

Technology Transfer Office Support Software

Technology Transfer is the process of skill transferring, knowledge, technologies, methods of manufacturing, samples of manufacturing and facilities among universities and other institutions to ensure that scientific and technological developments are accessible to a wider range of users who can then further develop and exploit the technology into new products, processes, applications, materials or services. Some also consider technology transfer as a process of moving promising research topics into a level of maturity ready for bulk manufacturing or production. The role of Technology Transfer Offices (TTOs) is technology brokering and bridging the disparate worlds, while applying scientific concepts or processes to new situations or circumstances.

Although conceptually the practice has been utilized for many years, the present-day volume of research requires systematic approach and adequate software support. In order to provide a support and ensure a success of the transfer, Technology Transfer Office must recognize commercialization potentials. TTO must have precise knowledge of the potentials of the technologies developed by the academic institutions, as well of the potentials and possibilities of companies.

Within the frame of TEMPUS project 158881-TEMPUS-1-2009-1-RS-TEMPUS-JPHES "National Platform for Knowledge Triangle in Serbia", a web-based software system for technologies related data acquisition and analysis was designed and developed at Faculty of Electronic Engineering, University of Nis, Serbia, with aim to support Technology Transfer Offices in Serbia in domain knowledge acquisition and analysis. The main role of technology transfer support software is registration of the potentials, and support in data analysis.

The developed TTO support software offers a support at two levels:

1. data acquisition, and
2. support to TTO staff in the data analysis and initial decision making.

The two-level structure implies two front-ends. One of the front-ends is publicly available and its main purpose is data acquisition, while the other serves TTO staff in data analysis. The front-ends and the list of the functions available in each front-end are:

1. Public front-end devoted to academic users and companies
 - a. User registration
 - b. Profile management
 - c. Technology info uploading
 - d. Uploaded technology info administration
 - e. Database search
 - f. Inviting the potential users to join the system
2. Administrator panel
 - a. User management

- b. Technology info management
- c. Technology matching and analysis
- d. Detailed search and data filtering
- e. User invitation

The support software distinguishes between two groups of users, without taking into the account system administrators and TTO staff: academic institutions and companies. They have a dedicated front-end for registration, technology info upload and database search. By creating an account for the TTO support software the opportunity to promote developed technology is given to the user, as well as the opportunity to promote their resources and capabilities, if the user is a destination in a technology transfer process.

The software offers two types of user registration scenarios, depending on the type of the user. If the user is academic institution, the relations that exist between institutions are exploited, so the concept for registering academic institution relies on the invitations. In other words, an academic institution can use the system to send the invitation to the other institution. When invitation is received, the receiving institution need to fill a brief access form, and the account is created. The sending institution receives the status about new account creation for control purposes. This exploits the relationships that exist between the institutions and can significantly speedup the registration process.

Due to the lack in hierarchy and different nature of companies, special scenario is developed for this type of users. The software is designed to register companies ad-hoc. When a company fills the form, the administrator receives the notification to review the data. After reviewing provided contact info, administrator approves the account creation.

All registered users can promote themselves, upload and search uploaded info, but the information displayed to the other users is limited, so for further correspondence they are redirected to TTO staff and services.

After data acquisition, system provides help to TTO staff in finding a pairs of uploaded descriptions. However, a key role in this process is on the TTO staff. The system can highlight certain links that exist and present them to the staff, but it's on a TTO staff to recognize potentially good pairs for technology transfer. If the administrator recognizes the potential based on the uploaded description, the staff of the Technology Transfer Office launches a complex process of technology transfer. The software doesn't support TTO staff from this point on. This process begins with a systematic procedure for evaluating the potential, which may have two outcomes: confirmation of the support software suggestion, or rejection by TT officer.

Despite the implemented ability of the support softwaer to assist in finding pairs, uploaded technology descriptions can be given in such a manner that potential pair matching might be hidden from automatic recognition. Due to that fact, the system is designed to provide a set of advanced search functionalities for the administrator to be able to monitor the system.

The software is implemented as a web application in PHP language, and it uses MySQL database as a storage. It can be easily embedded into modern Content Management Systems (CMS) such as Joomla, which provides additional set of functionalities to the application. The installed instance of the software owned by the TTO Niš is available at:

<http://tto.elfak.ni.ac.rs/>

The software itself can be reached through Joomla menus.