

# VIRTUAL UNIVERSITY IN THE CONTEXT OF TODAY WEB TECHNOLOGIES

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## Abstract

*In the Internet era, where everything is online, students are asking for more online information like taxes and payments, courses, tests, grades, news etc. that should be accessible from any device that you can imagine. Furthermore, they ask for online communities where they can debate any subject and can met any person they want. With the help of today technologies we can say that everything is possible. This should be the tomorrow universities where students should remain student and teachers should keep their high quality standards even we go further with WEB 2.0 and WEB 3.0.*

**Keywords:** *virtual university, integrated informatic system, web 2.0 , web 3.0*

## Introduction

In the Internet era the need for web complex integrated applications is sustained by huge demands from all kind of users.

This is the case for universities also. Right now there are a lot of web applications for some specific purposes like e-learning, management etc. which are not integrated as a unique system and everything is not well connected.

We have to say that an integrated system is a must in order to have everything available from anywhere.

Moreover, if we go further and think in the context of web evolution, where everything is dynamically generated and the tendency is to have social behaviors of informatic systems.

## Virtual University, fact or foe ?

These days the world of students, teachers and everything else that are related to university are the whiteness of big software changes around the globe.

Right now, in some of universities the students are learning in the old fashion way (with paper and pencils), the work flow of documents is also in the same way managed etc. (Fig. 1) . This is a fact and we should encourage them to change the way of facts and modernize all the departments and services. The students are one step ahead of us (teachers and staff) in the matter of technology and they make us to come and respond to their needs.

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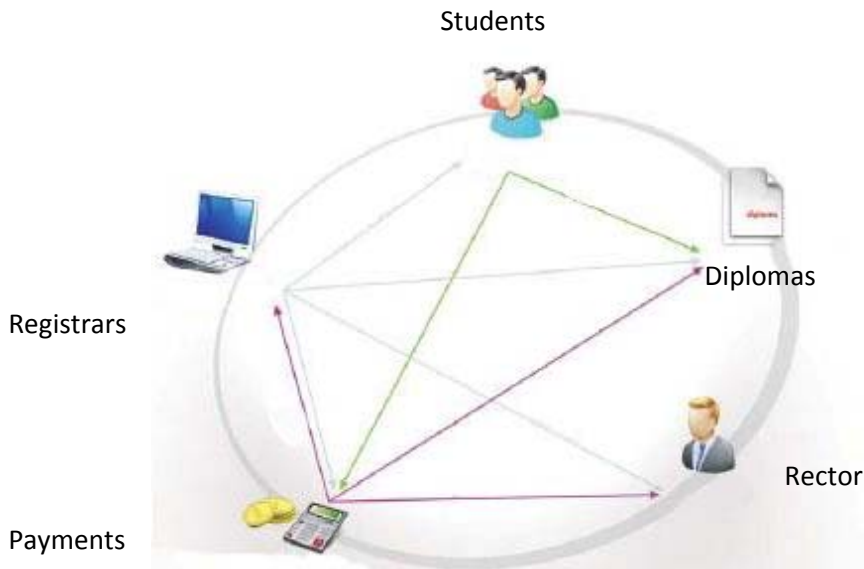


Fig. 1.Regular University Informational Distribution Diagram.

In order to do that we have to change the way we think. We have to give away the mentality of “that way is wrong” and come with a positive and open minded way of thinking.

We have to make every step of anyone available online. Everything should be available in a form or another on a real time server (Fig. 2).

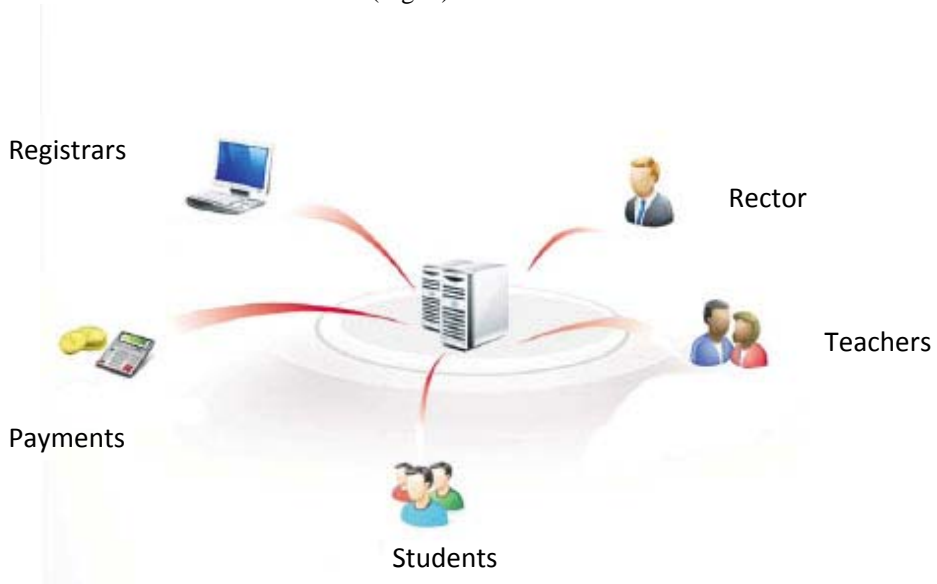


Fig. 2.Virtual University Informational Distribution Diagram.

In the Internet era, where everything is online, students are asking for more online information like taxes and payments, courses, tests, grades, news etc. that should be accessible from any device that you can imagine.

Furthermore, they ask for online communities where they can debate any subject and can meet any person they want.

With the help of today technologies we can say that everything is possible.

This should be the tomorrow universities where students should remain student and teachers should keep their high quality standards.

With the entrance of Romania in the European Union the issue of finding some unique quality models is related more often than before, in order to assure an European compatible learning system for all countries of the Union, by creating a unique European education boundary.

The educational importance, in development for an active attitude of the people for a knowledge and innovation society, leads to some enhanced attention of the problems for social cohesion and implies a better understanding of quality of education.

This idea is underline also by control and coordinating entities from Research, Learning and Youth Ministry of Romania like ARACIS (Romania Agency for Quality Assurance in Higher Education) and CNCSIS (The National University Research Council), which are affiliated to Bologna process of development and which emphasize the necessity of existence at every University for a centralized interconnected computerized system for each service and segment with a real time synchronization of the teaching, testing and learning of the educational system.

The necessity of integrated informatics systems is an obvious requirement of the mentioned entities (but neither the less from students) to be developed and implemented in the educational system since we develop a powerful long distance learning and also for the enhancement of the quality of attendance less system.

Since 2004 I have developed such a system (3) and the advantages are based on:

- User friendly access for students, registrars, accounts men and not the last, for teachers to knowledge and teaching materials from anywhere, anytime;
- Logged and encrypted access for everyone;
- Efficiency of human and resort resource planning;
- Easiness of internal administration and organization;
- Permanent real time access for the student of his records and payments to the university;
- Reports for complete image for the knowledge level of students;
- Better and improved real time Teacher - Student communication system and an efficient transparency model for online material and online test;
- Removing the bureaucracy and long time resolving results;
- Building an organized active archive.

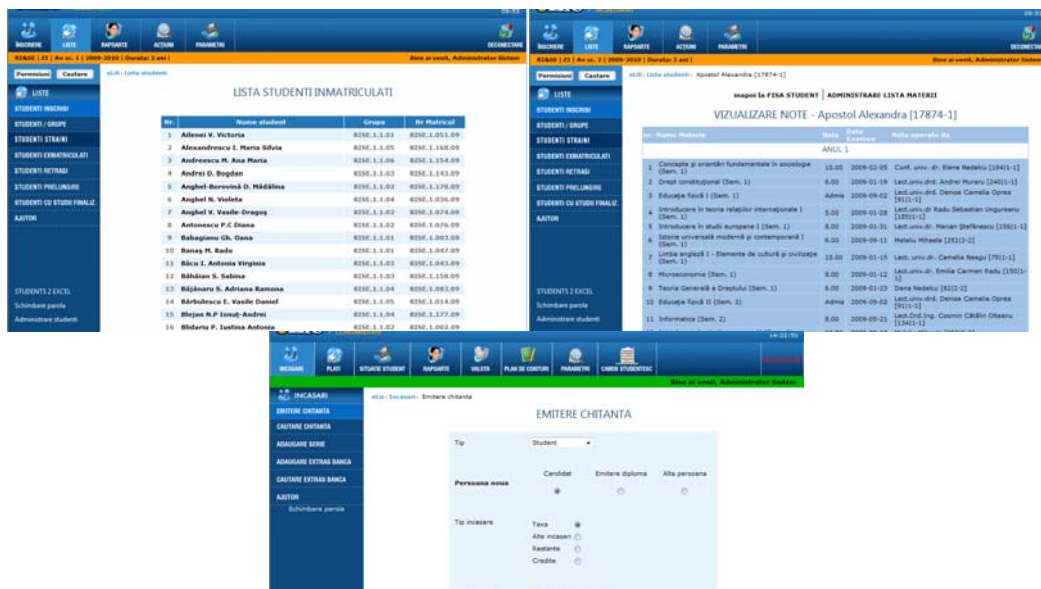


Fig. 3. WEB Integrated Informatic System.

Looking back in past and up in future, I can emphasize that such a system should have some advanced functions for:

- Teaching, testing and evaluation;
- Management of registrar's activities;
- The report and management of financial and economic activities;
- Measurements and reports of engaged entities in local educational system;
- Easiness for learning techniques;
- Enhancement for student attention and for knowledge assimilation;
- Real time supervision of didactic methods, administrative requirements and management activities;
- Testing of new ways of learning techniques;
- Interlink-ing of new courses with new subjects.

And if we think just a few steps in future we'll realize that social behavior of these systems (web 3.0) are close and digital information available on web should be linked to university social life in order to be a modern and up to date institution.

In this direction I have managed to maintain and install a forum platform where student can change ideas and can even socialize.

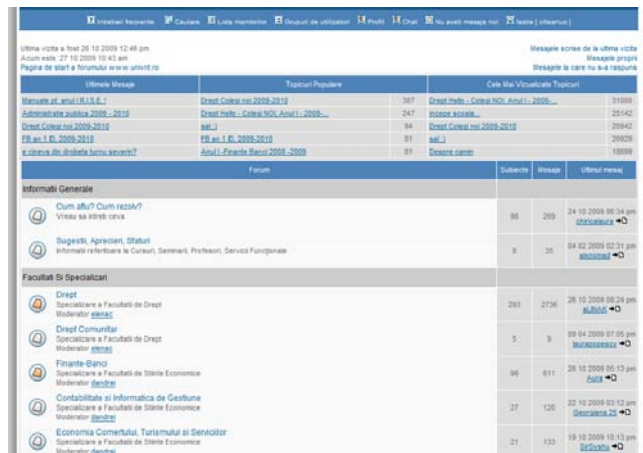


Fig. 4. Open for taking forum

The students doesn't need to come to faculty registrars to see their grades, to see what taxes they have to pay.

With an individual username and password basis they see even information about final license exam, regular exams schedule etc.

With every option developed and released to student module the efficiency of the system proved to be a god solution for quick information.

In this matter I have to improved the server components to provide from 50 concurrent connections to almost 1000 concurrent connections.

The statistics of access to informatic system is showing that the traffic is growing very fast due to my interconnection measures and optimization of data streams.

In March 2008 I had only 14979 visitors in a month and in September 2009 I had almost 78.078 visitors (5) due to a fair and update information available online.

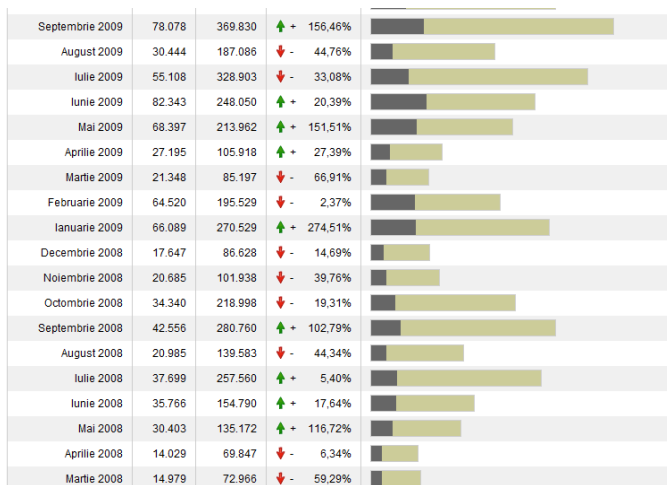


Fig. 5. Monthly access of visitors

From the point of view of access distribution I have to say that Bucharest is in top with 41702 visitors followed by Giurgiu and Prahova with almost 1100 visitors(6) each.

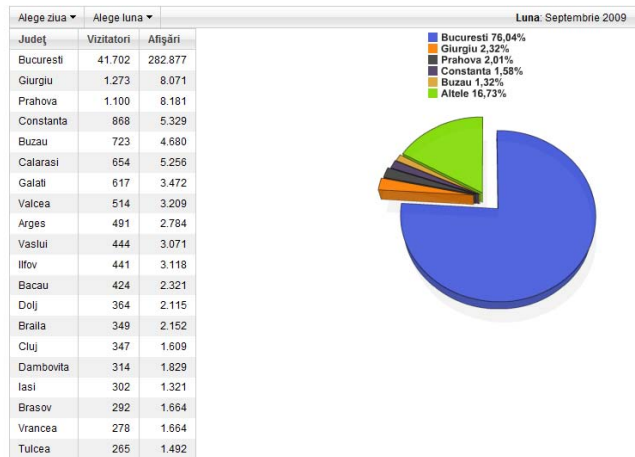


Fig. 6. Monthly access from country areas

The browsers war of which is the best continues even in an singular web informatic system. The problem of access of the client browser is not an easy one because I have to know which browser is most used and to adapt application functions for that browser in the first place and then to adapt them to others.

Right now Firefox 3.x is in the top with 12.799 visitors followed by Internet Explorer 6.x and 7.x with about 8000 visitors.

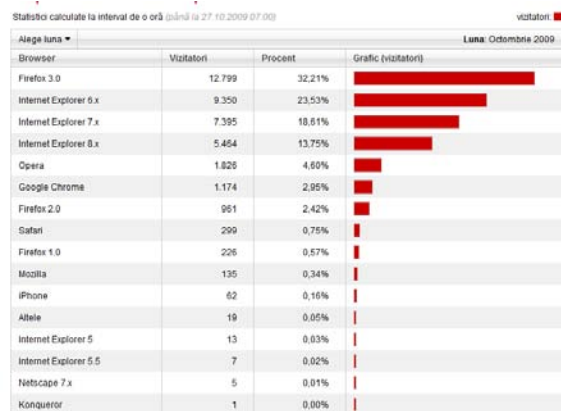


Fig. 7. Monthly access Browsers distribution

The operating Systems (OS) of the visitors, in top is Windows Xp with a crushing of 30.767 unique systems over the second place Windows Vista with 7.674 visitors.











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Sistem de operare	Vizitatori	Procent	Grafic (vizitatori)	
Windows XP	30.767	77,43%		
Windows Vista	7.674	19,31%		
Windows 2003	477	1,20%		
Macintosh	238	0,60%		
Windows 2000	227	0,57%		
Altele	129	0,32%		
Unix	123	0,31%		
Windows 98	68	0,17%		
Windows Me	31	0,08%		
Windows NT	2	0,01%		

Fig. 8. Monthly access client Operating Systems distribution

## 6. Conclusions

The educational importance, in development for an active attitude of the people for a knowledge and innovation society, leads to some enhanced attention of the problems for social cohesion and implies a better understanding of quality of education.

In this directions I have managed to rise the number of online visitors for almost 900% in no more than 3 years.

The effort was huge but right know when I look behind I realize that every departament is part of the big machine - the integrated informatic system. Everyone knows that his work is used by others and that way they can do theirs jobs.

In this moment the statistic of visitors (78.078 in September 2009) proved that my effort is good enough to improve the system.

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