THE SOFTWARE INTERFACE FOR PRE-SELECTION OF THE USER QUALIFICATIONS

The learning process by Internet needs various interfaces used for current knowledge analysis. The elaborated unit allows the user to make a simple check-up of his present qualifications. That is useful for indicating the adequate resources, the most suitable for his next learning process, within the Internet Distance Learning University. This interface can provide the user with a static information data and dynamic sequences of the e-content, as well.

1. PRELIMINARY TEST OF KNOWLEDGE

Process of learning is an element, which suitable form can give amazing results in a short term of time. The obtained knowledge gives opportunity to solve different problems which can be met not only during work, but also in life. The development of network technologies let to learn bigger and bigger groups of people. Fast and efficient network allow to transfer huge amount of data (including graphics, sound and video animation). These fast connections give us obvious and well-know advantages of distance learning: watching lectures on-line (video transmission) and saving time on travelling to university. Virtual university allow students to learn in any time and place they want (of course if they have computer and access to internet). Speed of life is increasing all the time, so people want to save every second they can—that way they want to use distance learning methods. Here comes the problem: how to adjust the level of lectureknowledge for each student (That obvious that is not recommended to provide all students with the same portion of knowledge, because it takes risk that good students would be provided with not enough detailed material for them and bad students would get too complicated one). That is why the preliminary test is recommended. Single choice test are not enough good solution and it is better to use multiply choice test (these tests are reliable and allow to find “black holes” in knowledge of student). But there is one disadvantage of that solution: right now it is almost impossible to be sure that person who is answering the questions is the person who should be. However the problem is under work, so it should be found solution soon.

Lately it has been enclosed new module to CKD platform, which allows check the student using preliminary test (single and multiply choice tests). The module base on PHP and SQL database.

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2. ADMINISTRATOR PANEL

The Administration unit, which is responsible for creating and managing tests, has two types of users.

User ‘ADMINISTRATOR’ is able to add and delete:
- subjects
- users (they can create own tests and add questions to database)
- range of IP addresses (it allows to solve tests only from computers which have IP address defined in database)

The other type of users is ‘TEACHER’ who also can add and delete:
- questions
- tests
- IP addresses
- courses (smaller part of subjects)

3. TEST PANEL

Test panel is a unit which is responsible for process of testing students. To use this part of system user is obliged to log in to the system and choose one of the tests. IP address of user’s computer must be in the range of allowed IP addresses. Of course, there is a time limit for answer. Student is allowed to move to next or previous question. After finishing test, student is provided with statistics concerning correct and incorrect answers. Then the result is saved into database, where can be browsed by teacher.
4. ELEMENTS OF ADMINISTRATIONS PANEL

4.1. USERS

Administrator of the system is able to create accounts of new users (teachers) and modify their data and list of available subjects.

4.2. SUBJECTS

Administrator can add new subjects and link them with teachers (so they are able to edit them).
4.3. IP’S RANGES

System provide teachers with mechanism which allows to control the computer on which the test will be accessible (it uses checking the IP address of computer and compares with range of IP’s from database). It preserve from access to the test by someone who is outside the classroom (and could answer instead the student).

The most frequently uses addresses are saved in database and can be use during creating another test.

![Fig. 6. IP’s ranges](image)

5. ELEMENTS OF TEACHER PANEL

5.1. QUESTIONS

Teacher is able to browse questions which are assigned to one of the subject. The questions can be browse in two modes:
- preview – just like during test,
- data – all data concerning question are visible

Creating new questions is needed to give full information about question: subject, type (single or multiply choice), number of answer and optional link to other question (to the question which should be shown if the answer is correct).

![Fig. 7. List of questions](image)
5.2. TESTS

It is not needed to prepare tests every time that teacher wants to use them, because every test is saved into database and can be use any time is needed. The test’s record contains following data: number of questions, time, IP’s range from which is accessible, previous and next question, date of test, test’s activity (it is visible or not on the web page), subject for which test is designed.

![Fig. 8. Test’s list](image1)

5.3. TEST’S RESULTS

After finishing test by students, teacher is able to browse and print the result of selected test (or any other from the database). There is also possibility to calculate per cent rate into marks using declared scale. Printing is allowed in tow modes simple and advanced.

![Fig. 9. Results of test](image2)

5.4. COURSES

Every subject can consist from many courses. Teacher is able to group question into different courses. System can choose randomly question from the selected courses. It is possible to define proportion of questions from selected courses.

![Fig. 10 List of courses](image3)
6. QUESTION PATH

Each question can point at another question (if user choose defined answer he/she will get defined question instead of random one). In that way, teacher can define question path, so it gives a chance to ask student about more details (so teacher can be sure about student’s knowledge).

7. SUMMARY

Use of preliminary testing, make easy to choose group of good prepared students, and also give many opportunities, to provide students with help during exams. Preparing test needs much less time than oral exam for numerous group of students. The special algorithm eliminate “shoot method” from answering the questions (there are negative points for each wrong answer).

Using Internet offer possibility to exam numerous students and eliminate time needed for journey to university.

Questions can contain both image files (GIF, JPEG, PNG, BMP) and multimedia files (SWF) – it increase presenting power of questions.

BIBLIOGRAPHY

[3] PIECHA J. Principles of e-learning applications characteristics and evaluation procedures Distance Learning Workshop DLW’04 Sosnowiec 2004