

# Dematerializing processes for the University Intranet

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## Keywords

Dematerialization, processes, digital media.

## 1. EXECUTIVE SUMMARY

Last year we presented our Intranet Portal, from where we began new processes of governance at our university. Users began to understand and accept changes introduced by this new way of communications in our academic community. The feedback we had from our users let us know that the change we introduced in governance had a high level of acceptance, so we decided to begin a new work: dematerialization of processes.

In a broad sense, dematerialization means doing more with less: reducing the quantity of materials required to serve the economic functions in society. In this paper we intend to report on how we are achieving the dematerialization of all processes at the Human Resource Office of our University, and the provision of our intranet portal, in a contextual way, with the resulting dematerialized processes.

We choose to begin the process with the Human Resource Office since it's there that all papers and processes have to pass through. Here, papers have to be checked, marked, sent, dispatched, resent and finally archived. It's the main engine of all processes, so it will be our starting point for the dematerialization process.

The paper also examines a series of problems regarding the gradual transition from paper to digital media.

## 2. Motivation

The main motivation to continue developing our intranet portal was the feed-back from our intranet users: the use of our portal is increasing every day, and demands for new functionalities are constant. From the several demands we received we have chosen, as the next functionality to implement, the one whom could give our portal the final visibility it needed to become the most used and important portal in our academic community: dematerialization of all processes at our university.

## 3. Starting point

### 3.1. Intranet Portal

As an ongoing application, the portal has achieved a solid design architecture:

- Users and profiles are managed by Identity Manager from Sun Microsystems;
- Web Services have a key role in exchanging data between external and local applications;

- Applications are implemented as building blocks, so these ones are independent from each others and can be removed or included without any impact on the portal.

### 3.2. Human Resource Office

Besides handling all personnel affairs, the Human Resource Office also handle all kind of administrative processes.

Our university is organized in distinct departments, ones being related to academics affairs and teaching, others related to administrative tasks. Communications between departments, and communications between each one of these departments with the administration board is accomplished by issuing paper, lot of paper, where information is posted, then sent to the Human Resource Office. It's get there by someone who has to carry it. At the Human Resource Office, paper are checked, catalogued and entered in a local stand alone database. Information remaining in the database is used only by the Human Resource Office. As the paper is checked, it's sent to destination, and again someone has to carry it. Response to each process is achieved the same way: it's go back to the Human Resource Office, where it's checked again, and sent back to it's original owner (Figure 1).

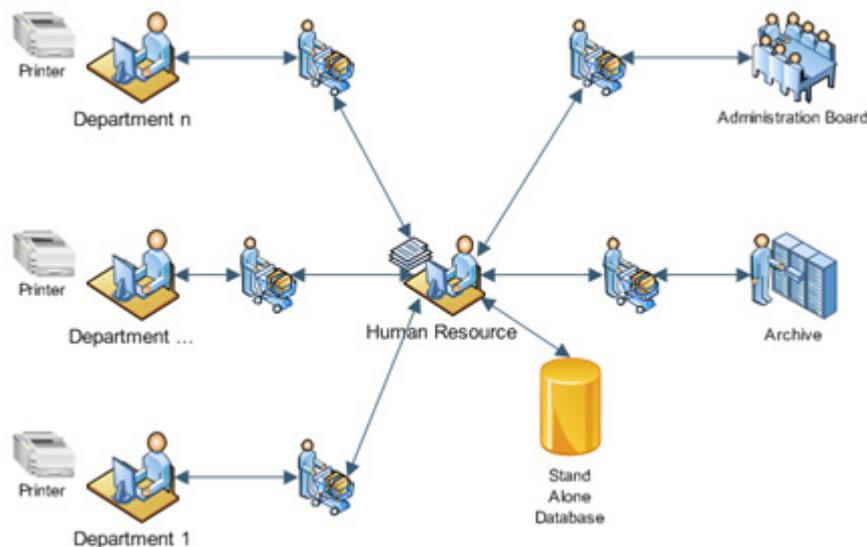


Figure 1

### 4. The project

Dematerialization of all processes, integrating all processes in the Intranet Portal is the main objective of our project. As explained in 3.2, the Human Resource Office is the main engine of all processes, so we decided to begin from here our dematerialization processes, and carry on toward to our final goal.

The first step was to integrate the stand Alone Database at the Human Resource Office into the Intranet Portal. This way, response to each process can be consulted through the Intranet. Achieving this first step we simplified the process: the need to send back to its owner the process in paper is no more required (Figure 2).

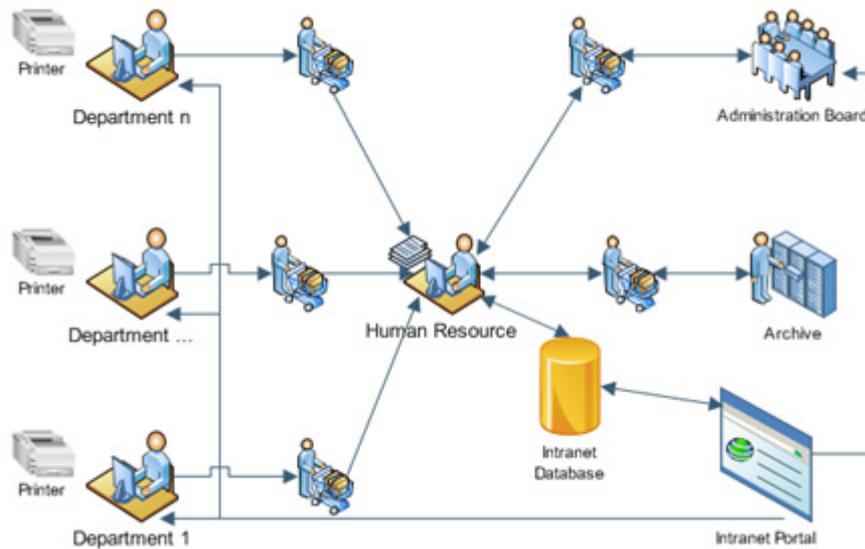


Figure 2

The last step is to integrate all process in the Intranet Database. All communication have to pass through the Human Resource Office, using the intranet portal, where it is checked, marked, sent, dispatched, resent and finally archived. Need for paper as a support for all process is eliminated.

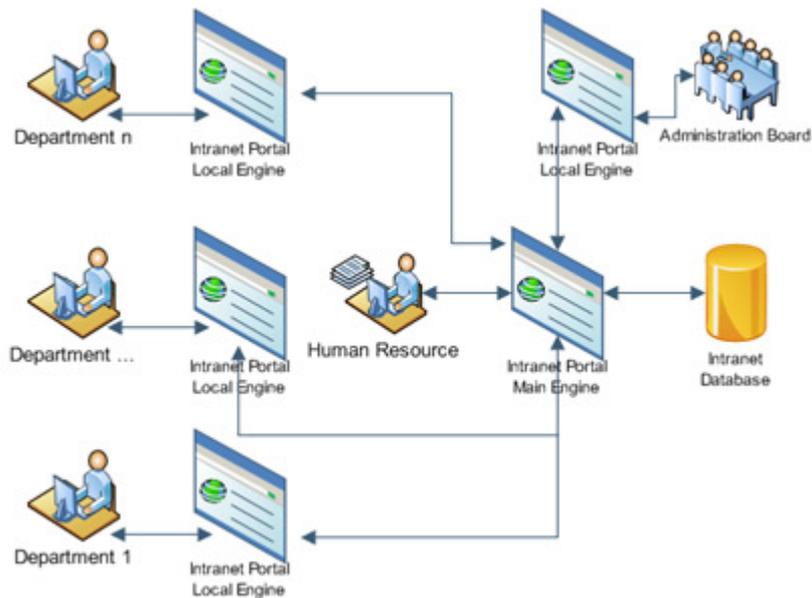


Figure 3

#### 4.1. Architecture

The main engine is developed as a new building block, which can be integrated with no impact on other application running in the portal. It has its own workspace where all administrative task regarding processes are accomplished. Workspace is presented to the users in a contextualized way, where each user has its own profile. Profiles are managed by our Identity Manager, which collect

information about users in several subsystems, and input the collected information in the Intranet Portal.

This main engine is only accessible by the Human Resource Office. For the departments to interact with this main engine, new building blocks have to be assigned to departments and then integrated in the portal. Each one of this building block are copies of the main engine, and interact between each other with web services.

Department have now to communicate to the administration board of the university through the intranet portal, using these building block, introducing information in it, beginning a process, then forwarding it towards the main engine at Human Resource Office, which catalog it, then forward it again to administration board. Response to the process comes back the same way, through the main engine, then to its original owner.

It's possible to have one building block for each user, having each one the possibility to have its own workspace where he can manage its own processes, and forward all kind of information, while keeping track of each one in his workspace.

## **4.2. Problems during implementation**

First step included digitalizing in pdf format all processes into the stand alone database, using high speed scanner, and a large amount of disk space. Although high speed scanners are very performing, this new behavior had brought an overload time on processing request, thus, being a transient state, was very inconvenient for user using the main engine for managing processes. But as we take our project to the next step, the need for digitalizing paper have considerably decreased as for almost all process the information was introduced and kept in the intranet database.

Another problem was the aversion we often face from some employee that are used to routines that come from years past. But as the structure of the graphics interface was designed keeping in mind the employee needs and their duties, and also as the fact that the portal is widely used by our academic community, aversion could be very easily overcome when employee began using the main engine of the workflow process.

## **4.3. Conclusions and future works**

Implementing this new building block in our intranet portal, had resulted in a much better control over processes, the workflow is faster, less of paper, less tonner for printer are being used and lesser printers are needed, fewer employee are needed, leading to a lesser cost in the overall system. We achieved our goal, as dematerialization means doing more with less: reducing the quantity of materials required to serve the economic functions in society.

### **Future work**

As future work there are plans to implement authentication of all processes using public key infrastructure (PKI) in the signature process of all documents. The citizenship card is also being considered as a way of authentication in our portal, and also as being part of the digital signature of processes using its certificate included in the card ship.

## 5. REFERENCES

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