

GIS end users education for North - Eastern Poland Regions in practice.



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Abstract:

In connection to the other databases and information systems GIS seems to be a broad and optimal source of data and an essential information source necessary especially in the places where reasonable decisions have to be made. Application of such systems in decision taking processes that are important for human live conditions and changes in natural environment should be very wide. But applying GIS systems in our country, especially here, in East Regions is very insignificant. Preparation of personnel capable of using those systems is a very big problem. There are many reasons to claim that preparation of such people for work on these systems makes a real challenge on the field of education. The authors undertake a trial of define basis contents of such education program, its forms and methods of realization. Adaptation of the program to different level of the IT advance of personnel was taken into account. Many kind of education methods analyzing were analyzed in order to optimize the end effects of the education program. As a lesson learned after more than three years of deliberation concept of activation of multilevel GIS education has arisen. Starting with post graduated study we will offer to our students Bachelor of Science and advances studies starting in one - two years time.

Key words: GIS, Education, Eastern Wall of Poland, local administration, informative society

1 Introduction

Poland as a part of the European Community is implementing informative society policy. Poland is the place where from 1999 national education system is reformed¹. Especially we have to pay attention on Ministry of Science and Informatics that *“...essential for common education programme adaptation is to encompass by them basic of electronic INFORMATION transformation... Adaptation of knowledge creation and education system to erasing requirements of informatics’ civilisation have the aim the human education... who will be prepared to use of the modern informatics and multimedia techniques alike in process of the education, in society and economy live...”*

In relation to not only high developed in GIS technologies countries Poland has many years’ of delay. In comparison with Gdańsk, Kraków, Warsaw and Wrocław, Podlaskie province, part of so called East Wall of Poland, has additionally many years of delay. The main reason of such situation in GIS area is lack of sufficient awareness and knowledge in decision making collective (governmental, local, central, regional and municipal as well as in strategic collective of the Polish science and education).

As a bad example of such situation we can give you Ełk, which at the beginning of nineties was among of the polish pioneer in using of the SIP into town and vicinity management. Unfortunately that exceptional achievements of the First Ełk Civic Centre was totally ruined and wasted by next town administrative.

Similar example from our region is from Ostrów Mazowiecka. By administrative decision elaborated in MGE SX Intergraph© in 1996 map and its digital database was reconverted to soil registry EWMapa software. We hold the view that it is definitely a bad thing when better tools are displaced by the worse ones. The reason for this situation lies in the fact that the users are not prepared to benefit entirely from the use of GIS systems and their lack of English language skills. It is also undoubtedly that the cause lies also in a very low overall computer literacy on the level of governmental establishment.

2 Educational initiative formation

This statement fell down the moment we were trying to manage this phenomenon, at least on the local scale. Making a diagnosis about the reason of such a situation, the authors have decided to develop the plan of an initiative the aim of which was to improve the level of knowledge about GIS and to establish an educational-scientific center of GIS using. At the beginning the authors were able to make an update of the data in previous research and evaluated the awareness of GIS end users. The topics of previous research were as follows:

- Public and local government administrative officials
- Local government representatives
- Students and research workers of the school's region
- MSP representatives
- Internet users

The study was conducted on 66 participants who answered an anonymous questionnaire according to the pattern: yes/no/I don't know.

Conclusions stemming from the research presented are not optimistic. Although many academic centers engage in teaching this field, the situation of the "Eastern wall" of Poland has not changed significantly. The authors have made a realistic estimation of the conditions of possible future activities in this region, basing on the experience of other educational centers, and prepared a purely theoretical deliberation to put into practice. The marginal conditions analysis of the educational initiative have brought the following dependencies:

1. Participations of other entities
2. Financial dependencies
3. Localization
4. Personnel
5. Technical dependencies
6. Program of the studies

3 Project implementation

The authors started the project's implementation with accordance to their plan. Through its realization, following results have been achieved:

3.1 Participations of other entities

For the purpose of the initiative's success, the authors decided to convince local government and MSP representatives. Dynamic activities enabled for signing intentional letters and cooperation contracts with: the mayor of the city of Ostrów Mazowiecka, the headman of the city's district, as well as SCOR, Techmex and ESRI chairmen. The contracts defined the shape of cooperation and the level of engagement of the supporting sides. This facilitated activities to win resources, data and premises. Above all yet, the authors convinced the chancellor of the School of Finance and Management in Białystok, the person most influential in order to achieve the goal set.

The formed center has been given a name of Educational-Scientific Center of GIS Usage at WSiZ (School of Finance and Management in Białystok).

3.2 Financial dependencies

A critical element of the initiative success was the assumption that the educational-scientific center will be self-financed. A simulation of financial conditions has been made with a supposition of different initial conditions as well as the possible educational-scientific developmental process was varied. It appears that the simulation brought a cost level between 25000 to 35000 €. The discrepancy stems from including options of teaching possibilities both in Ostrów Mazowiecka as well as Białystok where a GIS laboratory is needed. Together with WSiZ workers, the authors made a proposal to the project that: it will be sub-funded by the European Union within the frameworks of Priority IV, Activities 4.1, Sub-activities 4.1.1, Operational Human Capital Program, which was successful in the initial evaluation phase. A final outcome will be known by the end of July 2008.

3.3 Localization

The choice of the CEBZGIS (Educational-Scientific Center of GIS Usage) residence has been made. It will be operating under the auspices of WSiZ in Ostrów Mazowiecka. The presence of SCOR and Techmex companies as well as of the WSiZ branch had a decisive impact on choosing the location. The local government goodwill supporting the initiative played an important role in the decision processes.

3.4 Personnel

A didactic-scientific personnel was possible to establish thanks to the presence of transactors that professionally deal with gathering satellite imagery data (SCOR company), processing and producing cartographic and GIS systems (Techmex, Military Cartographic Unit and Polkom companies) as well as the proximity of WSiZ school.

3.5 Technical Dependencies

ESRI Poland who is a representative of a leading produced of GIS and SDL softwares, will be supporting the initiative from the technical side. Its substantial counseling and technical support ensures a proper use of the rich tools of IT environment. The authors have been assured of SCOR and Techmex support in accessing to graphic and feature data.

3.6 Program of the studies

The participants' engagement in the initiative have developed versions of education program suitable for different levels of future students. Classes and specialist trainings programs are now being created that will ensure professional readiness for future workers of companies dealing with GIS data processing. The program of studies emphasizes the importance of GIS information aspects but the convenient cartographic-geographic preparation of its graduates is underlined as well. Students have to know how to utilize systems possibilities to perform they own basic tasks, in which way and how far the system is capable to enhance their efficiency and be able to improve administration activity.

The beginning process of launching CEBZGIS is not finished yet. It consists of multi-phases and a series of events and activities crucial to commence the educational and scientific work. From the beginning of the year 2008 up to 01.06.2008, the authors have:

- Defined and organized a cooperation and support from the business and local government fields
- Developed a business plan of the enterprise
- Developed program frames and an introductory research program
- Defined CEBZGIS structure target
- Developed a project for the GIS laboratory equipment

- Prepared a proposal for the EU financial support
- Organized, initially informal, team of educational personnel consisting of experienced lecturers and GIS companies' workers
- Developed and constantly gather data for the project for GIS data base in the Ostrów Mazowiecka area from the point of view of a social-economical analysis
- Developed and activated website describing GIS post-graduate studies (address: www.gis.wsfiz.edu.pl)
- Developed a project of both brochure and advertisement poster for the purpose of advertising the post-graduate studies' initiative
- Defined a scenario for a 5-minute movie advertising the center



Apart from the educational activities, the authors' goal is to conduct research of GIS usage in the field that seems to play an important role in Poland. This concerns the use of GIS tools and analysis in social-economical studies. The crucial task is to support local and public administrative governments as well as SMP. The analysis of data of created topical data bases will determine its future application.

The present paper is a sort of a report of an educational-scientific experiment actually taking place, therefore, different effects of the activities taken are possible. Their compliance with the simulation and analysis results constitute for an objective evaluation of the assumptions made and its developmental model.

4 Conclusions

At the beginning of its activity the education offer proposed by CEBZGIS is related to people whose principal education process has terminated a few years ago. The knowledge transfer method should be audio-visual to the maximum. Still, the direct contact of the participants with the computer and the software is essential. In this respect, the

application of the interactive method of using the software is crucial. It is not only a wide range of computer presentations usage but also an interactive way of discussing the software systems. If that post graduated study will success in one - two years period bachelor and advanced studies will start.

The past realizations of the project prepared for creating CEBZGIS does not fit the schedule developed. A series of stages of the task's realization are already delayed in regard to the time limits set. Unfortunately, not everything lies in the hands of the originators of this undertaking. We are convicted, that thanks to cooperation with decision assembly of the School of Finance and Management in Białystok all difficulties will be resolved.

It is too early for more conclusions since the priority for the creators now is to start the scientific and post-graduate studies center. A crucial question here is whether the support from the EU will be obtained or not, although the assumption is that the opening part of the center's existence might be achievable without the support. The final conclusions then will be possible to made by the end of the year 2008.

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