

INTERNET IN EDUCATION, PRACTICAL EXPERIENCE AND FUTURE PLANS

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We believe that educators in all educational levels face the innovations in teaching and learning which are often denoted as computer-assisted teaching (CAT) and computer-based learning (CAL). Computer and information technologies are getting more or less standard and integral part of our life. The same situation is in the branch of geodesy and cartography which is also becoming computerized. We would like to present our practical experience with our efforts of introducing the Internet as an educational tool in education of surveyors at TU Prague.

As Stig Enemark noted, "the environment in which the surveyors practice is changing rapidly, according to technological and managerial development" (Enemark, 1996). Although there is no formal coordination in developing educational methods, almost every team comes to the same conclusion; usage of electronic tools is necessary if the branch of surveyors and cartographers wants to survive and hold high level and keep in contact with other branches. The most important idea which must be considered when developing new methods for learning is the ease of usage.

We started our first seminar introducing Internet services to our students towards the end of 1993. It was the end of the pre-Web era; the information sources of the Internet consisted mainly of textual documents at that time. Both teachers and students were experiencing a new technology. We considered the Internet from the first moment to be a powerful working tool of future. And the more, it was one of the first glimpses of coming freedom, after four decades of communist totalitarian regime, bringing us the possibilities of communication, collaboration and cooperation which we had never met before. There is no doubt that emphasis in Internet and informatics lessons must be on process and strategy not on destinations and techniques.

One of our problems at that time was, that if we wanted to promote active usage of the Internet among our students (for example creating web pages), we had no other choice but to start running our own internet server. It cost us a lot of time and energy on the one hand, but we gained a lot of practical experience on the other hand, which we would never get otherwise. Linux was our choice of operating system and it has proven to be the good choice. It has given us the starting ground for our present activities like running our own Apache web server with dynamically generated web pages based on PHP or the background necessary for introduction of XML technology of structured data documents into our projects. Here we would like to mention our collaboration with the Czech research institute for geodesy ([VUGTK](#)) on the project of online public access to the library catalogue.

We appreciate on the Internet its immense possibilities of direct communication among people. In our seminars we run electronic mailing lists as the active forum of the communication as opposed to the more or less passive presentation of learning materials on the web. In these mailing lists we are trying to persuade our students to answer questions of their student-colleagues as much as possible (active role in the list is taken into account at the examination). The main problem is that our students still miss the need for sharing their knowledge as it is common at other (mostly West European and American) universities.

As we have mentioned before, our main platform is Linux - a new phenomenon which would never come to the existence without the Internet. Our practical experience with the Open Source Software as represented by [FSF](#), [GNU](#) or [Linux](#) inspired us to the considerations whether we could add our own contribution to this movement. As the result, we started project of free geodetic GNU software: C++ template libraries [GaMaLib](#) (and [gMatVec](#)) for adjustment of geodetic 2D networks. Even in this very special subject the idea of open software proved to be attractive to our selected students.

Our future plans are concerning long-term project focused on usage of XML language in the field of geodesy and cartography. At the present we have managed to introduce the idea of XML as the platform independent tool for data description in the project of metainformation system of the Czech Association for Geoinformation ([CAGI](#)). The main reason of our short memo was to inform briefly about our activities and at the same time we would like to use the possibility of meeting our colleagues during FIG 2000 Working Week to find partners for future collaboration.

References

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