PROINTERNET: SKILLS FOR INTERNET-RELATED JOBS

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ABSTRACT

In this paper, we will focus on the internet - related jobs and the skills required and then we are going to present the context and the activities of the LdV PIN project. Also, we shall present the surveys that are referred to the needs, competences and training offers regarding the internet related jobs and the e-Jobs Observatory platform an information-sharing platform about e-jobs. Finally we shall present a proposal regarding the certification procedure for the design of the training programme.

I. INTRODUCTION

In the ICT area, job profiles have partially or at all been defined, while at the same time they change rapidly. This causes barriers to take up job opportunities, a lack of suitably skilled workforce and vacancies that can only be filled with difficulty and supportive training on-the-job. To keep pace with technological development, skills and competences, but even more importantly, training opportunities must be continuously monitored and, eventually, up-dated to guarantee a well-functioning labour market.

II. BACKGROUND

According to the study, "Monitoring e-skills demand and supply in Europe", that was conducted in 2009 "the availability of e-skills is an important component of the economic development and competitiveness of the EU, for both the ICT industry and the overall economy. The balance between the demand and supply of e-skills is the result of complex interactions between the economic, technological, political and social trends affecting the overall socio-economic development of the European Union". [1]

The 2008 financial crisis revealed certain structural weaknesses in the European economy. The Organization for Economic Co-operation and Development (OECD) is an international organization that promotes policies that will improve the economic and social well-being of people around the world [2]. The latest OECD IT report 2008 states that "ICT skills are an important contribution to growth […] Over 4% of total employment is in ICT specialist occupations, over 20% in intensive ICT-using occupations." The Europe 2020 Strategy launched by the European Commission in 2010 constitutes one of the responses to this crisis. It sets objectives in terms of jobs, productivity and social cohesion. The Digital Agenda for Europe forms part of the Europe 2020 Strategy and is one of the seven flagship initiatives [3]. It aims at determining the basic role of the use of Information and Communication Technology (ICT). The goal is to maximize the social and economic potential of ICT as a result promote innovation, economic growth, improving the daily lives of citizens and businesses.

III. PROINTERNET (PIN) PROJECT

The LLP project PIN is a thematic network that will contribute to the main objectives of the Leonardo programme as laid down in policy documents, starting with the Copenhagen process. It has created a network of key players in the area of ICT and Multimedia skills in SMEs and will try to improve the transparency, information and guidance systems with regard to competence and qualifications at European level for Internet professions. The key stakeholders involve industry organisations which have in-depth experience of e-Jobs, Internet-related jobs and direct access to SMEs (technology suppliers and users); VET institutions with a

focus on e-Jobs and Internet-related jobs; relevant public authorities and intermediary organisations.

Through its activities, PIN intends to contribute so as to improve the employability of job seekers, reduce the e-skills shortages on the EU labor market, improve the quality of Vocational Education & Training (VET) in the field of Internet related jobs and last but not least to make VET more transparent and comparable at European level. The network brings together complementary players such as VET, HE, certification organizations, jobs and enterprise associations for a proactive and continuous knowledge exchange in the area of Internet jobs.

IV.   E-JOBS OBSERVATORY

One of the main objectives of the PIN Project is creating a network of key players in the area of internet-related jobs converging around a web 2.0 platform. The platform is available for stakeholders and accessible at http://www.e-jobs-observatory.eu/ (see fig. 1). The Observatory platform can be used by businesses, training organisations, as well as vocational organisations. It is a web-based information exchange platform that operates as a central reference point and collaborative tool for all the stakeholders. The direct results from using this platform are the dissemination of the provided information and the reinforcement of the cycle of interaction between the key participants. Every person that participates in this interactive system has the ability to influence the ongoing development and formulates a better picture of future trends and developments in the field.

Fig. 1. Snapshot of the e-jobs Observatory platform (http://www.e-jobs-observatory.eu/)

V. SURVEY REGARDING NEEDS, COMPETENCES AND TRAINING OFFERS

In order to start the analysis, the partnership has developed a specific concept about *Internet Industry*, which appears to deal with the commercial and non-commercial production and distribution of e-content and e-services through the internet infrastructure. During the first year of the PIN project, the Consortium worked on an Assessment of the Needs in the Internet Industry and the Offer in regard to the Training and Education. A quantitative analysis in regard to current and prospective needs of SMEs was carried out by the project partners of ProInterNet in several European countries. The qualitative research [4] named "European ICT Competences Survey" is still in progress, and everyone can participate answering the respective questionnaire which is available at the platform.

The most important findings of the qualitative survey at European Level in regard to competences, trainings and education in the European Internet – industry were the following:

- ➢ Major required competences: *communication, teamwork and language skills.*

- ➢ Not a significant change is foreseen for the near future.

- ➢ Companies consider current education and training offer to be at an appropriate level.

- ➢ Adequate number of well-qualified workers in the countries (even though some hire workers from abroad).

- ➢ Potential employees must be more adaptive to the constant changes in hardware and software.

- ➢ Basic technological and programming skills of internet-related jobs seems to be fulfilled; nevertheless, the industry wishes a focus on: Soft skills and More flexible employees in order to adapt to the company´s business philosophy

- ➢ Many firms apply on-the-job-training to save work time and cost.

- ➢ The major task is to adapt the current training and education offers to the SMEs needs.

In Greece, the general opinion on training and education situation is positive and the companies that were interviewed stated that the offer is appropriate concerning the number of programs and contents. The main task of the educational institutions is to constantly update programs in regard to technological advancements.

During the roundtable held in Patras, on 16th of March 2011 at the premises of Hellenic Open University, the topics that have been discussed were the following: 1. Internet Industry, 2. Prospective needs and job requirements of Internet-related Jobs, 3. Current needs and job requirement of Internet-related-Jobs 4. Applying e-jobs in strategically important fields of Hellenic Economy. This roundtable was attended by eighteen (18) people not only from educational institutions, but also from local companies, representatives of the commercial associations, the technical chamber, the public sector, research institutes from Greece. The objective of this meeting was to gather the views of all the participants, about the respective topics. The term Internet Industry was approached: "*It is a new form of social interaction which creates new surplus values, via the use of communications and the new technology. The internet industry focuses on new forms of distribution and promotion of products and services, spurring the development of entrepreneurship and strengthening the collaboratio*n". Government entities according to the participants are responsible for the promotion and improvement of the educational system, but bureaucracy sometimes is an obstacle in this situation. Another objective of the meetings was to learn more about the experts' opinion in regard to labelisation, certification and normalization processes in the area of e-jobs.

Some of the participants pointed out that the "heavy" software industry should be responsible to promote the certification of e-jobs. Greater emphasis should be given on the Greek economy and the competitiveness of organisations that provide internet services through proper training and educational programs which will meet European standards. The general comments of the participants about the e-Jobs-Observatory were the following:

- Increase productivity through information that the platform provides

- Provide more link to certification bodies

- Support services and virtual interactive collaborative workspaces

- Online collaboration and interconnection between organisations

- Dynamic content

- Multilingualism (eg the integration of a translator)

- More information of the general public about the new trends / Continuous updates of the content

INTERNET JOBS

In the context of the PIN project there were identified thirteen (13) internet professions (see Fig. 3) divided into two categories: the eContent jobs and the eServices jobs. The PIN has to describe the job profiles in a simple manner. Based on a training guidelines analysis, a list of capabilities, competences and new skill levels are currently being defined using a modified framework based on eCompetence Framework (e-CF) that was developed during the CompTrain project [5]. The main outcomes of the PIN project are normalized job profiles, qualifications, educational content definition processes for new Internet-related jobs in SMEs. The structure of the European e-Competence Framework is based on four dimensions [6].

Dimension 1	5 e-Competence areas, derived from the ICT business processes PLAN - BUILD - RUN - ENABLE - MANAGE
Dimension 2	A set of reference e-Competences for each area, with a generic description for each competence. 32 competences identified in total provide the European generic reference definitions of the framework.
Dimension 3	Proficiency levels of each e-Competence provide European reference level specifications on e-Competence levels e-1 to e-5, which are related to EQF levels 3-8.
Dimension 4	Samples of knowledge and skills relate to e-Competences in dimension 2. They are provided to add value and context and are not intended to be exhaustive.

Fig. 3. Classification of the internet related jobs for the PIN framework

In a further step, the PIN consortium will map the skills against the European Qualifications Framework (EQF) and the eCompetence Framework (eCF) to identify a common and comparable set of skills at different learning levels. The EQF-Code profile was used in order to map the behavioral and business competences/skills to the eCF dimensions already identified in that project for the internet-job profile.

VI.   APPROACH TO DEVELOP TRAINING COURSES

In the below diagram, a procedure for the design of training programmes is presented via a series of well-defined steps. The data analysis can be based on the data coming from the market needs, the employment data and all the studies and surveys conducted. Outlines of the existing courses are used. The profile templates and the profile modules compose the job profiles which are modular consisting of sub profiles. The requirements, which are the output of the data analysis step, are compared the course description and the job profiles so as to generate a new course descriptions. The advantages of this staged approach are as follows:

- ✓ Each phase can be carried out independently from the others, using tools and methods that specifically meet its requirements; thus, each phase can be optimized with respect with available resources.

- ✓ The quality of the outcome of each phase can be measured; thus, be setting specific thresholds, in selected metrics, the quality of the application of the model by a specific stakeholder can be evaluated

- ✓ The application of the method can be supported by a specific designed tool, which could use machine readable representation of job profiles and course outlines.

- ✓ The method can be applied not only to complete job profiles or courses, but also to job profiles or course modules.

- ✓ The combined use of the tool and the evaluation framework can serve as the basis for the certification of training courses or modules

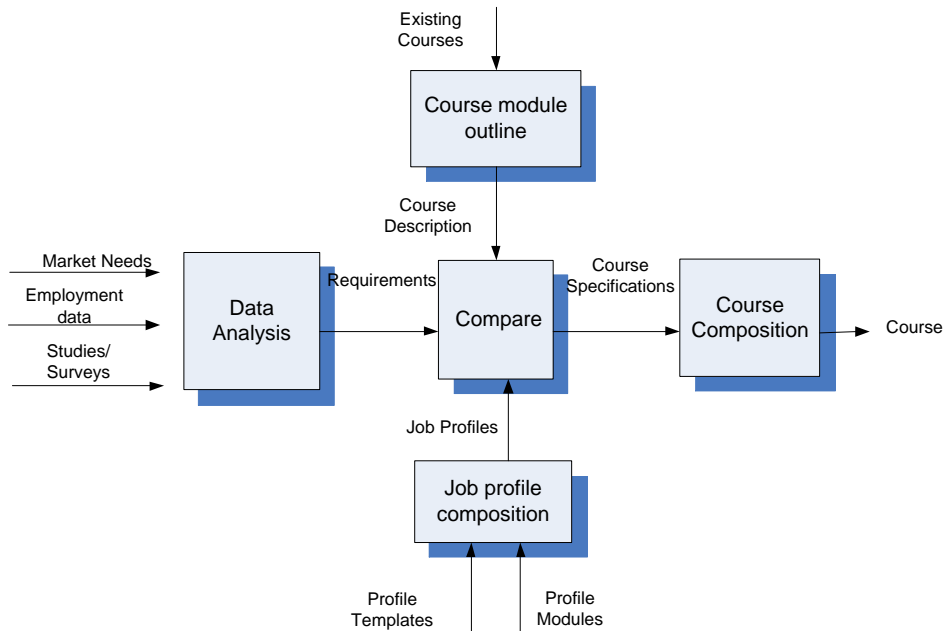This approach is currently under consideration by the PIN network.

Fig. 2. Proposed model for a staged procedure for the design of training programmes

VII. CONCLUSION

Through the activities and the collaboration among the PIN partnership, interesting outcomes were delivered in a European level until now. The three year LdV project will last on 2012 and will improve the findings, gathering the results of the quantitative research, having more interaction in the observatory platform, conducting more roundtable meetings. In this project, some pilot organizations will be chosen so as to define the Internet-jobs profiles and relevant skills set required for each profile on the basis of input received from Internet companies.

The pilot VET organisations will identify educational content (training courses) based on the profiles and skills requirements. This information will be combined so as to certify and normalize the job qualifications / skills requirements / educational content definition process for Internet-related jobs. A common EU competence system for internet-related jobs will be agreed. This would include an ongoing and dynamic evaluation mechanism for Internet-related job profiles, training guidelines

corresponding to the said profiles, a Label of Excellence, a Certificate and a draft European Norm. The area of Internet jobs is currently fast growing and, potentially, one of the most important for the European economy and thus, labour market.

REFERENCES

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