s67	42		
		6	9	s73	42		
		3	9	s73	42		
		5	8	s57	26		
		4	8	s79	26		
		8	8	s50			
		2	8				
		5	8				

Потребителски профил - Windows Internet Explorer
http://ecad.tu-sofia.bg/tpm/profile.php?id=s64

Профил на s64	
Снимка	
Име	Диана Атанасова Недева
Фак. №	06033651
Група	47b
Лични данни	

Затворете

Fig. 4.

The rating of each student based on the points scored from the educational activity is being shown in real time (fig 5). It includes class attendance (lectures, seminars and laboratory exercises), report assessment, results from self-study and tests. The data is publicly accessible and facilitates to a great extent the objectiveness of the assessment.

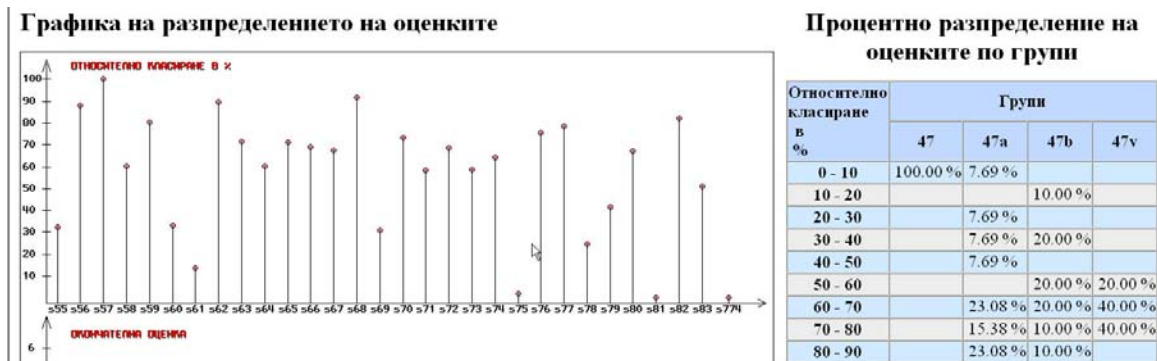


Fig. 5.

Some restrictive measures are implemented aiming to introduce some elements of upbringing. There are means for warning and censorship in many forums. The E-management system is also capable of warning and suspending the users of posting messages. Those restrictions are publicly visible.

The class attendances as well as the right to get signature for full attendance are also publicly visible in the corresponding to each type of class areas of the site.

There are other peculiarities but they have been described in previous papers or can be found in the help area of the site.

3. IMPLEMENTATION

Versions prior to v.6 were oriented mainly towards the leading lecturer. Some modifications of the system were necessary to be introduced in order to achieve centralized functionality of the E-management sites for all subjects.

The first peculiarity is related to the fact that different subjects are attended by one and the same students. The logical conclusion is to make it possible to load the lists of students for all subjects and synchronise the access. In the new version the students can login to any subject's site with their faculty number and only one password. Of course they can change the password if they wish to.

The general concept of the horizontal management was changed. Up to now each lecturer decided individually if the system had to be implemented in the specific subject and generated passwords for the students. Now all subjects have pre-installed sites with their syllabus and students have access to them, which is not initially controlled by the lecturer. In this way they can start immediately to use the forum and personal messages, so the lecturer is interested in using the system even at least within the minimum of its functionality. It is unethical and even "against the rules" to leave unanswered questions.

The ability to monitor the process develops further the concept of the vertical structure of the e-management system. The "superiors" that can perform the monitoring and only post messages in the forum are the officers from student's office (usernames a4xx), department authorities (usernames a3xx), faculty authorities (usernames a2xx) and university authorities (a1xx). All those users are visible by the lecturer and students.

The login credentials of those "superiors" do not depend on the lecturer and he/she cannot control them and they can have a look at the educational process related to the subject.

The third new feature is the definition of two types of lecturers with highest access rights. The first one is the lecturer, who has developed the subject and the second one is the lecturer, who carries out the classes during the current academic year. In many cases they could be two different persons and this is shown on the login page.

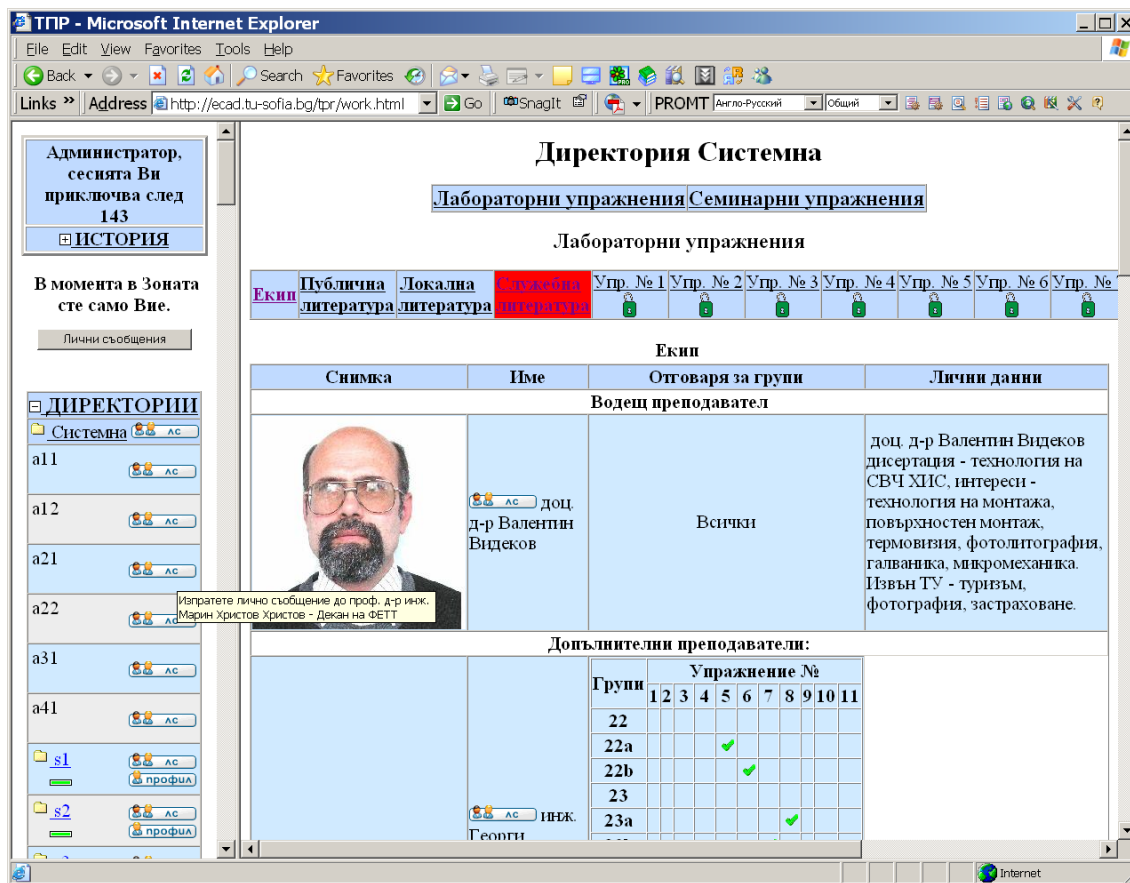


Fig. 6.

There are also some new technological and functional enhancements. Parts of them are related to the typing of text and obtaining information regarding the functionality of different zones of the system.

The second development is related to the embedding of a larger number of statistical data processing functions. For example one of them is related to the trial tests. The lecturer is aware not only of the number of trial tests and their results, but also of their average results or the average results of the last couple of tests, the number of which can also be defined (fig. 7).

Статистика за тестовите контролни на s75 - Румен Кирилов Тодоров, гр. 47а

Дата и час	Време	Точки	Маркирани отговори	Стрелени отговори	Брой въпроси и отговори към всеки	Брой отговори с положителни точки
Контролно № 4						
23.5.2007 г., 00:09:48:3	48:3 мнв:17 сек.	24	10	3	10 x 5	7
23.5.2007 г., 00:16:16:3	16:3 мнв:41 сек.	24	16	8	10 x 5	6
23.5.2007 г., 00:21:25:3	21:25:3 мнв:19 сек.	39	13	4	10 x 5	7
23.5.2007 г., 00:26:26:3	26:26:3 мнв:23 сек.	33	12	4	10 x 5	7
23.5.2007 г., 00:31:37:4	31:37:4 мнв:3 сек.	46	14	3	10 x 5	8
23.5.2007 г., 00:37:02:4	37:02:4 мнв:24 сек.	35	14	3	10 x 5	8
Среден резултат:		61.11	% грешни: 16.08 %			
Среден резултат (последни 5 контролни):		79	% грешни: 7.87 %			

23.5.2007 г., 09:47:28:2	79	21	3	10 x 5	10
09:53:40:1	80	21	3	10 x 5	10
09:56:01:1	77	17	1	10 x 5	10
09:57:50:1	87	17	1	10 x 5	10
10:00:19:1	71	17	1	10 x 5	10
10:03:02:1	80	18	1	10 x 5	10
10:06:40:1	80	20	3	10 x 5	10

Общо 53 контролни.

Fig. 7.

Using that function one can trace back the process of self-study, the increase or decrease of the results during some period of time. Having in mind the number of wrong answers and those with positive results, one can get a general idea about the knowledge of the students. For example the tables above reveal results about trial test No. 4. The student has carried out 53 tests and during the last 5 the score is higher. But maybe more important is the fact that the percentage of wrong answers goes down and the number of positively assessed answers is going up. Of course there could be some doubts about the conditions when the first tests were carried out (late

in the evening or after midnight). At the same time the last tests could have been carried when the student had not been tired.

4. CONCLUSIONS

The work that has been carried for the implementation of the E-management system revealed the necessity to change some concepts. At the same time the functionality was improved, which made the system easier to use.

The organizational activities were enhanced as well as the one for the statistical data processing. In this way the system could gain more admirers.

5. AKNOWLEDGEMENT

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6. REFERENCES

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