

LIFELONG LEARNING PROGRAMME

International Internship AGORA (I2AGORA)

AGREEMENT NUMBER 2010 - 4993 / 001 - 001

PROJECT NUMBER 511784-LLP-1-2010-1-HU-KA4-KA4MP



Virtual Internship Working Environment (VIWE)

Deliverable D3.1

WP3. Internship 2.0- involvement of students in survey, modelling and implementation

WP Leader: “Politehnica” University of Timisoara

First version

Actual submission date for this version: 31/12/2011

Final version: 30/06/2012

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Lifelong
Learning
Programme



TABLE OF CONTENTS

Virtual Internship Working Environment (VIWE).....	3
About VIWE.....	3
VIWE - Technical Description	5
Resources.....	6
Activities	9
Blocks.....	11

VIRTUAL INTERNSHIP WORKING ENVIRONMENT (VIWE)

Virtual Internship Working Environment (VIWE) is a collaborative online tool based on the ViCaDiS environment. In WP2.1 the main activity was to model VIWE, based on the different Internship models- as described in survey and analytical reports (CSVM, INTERN, REVE) on the one hand and on the experiences and tools of ViCaDiS project, on the other hand. Based on CSVM models and ViCaDiS multilingual collaborative learning environment, special methodology and application models was developed as a test-bed for supporting virtual placement, and to offer effective tools for all involved actors (student, faculty and employers) the stakeholder dimension of the "magic cube".

ABOUT VIWE

ViCaDiS (Virtual Campus for Digital Students) is an environment developed in the EU Life Long Learning Erasmus Virtual Campus Project, that aimed to support the development of an innovative virtual campus for digital students - young adult students who have grown up surrounded by technology in almost every aspect of their daily life and are completely at ease with technology and innovation.

It is a project first proposed by the Multimedia Centre & the Distance Education Centre (CID) from the "Politehnica" University of Timisoara, Romania, starting in 2007 and still in use today.

ViCaDiS was enhanced with more collaborative tools as a design in testing the possibility to have a environment designed for virtual mobilities – as a result **VIWE**.

The purpose of VIWE is to provide open educational resources and tools available to all students and to ensure interoperability with existing eLearning environments used in the partner universities. The platform incorporates several types of open educational resources (library, glossary, external links, student projects, course activities), open educational tools for synchronous and asynchronous communication (wiki, blog, forum, calendar, podcasting, instant messaging communication, mobile accessibility) and promotes social networking as an instructional method.

The VIWE environment is multilingual – a large portion of the interface and many content areas are available in all 6 project languages: English, Romanian, Italian, Hungarian, Finnish, Lithuanian, Estonian, Turkish, Spanish, German, Dutch. The integration of additional languages is possible and relatively easy to implement, making it a strong candidate for further development and reuse.

The VIWE platform was developed on a MOODLE structure. Moodle is a course management platform for online learning.

The acronym MOODLE stands for *Modular Object-Oriented Dynamic Learning Environment*. It's also a verb that describes the process of lazily meandering through something, doing things as it occurs to you to do them, an enjoyable tinkering that often leads to insight and creativity. As such it applies both to the way Moodle was developed, and to the way a student or teacher might approach studying or teaching an online course.

One of Moodle's strongest points is its open-source status, which allows the use and adaptation of the platform without licence or EULA - type restrictions. This advantage, as well as the enthusiastic user community behind the application makes it one of the most widely-used online course management systems, a worthy contender to the most popular commercial solution, Blackboard. This competition is best demonstrated in the following image, which represents the yearly evolution of trends in news reference volume, according to Google.



Evolution of trends in news references of eLearning platforms

The design of Moodle is based on a socio-constructivist pedagogy. This means it aims to provide a set of tools that support an inquiry and discovery based approach to online learning. Furthermore, it strives to create an environment that allows for collaborative interaction among students as a standalone activity or as a completion to conventional classroom instruction.

Moodle is a course management system designed with learners in mind. Based on the social constructionist philosophy, Moodle was developed to encourage interaction between students and to improve learning through the construction of ideas and concrete "things" for others to experience.

Moodle's standard configuration fulfills most of the needs of online courses regarding communication and formal learning. The tools it provides are very intuitive and easy to use, as well as being indispensable in many learning cases.

This fits perfectly with the ViCaDiS philosophy, which aims to combine formal and informal learning, through facilitation of contact between students across Europe, under the "umbrella" of a social platform. Combined with the relatively low cost of implementation and support, these advantages made Moodle the perfect candidate as a starting point for the VIWE platform.

VIWE - TECHNICAL DESCRIPTION

The design previously described was implemented starting with the tools that Moodle provided, which were then configured, adapted, and in some cases complemented with applications developed especially to meet particular requirements.

Content on the platform is structured in learning units - courses, which are divided among categories and subcategories. Each course can have one or more tutors and many more students, participating users sharing the resources, activities and learning experience in general.

There are three main types of content:

- resources - bits of information (text, images, multimedia content, etc.) which are presented to the students “as they are”, for consultation purposes
- activities - functional entities which require various degrees of interaction from the students
- blocks - auxiliary entities, separated through the interface from the other types of content, since they provide support and secondary functionality

RESOURCES

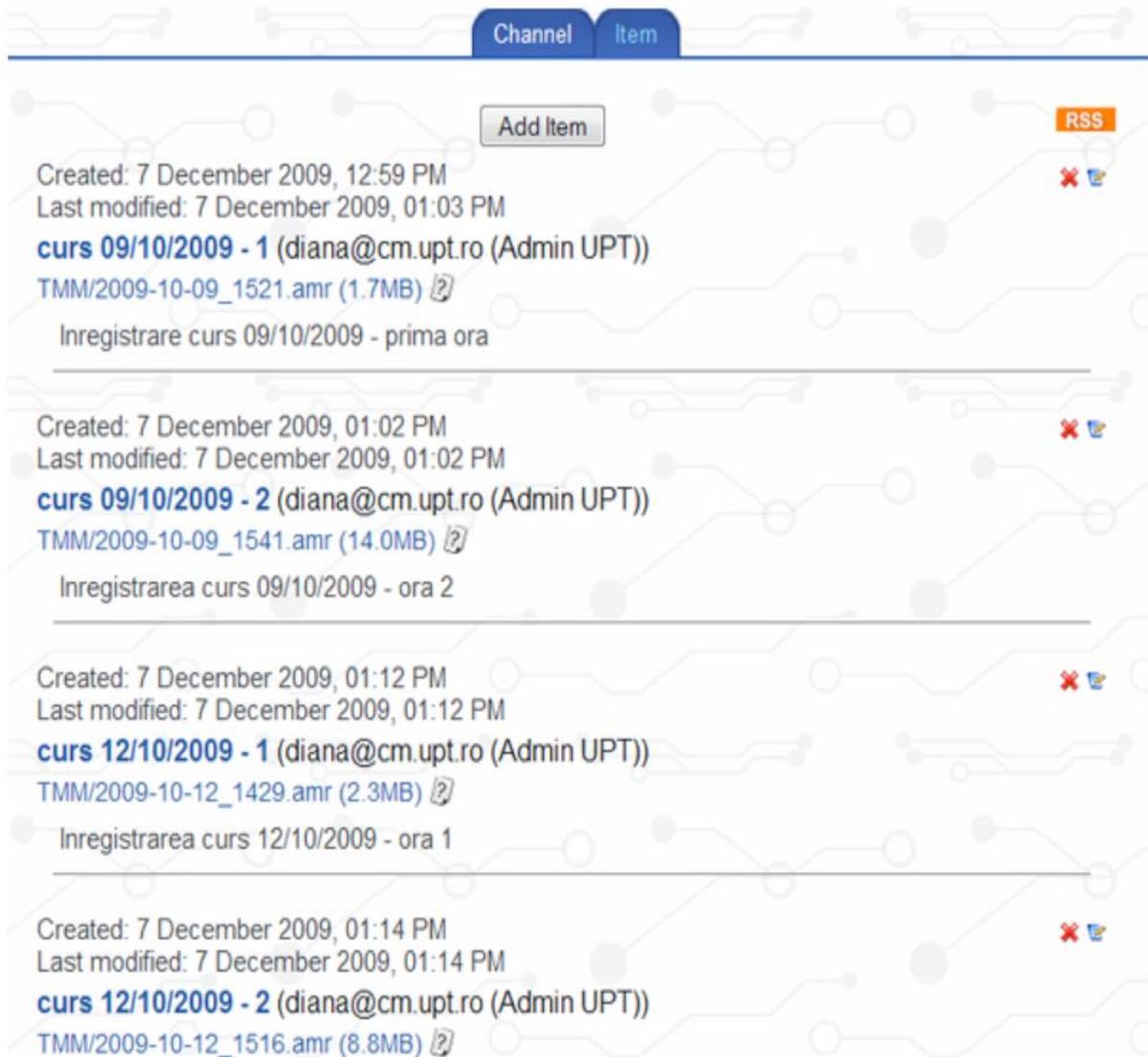
Moodle provides a wide range of resource types, from web pages that are created by tutors through a WYSIWYG (“What You See Is What You Get”) interface, to external links or local files and from glossary entries to learning objects.

One of Moodle’s drawbacks is the limitations in working with files as resources. Usually, only tutors could upload files and make them available to students as read-only assets. For this reason it was necessary to install and configure a third-party extension called **File Manager**. This module gives all users file upload and management privileges, set quotas, as well as permission to share files or external link among different types of users in the same course.

The screenshot displays the 'My Files' interface. At the top, a blue header reads 'My Files'. Below it, a text box explains: 'You can manage your files/links/folders here. If you are in a course, you can also share files to other course members as well as upload files to an assignment.' A dropdown menu shows 'With Chosen Link(s)...'. Below this is a table with columns: 'Select All', 'Name', 'Category', 'Description', 'Size', 'Date', and 'Actions'. The table contains one row with the text 'You have no uploaded links in this folder.' To the right of the table, it says 'Directory size: 8 KB'. Below the table are two buttons: 'New Folder' and 'New File/Link'. At the bottom left, there is a 'Categories' section with a dropdown menu 'With Chosen Category(s)...'. Below it is a table with columns: 'Select All', 'Category Name', and 'Actions'. The table contains one row with the text 'None Defined'. Below the table is a button 'Create New Category'.

File Manager interface

A modern form of content distribution - the **podcast** - required the installation and adaptation of another dedicated module. This allows students to subscribe to a feed of multimedia content, and any update to the stream will automatically cause the transfer of the new content to the users' devices.

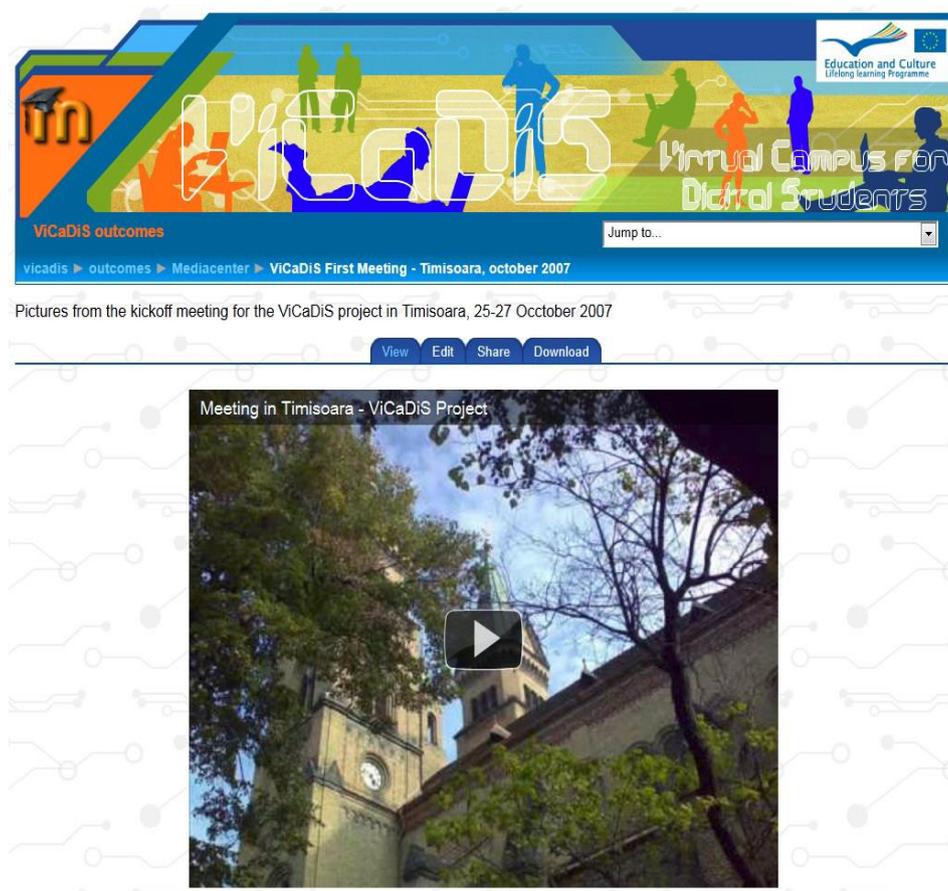


The screenshot displays a web interface for a podcast channel. At the top, there are two tabs: "Channel" and "Item", with "Item" selected. Below the tabs is a navigation bar with an "Add Item" button on the left and an "RSS" button on the right. The main content area lists four podcast items, each separated by a horizontal line. Each item includes the following information: creation and modification dates, a title, the creator's name and email, the audio file name and size, and a description. The items are:

- Item 1:** Created: 7 December 2009, 12:59 PM; Last modified: 7 December 2009, 01:03 PM; Title: **curs 09/10/2009 - 1** (diana@cm.upt.ro (Admin UPT)); File: TMM/2009-10-09_1521.amr (1.7MB); Description: Inregistrare curs 09/10/2009 - prima ora.
- Item 2:** Created: 7 December 2009, 01:02 PM; Last modified: 7 December 2009, 01:02 PM; Title: **curs 09/10/2009 - 2** (diana@cm.upt.ro (Admin UPT)); File: TMM/2009-10-09_1541.amr (14.0MB); Description: Inregistrarea curs 09/10/2009 - ora 2.
- Item 3:** Created: 7 December 2009, 01:12 PM; Last modified: 7 December 2009, 01:12 PM; Title: **curs 12/10/2009 - 1** (diana@cm.upt.ro (Admin UPT)); File: TMM/2009-10-12_1429.amr (2.3MB); Description: Inregistrarea curs 12/10/2009 - ora 1.
- Item 4:** Created: 7 December 2009, 01:14 PM; Last modified: 7 December 2009, 01:14 PM; Title: **curs 12/10/2009 - 2** (diana@cm.upt.ro (Admin UPT)); File: TMM/2009-10-12_1516.amr (8.8MB); Description: (none visible).

List of podcasts

Media Center brought an improvement to the management of media resources, especially through the ease with which users could embed videos from dedicated public video sharing platforms, such as YouTube or Google Video. This way, even content not stored on the VIWE platform could seamlessly be integrated in a coherent and complete learning experience.



Media Center Interface

ACTIVITIES

As previously stated, activities are informational entities which require a greater interactivity between different types of users involved in the educational process. Activities usually represent the main indicator in assessing and evaluating the evolution of a student's capabilities and aptitudes in the subject at hand, which is why they were given a greater importance by Moodle's creators compared to other types of interactions.

The communication tools available on the platform are varied and designed to fulfill different needs in different scenarios.

The **personal blog** in VIWE is meant to be a method of expression available to all users regardless of their roles in different contexts, since it is functionally separated from the main form of organization in Moodle: the course. Each user has their own blog, which they can share and discuss with other users, in the form of comments.

However, the activity - titled **OU Blog** - succeeds in bringing this type of activity in the virtual classroom, by giving the students "the spotlight" and allowing tutors to evaluate this activity of role reversal from the perspective of an impartial observer. OU Blog can be used in a course as a "gradable" activity, in different scenarios.

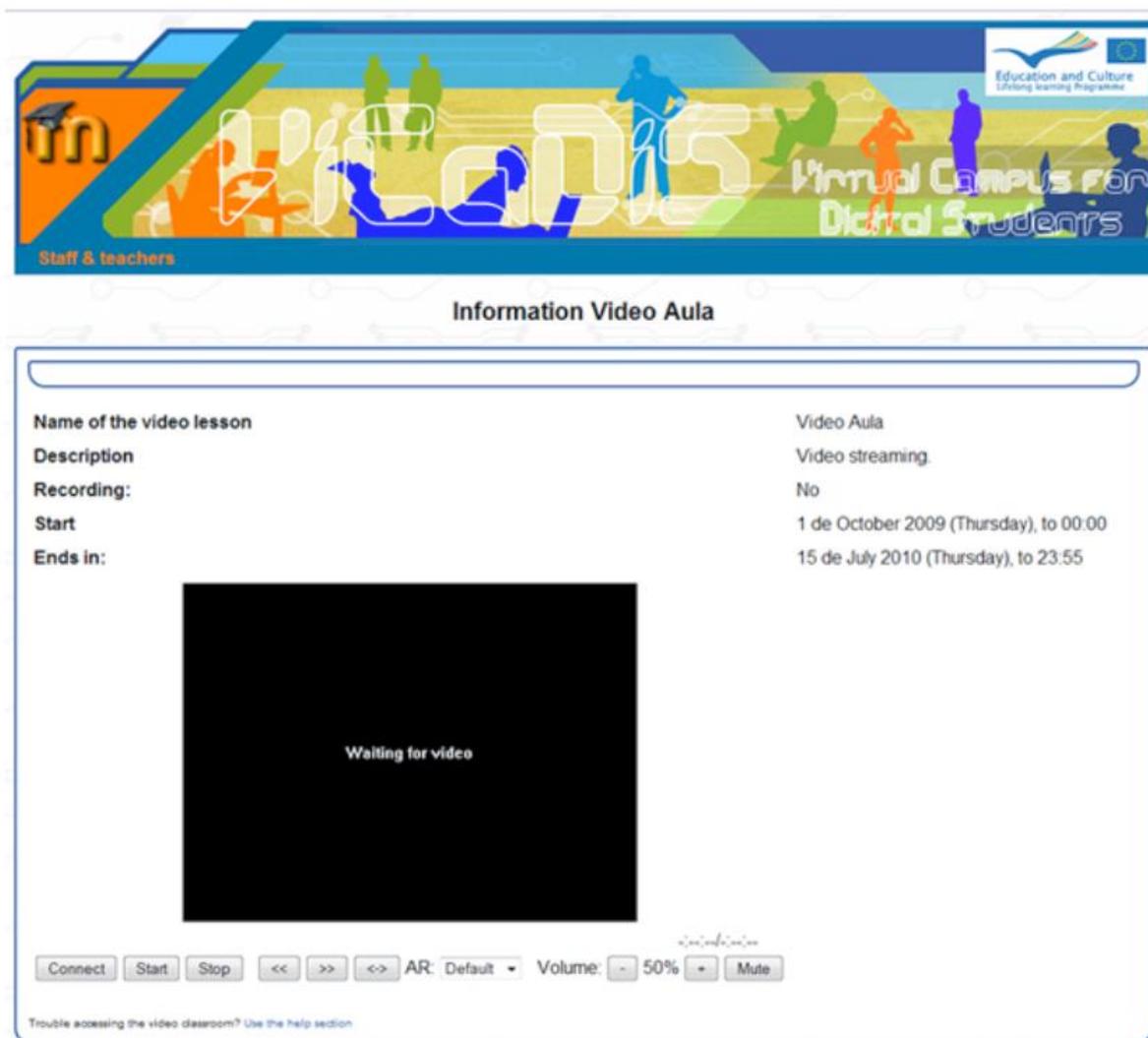
The **forum** is the standard communication tool in VIWE. With the creation of each course, a News Forum is automatically added, and all users enrolled in the course are subscribed to this activity. Like the blog, it is an asynchronous method of communication, since it doesn't require users to be simultaneously logged in the platform, but unlike the blog, it is a more "democratic" form of expression. Anyone can post and/or reply in a forum, and all messages are displayed in a thread. In a blog, the centerpiece is the blog post, while the comments are mere reactions, though sometimes these comments can lead to important debates on the original subject.

For a more efficient tool of communication, VIWE can use the **chat** (or Instant Messaging) as a programmed activity in a course or other context. Users need to be logged in at the same time, hence the term "synchronous" communication. Conversations can be more animated, and information exchanges more rapidly.

The epitome of collaborative activity, the **wiki**, is well represented by the platform's own module with the same name. Whenever a tutor indicates that two or more students need to work together towards the achievement of a common goal, this activity performs admirably. Students use the non-

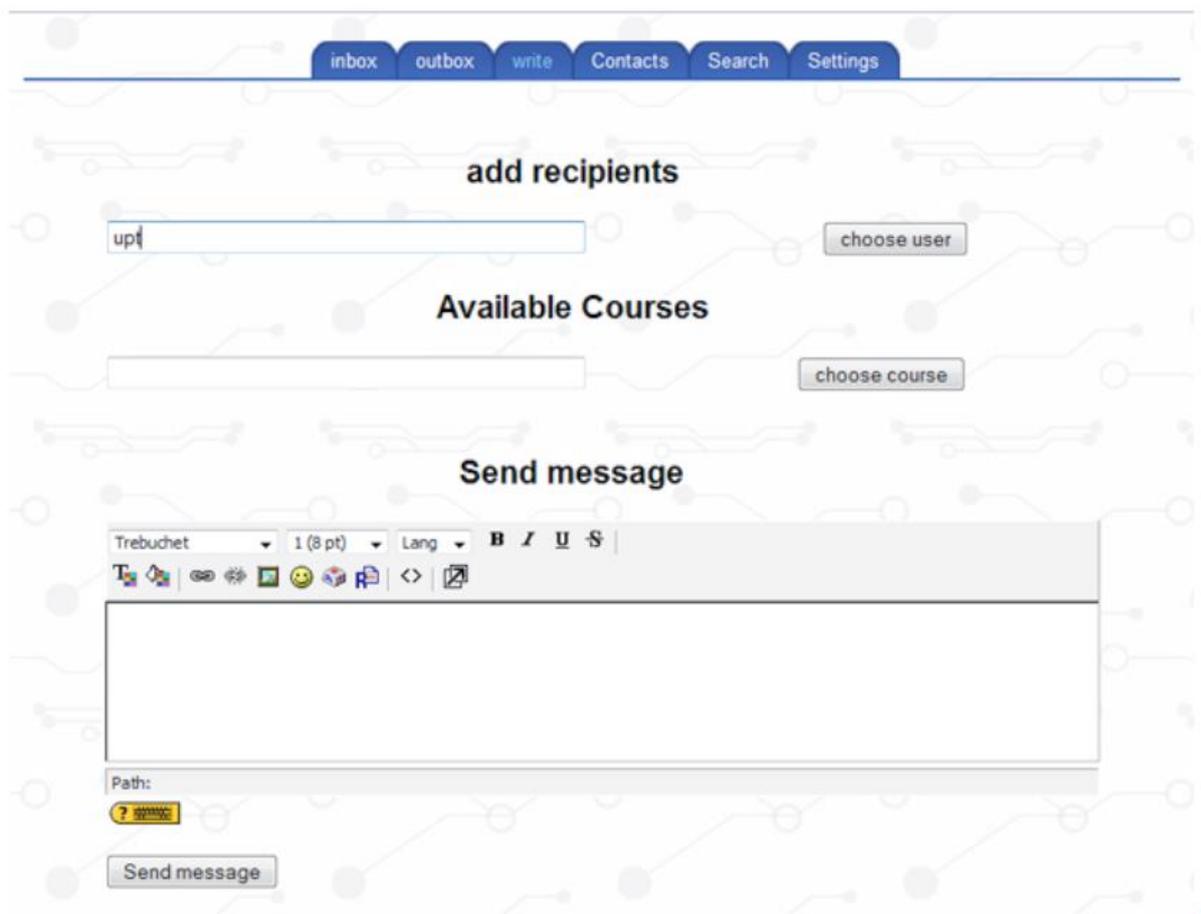
programmers friendly language of wiki to create pages of content, building on the content already inserted by their colleagues, while the tutor can assess the work, with the help of well documented history logs.

There are many more types of activities, such as assignments, choice, glossary, lesson, workshop, as well as tools dedicated to the evaluation of knowledge, like the quiz, survey, etc. But the most effective tool of communication, the **live video-conference**, is missing from Moodle's core arsenal. Different solutions were tested, with mixed results. Finally, the limited functionality provided by **Video Aula** was chosen to be integrated into the platform. The main drawback of this module is the use of the open-source application Video LAN, which has a built-in limitation of 20 simultaneous streams from a single source.



Video Aula interface

Another functionality that was improved since the launch of the platform was the development of the **Advanced Messages Module**. The implementation of this module enhanced the core functionality of VIWE which allowed users to send personal messages to another user, by introducing the sorting of messages into Inbox and Outbox, and the quick search of the desired recipient.



Advanced Messages Module Interface

BLOCKS

Aside from the multitude of different simple functionalities provided by the blocks integrated into the VIWE platform, another block developed and implemented into the day to day use of the application has greatly simplified the management of users from an administrator's point of view. This block is called **Advanced User Administration** and allows for the quick management of users, such as:

- the creation of multiple users through the use of a “comma separated values” .csv file, which is uploaded to the platform and provides the basis for the creation of users in bulk

- the mass enrolment of students in a course
- advanced search capabilities, according to roles and privileges, as well as search terms

Another important block is the interface for the **Mobile Learning Environment - MLE**, the solution which was adopted in order to allow access to the VIWE platform from mobile terminals. This block detects the operating system and browser version of the user, and redirects the page according to such characteristics as device type or screen size. This solution also provides Java applications which can be installed on mobile terminals in order to provide further functionalities and greater access to the platform.

MLE Browser test

Start
Inbox(0)
⊙



Welcome **admin!**

My Courses

Messages

Community

Extras:

Mobile Tags

Powered by 

Emulate different devices (use different Style-Sheets):

- Standard
- Big screen
- Device with touchscreen
- iPhone or iPod Touch

Mobile Interface test, according to mobile device type

And last, but certainly not least, one of the most important customizations of the platform was the implementation of a uni-directional Single Sign-On mechanism between VIWE and the closed eLearning platform in use at the “Politehnica” University of Timisoara. Based on Moodle Networking - the platform’s core capability - this connection allows students which have accounts on the university’s application to access, via a link, the VIWE platform, without the need of a second authentication. VIWE manages the students as external users, while still giving them the same privileges as any other authenticated student, like access to courses and other common resources.