

## NEW FORMS OF E-LEARNING: E- PORTAL OF SECURITY ENGINEERING

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**Abstract.** The main focus in the preparation of electronic portal „E-portal of Security Engineering“ is to establish web learning system, which is going to be a new tool in the learning process for students and professionals in fields that focus on security studies, safety studies and crisis management. E-portal will prepare connections among students, teachers, professionals and experts. We assume that this new E-portal is a very good continuity and extension of 4E-trainer and EIT projects. This interface will bring qualitative improvement for students during the learning process and we expect them to be more active in both professional and scientific work. They will be provided with the possibility to compare actual questions and problems in other institutions, in scientific and professional environment and teachers will be able to get feedback from professionals, colleagues and students.

**Keywords:** E-portal; E-learning; Security Engineering; 4E-trainer; EIT.

**Short title:** Forms of E – Learning

### Introduction

In the 21st century the traditional way of teaching only from books and printed materials is not sufficient anymore. While in the past the content of printed material was relevant for several years, nowadays everything is changing much faster. The expansion of the internet and the development of transfer capacities afford new forms of information resources for studies and students preparing for them.

In the past, most common resources of information were printed materials. Every year member states of the EU print several dozens of journals, magazines, books of abstracts from conferences and seminars in such fields as security and crisis management. The biggest disadvantage regarding education process is the time difference between the two following issues. Better possibility is the interval of three months (scientific and professional journals), but the worse possibility is twenty-four months (several international conferences). Second biggest disadvantage is the limited number of possible readers and limited feedback received from them, which is very important for self reflex of the

author. This weakness can be seen in graduation works of bachelor and master students. Very often they prepare very valuable works, which are hidden from the wider number of individuals that have interest in these areas.

The disadvantages mentioned above were partly eliminated by the new forms of education, for example traditional view of the e-learning. E-learning nowadays is made of several separated platforms and many separate educational institutions. After several years of experience it can be stated - this system has disadvantages. The main disadvantage is the number of users sharing the information. The limit is made by the institution, categorizing the worst and the best students of the year or sometimes even the subject. Usually, students and teachers from other institutions or professionals cannot accept the system. The other disadvantages regarding the classic form of e-learning are decentralization, duplicity, incompatibility and unavailability.

Based on practical experience in our faculty it was decided to establish our own portal, which would minimize the mentioned disadvantages and would be a very good extension and would

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continue running the projects 4E-trainer [1] as well as EIT [2] in which we are involved. This new portal will join all the possible advantages and will be based on a new platform of web learning system, which offers a lot of new possibilities.

## 1. Goals of preparing project “E-portal...”

The main goal of preparing the project “E-portal of Security Engineering and Crisis Management” is to establish and to develop electronic portal, which should provide users with the possibilities of obtaining information, learning, publishing professional and scientific papers, presentations and posters, discussing actual and published problems. It should also notify about the new problems and challenges in the security and to be one of the main resources of current information in the security [3-5]. Users of the E-portal should be students (mostly students of university), teachers, scientists and professionals in fields that focus on security engineering, safety studies and crisis management, as well as emergency management and transport in crisis situations.

The main goals of E-portal will be divided into two major fields of interest.

1. Security studies – space focused on crisis management, emergency management, risk management, national and international security and security engineering in general [6-7].
2. Security of individuals, property and information – space focused on private security, protection at work, techniques and technology of security in several fields, fire protection and problems in information systems [8-9].

Partial goals of the project will be divided into several years (depending on agency’s proposal), step by step preparing E-portal and they will be created of following gates (sections).

*Gate 1: Security magazine.* Space designated to publish papers, presentations and posters from the two major fields of interest.

*Gate 2: Student’s Projects.* Space designated as an archive for student’s final works and thesis (subject, semester, bachelor, master and dissertation) and also for works of students’ scientific competitions.

*Gate 3: Dictionary of Terms (Glossary).* The establishment of the glossary in security and crisis management with interactive search. It will be based on a wiki-tool with easy and direct access and possibilities of adding new terms and discussing them.

*Gate 4: Newsletter.* Space designated to publish new links about activities that are being prepared, actions and news in security.

*Gate 5: Blogs.* Every active user will be able to establish a personal blog, space where views, experiences and knowledge could be presented and shared with the other users of E-portal and public.

*Gate 6: Movie Databank.* This gate will consist of the space designated for audiovisual presentations from conferences, excursions, practical exercises and measurements.

The above mentioned six gates (sections) of the electronic portal will be expanded by useful links with other activities associated with education, professional possibilities (links with companies in these fields, companies and schools offering scholarships, internships and possible work places, partner universities

and other possibilities such as Erasmus, CEEPUS, SAIA, etc.) Authors strongly believe that this idea should be spread all over the EU, for the beginning we would like to run the first version of the portal in several languages of potential partners of the project (Slovak, English, French, Spanish, German, Italian, Dutch, Portuguese, Lithuanian, Polish and Czech).

In the first year of the realization of this project, before preparing bases for all the gates, it will be necessary to prepare data capacity (web hosting), graphical design. The view that is suggested on the web-page of preparing E-portal of Security Engineering is showed in Fig. 1. Administration of the portal (administrator, access rights, “user friendly” interface, etc.) must be realized. During the next years (3) it will follow software implementation of gates to the portal. At the end of the project period the main focus will be on publicity of the portal, single gates (what is where and how to use) and on the sustainability of the E-portal for the future.

For now the next step is to establish cooperation with possible partners, institutions (universities, schools, companies, organizations and other institutions). They should be a part of individual gates (1,2,4 and 6). The main target is to have one representative from the field of security from each country of EU. For now we have partners in these countries: Austria, Czech Republic, France, Germany, Italy, Lithuania, Nederland, Poland and Portugal, other states and representatives are more than welcome.

## 2. Proposed realization of the project

The first step of creating E-portal will be the creation of web space (renting), e-mail addresses and domain. The next step will be to choose *Content Management System* (CMS) followed by graphical design. Every gate of the system will contain of several levels (reading, publishing, editing) depending on users rights. In the system there will be several groups of users (user, moderator, editor, news publisher and administrator) and depending on their rights they will be allowed to change and correct the content of E-portal. Proposed implementation of E-portal gates (sections) are presented as follows.

*Gate 1. Security magazine.* Space designated to publish papers, presentations and posters from field of security engineering. The magazine will be divided in to scientific and professional sections. Qualitative level of magazine papers will be guaranteed by the editorial board of the magazine, it will be composed of experts of security engineering from all over the EU. Authors’ ambition is later to move this magazine into a journal, to become a part of the citation index and to be in the database of electronic journals. The magazine will be printed annually.

*Gate 2. Student’s Projects.* Space designated as an archive for students’ final works and thesis (subject, semester, bachelor, master and dissertation) and also for works of students’ scientific competitions. Every published work will be confirmed by the author and also the presentation will be added. Qualitative level of all works will be guaranteed by supervisors of the works and committees of scientific competitions.

*Gate 3. Dictionary of Terms (Glossary).* Process of preparing and creating the glossary will be divided into two steps: 0 and 1.

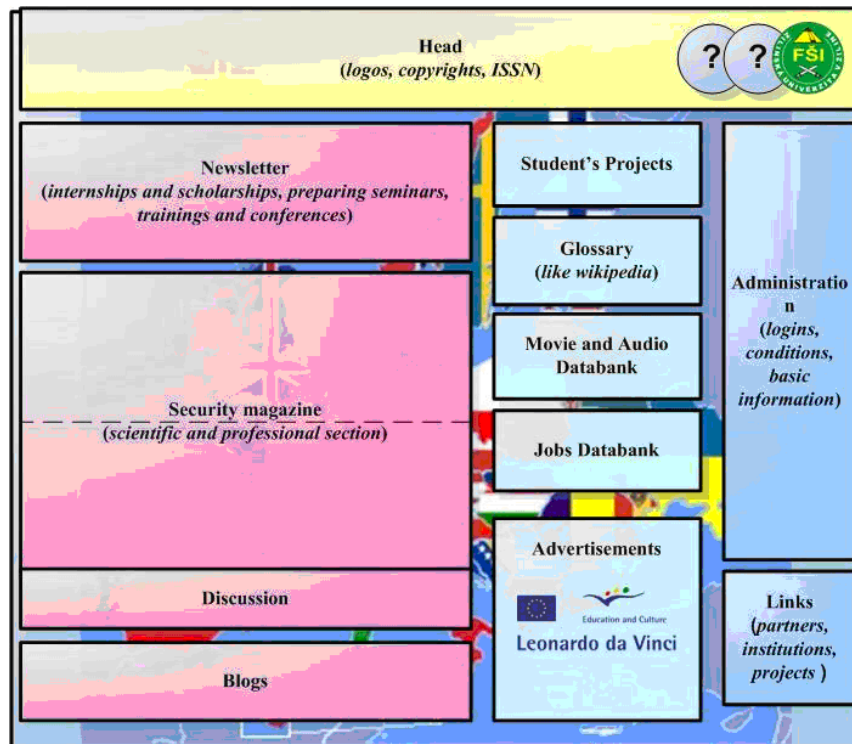


Fig.1. Suggested view of the web-page: E-portal of Security Engineering

0. *Analysis* – the analysis of E-portal solution related to glossary; possibilities of editing, editor *wysiwyg versus* text only editor, prepared by wiki-tool; possibilities of searching (internal or external); database (form, structure and different user levels).

1. *Implementation* – preparation of database, implementation of interface for users (easy, fast and direct), design and searching engine; implementation of editor (hypertext, links of words, pictures).

*Gate 4. The Newsletter.* Newsletters will be space designated to publish new links about activities being prepared, actions and news in security and also about possible internships and scholarships, preparatory seminars, trainings and conferences. Every active user of the portal will be able to send recommendations to the newsletter. Editing will be based on the rights (user, moderator, news publisher).

*Gate 5. Blogs.* Every active user will be able to establish a personal blog, space where views, experiences and knowledge could be presented and shared with the other users of E-portal and public.

*Gate 6.* Processed audiovisual materials will be accessible through FTP (File Transfer Protocol) for all registered portal users.

Verification of the project and portal impact will be grounded on the base of statistics of portal access and also of sections. Primary marketing search will be surveyed based on few basic questions depending on the target group (students, teachers and

professionals in the field of security).

## Conclusions

The contribution of proposed E-portal consists of the progress of information knowledge in the field of security engineering and in creation of new resources of information for students, teachers and professionals. The practical aspect of this E-portal will be the centralization of resources in one place, where the possibilities to have professional discussions, evaluate published articles, promote seminars, conferences, competitions, insert personal blogs, publish students' works and step by step form new information sources will be provided. Users will be able to search relevant information about scholarships, internships and possible work places in the fields of security and crisis management. Separate contribution of the E-portal will be professionally specialized glossary in security and crisis management, with interactive search. It will be based on wiki-tool with possibilities of adding new terms and discussing them. The mentioned project will be a very good extension and will continue running projects 4E-trainer [1] and EIT [2].

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