



Collaboratives tools for the main actors of a university the first step to a "shared and broadcast information" culture.

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1 Context

The Pierre Mendès France University (Social Sciences, Grenoble, France) is setting-up an intranet intended for three kinds of users : students, teachers and staff. It will provide them with informations and services that fit their needs : information broadcast, shared documents and resources, cooperative spaces. Better than launching a huge and heavy project for analyzing all the needs and all the processes in the university (1500 teachers and staff, 19000 students), we chose to start several small projects with a strong added-value based on motivated actors.

This intranet project will interact with a more global inter-university project, called GreCO (Grenoble Campus ouvert - Grenoble Open Campus) [1], in view of giving services to the actors of the university life. Its strategic goals shared by the four universities of Grenoble and the university of Savoie, is to increase the quality of the learning activities mainly by using "new technologies". GreCO is managed by the conference of all the universities of the educational district (CAPU).

2 Projects

We consider that we have three kinds of products to display. They will have very different impacts on the daily work.

2.1 "Publishing information" Projects

First, we have projects mainly consisting of publishing information (information flows from one to many)

To implement them, we chose a tool based on an intuitive web browser interface (Lotus Quickplace) as a prototype tool. These projects need a light structure to start and are very flexible.

- The "GRH" Project : an intranet providing all the members of the university informations about their careers, days off, schedules, training, social actions, pensions, practical life according to the personal status of each one.
- The "COM" Project : giving access to communication products to the entire staff of the university (logos, templates, press release, electronic version of the university journals, facilitate the order of headed note-papers and of products presenting the university...)



2.2 Simple Intranets

Then, we have projects involving groups of people in a common precise environment, needing to share information with basics tools as FAQ, e-mail, forum, shared files... We chose Quickplace too implement them.

- The "SICD" Project : an intranet to help communication between members of a team of 80 librarians during the restructuration of the library.
- The "Sciences-eco" Project : a computer-assisted learning environment (economics) for distant (and non-distant) students including courses, exercises and exchanges between the two teachers and the students. The project does not replace the classical teaching methods for distant learning (tapes and documents send by postal service) but is additionnal.

2.3 Collaborative tools

At last, we have a project needing collaborative tools which will highly change the way of working (shared information and resources, data flow control,...). To implement these features, we chose an integrated tool (Lotus Notes). In the following, we will more focus on this complex project :

- The "collaborative tools for the management team of the university" Project : It involves 35 people (president, vice-presidents, and their assistants)

2.4 Managing These Projects

The first two kinds of projects are using the same tool. So we decided to manage them together in small groups coordinated together. We called these groups "Intranet Projects Groups".

The third one is more complex and will involve important changes in the way of working of the board team of the university. So, this project is carrefully managed by functional, technical and political staff (secretaries, computer scientists and university responsables). As we will see later, a huge part of users of Lotus Notes is involved in the project.

3 Involving Users

3.1 The Intranet Projects Groups

People involved in the projects described below are working in small groups (one for each project). Theses groups are mainly composed of information producers (here we still are in a top-down flow of information).

Every month, during a session with one or two persons of each group, the coordinator of the global internet project reviews the work and the progress of the different projects. As everyone is using the same tool (Quickplace), people exchange their experience and their way of analysing work procedure and dataflows.

It is clear for everyone that this work must not focus on the chosen tool which is seen as a good and flexible tool to learn how to create intranets and how to construct prototypes.

One of the most important points that appears during the discussions is that the difficulty is not to create an intranet but to transform the several information producers and consumers into actors, and to set-up human structures to maintain each part of the intranet : these tasks are not really recognized as part of the job in every more-or-less independant structure of the university.

The work of these groups is considered as bricks which will be gathered with the already existing projects (intranets, computer assisted learning environments) created by other parts of the university [2] to build the global intranet of Pierre Mendès France University.

3.2 The Collaborative Tools Projects

From the start of these projects, a policy of informing and supporting the change has facilitated the migration of the users towards new method of work. The future users were involved since the begining of the project to analyze the methods of work and the flow of information. This step was usefull to minimize the impact of the new tools by finding a balance between changing the way of working to fit the tools and adapting the tools to fit the methods of work.

The concept and the available functions of the tools were first introduced to small groups of users that used to work together by traditional ways. The basic functions were analyzed and compared to the way of working. At that moment, new needs appeared and the tools were immediatly tested to see whether they fit the needs.

A second session involving the same people took place fifteen days later. Its goal was to decide which parts of Lotus Notes would be used and what would the changes be in the daily work.

4 Display

4.1 Hardware and operating systems

The Lotus Notes client is supported by MS Windows (95,98,NT4) and MacOS. We had to upgrade some computers and to change 9 computers which were not powerfull enough for Lotus Notes client.

Table 1: Displayed Computers

	Desktop Computers	Laptop Computers
Mac OS	5	1
Windows	21	5
Unix	3	0

Unix (mainly Linux) users (all of them are computer scientists) are using Lotus Notes through its web interface. This interface is not as human frendly and nor as powerfull as the client interface, but the main feautres are supported.

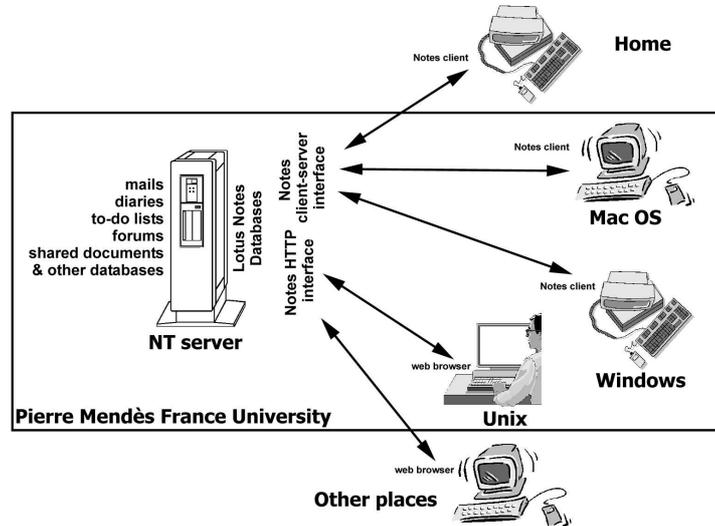


Figure 1: Software and Hardware Architecture

4.2 Software (Lotus Notes)

We chose a gradual display in three dimensions :

- human dimension : we first rely on motivated and regular computer-user actors (secretaries, assistants), then we extended the uses of the tools to the board of the university (president, vice-presidents and other department heads)
- functionalist dimension : people first used electronic mail and to-do-list, then shared documents, then agenda and organization of meetings, and at last joint-edition of documents and workflow. For each step, the display was based on the effective added value of the tools.
- collaboration dimension : as soon as enough people were using the same features of a tool (or of compatible tool features), they were encouraged to use them to cooperate (eg sharing and updating common documents, organizing a meeting from shared diaries)

Each user started to work with the new tools during an individual session behind closed doors to protect the confidentiality of his methods of work. According to his level and his self confidence, each user chose to start working with a minimal set of tools (e-mail, to-do list) or a more extended one (shared diary, resource booking)

Few weeks later, we introduced the complete set to all of the users. As these people were used to collaborate, that strengthened the team spirit, the advanced ones giving the others "tips & tricks" or explaining how to be more efficient.

As introducing and changing basic tools in the management team of the university could introduce unpredictable perturbations, the hot line of the university learnt the tools as well,



and the project has a high priority level in the intervention list of the help desk to solve problems as soon as possible [3].

When most of all the users were familiar with the set of tools, we started sessions of work with the current users and possible future ones to extend the cooperation between actors and to automatize some collaborative tasks (eg preparation and organization of meetings, co-edition of documents and reports). This step introduced a workflow and dataflow analysis. The projects with the biggest added value should be implemented. For examples:

- document repository for the official decision of the university
- co-edition of a final document with multiple reviews instead of exchanging by e-mail parts of different versions of a document
- centralized common adress book for mailing and contact research

5 Reliability of the tools

The introduction of new tools entailed different reactions of the users according to their vision of the reliability of the tools and the differences between the classic way of doing things and the new one. Let's examine four samples.

5.1 Electronic mail

All the people involved in the project has been using electronic mail for several years. Changing the electronic mail client was easily accepted by all : people used to work with Qualcomm Eudora or Kanari Mail. The concepts of Lotus Notes Mail are the same as the ones of the previous tools. Lotus is more simple to use. It offers less options and less features but its configuration is very simple. Users are not lost in cascading drop-down menus. The essential features are present : receiving, sending, replying to, forwarding and filtering mails, attaching files, classifying received and sent mails in folders...) For the missing features (checking several mailboxes in one click, having several signatures) we found a way of using Lotus Notes to avoid a locked situation. As usually, gadgets and funny features (for example customizing the heading of mails) were a real success.

5.2 Electronic shared diaries

Contrary to electronic mail, the introduction of electronic shared diaries was a revolution from two points of view.

A technology gap

The diaries items (meetings, notes, appointments,...) of a director were written in two memorandum books :

- one for the assistant principal (the secretary) which stays at the office



- one for the director that he can keep with him

The director and the secretary used to modify their own version of these paper documents, and the secretary synchronized regularly the two memorandum books (and of course managed date conflicts).

Now there are still two versions of the diary, but one at least is electronic. Actually, a director needs to have a memorandum book (or an electronic personal assistant) when he is not in the university (or when he has no network access). His secretary updates the reference version of the diary using Lotus Notes.

As the diary is shared, the most up-to-date diary version must be the one in Notes. Some people print their memorandum books, even if the result is not always practical.

When they began to work with the electronic version of diaries, secretaries (who were not confident enough in the tool) chose to keep a paper version and made double work for a few weeks.

Sharing previously private information

Shared diaries have a lot of added-value for secretaries. For example, arranging a meeting with five directors, appointing the time and the place was an important waste of time : one secretary had to phone the others to have a list of possible dates and had to compare them to fix the meeting, she also had to check if a room was available at the common free date. And of course, if one of the secretary was not available, the date could not be definitely fixed...

In such a case, with the shared diaries, Lotus Notes gives quickly a list of possible dates suitable for every director. The constraint is that each diary must be as up-to-date as possible.

So, even if all the possibilities and all the features of the tool were not used by secretaries, the diary tool was welcome in the management team of the university.

5.3 Resource booking

Some resources (rooms, data shows, laptop computers, audio-visual equipments, ...) can be booked for meetings or business travells. Each resource was managed using a memorandum book.

We decided to use Lotus Notes to manage the booking of resources. We first thought that everything could be automatized. : someone who needs something books it through Lotus Notes, if he is allowed to do it.

But here, the change was too strong : people managing resource booking felt dispossessed of a part of their job and were opposed to that way of doing. Here we found a territory conflict.

So we chose a medium way: the diaries of the resources are managed by the same people as before, but they use Lotus Notes. Now, someone who needs something can see if it is available or not, but cannot book it. He must ask the person in charge to do it.

5.4 An integrated tool

One of the most appreciated thing with Lotus Notes is that its different modules are fully integrated. By clicking on a button, an electronic mail and its attached documents can be copied in the diary or in a to-do list. The items of the to-do list can be displayed in the diary. The address book can be shared and be used for mailing, or to invite people to a meeting. Theses features give to the product a very usefull homogeneousness.

6 Consequenses and conclusion

All this could have taken place with cooperation between mixed team (composed of people with complementary skills and complementary jobs), that implies sharing information, experiments,... The "territory logic for information" (the up-to-date information is my property, I produce it, I give it to who can have it and ask for it) is replaced by the "sharing information logic" (I send the information to the ones who need it, or I publish in a structured place where it can easily be found). The modification of traditional data and information flows involves a modification of the balance of power.

The introduction of the tools catalyzed the conscience of basic concepts like reference document, duplicated information, access rights, views on data,...

This should help everyone to better understand the daily work : What information do I produce ? What do I need to produce it ? Where can I find what I need ? Who needs waht I produce ? This instigate people to share information and to publish documents.

The Pierre Mendès France University has chosen to build a complete intranet by coordinating previously realized projects (intranets, e-learning, LDAP bases) with a set of new projects. This intranet will interact with the projects of the other universities of the academic district to provide services to students, teachers and staff..

The users were involved in all the phasis of the project to encourage them to use the new tools, to avoid the reject of a new way of working and to help the project to stay realistic and efficient.

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