Collaborative work support platform for educational environments: AWACATE

J.L. Bernier[*], J.C. Calvo, I. García, A. Morales, J. Derrac, I. Rojas

Web team of the ETS Ingenierías Informática y Telecomunicación, University of Granada, Spain

This paper presents the AWACATE platform (Aplicación Web de Apoyo, Coordinación y Análisis del Trabajo en Equipo, awacate.ugr.es). This platform has been conceived to make teamwork easier, providing a set of collaborative tools to the members of a certain team. All the platform can be managed by the members of the group, therefore they do not require third-party help. This behavior is the main feature in a collaborative web 2.0 platform. Other educational or e-learning platforms follow a hierarchical structure where a teacher (or several teachers) manages a student group. Instead of that behavior, AWACATE enables any user to set up a group regardless this user is a teacher or a student.

Keywords web 2.0; collaborative tools; teamwork

1. Introduction

Various educational platforms are being used in the University of Granada, as SWAD [1], Tablón de Docencia, e-TUTOR and others, some of them made *ad-hoc* and others based in MOODLE [2] or another configurable CMS, such as PHPNuke[3] or Joomla![4]. All of this platforms are based on the existence of an academic relationship in which one or more teachers manage a group of students whom they are teaching. However, in our university there are no online tools for other kind of groups, i.e only students, only teachers, or teachers and students without an academic relationship.

On this situation, there are no tools which allows two or more students to share a private virtual space to work together without the intervention of a teacher. This necessity is noticeable in technics courses, where students must work in pairs (or in reduced groups) in various topics, but they do not have any web tool which makes easier the communication between them or a repository of documents and other resources in order to provide assistance in managing group tasks. This groups of students, are not attached to any course, they do not need the presence of a teacher, and can use this tools in private environments.

Also, conventional e-learning platforms do not consider the existence of numerous academic activities where a teacher must keep an eye on one or more students, i.e. in a Final Degree Project, the direction of a Ph. thesis or monitoring an internship.

In [5] a new web application designed to auditing and managing a working team was presented. This application allows to manage the progress of a project in wich several people are working on, and have been very usefull, despite the fact that only members of the ETSIIT Web Team could use it.

Furthermore, there are various free tools on the Internet to form virtual communities and support groups and social networks. For example, Google Groups [6] or MSN Groups [7]. On these websites, any user can create a group and invite other users to take part on it. Every group has a virtual space to communicate privately, share documents and other resources and it is managed by the group members themselves, without the intervetion of third parties.

Basing on the concept of "group" as a "team" and taking into account the usual needs in teaching and academic environments, in this project a web platform dedicated to teamwork has been developed, universal and independent of any relationship between the members of the team. In this platform, which we called AWACATE (*Aplicación Web de Apoyo, Coordinación y Análisis del Trabajo en Equipo*), any user of our site is free to form a group and invite others users to join in, and is allowed the creation of both academic groups and private groups. There is no requirements in the type of the user (teachers, students, others...), any member of our center can create groups or join to already created groups. This makes this platform extremely flexible, not confining its use solely to courses-related projects.

Each group has a set of tools that enable communication between its members, sharing files, information, resources and managing the collaborative work. This is a private virtual space for members of each group and is managed by themselves, without any third party intervention. The type of tools that have been added to the platform are focused on teamwork, to the tipical tasks that teachers and students usually do (as opposed to other tools for groups such as those cited in paragraphs above).

---

[*] Corresponding author: e-mail: jbernier@ugr.es, Phone: +34 958240585

Fig. 1. Snapshots of some tools on the platform.

Other educational or e-learning platforms follow a hierarchical structure where a teacher (or several teachers) manages a student group. Instead of that behavior, AWACATE enables any user to set up a group regardless this user is a teacher or a student. This feature makes AWACATE an unique educational platform able to complement others, covering some aspects that these platforms may not have, for example:

1. Groups of two or more students working together
2. Groups of teachers working in different tasks like research groups or educational coordination
3. Groups with few teachers and several students in master projects, PhD programs or class exercises.
4. Student unions
5. Spin-off and junior companies
6. Governance of the ETSIIT
7. Committees
8. Others: Our choir or the Web development team

In general, AWACATE allows creating heterogeneous groups made up of any member of the University. Any user can create a group and invite other users to become part of it. Each group has a private set of tools to make easier the communication between the group members.

2 Platform description

The platform AWACATE has been built on the following technologies:

- XHTML + CSS as webpages design languages and content presentation
- PHP5 as server-side dinamic content programming language
- AJAX as client-side dinamic content programming language
- MySQL as database management system
- Apache as web server

Currently the following tools are implemented:

- Central panel with a summary of the most important applications (*Figure 2*):
  o Tasks summary
  o Last messages and threads on forum
  o Internal messaging system
  o AJAX News Board
- Forums
  o Threads
  o Messages

- Repository
  - Folders
  - Files
  - File-Downloads
- Internal messaging system
  - Private message between members of the team
  - Broadcast message to all the members of the team
- Task manager (*Figure 3*)
  - Assigning new task
  - Tracking progress
  - Time control
  - History and reporting
- Group members management
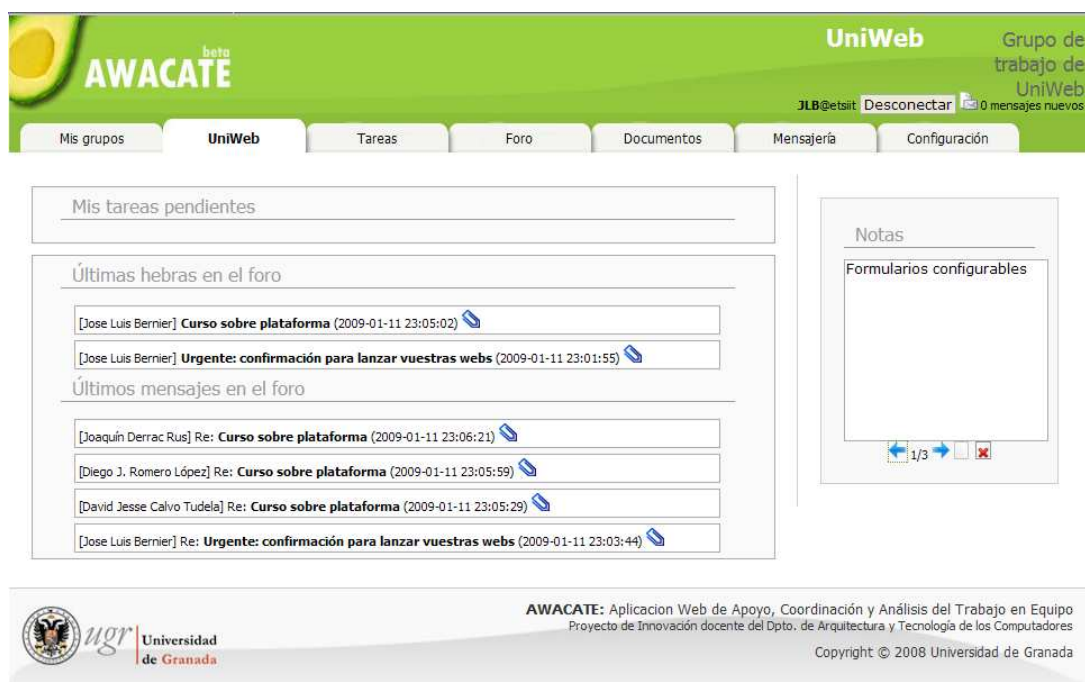 - Administrators users
  - Plain users

Fig. 2. *Central panel* with a summary of the most important applications.

Any member of the school can create a group and invite others to join it. All the tools listed above are available to members of the groups.

Note that the AWACATE platform meets the current standards of web accessibility and navigability, observing the existing legal regulation on websites for public services [8].

3 Operating results of the platform

The platform is 100% functional and is accessible through http://awacate.ugr.es. It went into operation at the end of last year (June 2008) and from then until now, these are some of the results achieved:

- Usage Statistics:
  - Groups created: 75
  - Users: 170
  - Uploaded documents: 345
  - Forum threads: 152
  - Tasks assigned: 190

- Larger groups:
  - Junta de Centro (School council): 60 members
  - Equipo Desarrollo Web UGR: 10 members
  - PTC-UTR: 8 members
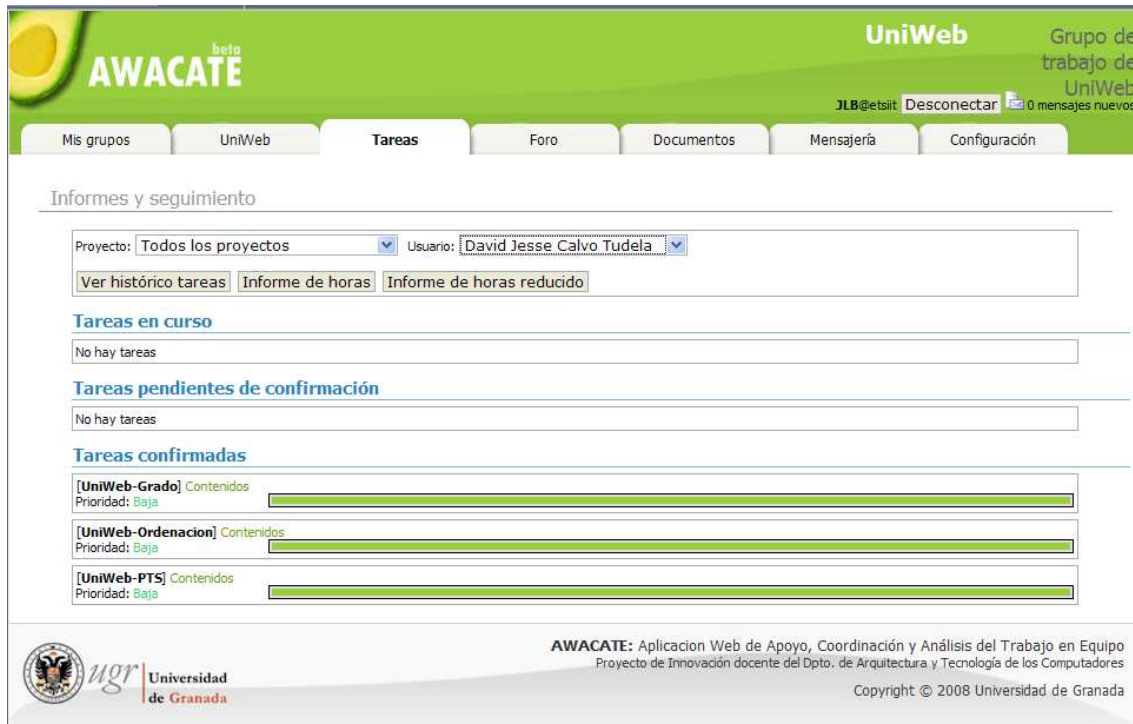 - Bioinformática: 7 members
  - IS Teleco 2008: 6 members

Fig. 3. *Task manager*. This panel shows the state of the different tasks assigned to a member of the group. It is possible to generate reports about different areas and considering different projects.

Given these initial results and exploring casuistics we must qualify several interesting things:

1. The platform has been well received in the community of students, showing that a tool to make easier working in pairs or in larger groups formed by students was necessary.
2. The platform has been embraced by diverse organic statements such as the School Council, various committees, other councils, etc, though initially it was not our goal,. These groups, made up of faculty, students and administrative staff have, through AWACATE, a virtual space in which to deposit working papers, keep a diary of work and communicate privately among its members.
3. Another type of communities that have positively received the platform were the Junior Enterprise and spin-offs from our school. They have founded in AWACATE a simple tool that allows them to keep track of tasks assigned to different fellows / members / workers and their progress, enabling control of hours devoted to each project and allowing a better adjustment of efforts and budgets.

4 Conclussions

AWACATE has been shown to be a useful tool in many contexts, surpassing our initial expectations and our main goals. Several groups are using our site to take advantage of the virtual space that provides and the tools and resources available, thanks to the ease and flexibility provided to them to create and manage groups without intervention of third parties, or administrative or academic limitations. In this way, the context of use of AWACATE has exceeded the teaching environment and comes to other areas such as university groups or heterogeneous groups of teachers, pupils and administrative staff.

The wide acceptance the project is having and the potential shown, has made us consider the desirability of offering AWACATE to the entire university community, which will be proposed through an project extension.

In short, the University will undergo major changes due to the introduction of new curricula and new assessment strategies in accordance with the EEES. Within this space, continuous assessment, the supervision and, generally, a more customized monitoring of the work done by students is a requirement, and it is in this area where a tool like AWACATE can fully develop its potential, as it covers just such needs.

Finally, it should be noted that there are several improvements and interesting features othat could be added in future to AWACATE to expand its portfolio of services and to meet further needs. Many of these improvements have been reported by users of the platform following the particular use they made of it.

Acknowledgements

References

[1] A. Cañas, E.M. Ortigosa, D.J. Calandria, A.F. Díaz, J.L. Bernier. "Desarrollo y explotación de una plataforma de teleformación y gestión docente". Actas del Simposio Nacional de Tecnologías de la Información y las Comunicaciones en la Educación. VIII Congreso Nacional de Informática Educativa (SINTICE'07) (celebrado dentro del CEDI 2007), pp. 173-180, ISBN: 978-84-9732-597-4, Thomson, 2007.

[2] Página web de Moodle en http://www.moodle.org/

[3] Página web de PHP-Nuke en http://phpnuke.org/

[4] Página web de Joomla! en http://www.joomla.org/

[5] C. Gómez-Valenzuela, J.L. Bernier, M. Barchein. "Work Group Management Using a Web Application". Information Society and Education: Monitoring a Revolution. Serie Sociedad de la Educación , Vol. 2, 9. 2002.

[6] Grupos de Google en http://groups.google.es/

[7] Grupos de MSN en http://groups.msn.com/

[8] Legislación española sobre accesibilidad en la Sociedad de la Información.
http://www.sidar.org/recur/direc/legis/espa.php