University "Goce Delcev" - Stip

Expected functionalities from the work-packages WP.1 and WP.2 proposed in the Tempus project iKnow

WP. 1.1 eEnrollment process

We think that the key point in this system should be creation and development of database of all high-school students in the country (further global database). This database should be managed and updated by the Ministy of Education and Science of Republic of Macedonia (further MESRM), but the data should be available to all universities during the enrollment.
In this subpackage we expect close interaction among the Universities in the country and the MESRM.

➢ The database should contain:

- order number (generated by the base)

- name

- surname

- father's name

- identification number

- date of birth

- place of birth

- municipality

- state

- address

- place

- municipality

- state

- type of examination (state, school, completed examination)

- contact (a box in which you can put the phone and e-mail)

- average grade from high school listed by school years

- points from state exam (internal, external courses and practical part)

- possibility to filter the marks of the respective subjects in relation with the specific

study program, for high school graduates who didn't take the state exam.

➢ The global database access has to be restricted only to authorized users who have a valid username and password.

➢ The students access the enrollment process through the homepage of the University via web application where they log in using their ID. Then, they choose a

faculty, academic program and method of studying (state quota regular student, co-financing, working and studying). The created interface allows downloading of data from global to local (University) database and its use in the application form for enrolment of students on the University.

➢ In the same time the local database generates an evident number in accordance with the chosen faculty and study program.

➢ The members of the enrollment commission verify all the entries for high school graduates who applied to the University. In the same application there should be a mail form, needed for informing the candidate about the evident number and state of his file in terms of completeness. If the documentation is not complete, the candidate will be informed that he or she should supply other documents, additionally.

➢ The web application can provide ranking of the candidates in real-time. The ranking update will be on certain time period (e.g. 1 hour or shorter).

➢ After the enrollment deadline, the application should enable fast and efficient way of creating different kinds of reports with ability to filter certain groups (state quota, co-financing, working and studying). The University home page should provide a mail form, which applicants who complain (object) submit to the enrollment commission. After the review, the commision responds to the candidate.

➢ The application should be able to send ranking lists to each registered candidate on the e-mail, which he or she provided as a contact. The application should allow the allocation of candidates who do not qualify for entry to the chosen study program in separate ranking lists. After completing the review of complains and all three deadlines for registration, the data will be deleted.

WP. 1.2 eStudent activity

➢ The university should implement a unique system that will provide accurate registration of all student activities. The students with their tokens or electronic cards can access all student services and all components of the system.

➢ Each student should have electronic file or e-index where all his or her activities will be registered (enrollment and validation of the semester, registration of examinations, grading, number of credits gain, changing method of studying,

placing the study in standby, unsubscribing, changing the faculty or study program, etc.).

- ➢ The application should be web oriented, so that students could have access to their electronic files. The application should be installed on some university server and it can be accessed from the web site of the Faculty in which the student is enrolled. Access to this application is restricted to the staff of Student Affairs, partly professors (for example when an electronic registration form need to be filled) and IT administrators.

- ➢ The application should provide electronic registration of the student's exams, and this form should contain the name of the student, index number, selection of the subjects that he or she wants to take. There should be a possibility of selecting those courses which the student attended and subscribed in the certified semester.

- ➢ On this way, the electronic applications will be filtered by subjects and instructors and then they will be send to the instructor's e-mail, which he or she will fill in and sign electronically.

- ➢ The application should have a form in which the student would be able to enroll the semester or to verify the semester. This form could be filled out only by student who has received a sufficient number of credits for enrolling the semester, otherwise the application should not allow opening of this form.

- ➢ The application should provide opportunity to select optional subjects in accordance with the study program. After the deadline for enrolment of the semester, the application should distribute the enrolled students in different groups (state quota, work-study, with co-financing, with special rights). Also it should distribute the students with less credits than the minimum prescribed for enrolling semester in different groups (state quota, work-study, with co-financing, with special rights).

- ➢ On this way the system will rank the students in alphabetical order, e-index number in order to divide the students in groups, quickly and efficiently for the teaching process.

- ➢ Entering into the premises of the University or Faculty, the students should register with their electronic cards and each of their registration would be recorded in a database system for registration. Using this system, the activities of the student would be controlled easily. On this way, the Professor and the TA will know whether the student attended the class, whether he or she logged on a computer and when he or she left the class.

- ➢ Very important function of the system is to provide preparation of reports for a very short time, which the management of the University could use for multiple purposes such as internal evaluation, statistic review, external control etc.

WP. 1.3 eStudent Identification

This functionality should provide the design and delivery system that will provide authentic identification of the student.

- ➢ With enrollment on University, every student acquires electronic card. With this card using the **user name** and **password** students access their personal documents (e-index, student e-mail, platform for e-learning etc.).
- ➢ Access to these services should be reached through the university website or from the website of the faculty where the student is enrolled. There he or she will find all web based applications on his or her disposal, each having its own entry form requiring student's **user name** and **password**.
- ➢ Student's e-card is certified with a certificate issued by the local authority. Besides the aforementioned, certificate card contains username and password of the student.
- ➢ Student's password initially will be assigned automatically and then the student, after the card activation can change it.
- ➢ The electronic cards will provide access to other university services such as libraries, some databases, scientific journals (if available) and others.
- ➢ The use of electronic cards provides a high degree of authenticity and unique identification. On this way we protect university resources (databases, applications, etc.) from external unauthorized access and misuse of electronic content.
- ➢ This system will allow a quick way of preparing reports and record data related to more system functionality.

  For example, at any time, the student can know which content of the library has been issued and when is issued, what is the deadline for returning and if the deadline is passed, automatically gets warning via email which will remind him or her to return it.

WP1.4. eStudent services and LMS

This system feature will provide functioning of all components of the LMS.

- This web-based application can be accessed via username and password from the University home page or by faculty website. The access is limited only for University's employees and students.
- This application includes tools for collaboration, e-learning platforms and other applications that would be used by the instructors and students during the implementation of the educational process.
- The previous point stresses the importance of e-learning platform and electronic libraries where students can access the learning content and will get a complete overview of the activities and tasks planned for the semester.
- This system should provide a quick way of getting reports and recorded data related to multiple sytem functionality.

WP 2.1 eAssessment Management system

This system should include a platform for e-learning, which will manage courses, manage student assignments and activities and their evaluation.

- The application will contain the platform for e-learning. E-learning platform should be web based and it can be accessed with a standard **log in** form. Here, teachers will create courses and they will attach electronic content.
- Besides aforementioned, the application should provide forms through which students will pursue the activities proposed in the curriculum (writing papers, essays, projects, organizing quizzes, forums, blogs). All these activities and content can be divided by topics, hours, weeks.
- The application should allow automatic update of all content.
- The courses should be flexible and the teacher should have opportunity to change the already established facilities in order to improve the quality of the course.
- This application should allow online communication among students and teachers.
- All student activities should be available on the application (platform for e - learning). The instructor should be able to read, correct and evaluate this content (activities). The assessment should be given in a separate table where each activity will be evaluated quantitatively by score the student gets. Also the application should take care about cumulative score from all activities. In addition to the classic exams, this application will enable electronic exams. It should be especially efficient for quizzes as a form of testing knowledge, enabling automatically review and evaluation of knowledge. Results of electronic exams should be located automatically in the aforementioned table.

> Sometimes there is no ability for electronic assessment. Therefore the system should allow manual input of results from classical exam in the same table with scores of other activities.

> This system should provide limited insight, where the student can survey only his (or her) results.

WP. 2.2 Europass CV, EKTS and Diploma supplement

> This application should be web oriented and could be accessed with username and password. In this part of the application only the professor or the teaching assistant can make changes. The student will be able only to view his record.

> This application should provide input of the activities for the student. Student scores of presence on the exercises and lectures (recorded by registration with electronic cards), scores of term projects, and midterm exams will be summarized in order to determine whether the student is qualified for the final exam. Based on that, the application should have function to create lists of students who could correct some of the activities and to send that lists to the corresponding instructors (teachers).

> Upon the completion of all corrections of the activities, the application should perform recovery of old data and to report whether the student get permission to take a final exam or his (her) results are not satisfactory and need to take the subject again the next year.

> The application should sum up the gained credits for the exams, which the student passed. Enrollment in each subsequent year is conditioned on the number of credits, so on this way the application should generate a list of students who are able or not to enroll the next year.

> There might be prerequisites between some subjects. This means that signing up for taking an exam is conditioned by another previously passed exam. Therefore this application should allow searching in the database for student's data and if the student wants to take an exam, and does not fulfill the prerequisites, the application should give him/her an explanation like a message on the monitor.

> Each university has its own grading policy and according to the gained scores, each student gets an appropriate final grade. The final score is sum of scores from the term project, quizzes, midterm exams, attendance of lectures and final exam. If the student is on "work-study" method of studying, the final score is just the score of the final exam. The application needs to take scores from the score-grade table and to determine in which rank they are for forming the final grade.

➢ Application should be able to calculate GPA (grade point average) and provide a quick and effective way to issue a certificate for passed exams and gained credits.

➢ This application should allow creating student's Europass CV. Each student at the University, will have access to this application using username and password. The personal student's data will be transferred from the e - index, and the skills and qualifications will be modified by the student or by the professor. These data should be visible at any time, but also there is a possibility for attaching other Europass documents, certificates and diplomas to the CV.

➢ The application will update the data for each student regularly (for a certain period of time). Also, it should provide a template in which, using personal student's data and grades from passed exams, will print a diploma for every student, as well as certificates for attended training courses and seminars.

WP. 2.3 Register of eSkills and certificates

This system functionality will allow teachers and staff access to the data that exist for students in the university information system.

➢ Opportunity of the faculty management and staff to provide authorized access to all official documents of the student with all grades from passed exams and other certificates of acquired knowledge and skills.

➢ At any time should have access to information for all students, those who are active, those who quit the faculty, those who put studies on hold and others.

➢ And for those students who have already graduated (alumni) there should be a database where their records are kept.

➢ The quick and simple way for gathering all necessary information from the student's file which will be included in the diploma and the diploma supplement.

➢ If a student within the university attended and successfully completed certain courses, the system should automatically print certificates. It should have feature to send this certificate directly to the email of the student.

➢ The system should provide the ability to prepare summary reports of all previously mentioned features. It should also have a functionality of recording, statistical reporting, implementation of internal and external evaluation, and more.