Collaborative Platform for Virtual Practice Enterprise Learning

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Abstract. Virtualizing structures, functions and operations of real companies, simulated enterprises provide a learning environment where learners acquire professional knowledge and practical skills. Collaborative networks for simulated enterprises allow participants performing management functions, virtual transaction or production simulations and developing entrepreneurial behaviors in a collaborative professional environment. This paper aims to present a functional collaborative environment for practice in virtual enterprises in which actors are students, universities and real companies.

Keywords: simulated enterprises, collaborative platforms, virtual practice and learning

1 Introduction

Nowadays, collaboration takes more sophisticated meaning if one refers to web collaboration technologies. Collaboration is now developing on integrated business platforms that must provide the seamless flows of information across organizational and departmental domains, regardless of which technologies or standards are in place [1].

As businesses become more transparent thanks to the increasing volume of information available online, enterprises began to use IT and web technologies in their business strategies. This lead to the development of a new concept: collaborative business platforms. Therefore, organizations can improve their efficiency and productivity, harness knowledge through collaboration, make contacts and networking and use collective intelligence to evolve.

Bordering the business platforms, a virtual educational environment developed: the simulated enterprise. This is a virtual company that simulates the organization and the activity of a real company for educational aims. Simulated enterprises provide a learning environment where learners acquire professional knowledge and practical skills. By simulated enterprises, students gain work experience, developing their entrepreneurial spirit and creativity in enterprises that mirror real companies. Further, students will enjoy the benefits of the teamwork and could compete with real leadership situa-

tions, regardless of the area [2]. Collaborative networks for simulated enterprises allow participants to perform management functions, virtual transaction or production simulations and to develop entrepreneurial behaviors in a collaborative professional environment.

The present paper describes a collaborative platform dedicated to business learning and practice in a virtual environment that simulates the functionality of several real enterprises.

2 Simulated Enterprise as a Practice Environment

A Simulated Enterprise (SE) is a virtual company that simulates the structure, the functions and the operations of a real company, but without real money exchanging. A SE is in the same time a training ground for entrepreneurial thinking and action. This results in an efficient learning environment where learners acquire theoretical and practical skills.

Practice enterprise learning method is based on applied problem-based learning and learning-by-doing approaches. Students groups are given tasks with initial information and sources for additional data. Learning in the practice enterprise context requires students to take responsibility and initiative in their tasks accomplishment.

The practice enterprise is a simulated enterprise run by students. Groups of students manage various simulated companies supported by real enterprises, called mentor companies, operating in the background to support business and production planning and to provide real-life information [3], [4]. Each simulated enterprise provides a business set-up, allowing students to participate in order to gain business experience in an authentic learning environment. The company operates in a simulated business environment like a real company though the products are not real and bank transactions are only virtual. In a practice enterprise students divide the roles between themselves to manage the organization according to the company's needs. The lifetime of the practice enterprise is divided into five phases: orientation, planning and founding, start-up, business operations and evaluation [5].

Therefore, the objectives of simulated enterprises are to familiarize students with the specific activities of a real company, to simulate real processes from real business life, to develop competences, skills and attitudes needed by dynamic entrepreneurs, to increase the graduated students' integration in the work market and to reduce the accommodation period in a company [6].

3 Collaborative Platform for Romanian SE

3.1 Problem Statement

A platform for collaborative work is a virtual workspace. It is a site that provides to participants or actors all the necessary tools related to a project management. It integrates software applications, data bases and their management system, group decision aid tools and communication facilities using Internet protocols. The role of the plat-

form is to facilitate communication between actors within the work, while measuring their impact on the behavior of the group.

In Romania, the simulated enterprise is a rather new concept that has been implemented on a larger scale after the year 2006. Existing simulated enterprises are integrated in a national system coordinated by ROCT – The Romanian Coordination Centre of Training Firms. This system aims to interconnect the existing simulated enterprises in a national network, so as to facilitate their contacts and business relationships. In this context, there was a need to integrate the simulated enterprises in a unique collaborative framework where students can acquire entrepreneurship skills by virtual management practicing.

The project for building a SE collaborative platform started at the end of 2010 and was developed by four Romanian universities in partnership with an Austrian consulting company. The main objectives of this project are to facilitate integration of Romanian young people in real enterprises work environment, to develop an innovative study tool for students from Romanian universities and to facilitate the experience exchange between two European states.

As a result of the project implementation, Romanian students have worked in several simulated enterprises developing their management skills and increasing their adaptability to the requirements of a real job. Through simulated enterprises, students gained a lot of experience working in a "replica" of a real company. They have the opportunity to develop their entrepreneurial spirit and creativity and to be confronted with real decisions and situations that usually occur in real enterprises.

3.2 Methodology and Implementation

The role of the platform is to integrate in the same framework activities performed by three types of actors: students, universities and real enterprises. In this way, the virtual work environment is closer to the real one in respect of features, demands and activities. Thus, the platform has a dedicated section for each of the actors, also allowing their interaction.

The platform architecture is a service orientated one [7]. It includes an ERP solution to interconnect the simulated enterprise departments, a collaborative customer relationship management module (CRM), an open source web-based learning management system (ILIAS), a database management system, a group decision aid tool, and a GPS map of all national existing simulated enterprises [8] (Fig. 1). Data bases include information about all participants of the collaborative environment and their relationships: students, teachers, faculties, universities, managers and experts from real companies, simulated enterprises managers etc. (Figure 2).

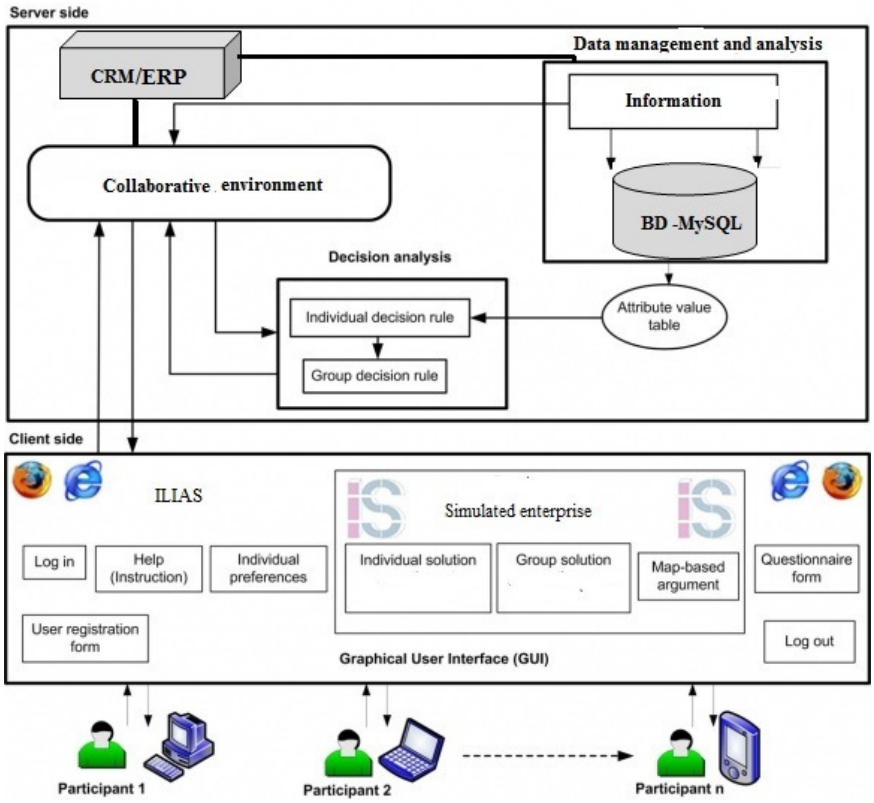

Fig. 1. Collaborative platform's architecture

SE Positions	Real firm	SE	Position within the SE
Name	Internal code (FR11, FR12..)	Internal code (SE11, SE12..)	Student
SE	Name	Name	SE
	CUI - Fiscal Identification Code	CUI - Fiscal Identification Code	Position
	CAEN - National Economy Activities Cla	CAEN - National Economy Activities Clasification	Current position start
	Contact	Tutor	Remarks
	Tutor	ELIS (from the users list)	Objectives
	Remarks	Remarks	Meeting targets percentage
	Web page	Contact	Position entry questionaire (9 criteria)
		Web page	Students' strong points at current position start
		Business plan (yes, no)	Skills to be improved and entry remarks
		Business plan file	Position exit questionaire (9 criteria)
		Organization chart (yes, no)	Students' strong points at position exit
		Organization chart file	Skills to be improved and exit remarks
		Internal procedures (yes, no)	

Fig. 2. Part of the data base structure

The economic areas in which the simulated enterprises activate are various: web design, GPS navigation systems, electronic service, IT, advertising, human resources, hospitality, consultancy and equipment for agriculture, leasing cars, import eco-roofing systems, sanitation, production and distribution of mineral water. The activity of their entrepreneurship is evaluated on the base of some quantitative and qualitative indicators as: the number of products sold or acquired from the intern and international market, number of employers, number of paid taxes, employments and clients satisfaction degree, the existing operational and strategically management plan, the degree of investments and innovations, etc.

The platform also has a section dedicated to e-learning that has all specific features for distance education. It allows uploading course materials, text and media files assignment, coordination and tutorial of study schedules and grades assessment. The platform has also a socialization role. It provides communication facilities as e-mail boxes, blogs, chat, videoconferences, real time whiteboard actualization, discussion lists. Figure 3 represents a window over the participants' accounts.

In addition to the practice developed in a simulated environment, participants have other facilities: group decision aid tools [9], mass-media communication, on line information, newsletter messages, virtual networking, news tracking etc.

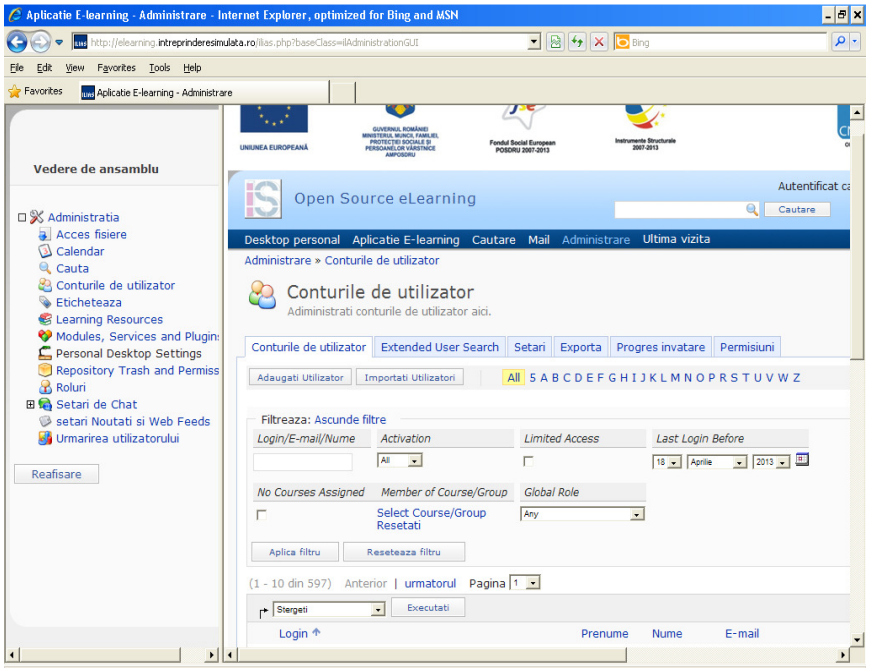

Fig. 3. Participants' roles and accounts

4 Experiences and Results

The created collaborative platform is now used by a number of 16 simulated enterprises and four Romanian universities [8]. Real enterprises are associated with the created SE having various activities from production and services to sales and marketing (Figure 4). Sixteen local real companies that signed cooperation agreements with universities in order to support the simulated business activities were attracted in the project. Since they were created, SEs closed on average a total of 10 commercial transactions with other national SE through the ROCT Center.

Students promoted their imagination and examined their reliability in completing transactions. Each group of students has a tutor, whose role is to act as a consultant for the group and to evaluate the students' performance. More than 320 students used the experience of working in a virtual SE to enrich their knowledge and to increase the chances for a suitable job.

Fig. 4. One of the simulated enterprises on the collaborative platform

All 16 Simulated Enterprises had the opportunity to participate in the first Romanian SE-fair. The first fair was held in Bucharest where more than 100 students and 17 teachers participated, and ended with over 600 commercial transactions. The fair had a huge success stimulating students' ingenuity and reliability in closing a business deal. The fair also provided a tangible environment for preparing students to participate in a real fair. Some of the Romanian students participated at the SE fair that took place in Liezen, Austria in January 2013 where they were they were reworded for their work.

An important feedback of the project implementation is that graduates have been easier integrated in the economic environment and they were rapidly absorbed by the work market.

The second SE Romanian fair takes place in June 2013 at Mamaia, Romania. Over 200 students and 21 simulated enterprises are expected to participate at this fair. In this edition, students will compete in inventiveness, imagination, entrepreneurial skills and the essential marketing techniques in promoting a real company. Simulated enterprises will compete in six sections rewarded with prizes: the best exhibition, the best advertising, the best negotiator, the best website, the best catalog and the best PPT presentation. Areas in which these SEs activate are: construction and installations, industrial and agricultural equipment, electrical, software, hardware, food, consumer goods trade, transport, medical service, tourism service, electrical and electronic equipment, production and advertising.

5 Conclusions

Simulated Enterprise is an educational concept and a learning tool recently implemented in Romanian universities. By learning and practicing in a company that simulates a real business, students increase their chances to get a real job understanding better the operating principles of a real company.

This paper presents a part of the work developed within the national project called "From theory to practice through simulated enterprises". The main objective of the project is to develop practical business skills of young people in transition from school to work, using the innovative method of learning through virtual practice enterprise. The presented methodology can be generalized to assist students in building and running simulated virtual enterprises. The following of the project implies that more than 320 students will go through the experience of engaging in simulated enterprise, thus enriching their knowledge base and increasing their chances of accessing a job according to their qualification.

In addition, the national system coordinated by ROCT [10] connects the Romanian simulated enterprises with the European network EUROPEN [11], thus providing a European learning and practice environment, where students can improve their foreign languages, as well as their communication and negotiation skills.

Entrepreneurship courses preceded the actual start-up businesses activities from simulated enterprises created by students from the four Romanian universities involved in the project and were supported by teacher trainers and web platforms [12]. With this aim, local experts specially trained in Austria (OSB Consulting GmbH) have previously held a series of seminars in Romanian universities.

Acknowledgements

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