

MODERN TRENDS IN EDUCATION ON THE FACULTY OF GEODESY

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ABSTRACT: Faculty of Geodesy has started to use information technologies very early. The first web pages of the Faculty were installed in 1996 on the public computer of the University Computer Center. In the meantime, the Faculty got its own web server (geodet.geof.hr) and that has significantly increased the usage of network services. New educational plan and program is extensively turned to new technologies. The establishment of LAN on Faculty has activated further acquisition of web contents for students. All students design their own web pages during exercises on college Geoinformatics II. For the students of II., III. and IV. year at the subject-oriented field "Engineering surveying and spatial information management" there are different literatures on web (e.g. books, seminar works, diploma works). The distant view of student's examination results is possible. Also, some exercises in different colleges at subject-oriented field are based on network resources. Communication with users is accomplished through a web interface that enables users to ask questions, give suggestions, comments etc. It is very important for the faculty staff to constantly be in touch with new technologies and to use them in education as well as possible.

1. Introduction

On the occasion of the exhibition "Znanost u Hrvata" in 1996, the greater use of information technologies started through the support to all faculties in the creation of web sites (pubwww.srce.hr/zuh). At this time the CARNET was still developing and only few faculties were connected with it (Bekic and others, 1996). University Computer Center (SRCE) offered the setting of guest services on the public computer (jagor.srce.hr). Many faculties replied to this initiative. Faculty of geodesy got a space on the disc of public computer and its own web address (pubwww.srce.hr/geo). Professor Miodrag Roic, who was appointed web administrator, made and set, with the help of student Marinko Salopek, the first web pages of the Faculty and the first geodetic web pages in Croatia at all.

Considering the lack of appropriate software, setting and design of these pages was quite a long and hard work. The pages were designed by a text editor through direct entering of orders in HTML. In the beginning the contents was divided into subjects: history, activities, organization and staff. Links to Croatian Geodetic Society, Geodetic Paper, Croatian Hydrographic Institute and State Geodetic Administration were added later including links to thematic fields (Figure 1a). To make the information most interesting to colleagues from abroad, these pages were made in English too (Figure 1b).

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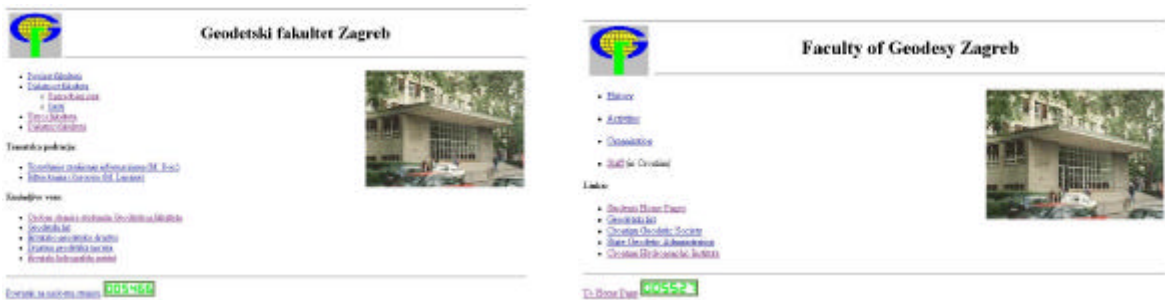


Figure 1a and 1b. The front page of the Faculty in Croatian and English (1996)

In consideration of the statistics of access and getting different information, the design of the web pages of the Faculty has clearly approved its determination (Cetl and Roic, 2000).

2. Development and education

In the meantime faculty got its own server (geodet.geof.hr). In the beginning of 1999 the design of faculty's web pages was set to a higher level. The committee for control and design of web pages was also established.

New pages were set, for now in Croatian only, about the Faculty in general and further elaboration of specific subjects was confided to specific institutes. The Faculty got its new web address (www.geof.hr). In the front page there are links to each specific institute (Figure 2).



Figure 2. The front page of the Faculty (2000)

Introduction of new educational plan and program showed a significant turn to modern technologies. The arrangement of student's computer room and the setting of LAN was

basic prerequisite for using network technologies in education, not only in theoretical but also in practical sense.

As a part of lectures and exercises in college Geoinformatics II in the second year, students get acquainted with technical and technological characteristics of local and global networks. During exercises they learn how to use basic network services: Telnet, FTP, e-mail, www etc. Every student has to create and set his own web page. A written exam is done through practical task which includes the usage of the Internet and network services. This task usually requires students to find specific information on the Internet and then to send them to assistant by using e-mail.

On the pages of Institute of Engineering Geodesy, for the students of II, III and IV year the contents is more extended. Different literature is set: books, scripts, diploma and seminar papers (Figure 3). Students have opportunity to remotely view the results of written exams and the schedule of oral ones.

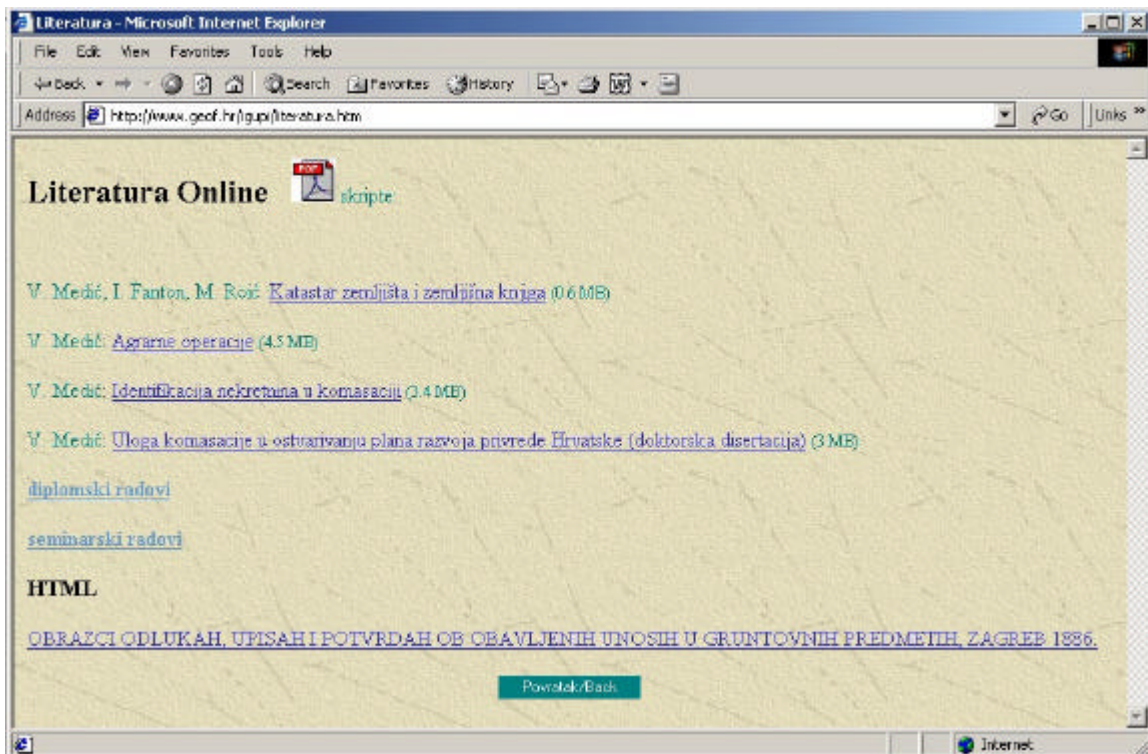


Figure 3. Online literature

The usage of network services is especially important for exercises in different colleges at a subject oriented field (Digital Cadastre, Communal Information Systems, Estate Estimation etc.). By using the Internet students are able to find certain information that are necessary to make a program. For the next semester the setting of online basis of cadastral information for the area of one cadastral commune, from which students would be able to interactively get to certain information that are necessary for exercises, is being planned.

Depending on the format of data, the leading GIS/CAD companies developed different technologies for the distribution of spatial data via Internet. The data are usually saved in vector format and by request of user they are transformed into raster format and forwarded to user's computer (Cvitkovic 2001). For the needs of student's exercises the setting of institute's web server through which, with an appropriate software, the distribution of

spatial data will be done, is being planned. Data will be saved in appropriate format on server. Also a web server/software and an appropriate publisher server/software will be installed on server (Figure 4). Realization of this kind of exercises will be of great importance for students in their further work and after finishing the study. However, in some European states it is possible to directly view cadastral and other spatial data and to download them via Internet. We believe that in nearby future it will be possible in Croatia, too.

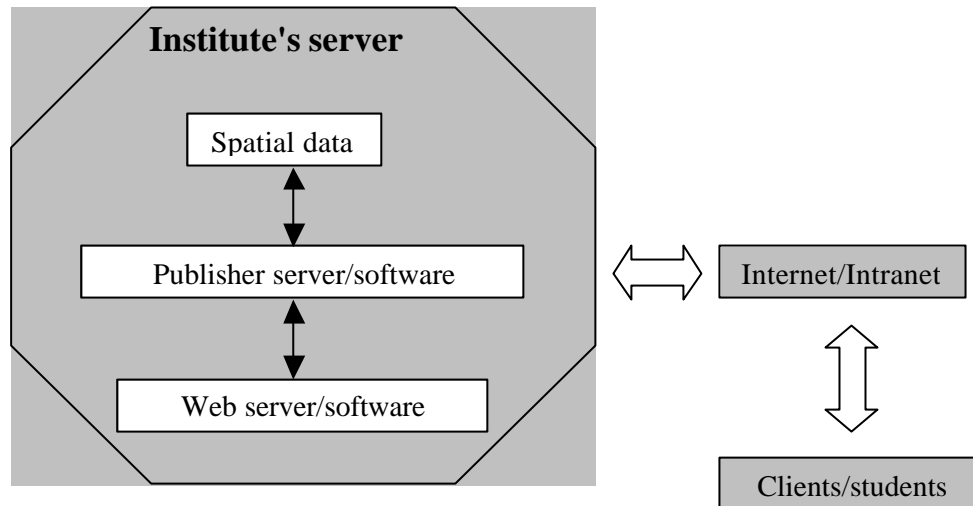


Figure 4. The distribution of spatial data

Communication and the exchange of opinion with students, professors, geodetic engineers and surveyors in practice are very important in scientific and professional view. For that purpose the appropriate form is set on the pages of Institute. Different questions, the exchange of opinion and comments justify its setting. There is a large number of geodetic experts in practice who come across different problems every day. With the same aim the setting of a mailing list (forum) or a chat server is being considered. This would make effective communication and collaboration among students, professors and colleagues in practice even better. Students would be introduced to current problems in practice and could participate in their solutions, thus making possibility of collaborating after finishing the study even greater.

3. Conclusion

Development of network technologies brings to general globalization. In the last few years, with the fall of hardware and software prices the Internet has become accessible to everyone. Considering geodetic aspect there are already a lot of different geodetic information and data on the Internet. GIS on web, which is popularly called GeoWeb has become a world trend and also a line of direction in the future of geodesy. For educational, especially faculty staff, the continual following of modern technologies and its implementation in educational process is necessary. On the other hand, students should be able to improve continually and to be in touch with new technologies as well as possible. It is unimaginable for future engineers not to know basic network services because already an application for work has to be sent by e-mail.

The setting of web services of Faculty of Geodesy has enabled faster information flow, facilitated work for students and introduced all interested to activities that happen on the Faculty. Further care, updating and contents expansion are very important for its success, which sets a demanding task before all Institutes of the Faculty.

LITERATURE

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