SOL: Design and development of a web based interactive information platform for the mitigation of the social impact of the seismic disasters

 G. Drakatos (1), F. Mangafas (2), E. Koutsikos (3), G. Anyfandi (4), V. Karastathis (1), S. Bakamidis (5), A. Chalkidis (3), K. Valadaki (1), A. Ganas(1) and P. Petrou(1)

1. National Observatory of Athens (Greece), (2) PC SYSTEMS S.A., GR 15126 Athens, (3) Pedagogical Institute, GR 15341 Athens, (4) Eugenides Foundation, GR 17564, Athens, (5) Institute for Language and Speech Processing, GR 151 25, Athens

The lack of efficient and valid information about the clearly cognitive subject of earthquakes leads several times to panic. Therefore, before any practical measures of protection against earthquakes are proposed, the awareness of population to the clearly cognitive section must be proceeding, so that the emotional impact of this natural phenomenon is minimized. Based on this concept, the consortium seeks to create the dynamic system "SOL", which via the Internet and mobile 3G technologies will aim to interact with society and its various communities, providing valid, permanent and complete information about earthquakes and their impacts.

The methodology approach includes analysis of users requirements, the development of a scientific, containing informative material, prototype and evaluation through a bi-directional communication interaction with the users.

The SOL system will be personalized focusing on psychological issues and support, with special care for school communities and people with disabilities.

The SOL team has already researched five different technological sectors that deal with computer accessibility and more generally the World Wide Web accessibility. Particular weight was given in existing technologies relative with composition of voice from text and Greek sign language in combination with the recording of requirements of users and particularly persons with disabilities with regard to the use of voice composition and use of special terms of Greek sign language.

The important characteristics and advantages of a system portal as SOL are

1. Adaptation depending on needs of user (customization) and personalization

2. Portlets

3. Multiple channels of access

4. Single point of access

5. Individual services

6. Categorization of users

7. Services of promotion such as educational software that will be used involves concretely instructive and training results

8. Focus on four basic teams, public, Students and teachers of first degree education, Students and teachers of secondary education and persons with disabilities.

Furthermore, SOL's advanced content management tool will allow the dynamic elaboration of seismological, psychological, sociological and educational data in continuous harmonization with the communication strategy.

An important parameter of SOL is the growth of terms on the Greek sign language. We are realizing the collection of body of texts from which can export terms with the use of electronic tools of linguistic technology composition to a large extent algorithmically and functional.

Another crucial development component of the system is the Internet Mapping Service with interactive functionality. Particularly attention will be given to the creation of system with open architecture with support of multiple parallel users. The user will use autonomous applications and Java tools for the transformation, creation, management, and presentation of cartographic XML data via browser. The environment of contact with the user will facilitate the process of choice of parameters and choices, via customizable windows. Apart from the creation of maps from queries in the bases of data of system, will be given the possibility to the user of including also personal data in the application.

In a parallel sequence, the participants will work for the development of technical infrastructure of the project, in order that the research data and project actions, to the direction of awareness and sensitization of the public connected with the phenomenon of earthquake and the protection from this, is accomplished through the Internet medium.

The final Product of the proposed project is the development, implementation and evaluation of an innovative system (**S**eismos **O**n**L**ine), which will offer direct, permanent, valid and up to date information, contrary to existing Internet portals, which offer only basic information. Also it will provide the opportunity of research development activities to students and scientists. The SOL system is an innovative product that will always have permanently renewed content because of its interactive character thus it will have viability and duration