HOME-TEACHERS - A DEFINITE PORTAL FOR PERSONAL AND GROUP LEARNING OPENED TO ALL KNOWLEDGE DOMAINS

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Abstract

Imagine a place to teach and/or learn any subject in any language. This could be at home for both teachers and learners, virtually joined by their common interests in a portal with many state-of-art e-Learning resources in an environment of Rich Internet Applications - RIA. Thus, there is a new pedagogical paradigm: teacher at home and learner at home. Survival depends essentially on the quality of virtual classes and interactivity. This paper introduces a virtual class environment which uses rich resources for the teaching-learning process, including audio and video tools for all participants, administered by a tutor; instantly evaluation of the class in course, providing feedback dashboards of audio/video quality; interactivity between all the participants; editing tools; notebook; presentation tool; media and file sharing; chat room and others.

Keywords: e-Learning, Virtual School, RIA.

1   INTRODUCTION

In order to assist the growing demand for courses from different areas of knowledge in different languages and with different goals (travel, capacitating programs etc) it was created the Home-Teachers Portal, a distance learning tool, as Turban [1] says, performed with tools and technologies designed to overcome barriers to education in the same location or at the same time.

Bunker [2] gives us the history and features of distance learning, endowed with unlimited potential to revolutionize teaching in universities, public and private schools, and professional education. For example, Boisvert [3] says that web-based learning technologies allow busy IT organizations to keep their staff members up to date with the latest innovations in IT.

The Home-Teachers Portal was developed using Rich Internet Applications - RIA, with many virtual classroom features as: Messenger with audio/video, slideshow, video playback, whiteboard, file and screen sharing, public or private chat and text editor.

The term "Rich Internet Application" was introduced in a white paper of Macromedia [4] (now merged into Adobe) to express the offering by a system of a rich and engaging experience that improves user satisfaction and increases productivity. RIAs can be deployed across internet browsers and desktops. So a RIA application has many of the characteristics of desktop applications. This paradigm turns the system more user-friendly.

Home-Teachers Portal matches people who want to learn to people who want to teach, using the virtual environment of the Adsum Platform as described in the next chapter.

Home-Teachers is a project developed by Ad Infinitum, a Brazilian company placed in Brasilia based on 30 years of experience of its owners in development and project management of Information and Communication Technology.

Ad Infinitum seeks to contribute to the improvement of corporate communication and education processes by offering innovative solutions according to the state of the art of Information and Communication Technology.

It developed and sells the Adsum Platform, an integrated solution for collaboration via web in real time to corporate communication and education. This unique platform which requires trivial infrastructure resources and adds extensive and sophisticated range of features is endowed with modern design,

intuitive usability and ensures rich process of interaction among people far away from each other. It provides virtual environments for multiple simultaneous events in real time in the format of a conference - unlimited number of participants, meeting - six participants and help desk, two participants - the attendant and the attendees.

2   HOME-TEACHERS.NET

The Home-Teachers Portal aims to bring the classroom to the virtual environment, allowing people to take classes anywhere. The virtual platform was developed for interactivity very close to a real classroom. These resources help both teachers and students to make lessons engaging in a particular way or in groups.

Registered users can be students, teachers or both. To become a teacher and/or a student in the system is very simple. The user registration process for course creation (Fig. 1) and class acquisition (Fig. 2) are easily performed on the platform.
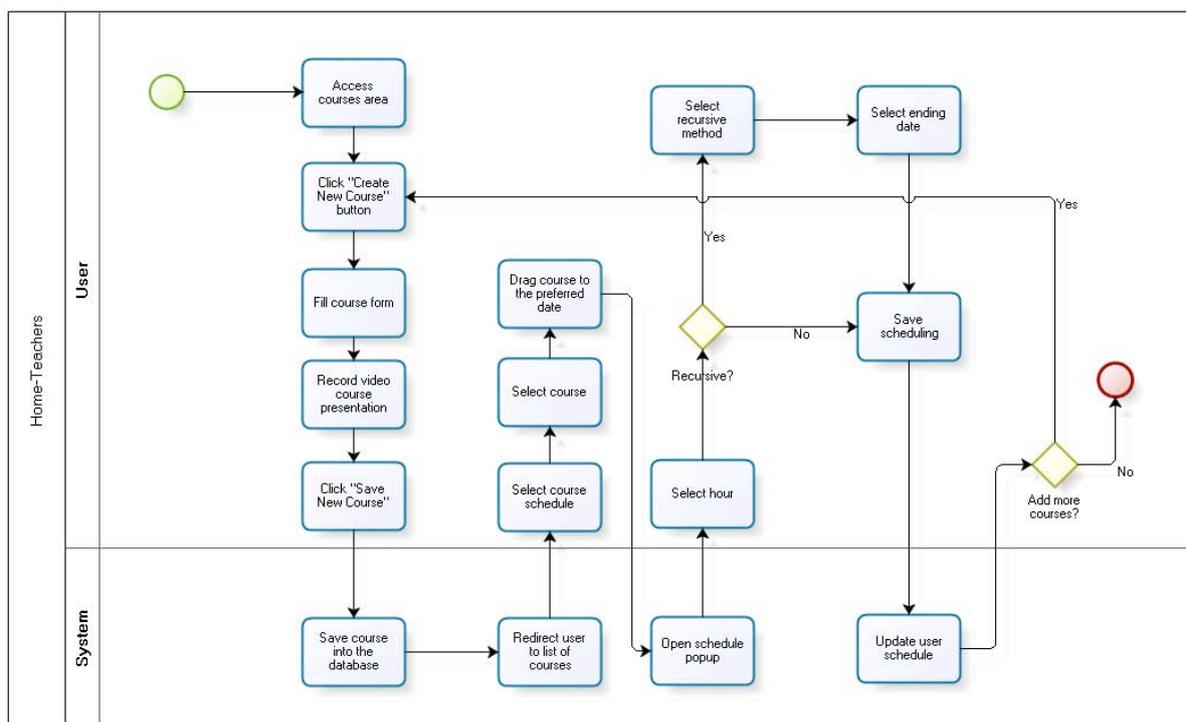

Fig. 1 – Course Creation Process (for Teachers)

The process is very simple for teachers: They record their personal video messages (1 minute) for selling classes (not necessarily courses, but individual classes) one-to-one or one-to-many; They fulfil their personal information and didactics (once); They prepare their offering classes calendar; and they wait for interested learners.

Similarly, the process is trivial for learners: They search for classes in any subject of interest; They choose a teacher and "buy" a class (or recurrent ones); Virtual classes starts few minutes before planned; At the end, learners evaluate teachers for sharing information with other students.

The portal architecture is based in six sections: My Account; Search Courses; My Calendar; My Classes; Evaluations; and Credits; explained as follows:

- My Account - Shows the user personal profile (text and image); the upcoming classes as a teacher or learner are shown, enabling entering the virtual classes only in the appropriate moment.

- Search Courses - Searches can be done by the course/class title or by the name/nickname of teachers. Results can be filtered by category of courses (languages, translation services; science etc); language the course is done; and genre.

- My Calendar - Users can navigate in calendar by month, week or day. Calendar shows their compromises and available hours as teachers and/or learners. As teacher, users can drag and drop a registered course to a cell in the calendar, preparing it. Calendar can be imported or exported to iCal/Outlook.

- My Classes - Shows classes that user is participating in group or particular; as teacher/learner; separately, with some course generalities (expandable to details with one click).

- Evaluations - Shows evaluations received as a teacher or made as a learner, in different squares.

- Credits - Shows the credits that users bought and the complete account orders.
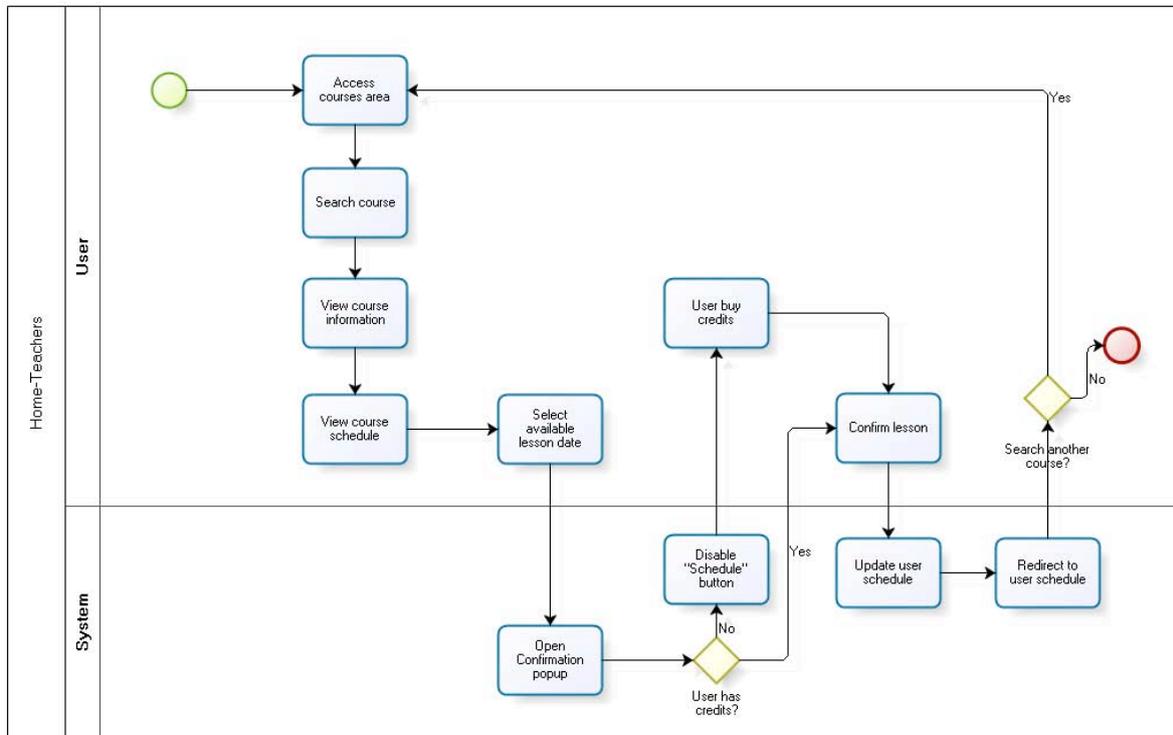
Fig. 2 – Class Acquisition Process (by Students)

2.1   User Registration

The user registration process initially requires a valid e-mail address, username and password. The informed data is registered and an e-mail for confirmation is sent to the user in order to validate the registration. Once the user is validated, the system asks a few more personal details (Fig. 3) that compose an user profile, as his/her name, surname, date of birth, nationality, genre, city of fixed residence, a recent personal picture, languages spoken, and the Coordinated Universal Time - UTC. By the way, UTC is an important feature of the system, since on this basis it is performed the class scheduler management, where the class schedules are organized and displayed for users all around the world.

Fig. 3 – Personal Profile

2.2 Course Registration

Courses are registered in the system by the users themselves (Fig. 4). Users can register their courses by selecting a pre-defined course category, the course title, language spoken in class activities, syllabus, maximum allowed number of students (individual or group) and value for each single class.

Fig. 4 – Course Registration

For each course, the system allows a video recording of up to one minute for a personal course presentation. Courses can be changed while there are no scheduled classes. All registered and active courses are displayed for any users (authenticated or not). There is an internal search tool (Fig. 5) covering searches by course title and/or teacher's name, associated to filters for course category, language spoken and teacher´s gender. The course visualization screen shows the class spoken language, a course description, type of class (private or in group), category and value to be spent in each class. Users can also view teacher's personal information, received evaluations, and availability.

Fig. 5 – The Search Tool

2.3 Virtual Classroom Environment

The virtual classroom environment (Fig. 6) counts on interactive features that help teachers to really have a dynamic and attractive teaching-learning experience. The same conventional classroom features and other specific ones are available for teachers' performance in class:

- Whiteboard;
- Slideshow;
- Video player;
- Discussion tools (public/private chat, audio/video chat);
- File sharing (.doc, .ppt, .xls, .png, . jpeg and others);
- Text editor;
- Polls;
- Live class feedback tool;
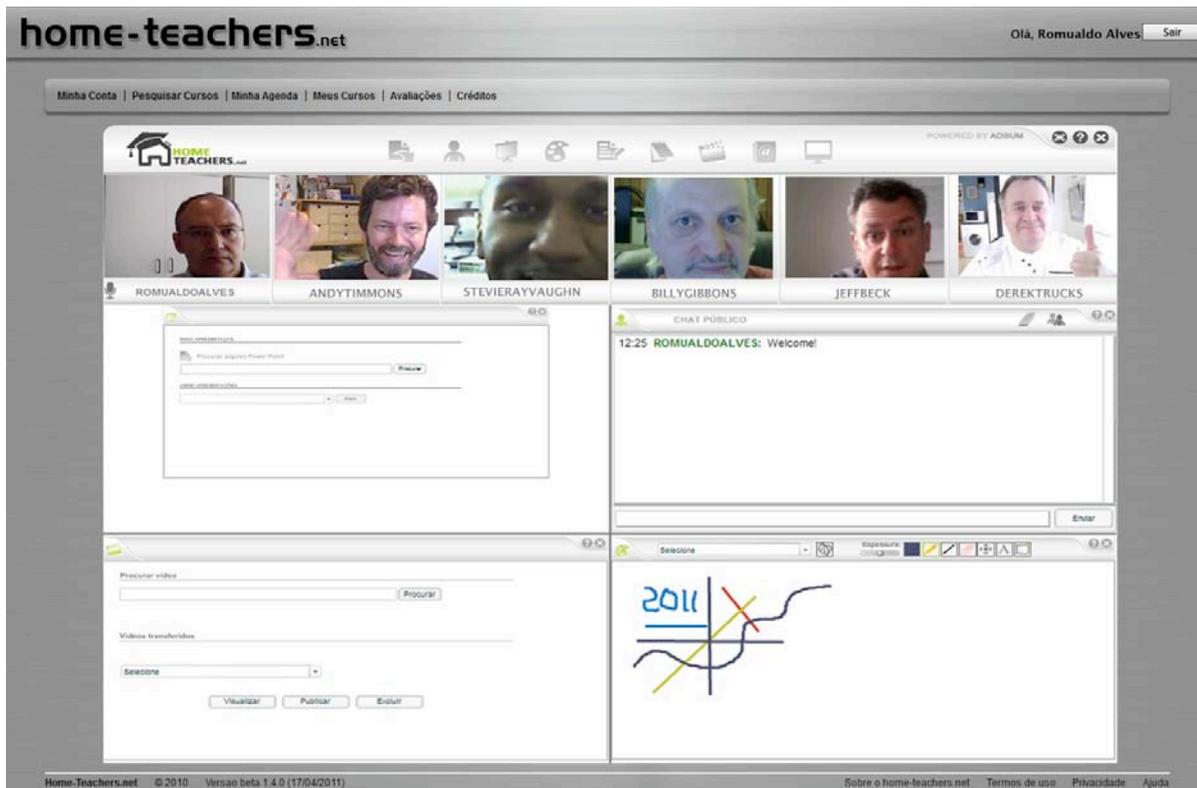- Screen sharing.

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Fig. 6 – The Virtual Classroom Environment

A typical dynamic of class can be defined by some common activities. Whiteboard is used for content explanation, which can be accessed by everyone in class or only by the teacher, when it is necessary. Files for slideshow are previously uploaded by the teacher and presented at the same time for the students in class. Users (teachers and students) can establish communication between them, using a webcam and microphone, turning classes more effective and collaborative. Videos can be played to fix an idea or create a dynamic activity. At any time, teachers can crate surveys or questionnaires in order to evaluate the class. The class content and all files needed to conduct the class can be shared among all. There is a text editor, allowing the generation of texts or class summaries that can be saved on the server or client.

The classroom environment is released 15 minutes before the beginning of each class when a link is provided on the home page alerting the user about the upcoming event.

The system creates a virtual classroom for each teacher, thus avoiding inconsistencies like two or more classes being scheduled for the same teacher at the same time.

The class execution time is counted by the system and stored for possible checks related to conducting classes. Classroom execution and teacher/students participation are individually tracked.

2.4   Credit Management

In the process of creating courses, teachers establish a value for a class. When a student schedules a class, that loan is committed, but still remains unavailable for both teacher and student until the scheduled date and time or an eventual class cancellation. This amount of credits are charged at the end of each class and credited in the teacher´s account. When the teacher requests his tuition credits, he pays a nominal fee for using the Home-Teachers Portal. Credits are purchased using PayPal and PagSeguro accounts and released after the payment confirmation.

The credits earned by teachers for any classes can also be used for scheduling classes as a student with another teacher, if it is the case that a teacher is also a student.

All registered users have private access to their billing information. The system sends messages to users whenever a transaction is performed within the platform.

2.5 Assessment

When looking for a course, people can find references and comments to optimize their choices to have a higher quality class. Thinking about it, at the end of each lesson there is an assessment of the environment, teacher and class. This evaluation is displayed in graphs and comments on the course information page. The ratings received by teachers and students are also displayed privately to the respective user when he is logged in.

When an assessment is not performed at the end of class, this evaluation is requested in the user profile page, until it is done or intentionally disregarded.

2.6 Schedule

The system creates a schedule (Fig. 7) for each user when he signs up. This schedule helps students and teachers to manage their participation in classes. When creating a course, the user (teacher) is redirected to a page for elaborating the specific dates and times that he wants to teach that class, using a drag and drop feature for this. Classes can be booked with or without recurrence patterns (daily, weekly, monthly and yearly). Each course has its proper schedule which is actually a sub-schedule of the teacher to avoid double bookings and intersected schedules.

When a class is purchased, the respective booking is reflected on both teacher's and student´s particular schedule.

Fig. 7 – The Scheduler Tool

If a student wants to drop a class without prejudice to the committed value, he just look for the schedule time of the respective tuition and click the 'Clear' button. This can only be performed in advance of 48 hours.

The scheduled classes (as a teacher or student) and the availability for delivering new courses are displayed in an integrated schedule. The system has a feature to export to Google Calendar, Microsoft Outlook, Calendar, Ipod, Iphone and any other type of system that supports the iCal format.

The upcoming instances of classes are displayed on the users' main page to alert and provide them a link to access the respective virtual classroom.

The system sends messages to users whenever a class is scheduled in the system, or when a class is to take place.

3   CONFORMITY TO E-LEARNING STANDARDS

Conformity is possible when we have well structured content, covering every proposed aspect for the subject in study, and being compatible with the workload for online, offline and presential activities.

According to Varlamis and Apostolakis (2006) [5], "the adoption of standards and specifications facilitates the dominance of platform independent, open technologies and promotes user-centric e-learning systems", our goals. So, we have to consider interoperability, reusability, manageability, accessibility, durability and scalability standards, in a process of four steps, where we have adopted:

1. Specification: IMS Global Learning Consortium

2. Validation: Advanced Distributed Learning Initiative – ADL/SCORM

3. Standardization: IEEE Learning Technology Standards Committee

4. Dissemination: In this final step, we disseminate the chosen standards to the e-learning community.

4   CONCLUSION

The goal of Home-Teachers Portal is to manage and facilitate the completion of courses taught by anyone in the world. It is available in various different languages, for any diverse knowledge area, using the Adsum Platform for web-conference with audio/video resources and other rich ones that enable the simulation of an effective virtual classroom.

The Portal provides a range of online facilitation tools and features of interoperability, transparency, platform independence, security issues and e-commerce integration tools.

The system will be compatible with tablets (Apple iPad2, Motorola Xoom, Samsung Galaxy Tab and others), allowing users to attend classes wherever they are.

5   ACKNOWLEDGEMENTS

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