

Université de Cergy-Pontoise

Maîtrise d'informatique

2004-2005

Jean-Philippe Aumasson <jpnossa@free.fr>

Jean-Baptiste Langlois <jean-baptiste.langlois@wanadoo.fr>

# UMS USER'S GUIDE

9th January 2005

## Abstract

This document intends to describe UMS using rules, and is the reference guide for the user. UMS is a web based interface to manage a university-like school system. It is a study project for oriented object conception and database courses, it is not a professional software. Despite of it we wrote this document as it was intended for *real* users.

## Contents

<b>1</b>	<b>Getting UMS.</b>	<b>3</b>
<b>2</b>	<b>Installation</b>	<b>3</b>
2.1	On a distant server . . . . .	4
2.2	On a local server . . . . .	5
2.2.1	Apache installation . . . . .	5
2.2.2	PHP installation . . . . .	5
2.2.3	MySQL installation . . . . .	6
2.3	Server startup . . . . .	7
<b>3</b>	<b>Using UMS</b>	<b>7</b>
3.1	How to connect to UMS ? . . . . .	7
3.2	Some rules . . . . .	8
3.3	How it works ? . . . . .	9
3.4	Functions specifications . . . . .	11
3.4.1	Everyone can do it (even students) . . . . .	11

3.4.2	Functions for students . . . . .	12
3.4.3	Functions for teachers . . . . .	12
3.4.4	Functions for super-user only . . . . .	12
3.5	Customize your environment . . . . .	14
3.5.1	Change your password . . . . .	15
3.5.2	Change UMS visual appearance (skin) . . . . .	16
3.5.3	Change UMS language . . . . .	16
3.6	Example of typical use sequence . . . . .	16
<b>4</b>	<b>Troubleshootings</b>	<b>17</b>

## 1 Getting UMS.

You can download UMS as a gzipped tar archive or zip file at UMS web page:  
<http://jpnossa.free.fr/files/maitriseInfo/Objets/ums/>

## 2 Installation

**Note** This part of the document must be read by the person in charge of installation, and not by daily users, it includes technical information that can't be understood by anyone.

This procedure will be in charge of the computer responsible, basic user won't have to do this. If you want to use UMS but don't understand the procedure below, please contact a specialist.

You may install UMS on a local database, or on a web server. For both cases you must have MySQL and PHP4 installed. Local installation is specified below, for further information please refer to the programs' websites.

Once you got the file, it may be uncompressed using any compression software, or in command line in an Unix environment ( requires tar or zip softwares):

- For the gzipped tar archive, file `ums-xxx.tar.gz`, xxx standing for the version number:

```
tar zxvf ums-XXX.tar.g
```

- For the zipped file, *ums-xxx.zip*:

`unzip ums-xxx.zip`

It will create the directory *ums-xxx*.

This directory contains the following directories :

**doc** : various documents, including this file.

**icons** : some various sized icons for the program shortcuts.

**src** : the program sources, contains the program directory ( */ums-xxx/src/ums* ),  
**the one you'll have to put on the server !**

Then follow the installation procedure for a distant or a local server.

When installed, a default user is created with as login "0", and as password "boss".

Once installed, you have to :

- set a non obvious password for the "super-user", we recommend a string of at least ten characters, with numbers and various cased letters, all different. We assume that the direct access to the database is well protected.
- install shortcuts on users' desktops for easier access (you'll find icons in *.../ums-xxx/icons*).

## 2.1 On a distant server

UMS is a fantastic application which best feature is portability ; you can easily use it from GNU/Linux, Windows or even MacOS X : all you need is a web browser (Firefox, Konqueror, Safari, etc...) and a little space of a FTP server which allows PHP4 and MySQL.

You have to upload the directory created, for example if you create the directory *http://<path>/ums*, UMS will then be reachable using the URL *http://<path>/ums* (the browser will load the file *index.php*, if not, open it manually, the Apache option *AllowDirectoryIndexes* may not be specified for *index.php*).

You then shall open the file *install.php* using your web browser, and follow the indications to create the tables needed by the program : the address of your mySQL server, ie *sql.free.fr* for the provider *Free*, a database name and a login (may be identical when using a database delivered by your ISP), and the password.

## 2.2 On a local server

You would now like to install UMS on a local server to use it, for example, into a local access network. And you can do it thanks to Apache, but it's a bit more difficult than on a distant server.

Following are the instructions to install Apache, PHP and MySQL on the three main operating systems : GNU/Linux based systems, MacOS X, and Microsoft Windows. I will use Debian GNU/Linux Sarge 3.1 for the GNU/Linux installation, and MacOS X 10.3 Panther for the Macintosh installation. On Windows, tests will be done on Windows 98 SE.

### 2.2.1 Apache installation

**MacOS X** On MacOS X, it is very easy to install Apache : it's already done. There's nothing to do. If you're trying to install Apache on a Mac, please skip this section.

**Debian** Add the following line to the file */etc/apt/sources.list* :

```
deb http://ftp.debian.org/ stable/updates main contrib non-free
```

and type :

```
apt-get update
```

to update your apt sources. Then, all you have to do is to type :

```
apt-get install apache
```

Beware ! You must install the package `apache`, not `apache2`.

**Windows** Go to the URL <http://httpd.apache.org/download.cgi> and download the file *apache\_1\_3\_#-win32-src.msi* (you need Microsoft Installer 1.0 to perform with it). Then follow the installation and make sure you choose the default install directory (*C:\Program Files\Apache Group\Apache*)

### 2.2.2 PHP installation

**MacOS X** Once again, nearly nothing to do, since PHP is already installed. All we have to do is to configure Apache to understand PHP. Please open a Terminal and with an editor like `vi` or `pico`, edit */etc/httpd/httpd.conf* and uncomment (remove the sharp) the lines :

```
# LoadModule php4_module libexec/httpd/libphp4.so
# AddModule mod_php4.c
# AddType application/x-httpd-php .php
# AddType application/x-httpd-php-source .phps
```

Finally, edit the file */etc/php.ini* and add the variable :

```
register_globals=on
```

**Debian** Even easier than on the Mac. Just type :

```
apt-get install php4
```

and answer 'y' to all the questions and Apache will be automatically configured for PHP. Finally, edit the file */etc/php.ini* and add the variable :

```
register_globals=on
```

**Windows** Download a PHP binary file from <http://www.php.net>, create a new directory and unzip the downloaded file in it (i.e. *C:\php*). Then copy the *php.ini-dist* in *php.ini* and copy it in the *C:\Windows* directory.

Edit the file *C:\Program Files\Apache Group\Apache\conf\httpd.conf* and add the following lines :

```
LoadModule php4_module "c:/php/php4apache.dll"
AddModule mod_php4.c
AddType application/x-httpd-php .php
AddType application/x-httpd-php-source .phps
```

Finally, edit the file *C:\Windows\php.ini* and add the variable :

```
register_globals=on
```

### 2.2.3 MySQL installation

**MacOS X** Just download the mysql package from <http://www.entropy.ch/software/macosex/mysql/> and install the downloaded file. You would need to create a user to handle the database but MacOS X have already done that for you. All you need is to type in a Terminal :

```
cd /usr/local/mysql/
sudo ./scripts/mysql_install_db
sudo chown -R mysql /usr/local/mysql
sudo ./bin/safe_mysqld --user=mysql &
```

**Debian** Just type in a shell :

```
apt-get install mysql-server
/etc/init.d/mysql start
```

**Windows** Once again, the Windows part is the most difficult and it is far away from the goal of that document. So please, follow the instructions from that page : <http://www.devside.net/web/server/windows/mysql>

## 2.3 Server startup

**MacOS X** Open the "*System Preferences*" and choose "*Sharing*" and click on "*Start*" after having chosen "*Personal Web Sharing*". Copy all the files from UMS in your `/Users/username/Sites` directory and type :

```
chmod -R 777 /Users/username/Sites/*
chgrp -R www /Users/username/Sites/*
```

**Debian** Copy all the files from UMS in your `/var/www` directory and type :

```
chmod -R 777 /var/www/*
chgrp -R www /var/www/*
```

**Windows** Copy all the files from UMS in your `C:\Program Files\Apache Group\Apache\htdocs` directory.

**All platforms** Then, open your browser, type : `http://localhost/install.php` and have fun.

**Note** If your browser attempts to download the PHP file, empty your cache and try again.

## 3 Using UMS

Despite of its simple use, UMS users have to read the following before using it. Users may be university employees, teachers or even students. If you don't use UMS during a given interval of time, you will have to reconnect, we need it for security, if an user forgets to close his session for example. In that case you will face the message *Session timeout exceeded (600 seconds)*.

### 3.1 How to connect to UMS ?

UMS provides a set of functions to manage the educative system of a university, including management of students, teachers, courses and diplomas, marks collecting, and validation calculas.

UMS is very simple to use, anyone can understand in a few minutes how to realize all possible actions !

When your computer is booted, and you face the desktop of your system (the place on your computer where stands the icons - the small clickable pictures - and usually with a background picture), double-click on the icon named **UMS**.

A window will appear, asking you *Please authenticate*, it means you have to enter the user name and the password you were given. This procedure is necessary for security reasons.

You have now typed your login and password ? Right, now click on the button to access the program (there is only one button, can't go wrong). If you got an error message telling you to try again, make sure you rightly typed the login and the password. If the error persists, please contact the person in charge of computer problems.

Then you would face the main UMS panel, try to locate the menus and buttons on the screen, we're going to explain how it works.

### 3.2 Some rules

There are three categories of users, each can access - his *rights* - to a set of functionalities corresponding to the use he may have of the program. Employees must be able to enter new students, teachers' courses assignments, etc...whereas students will only be allowed to consult their marks and the students and teachers listings. You identified to one of those categories ? If not, maybe you're not supposed to use the program...

An essential concept to understand, maybe the hardest, is the subdivision of the time in four different periods, conditioning the functions feasibility. Don't worry, it's much easier than it looks ! As an actor of the university, you will easily identify those periods :

- The start of the year, courses have not started yet for students, it's time for the university to inscribe the students, recruit teachers, and create the courses that will be taught.
- The end of the first semester (*Half-year 1*), students got their marks, it's time to enter them in the database.
- The end of the second semester (*Half-year 2*), same as first semester's end, but in addition we must know who has graduated, who has not, then who will have to pass the passing exams.
- The passing exams periods, where some students must retry course exams they have not passed.

Only "super-users" may be able to change the period UMS considers. One obvious rule : you can only switch to the next period, can't go back in time.



### 3.3 How it works ?

When you have entered your name and password, you can see a bar at the top of your screen, looking like this for the "super-user" (the colors change from one skin to another, and doesn't depend of the user category) :



**Important note :** if you don't use UMS for ten minutes, you will have to reconnect, it's important for security ; if you forget to close UMS someone may try to use your account...

At the top-left corner of the bar, you should see *The current user is <your name here>*, with your name in bold characters. The user name is always printed, to be sure you are well logged with your own account, and to avoid confusions like someone using someone else's account. If the name appearing here is not yours, there's a problem somewhere, call someone for help !

The center label, *Welcome to UMS*, is the same for every user.

The right-corner label, here *Start of the year*, tells you the current period and the current year (ie, after switching to the next period, this label will become *Half-year 1*).

At the bottom of the bar, you can see some words on a white background, near to a down arrow. Those are the **menus**:

- Students : always available for all users.
- Teachers : always available for all users.
- Studies : always available for all users.
- Validation : only for "super-user" in all periods, and for teachers always but at the start of year.
- Preferences : always available for all users.

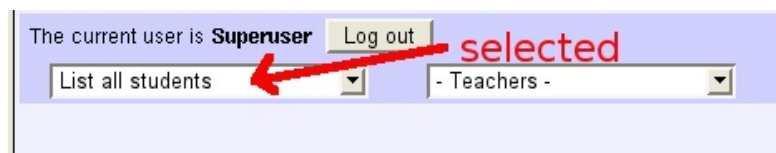
Don't worry, the menu contents will be detailed later.

If you click - left-click, as assumed in all the document - on the down arrow, something will happen:



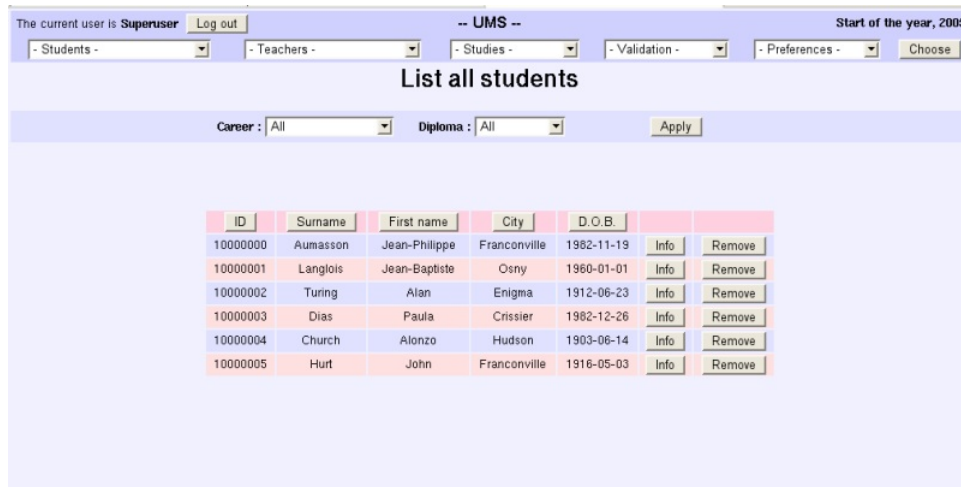
By clicking of the down arrow near Students, a panel will open, showing the labels *List all students* and *Informations*. Those are **functions**, you'll see many other functions if you are a "super-user" of the program.

The button *Choose* on the right of the bar allows you to valid a choice of a function. Choosing a function only consists of clicking on it when it appears. For example, in the example above, if you click on *List all Students*, the bar will become like this:



Of course the red inscription was added to show you where was the selection, it won't appear on your screen.

After clicking on the *Choose* button, a screen like this will appear :



Now you know what a **menu** and a **function** are, and how to use them by selecting a function and valid your choice. The rest isn't more difficult !

The use of the different functions is easy and intuitive, for example, on the screen above : you probably guessed we printed the list of all the students, now

if you want to get information about one of them, just click on the rightmost button *Info* on its line ! And if you want to sort by surname, only click on the *Surname* button ! You don't have to search over and over again on various menus to find the correct option, like on many softwares...

We can now see what functions *UMS* offers us !

### 3.4 Functions specifications

We will first describe the functions common to all users, then the ones specific to each category of users. Identifying your category may not be difficult, if you study for exams you are probably a student, then your category is *Student*, easy, isn't it ?

The "super-users" can perform all functions defined here, but some are only available for a given period, it will be specified when a case occurs.

When looking for someone in the database, student or teacher, you may search by entering his ID or his first name and surname.

#### 3.4.1 Everyone can do it (even students)

##### Students menu:

- List all students : this function gives you a list of all known students , from this page you can get information about anyone by clicking on the *Info* button.

##### Teachers menu :

- List all teachers : same as List all students, but for teachers.

##### Studies menu :

- List all courses : shows the list of all courses availables.

##### Preferences menu : This menu lets you customize your interface.

- Change password : get the password of your choice, you will be asked for your old one.
- Change skin : allows you to change the appearance of the program you prefer : colors, fonts, size...
- Change language: English bores you ? Then you can switch to French, Japanese, Portuguese, or Spanish.

### **3.4.2 Functions for students**

- Informations : gives an access to your personal information.

Sorry dude, that's all, students are the bottom of the pyramid, you ain't got your own privileges, study hard to get some !

### **3.4.3 Functions for teachers**

**Studies menu :**

- Informations : gives an access to your personal information.

**Studies menu :**

- Studies' mark : allows you to enter the marks of your students for a course you're in charge of, or modify them.

### **3.4.4 Functions for super-user only**

"super-users" are the courageous university employees who have to bear the students and work hard for them. To reward those workers, they have access to much more functions of *UMS*...but it's also more labor too.

**Students menu:**

**Only at the start of year :**

- Add a new student : to enter a new student into the database, you will have to do this once, even if the student stays several years in the university. You'll just have to inscribe him to a diploma each year.
- Modify a student's entry : to modify a student's information.
- Add a student's diploma : to inscribe a student to a diploma for the current year.
- Remove a student's diploma : to unscribe a student to a diploma, if he or she does not want to study anymore a given diploma, or other reasons...

**At anytime :**

- Change privileges : to give more rights to a student, and allow him to enter marks or modify entries. It may be used for special studented students, who earn special responsibilities.
- Remove a student : to remove a student of the database, can be useful in several cases, for example if the student leave the university, or is fired.

**Teachers menu :**

**Only at the start of year :**

- Add a new teacher : to enter a new teacher into the database.
- Modify a teacher's entry : to modify a teacher's information.
- Add a teacher's course : to assign a teacher to an existing course. A course can only have one teacher in charge of it.
- Remove a teacher's course : to unassign a teacher from a course.

**At anytime :**

- Change privileges : to change a teacher's privileges.
- Remove a teacher : to remove a teacher of the database, if he or she decides to leave the university, or is fired.

**Studies menu :**

**Only at the start of year :**

- Add a course : to add a course for given career, diploma, and period (first or second semester). A course may have three different status:
  - Obligatory : default option, for a typical course, marks are included in final average mark as usual.
  - Optional : if a student obtains a mark under 10, it won't be included in final average calcul.
  - Eliminary : if a student obtains a mark under 10, the diploma can't be passed, he will have to study for passing exams.

- Remove a course : to remove an existing course, for example if no student is studying it. Beware, if you remove a course you will obviously delete all students inscriptions to this course, and teacher's assignment.
- Add a diploma : to create a new diploma, during the installation you can set default diplomas, as used in Europe in the "LMD" system: three year of Licence, two of Master, and five of Doctorat. For example, you can create a diploma between Licence III and Master I, but it's not recommended...
- Remove a diploma : to remove an existing diploma, will delete all student's inscriptions to it.
- Add a career : to add a career, such as Biological Sciences, Humanities, or Engineering.
- Remove a career : to remove an existing career, will delete all diplomas and courses for the career removed.

#### **Validation menu:**

##### **Always but at the start of year:**

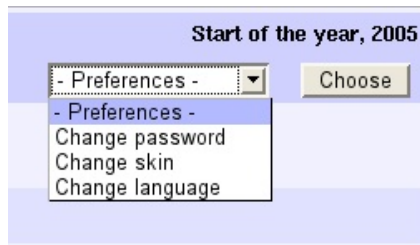
- Studies' mark : to edit student's marks, add or modify it, but only for the current period. You won't be able to edit a mark given in the first semester in another period.

##### **At anytime :**

- Validate this step : an essential function, to reach the next period in the system. If the current period is Start of year, you will reach Half-year 1, then Half-year 2, and Passing exams period, and return to the Start of year, of a new schoolyear. You can't return to a previous period, thus can't modify previous mark entries, you'll have to make sure of the correctness of your entries when validating a step !

### **3.5 Customize your environment**

You will find those options in the Preferences menu, at the top right of the menu, before the choosing button :



### 3.5.1 Change your password

Your default password is a word of eight characters, and isn't a common word easily guessable, for obvious security reasons. You can change it at your own risk, knowing that longer the password is, better the security is. A minimum of six characters is needed. We recommend **NOT TO ENTER** common used password, like:

- Your first name or surname.
- Your date of birth.
- Your girlfriend or dog's name.
- Your credit card or ID number.
- Your phone number.

For an easier remembrance, you can use :

- An anagram of a familiar word, ie: "algorithm" can give "glrhiamot". But if you don't remember the exact anagram, if the word size is  $w$  you will have to try nearly  $w^w$  words.
- A trivial cypher of it, like Caesar's or ROT13, you can choose your lucky number as a shift to cypher a familiar word, ie : "Paris" gives "Sdulv" for a shift of three letters.
- The first letters of a familiar sentence, ie : Dick's famous quote "Reality is that which, when you stop believing in it, does not go away" gives the password "Ritwwysbiidnga".

Two essential rules :

- **NEVER GIVE YOUR PASSWORD TO ANYONE**, even if he or she pretends to be the responsible of university computers, a teacher, a FBI agent, or even Elvis Presley.

- **NEVER WRITE IT DOWN**, on a paper, on your body, in a computer file, or wherever, just keep it in memory.

If you have forgotten your password, contact the computer responsible of your departement.

### 3.5.2 Change UMS visual appearance (skin)

A skin is a set of visual elements specifications, mainly colors of the interface, but also characters size and font. You can choose the skin you prefer in the *Change skin* option, we let you experiment the available skins, enjoy !

### 3.5.3 Change UMS language

You probably guessed what function to select to change language, it lets you switch UMS language between English (default language), French, Japanese, Portuguese, or Spanish. If you want to add a new language, ask the computer responsible of your department, he probably doesn't have a lot of work, except drinking coffee, playing games, and eating Snickers(tm)...it's an occasion to make him learn a non computer language !

## 3.6 Example of typical use sequence

### First program starting

1. Installation by the computer responsible, you should have an icon UMS on your desktop, click it to start UMS, you can customize the interface if you like.

### Start of year

1. Create diplomas, careers, and courses.
2. Enter the new students, and add them diplomas.
3. Enter the new teachers, and assign them to courses.
4. Validate the step.

### Half-year 1

1. Add the marks for each student and each course of the first half-year..
2. Validate this step.



### Half-year 2

1. Add the marks for each student and each course of the second half-year.
2. Validate this step.

### Passing exams period

1. Add the marks for each student and each course of the passing exams.
2. Validate this step.

### Start of year (of a next year)

## 4 Troubleshootings

You may encounter four types of error pages :

- **Session timeout exceeded (600 seconds)** : this error occurs when you let UMS opened during more than 600 seconds without using it, you have to reconnect to the system. You may ask probably *"why this stupid message ? I don't have time to lose by giving my password again and again..."* . We know that, but it's for your security : if you leave the room and forget to close UMS, someone may try to perform actions in your name, using your own privileges.
- **Incorrect password, please try again** : you'll read this message when giving a bad password (or a bad ID). Click on the link and retry.
- **HTTP Error 401: Authorization Required** : if you use UMS normally you won't face this message. It means you tried to reach a page illegally.
- Other weird message : don't panic, and call someone to help you solving the problem. All softwares contain bugs...