

# **FASTIP Intranet: Improvement, Training and User Rights Policy**

*Erjon Duka, PhD Candidate*  
University of Durres FASTIP

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## **Abstract**

While much importance is given for protecting one's data and confidential information from outside one's boundaries little is talked about the risks involved inside the organization. Users inside an organization had direct physical access to confidential information and are well aware of the resource access controls. Hence securing the intranet from its trusted users becomes critical. Statistics show that 80% of all computer frauds is committed by internal end users.

This paper briefly explains the definition and the architecture of the intranet and discusses the physical security of the intranet components and also security of the organizations data both from the internal users and also from the outside world (Internet).

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**Keywords:** Intranet Security, Joomla, FASTIP, Firewall, FTP

## **Introduction**

The web defines intranet as a private network inside a company or organization, which uses software like that used on the Internet, but is for internal use only, and is not accessible to the public. Companies use Intranets to manage projects, provide employee information, distribute and share data and information.

## Log in Intranet <http://192.168.1.187>

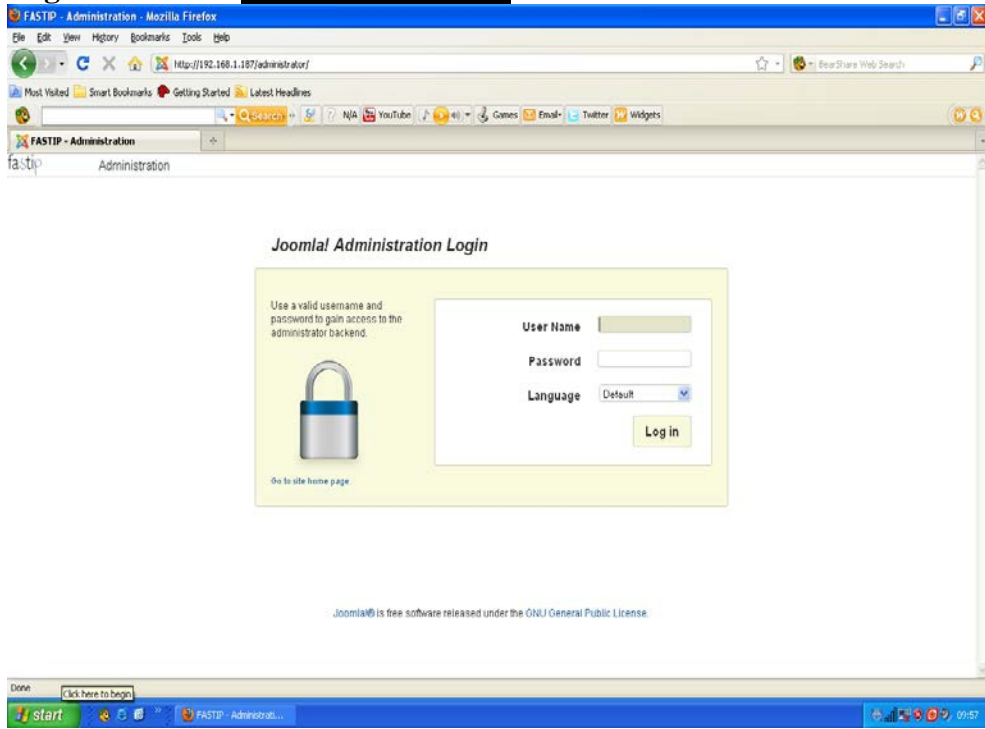


Figure 1 Interface

## Brief History of Internet

The birth of the internet takes place in 1969 when Advanced Research Projects Agency Network

(ARPANet) is commissioned by the department of defence (DOD) for research in networking.

The ARPANET is a success from the very beginning.

Although originally designed to allow scientists to share data and access remote computers, e-mail quickly becomes the most popular application.

The ARPANET becomes a high-speed digital post office as people use it to collaborate on research projects and discuss topics of various interests.

The InterNetworking Working Group becomes the first of several standards-setting entities to govern the growing network. Vinton Cerf is elected the first chairman of the INWG, and later becomes known as a "Father of the Internet." In the 1980s, Bob Kahn and Vinton Cerf are key members of a team that create TCP/IP, the common language of all Internet computers. For the first time the loose collection of networks which made up the ARPANET is seen as an "Internet" and the Internet as we know it today

is born. The mid-80s marks a boom in the personal computer and super-minicomputer industries. The combination of inexpensive desktop machines and powerful, network-ready servers allows many companies to join the Internet for the first time. Corporations begin to use the Internet to communicate with each other and with their customers. In the 1990s, the internet began to become available to the public. The World Wide Web was born. Netscape and Microsoft were both competing on developing a browser for the internet. Internet continues to grow and surfing the internet has become equivalent to TV viewing for many users.

### **Objectives and duration of the mission**

The objectives of the assignment are:

- Advice on substantial improvement of the range and functions of the FASTIP intranet.
- Provision of training for FASTIP staff in using, maintaining and using the intranet.
- Advice on and working out a concept for FASTIP administrative rights policy.

Considering the above goals the structure of this report is based on the assignment specifications:

1. System design and development
2. Capacity building and training
3. Administrative rights policy

### **Background**

The Faculty of the Studies integrated with Practice is the first faculty in Albania where the theoretical studies are integrated with practical knowledge. FASTIP students receive job training during their studies which gives them insights to be more prepared for their future work.

Established in October 2008, FASTIP is based on the successful dual education model operating since over 30 years in the Berufskademie of Baden-Württemberg Land, Germany.

FASTIP is the only higher public education institution in Albania that carries out the teaching process only in English and only with foreign lecturers.

### **System design and development**

#### **Analysis**

The previous situation of the FASTIP hardware infrastructure was the provision of a Server and a Router. The Server is an HP with 2 Quadcore processors of 2.4 Ghz. The RAM memory is 16 GB and it has a 1Gbe NC326i 2 Ports network controller. There is also an inverter allocated for the

server in case of electricity problems. The operating system installed on the server is Fedora version 13 based on Linux Kernel. The server was not used and was always on a shut down mode. Furthermore, the server room had significant problems in order to guarantee server technical operation. The router creates the overlay for the internet communication and the Local Area Network. The internet is provided by ABCOM with a broadband of 2 MB/s download and 4 MB/s upload based on the Speed test performed on 01/06/2011.

## Fastip Fedora 13 Server ( *Intranet Application is here* )

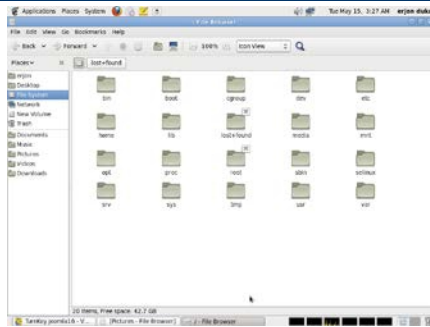


Figure 2 Fedora Server :

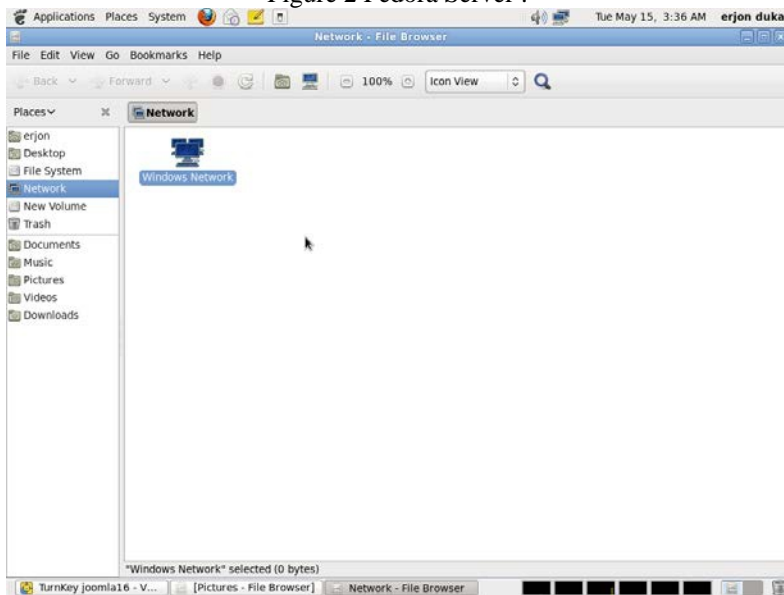


Figure 3 Network Interface Fedora Server

## Improvements

The server was successfully made operational and an intranet platform was installed. Furthermore, the urgent recommendation of environment security has been implemented. The window was fixed and the air room condition is now at the level of required standards.

Joomla 1.6 version was installed for the intranet software platform. This is a free, open and available software application which is based on PHP and MySQL technology as a consolidated platform that anyone can use, share and support. Joomla is a content management system that can allow in a very simple way to publish text, documents, images, videos etc. This intranet platform doesn't require any technical skills and therefore a normal PC user can manage it.



Figure 4 Joomla 16 WMWare Player Application

The core features of the intranet system are: user management, media manager, language manager, banner management, contact management, polls, search, web link management, content management, syndication and newsfeed management. The user management features and enforcements made will be explained in detail in the administrative rights policy chapter. However it must be said that Joomla has a registration system that allows users to configure personal options. The intranet has also an integrated help system to assist users to find what they need. Moreover, the system features offers the possibility for the administrator to communicate quickly and efficiently with users one-on-one through private messaging via the mass mail system. These are just some of the basic Joomla features because through powerful extensions the intranet system can be fully customized.

## Intranet User Categories

We can 3 different user Categories : Student, Professor and Administrative Staff. They are all users. Professors must be editors and some of Administrative Staff Members. The Intranet has all digital free online libraries links. Intranet is connected to internet ( Optic Fibre ).

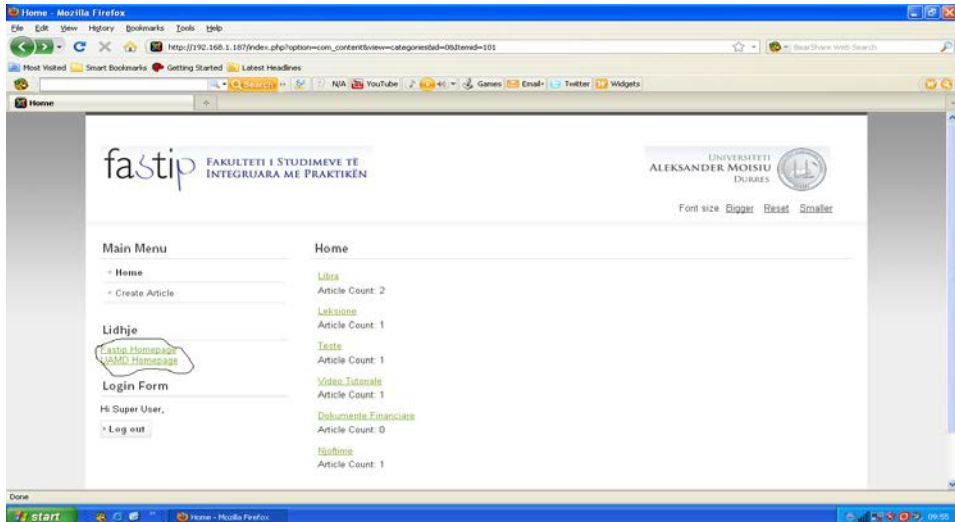


Figure 5 : Intranet Application Interface

## Recommendations

The essential recommendation is to maintain the infrastructure based on the standards required. The environment and hardware conditions should always be guaranteed in regime.

The system should be enhanced successfully through usability at all levels from the top to the bottom of the FASTIP hierarchy. Academic staff and students must interact on the platform for any particular issue in order to keep track of every piece of content with no requirement of information duplication or redundancy.

New application and modules should be installed in the system according to the institution needs. Some of these modules are freely available at the Joomla extensions link: <http://extensions.joomla.org/>. However, many of them can already be created in the system as for example: the student information management, didactics administration, news and information updates, marking scheme and grades publication etc. Moreover, the internal electronic secretary for the document management system can be implemented through a system component. On the other hand, financial and planning modules require a more specialized system development.

## **Capacity building and training Analysis**

The FASTIP staff had a general overview about the need for internal communication. The Dean was primarily focused on improving the IT FASTIP specialist and making the hardware/software available for intranet use. The Dean suggested, as it is was also written in the terms of reference of the service, to work closely with the IT specialist in order to transfer knowledge and to raise awareness among all other FASTIP staff about intranet purpose and user implementation.

The Chancellor raised as primary concerns the personal data protection and the guarantee of intellectual property rights. He suggested having a user management in place and a strong security level in order to avoid copyright or data breach issues.

The IT specialist has already a good grasp of knowledge about the technical needs and requirements. He also has a good preparation in order to maintain the intranet implementation.

All the staff stressed the fact that the server needs to be available and workable in order to be used for the intranet services.

## **Implementation**

The IT specialist was largely trained and was participant during all system implementation activities. He was provided with all the IT administrator knowledge in order to manage FASTIP intranet users and enrich the Joomla platform. He was introduced how to extend system plug-in and how to integrate new modules to the intranet application. The special focus on user management and security was part of the head staff requirements but also of the terms of reference. The IT specialist was also provided with a back-up copy of the application in the installation format.

The FASTIP staff was trained during a dedicated workshop with the purpose to present the work and introduce the new system. The head staff was also present and they were eager to know about the project implementation. First, a presentation and an overview of the intranet system, functionalities and benefits were provided. The main purpose of the presentation was to raise awareness but also introduce the staff to the methods in order to improve the system and ensure usability. At the end of presentation recommendations were given with a particular focus on the necessity to have an administrative rights policy document. After the presentation, the staff was introduced to the system itself through the possibility given to all of them to access the system in the lab room. They were trained on the main aspects of the system interface and how to access the system. They were largely explained the techniques on how to create,

edit, publish and delete information on the intranet. Furthermore, it was explained to the staff how to introduce new features.

### Fastip FTP :

## Fastip FTP

FTP File Transfer Protocol is used to access websites via a different door to download files.



Figure 6 : FASTIP FTP

### Recommendations

The Joomla platform is very flexible and new modules can be introduced for the activities of the department. However, prior to any further implementation an extensive mapping of the activities should be performed in order to define the system requirements analysis.

### Fastip Firewall :

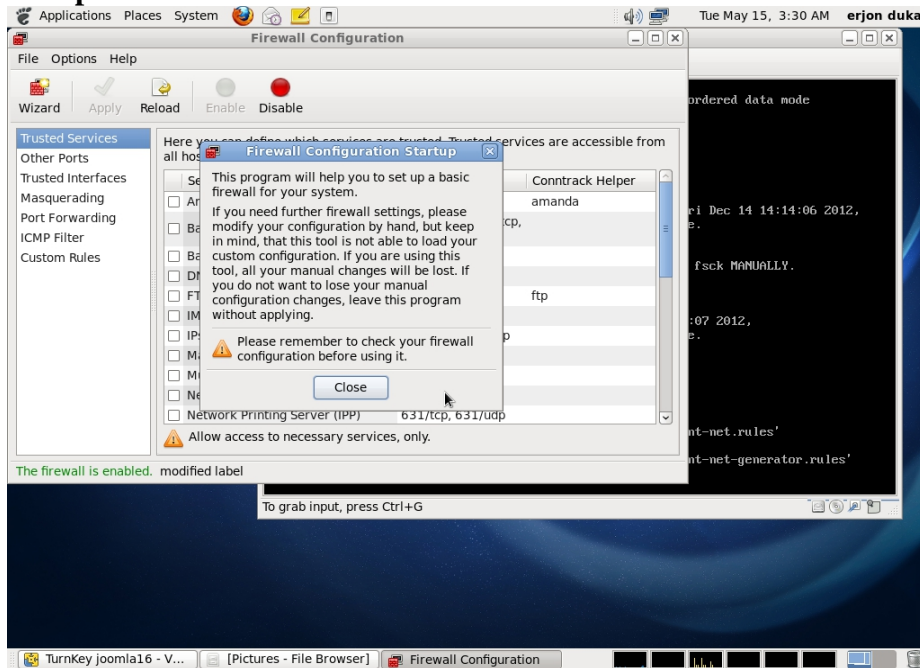


Figure 7 Intranet Firewall



## **Administrative Rights Policy**

### **Analysis**

FASTIP doesn't have any document which regulates the data processing by software application and that can act like an internal regulation. However, the data is mainly used by the employees who are required by job description to do it. The lack of this internal regulation might create difficulties for the administrative staff responsibilities and also not be able to guarantee a fair personal data processing. Furthermore, the absence of administrative rights policy makes very hard for the IT specialist to perform his intranet activities of audit and control. During the meeting held with the IT staff of the UAMD was noticed that despite the significant system improvements made by the university, they also require policy documentation for the IT and administrative rights.

### **Improvements**

The presentation performed during the training activities introduced the staff to the core concept of the administrative policy rights. These administrative policy rights are based on the concepts of information system security which are confidentiality, integrity, availability and authentication. In order to help FASTIP to have an appropriate document a draft format has been prepared and submitted in Albanian language. This document should be approved by the Dean and can act fully as an internal regulation of the faculty. The objective of the document is to define the general rules and the security measures for the appropriate management of the intranet. The policy document also provides the methods in order to ensure security from both technical and organizational perspective. Additional measures are conceived in the document for the database.

### **Recommendations**

The administrative rights policy in order to require legal basis framework in order to be enforced. Therefore it is necessary to approve an internal regulation document that guarantees such obligations. The draft submitted during the report activities can serve as guidance for the final document. However, modifications must be made by a lawyer who can collaborate with the FASTIP staff for an approved document. Nevertheless, these amendments as the final document should be based on the above Albanian laws:

- Law No. 9741, date 21.5.2007 on Higher Education in the Republic of Albania, amended by law No. 9832, date 12.11.2007 and No. 10 307, date 22.7.2010.
- Law No. 9918, date 19.5.2008 on Electronic Communication in the Republic of Albania.

- Law No. 9887, date 10.3.2008 on Personal Data Protection.
- Law No. 9380, date 28.4.2005 on Copyright and the other related rights to it.

### **Conclusion**

The project can be considered as successful due not only to the consultant service but also thanks to the involvement of the FASTIP staff in the process. Therefore, the situation can be improved through participation and commitment. However, the system development is an ongoing process that requires continuous attention of all the staff. The next step of the system is to ensure usability through the transfer of paper-based activities on the intranet. The enlargement of the system with new modules and features is necessary to favour usability. The student and academic staff administration, financial and document management system can distinguish the next steps of the intranet improvement. However, it is very important to underline that this requires specialized and outsource competence that must be provided in conjunction with training activities.

### **Future Work :**

The project of Intranet must be implemented in other faculties of Aleksander Moisiu University. In the categories of users we must add an filed ( faculty member ). Intranet security is in high level and it is not important in what operating systems must be implemented in other Faculties but we prefer Fedora Sever ( Unix Family ) as an open source one .

### **References:**

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