

IKTA5-141/02.

MobiDIÁK, the self-organizing mobile portal

The mobiDIÁK portal is going to be created by the research and development team of the University of Debrecen, Institute of Mathematics and Informatics. The team came into being upon the call of IKTA. The mobiDIÁK portal (mobiDIÁK=mobileSTUDENT) is self-organizing as the professional community centering around it takes part in the development of the portal. It is mobile as its main services can also be accessed from a mobile device.

The mobiDIÁK project meets the general principles of IKTA, it simultaneously attains several objectives of the Information Services chapter.

In the course of the project we are going to develop a complete and operating piece of software published as an open source free software. The project team is also going to support its propagation and adaptation in Hungarian education.

With the above mentioned software we are going to build a portal which is going to be filled with professional content and continuously operated in our institute. The professional content of the portal will be related to the academic education, research and application of information technology. To this end the team is going to develop content on the portal, we are going to publish e-books, lecture notes, sample programs, on-line professional tests and organize competitions based on them. A few applications will serve the purposes of e-learning, e.g.: electronic tutorials, electronic examinations.

We are going to organize an Internet community around the portal, its directions of interest and development are going to be analysed by statistical methods. Not only the professional content, but other services catching the attention of the young are going to support the formation of the community. The community members may relate to the portal in various ways. Not registered users may browse and download content. Registered users may enjoy access to more services. We are going to organize them into an expert pyramid whose members shape and professionally control the portal. This will be an important means of quality assurance.

We are going to base development on already existing technological grounds, but use state-of-the-art methods and up-to-date solutions. The objects of the portal (documents, as well as users) are going to be automatically qualified. The qualification values are based on the interaction of numeric values characterising the interacting objects. The software implementation will merge solutions based on J2SE, J2EE and J2ME technological components. Considering mobile clients, we are going to put emphasis decisively on WAP devices rather than devices supporting Java. For the latter, we are going to implement popular cryptographic methods (DES, DESede, AES, Blowfish, CAST6, RC2, RC532, RC564, RC6, Serpent, Skipjack and Twofish). As part of the electronic examination application we are going to implement analysing and authenticating procedures for character recognition and signal processing. The described portal engine is far beyond the ones offered by the market. This piece of custom development – apart from being an exciting challenge to us – gives corresponding students an excellent opportunity to gain far-reaching experience in developing Internet based complex systems.