

ONLINE QUIZZES, AN APPLICATION OF PHPTRIAD AND MySQL[★]

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In this paper we describe an assessment quiz tool and how it has been integrated in our lecture courses of physics in a powerful way. Our experience demonstrates that this computational method appears to be one of the most preferred modes of instruction. The topics within the quizzes make them an efficient tool. The web-design and database are elaborated using PHPTriad and MySQL programs. PHPTriad is a powerful program that contains the main modulus composed by a server running in Apache, the connection with the database which is elaborated in MySQL and, also, the connection with the web-design through PHP-html. MySQL is recognized for superior ease of use, performance, and reliability. It is a program designed for the creation and administration of databases. It provides security to the online quizzes which are password protected with Java Script. The online quizzes are designed to remedy some of the students' deficiencies and help them to their homework. The online test is a reliable tool for the content and structure of students' knowledge of physics.

Key words: on-line quizzes, PHPTriad, MySQL.

INTRODUCTION

The years of experience [1–6] has demonstrated that the computational programs are powerful computer-based instruction systems. Also, the computerized homework assignment helps students to learn and solve homework in a new way. From our experience we have concluded that students have a little fear of what is behind the equations that describe the physics phenomena. Also, they come from high schools with an established view of both the physical world and learning and, also, they have poor math' skills. But physics relies heavily on mathematics. An interesting question arises: what are more important, converting words and events into mathematical concepts or have a good understanding of

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physics phenomena? Our opinion is that both of them are important and strongly connected one to other.

Also, of great importance is processing data using the computational methods because this helps students to learn the entire material presented at the course and to all degrees. Also, simply collecting the data without using computer tools for processing them is not a good motivation for obtaining performance in the learning process in our physics laboratory. The discussion of the content of physics course and making some practice applying the online quizzes can be an easy way to learn physics. For this reason we decide to use these online quizzes destined to the work at physics course and seminars and, also, from homework.

Because of the multiple topics and difficulty levels which are connected to the content of our physics course, the online tests make the students to learn the material as a whole.

For elaborating these powerful computational tools we use performant and reliable programs like PHPTriad and MySQL. These online tools are implemented in our course of physics and seminars and, also, used from homework tools like a computational method of physics learning.

ONLINE QUIZZES

From year to year the computational methods [1] become more acceptable tools for diagnosing students' knowledge and, also, helping them to understand the content of our physics course and seminars and solve homework. An interactive pedagogy constructed around current internet technologies, is one of the few approaches that has been shown to produce positive cognitive gains.

Also, our experience in the field demonstrated that "testing physics" using computational methods is a good tool for diagnosing the content and structure of students' knowledge of physics. Traditional ways, without including some online quizzes and without using computational methods are inefficient and ineffective for promoting true physics expertise. The discussion of the content of physics course, the discussions between students and making some practice and solve homework applying the online quizzes can be an easy way to learn physics. Construction of knowledge requires a well defined activity. Because of these, we permanently improve our physics content knowledge and we focus our attention to the acquisition of new computational programs. We are endowed with a powerful methodology for developing students' abilities to understand scientific claims and use some computational programs that describe, evaluate, design and simulate physical phenomena. In this way, we succeed in attracting students' attention and they can handle with the content of the physics courses and with some computational programs. At the end of the course, seminars and physics

laboratory we want our students to understand the physical phenomena and to transfer the ideas and skills.

We propose the online quizzes [2] that can improve the instruction and, also, develops the students' abilities. The questions and exercises have been written for topics from introductory to advanced physics and are limited to the chapters of our physics course. Also, we want to bridge the gap between the equations that describe the physics phenomena and these phenomena.

The online quizzes are added to our course and seminars and released to students. This year the functionality of the online quizzes has been greatly extended to our students and we obtain good results. This test is given after a half of course and as a post-test surrounding the physics course and evaluates the improvement in their conceptual understanding. Also, the students have the possibility to handle with the online quizzes at seminars and solve homework. We observe a good improvement in students' knowledge of physics. Students have to become familiar with the various settings available in the quizzes tool, analyze the quizzes, and select the correct answer. They have allocated a few minutes for giving the correct answer at every question. They can organize their knowledge to be useful.

The online quizzes have been implemented like a computational method in our physics course and seminars and for homework. We present the online quizzes. The web-design and database are elaborated using PHPTriad and MySQL programs. PHPTriad is a powerful program that contains the main modulus composed by a server running in Apache, the connection with the database which is in MySQL and, also, the connection with the web-design through PHP-html. MySQL is recognized for superior ease of use, performance, and reliability. MySQL is a program designed for the creation and administration of databases. It provides security to the online quizzes which are password protected with Java Script. From different types of questions we choose the multiple choices. MySQL program gives to our students the possibility to choose the correct answer between three choices. Also, the online quizzes architecture allows the students to see all the questions at once.

For starting the online quizzes the next steps are required: we start running the web and BD servers: START -> All Programs -> PHP Triad -> Apache Console -> Start Apache, START -> All Programs -> PHP Triad -> MySQL -> MySQL - D and START -> All Programs -> PHP Triad -> MySQL -> MySQL - D - NT.

After this we launch the Internet Explorer and write in the address box <http://localhost/cadastru/index.htm>. Because the access to the online tests is password protected the students have to register firstly and give a password. Also, after this they are asked for retying the ID and password. Now, they can access the online quizzes.

The students are asked to pick up the correct answer at the questions of the online quizzes rapidly and to mark it into a dialog box. To do this they have an allotted time and, also, if they fail, we indicate them the correct answers. Also, MySQL allows the students to revisit any question or exercise but force them to give finally an answer to each quiz. When they give all the answers the online quizzes has a report of student responses and they have the possibility to view their score. To do this they need to type in the Internet Explorer address box <http://localhost/phpmyadmin>. In the database which is called “cadastru” they have to access the table “rezultate” and click on the box “navigare”. Here is posted the table which contains the score for every student. For the perfect score which means that they give the correct answer to all the quizzes the students obtain the mark 10. All the other marks are calculated proportional to the number of the correct answers. The online quizzes can score multiple attempts and finally we average the attempts.

For homework, the online quizzes can be used in the same way. The exercises are directly connected to the content of our seminars and the online quizzes are also password protected. They are also constructed with the PHPTRIAD and MySQL programs and need an Apache server. The short exercises have three choices and only one of them corresponds to the correct answer.

The online quizzes can be also used with a connection through the internet, not only accessed on a local server. In the future we want to put them on our webpage and give to the students the possibility to access it from their computers. In this case the online quizzes will be also password protected with Java Script.

In the Fig. 1 we present the home page for the online quizzes. Here are posted some information about the online quizzes and on the left side there are four dialog boxes for the registration and account and for accessing the quizzes. Also, is given the e-mail address of the professor.

In the Fig. 2 one gets the second page with the registration. Students are asked for giving an ID and a password. After this they have to retype the password, give their last name and first name and some information about the year of study at their faculty and about the number of the study formation. In this way, after they have given the answers at the quizzes they have are allowed to check their score in the database called “cadastru”, in the table “rezultate” by clicking on the box “navigare”.

If they do not complete the registration form they do not have the possibility to access the online quizzes. Also, they do not access the quizzes without retyping their ID and password.

In the Fig. 3 is presented the page for retyping the account and password. Now the students are allowed to log-on and begin to answer at the online quizzes.

Also, in the Fig. 3 we present the page for retyping the account and password.

CONCLUSIONS

We are sure that the structure of the online quizzes determines the success of evaluating our students online. Using powerful programs like PHPTriad and MySQL we are able to endow the learning process with reliable tools for students' diagnosing likes the online tests.

For the online quizzes the web-design is realized with PHPTriad and the database is elaborated using MySQL. The questions used in quizzes are stored in the database. The online quizzes are password protected and the architecture allows the students to see all the questions at once. MySQL allows the students to revisit any question or exercise but force them to give finally an answer to each quiz. The online quizzes can score the attempts and finally has a report of student responses and they have the possibility to view their score which is stored in a database.

We can create comprehensive and challenging quizzes only writing clear and concise questions and organizing them to be directly connected to the structure of our courses.

We have developed a program of administering computer-based quizzes designated to develop students' skills, help them to solve and test their homework and, also, establish a percent of their final grade. In the future we want to guide students' studies in an efficient way and asses them to improve their knowledge.

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Fig. 1



Fig. 2

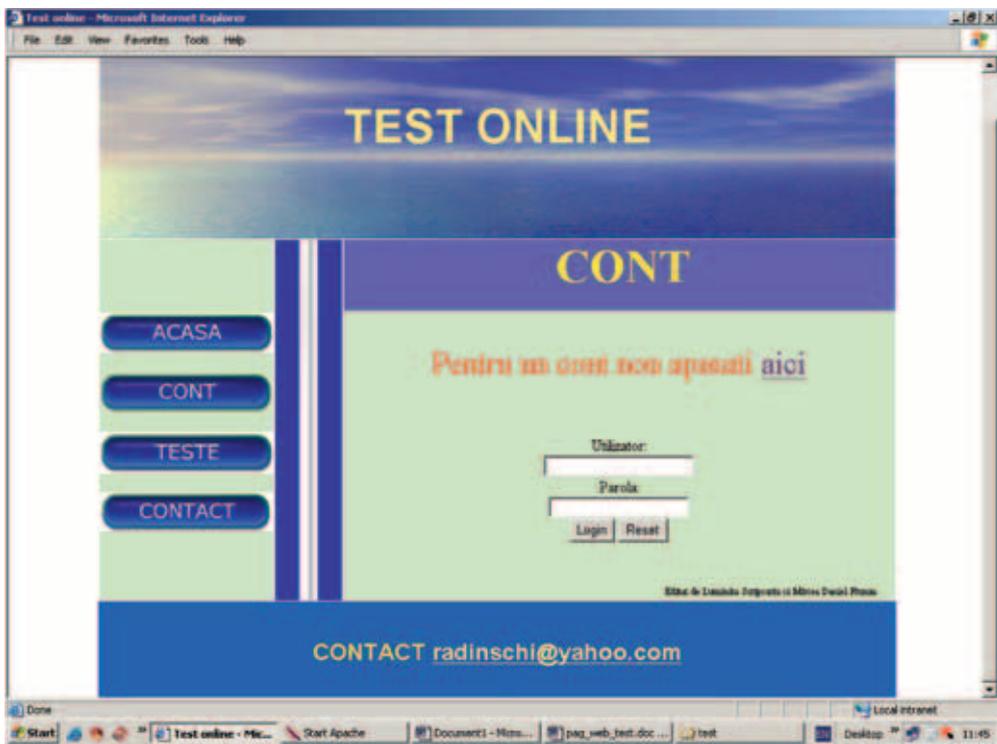


Fig. 3