



THE INTERNATIONAL INSTITUTE OF  
**SUPINFO**  
INFORMATION TECHNOLOGY














# Student Projects

## 2006-2007

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Campus Booster ID:  
Version 1.0

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# Introduction

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The following document contains all the SUPINFO students' projects for the 2006/2007 year.

We especially thank all our partners, who agreed to devote to us part of their time in order to conceive the following projects that we ask you to realize/create.

It is thanks to their advices and remarks that we are able today, to provide to you the following projects which reflect the work requested in companies.



## Special thanks to:

Mr.	Aurélien GOLL	<i>MANDRIVA</i>
Mr.	Guy ERNOUL	<i>ORACLE France</i>
Ms	Karine CZERNIEWICZ	<i>SUN Microsystems</i>
Mr.	Christophe DOLINSEK	<i>CISCO</i>
Mr.	Laurent HERBULOT	<i>MICROSOFT France</i>
Mr.	Richard Ramos and Matthieu Ducros	<i>Apple</i>

Thanks to Christina WALKER (English Teacher SUPINFO Aquitaine) for helping us in the production of this document.

## How-to subscribe a project team

First of all, you have to choose a person which will be project manager and all other persons in your team. Project manager will connect to the application to subscribe the team.

In case of problem contact Cyril JOUI: [cyril.joui@supinfo.com](mailto:cyril.joui@supinfo.com).

You have to use **imperatively** the following object: [PROJECTS] "your object"

E.g. [PROJECTS] connection problem

1. Open the following URL in a web browser: <http://projects>  
(Warning: You have to be connected to the SUPINFO network. Use VPN from home)
2. Use your Campus-Booster ID and your password to login.

Once logged in, you will see Projects Manager home page  
On top of the page you can see a menu with 3 links Home, Profile and Projects.



On Profile page you can see personal information.

3. To subscribe your project team, click on Projects link.  
You will see a list of projects available for your class. Team size limits are also shown on this page.
4. Choose one project by clicking on Subscribe.

Projects list					
id	Year	Title	Min members	Max members	Status
3	Exercice 2006-2007	[IS3 Paris] - Test	1	4	<a href="#">Subscribe</a>
7	Exercice 2006-2007	[IS3] - Projet de l'année	2	4	<a href="#">Show</a>

5. On next page you can click subject file to see project detailed information.

You must choose members of your team in the list on the left, then click Add >> to subscribe them to the project.

Be aware to not exceed team size limits. For example the project limits may be between 2 and 4 members. So you can add 3 members maximum.

To remove a member you can choose it on right list and click << Drop.

## Creating project group (Project : [IS3 Paris] - Test )

Subject list :

subject details : test  
[subject file](#)

Chose your group project members

Available students		Chosen students
ABDELFETTAH Mickaël	<input type="button" value="Add &gt;&gt;"/> <input type="button" value=" &lt;&lt; Drop"/>	ARLES Teihotu
ABECASSIS Ilan		ASSAILLY Rémi
ALEXIS Boris		BOUJEMAQUI Leham
AMADOU Marc		
AMMOUS Julien		
AYACHE Meyer		
BARRY Sébastien		
BAZIN Nicolas		
BERGER Charles		
BOIGEY Rémi		
BOLIVARD Joris		
BOUTIN Kévin		
BRENOT Mathieu		
BRENOT Thomas		
BRIFFAUT Nicolas		

6. To finish click on Confirm then Finish.

Now you can review created group by clicking Show.

## Projects list

id	Year	Title	Min members	Max members	Status
3	Exercice 2006-2007	[IS3 Paris] - Test	1	4	<a href="#">Show</a>
7	Exercice 2006-2007	[IS3] - Projet de l'année	2	4	<a href="#">Show</a>

The following screenshot shows project members. Note that the person who subscribed the members is project manager.

## Information about projects

**Project title :** [IS3 Paris] - Test

**Project details :** Projet de test

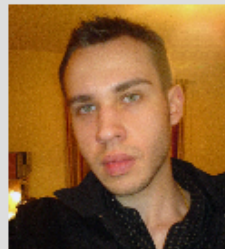
**subject title :** Sujet de test

**Subject details :** test

[subject file](#)

**Group details :** 42

**Project manager**



1902 - GONTCHAROV Maxime 1902 4963

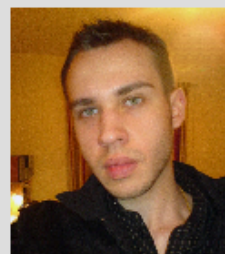
**Group members**



ARLES Teihotu 1865  
5594



BOUEMAOUI  
Leham 1876 922



GONTCHAROV  
Maxime 1902 4963



ASSAILLY Rémi  
1866 29257

Upload a file :

Liste des files uploaded :

On bottom of the page you can upload your project files.

### DEADLINE

**ALL GROUPS MUST BE CREATED BEFORE January, 15<sup>TH</sup> 2007.**



# 1. PS1

---

## 1.1. Multi-disciplinary project (Group Project)

### 1.1.1. Project description

This project must be realized in English

Configuring a router using Internet on Mac OSX

This project is for PS1 and uses technologies of the Apple and Cisco laboratories. If you have any question about this project, you can send an email to these laboratories.

The aim of this project is to allow a user to configure a router thanks to a graphical interface on a Mac OSX client.

The user will be able to execute a command without any knowledge of the IOS system (or of any terminal) using a program developed in C with a graphical interface.

This command will be executed from the web server and sent to the router (The router's model must be the one present on your school's lab) in "AppleScript" format. It will generate a succession of IOS commands (Version 12.3 or more), and execute the desired configuration.

It will also have to retrieve the return values of the router, which will be transferred to the program.

You will have to catch the configurations/communication errors and treat it.

It will be also possible to directly generate the configuration file and to send it.

You will also have to create a Widget on Mac OSX (Using HTML, CSS, and JavaScript), giving the functionalities previously enounced.

User and technical guides must be realized in English on HTML format.

### 1.1.2. Duration

The duration of this project is approximately 6 months long with 110 hours of work.

### 1.1.3. Return deadline

**May, 20<sup>th</sup> 2007 4 Pm (GMT +1)**

Evaluation criteria:

Basic Cisco configuration options to implement (1 point each):

- Router's main configuration
- Hostname
- Date and time (static, not NTP)
- DNS prefix
- DNS servers
- Internal DHCP server for LAN users

Interfaces (2 points each)

- Activation/deactivation
- Description (80 chars max)
- IP address/Netmask
- Clock rate (if required)

Routing (3 points each)

- Static routes
- RIP routing (without authentication)

## 1.2. Individual Project

### 1.2.1. PS1 C Project

#### Project Description

#### Project Description

This project must be realized in English

The aim of this project is to develop a cross platform mail application. Your application must be able to:

- Fetch mail from any POP3 servers.
- Send mail through any SMTP servers.
- Support of internet mail providers such as Hotmail **is not required**.

Your program must implement the following specifications:

-A friendly graphical user interface that matches the operating system graphical style. This interface will be composed of:

- An account list on the left.
- A menu bar on the top for default actions.
- A reading pane on the right.
- Between your reading pane and the account list, we must be able to see a message list representing mails for the selected account.

Note: You can use the look and feel of Microsoft Outlook as reference.

-A possibility of multi-accounting:

The user must be able to specify more than one mail account on your application. Account must be regrouped by server address. I.e. : if I have three accounts on my.smtp.com I must see one mail box for the server with three folder, one for each account.

-Possibilities of mail creation (new mail), forward mail and respond to the mail.

**Note that you don't have to develop the associated mail server.**

### Project Constraints

The only programming language allowed is C.

You are free to use any graphical library you want.

The program must run on Windows and Linux, Mac Os is optional.

You have to return an archive containing:

Your project source code

Program binaries

Documentation:

User manual

Technical Manual (a precise description of what you used for this project and how)

Installation tutorial

Evaluation criteria:

A grade will be given following the following scheme:

Sending Mail functionality: 4 points

Receiving mails functionality: 4 points

Reading mail capacities: 2 points

Documentation (use, installation, troubleshooting): 4 points


The last 6 points attribution will be based on:

- Your interface design (4 points)

- Code architecture (2 points)

**Return deadline**

**June, 10<sup>th</sup> 2007 4 Pm (GMT +1)**

**1.2.2. Internship project **

**Project Description**

During this year, you will have to make a training course in a company from 3 to 4 months (1-2 months for Chinese students) during the school's summer holiday, in order to reinforce the assets which you will have learned. You are asked to conceive a note of Synthesis in hypertext, in HTML (SUPINFO-PROJECTS).

The note of synthesis relates to one of the projects which you carried out at the time of your training course. It acts like a technical or technological synthesis of your project which could be used by other students. You will try to develop the subject in a general manner.

### **Project Constraints**

The format will have to correspond to rules defined by SUPINFO which are available on the SUPINFO-Projects website.

### **Return deadline**

**November, 9<sup>th</sup> 2007 4 pm (GMT +1)**

## 2. PS2

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### 2.1. Multi-disciplinary Project (Group Project)

#### 2.1.1. Project description

This project must be realized in English

MSMS (Mandriva Server Monitoring System)

This project is for PS2 and uses technologies of the Oracle, Internet, and Linux laboratories.

If you have any question about this project, you can send an email to these laboratories.

You have to develop a Web application which can be used to monitor one or more Linux server.

This Web application has to use some scripts to collect various information from the server(s) via a secure connection. Collected data is stored in an Oracle database.

You can share the same database for several servers, to generate reports of statistics, etc...

The application has to retrieve and display with charts and graphs when possible, the following data, at least:

- I/O load (network and disks)
- Processor usage
- System load
- Memory status (Swap and RAM)
- Running processes
- Running services
- Locally and remotely mounted filesystems
- System Status (uptime, system type, distribution and version, etc.)

- You can pick any GNU/Linux distribution you want for your server(s).
- You have to use Oracle 10g Express Edition (Oracle XE) for your database system.
- The Web application has to be written with PHP. You can use either Zend Core or PHP Data Object (PDO) to access the Oracle database.
- Server-side scripts used to retrieve data can be written in any language you want.

#### 2.1.2. Duration

The duration of this project is evaluated at 6 Months with probably 110 hours of work.

### 2.1.3. Return deadline

**May, 20th 2007 4 Pm (GMT +1)**

You have to return an archive containing:

- The Web application source code
- All the scripts you have written
- The database schema
- The documentation:
  - The user manual (in English)
  - A technical manual (in English) containing information about how your application works

Evaluation criteria:

A grade will be given the following scheme:

Web site functionalities:	10 points
Oracle installation:	2 points
Documentation:	4 points

The last 4 points attribution will be based on:

- Web design
- Usage of AJAX
- Other website functionalities

## 2.2. Individual project

### 2.2.1. PS2 C++ Project

#### Project Description

This project must be realized in English

The aim of the project is to make an alternative to Microsoft Windows default media player.

Your program must be able to:

Play video files: The user must be able to play any kind of video medias.(Provided he has the correct codec installed on the machine).

Play audio files: The user must be able to play any MP3 file plus any Ogg Vorbis file.

Create, save and delete play list for different types of media (Audio and video): A play list is a way of storing files locations in a single file, easing reading favorite's songs or movies.

Create a Slideshow video from a picture directory : Your program must be able to generate a video from a folder containing multiple photos. Adding a music to the video would be a bonus.

## Project Constraints

The only allowed language is C++.

You can use any library you want to ease the development, we would advise using of DirectX.

Your development must be object oriented.

You have to return an archive containing:

- Your project source code

- Program binaries

- Documentation:

  - User manual

  - Technical Manual (a precise description of what you used for this project and how)

  - Installation tutorial

Evaluation criteria:

A grade will be given following the following scheme:

- Listening to music: 4 points

- Watching Videos: 4 points

- Managing Play list: 2 points

- Documentation (use, installation, troubleshooting): 4 points

The last 6 points attribution will be based on:


- Your interface design (1 points)

- Code architecture (2 points)

- Creating a Slideshow from pictures (3 points)

**Return deadline**

**June, 10<sup>th</sup> 2007 4 Pm (GMT +1)**

**2.2.2. Internship project **

## Project Description

During this year, you will have to make a training course in a company from 3 to 4 months (1-2 months for Chinese students) during the school's summer holiday, in order to reinforce the assets which you will have learned. You are asked to conceive a note of Synthesis in hypertext, in HTML (SUPINFO-PROJECTS).

The note of synthesis relates to one of the projects which you carried out at the time of your training course. It acts like a technical or technological synthesis of your project which could be used by other students. You will try to develop the subject in a general manner.

### Project Constraints

The format will have to correspond to rules defined by SUPINFO which are available on the Supinfo-Projects website.

### Return deadline

**November, 9<sup>th</sup> 2007 4 Pm (GMT +1)**



## 3. IS1

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### 3.1. Multi-disciplinary Project (Group Project)

#### 3.1.1. Project description

This project must be realized in English

OraManager

This project is for IS1 and uses technologies of the Oracle, .NET, and Microsoft laboratories.

If you have any question about this project, you can send an email to these laboratories.

The aim of this project is to install an industrial production server based on Windows 2003 Server R2 and Oracle Database 10g R1/R2.

The authentication of the Oracle users will be made through Active Directory.

A rich client developed with C# (Framework 2.0) will be used to manage Active Directory objects, and Oracle database objects. This means your application must be able to:

- Manage Oracle Tables (Create, Delete, Edit)
- Manage Oracle Views (Create, Delete, Edit)
- Manage Oracle Users (Create, Delete, Edit)
- Manage Active Directory Users (Create, Delete, Edit, Disable, Enable)
- Manage Active Directory Groups (Create, Delete, Edit, Disable, Enable)
- Manage Active Directory Computers(Create, Delete, Edit, Disable, Enable)

#### 3.1.2. Duration

The duration of this project is evaluated at 6 Months with probably 110 hours of work.

#### 3.1.3. Return deadline

**May, 20<sup>th</sup> 2007 4 Pm (GMT +1)**

You have to return an archive containing:

- Your project source code
- Program binaries
- Documentation:
  - User manual
  - Technical Manual (a precise description of what you used for this project and how)

- o **Complete** Installation step by step documentation for Active Directory and Oracle

Evaluation criteria:

A grade will be given following the following scheme:

- |   |       |
|---|-------|
| - Oracle installation :                               | 2 pts |
| - Active Directory :                                  | 2 pts |
| - Functionalities of the application :                | 6 pts |
| - Documentation (use, installation, troubleshooting): | 4 pts |

The last 6 points attribution will be based on:

- Interface Design (3 points)
- Project Architecture (3 points)

## 3.2. Individual project

### 3.2.1. IS1 Java Project

#### Project description

This project must be realized in English

EBouffe Corporation would like to sell some food products on-line. So it affords a public web application so that their clients can connect and order from their personal computer.

#### Administration:

We want a back-office to administrate products and categories. We have to be able to add/remove/modify categories and products.

#### Public part:

We want a simple graphical interface for eBouffe's customers. Customers have to be able to consult products by category. They could also add products in their cart and manage it (remove a product, modify quantity). You don't need to manage all order processes (validation of cart and order creation ...) but you have to create a simple way to summarize the cart (list of products / quantity and total amount).

#### Project constraints

Use a JBoss Application Server (JBOSS AS)

Use Java language to develop your web application

Evaluative architecture (with layers like View/Application/Services/Data)

Use a database (we advise you to use HSQLDB which is integrated to JBoss, it would be easier for us to deploy it)

Advice: use your own data source (name it like: « group124 » where 124 is the id of your group)

Be careful: you have to create a correct architecture (it's the main goal if this works).

Evaluation criteria:

- Application architecture : 4pts
- Source code naming convention : 1pts
- Ergonomic user interface : 2 pts
- E-business common features (shopping cart, user/admin account,...) : 4pts
- Documentations (installation manual, technical documentation & user manual) : 3pts

6 points:

- Extra features

**Return deadline**

**June, 10<sup>th</sup> 2007 4 Pm (GMT +1)**

### 3.2.2. Internship project

#### Project Description

During this year, you will have to make a training course in a company from 3 to 4 months (1-2 months for Chinese students) during the school's summer holiday, in order to reinforce the assets which you will have learned. You are asked to conceive a note of Synthesis in hypertext, in HTML (SUPINFO-PROJECTS).

The note of synthesis relates to one of the projects which you carried out at the time of your training course. It acts like a technical or technological synthesis of your project which could be used by other students. You will try to develop the subject in a general manner.

#### Project Constraints

The format will have to correspond to the rules defined by SUPINFO which are available on the Supinfo-Projects website.

#### Return deadline

**November, 9<sup>th</sup> 2007 4 Pm (GMT +1)**

## 4. IS2

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### 4.1. Multi-disciplinary Project (Group Project) 🇬🇧

#### 4.1.1. Project description

This project must be realized in English

From DTrace to Microsoft Operations Manager

This project is for IS2 and uses technologies of the Microsoft, .NET, and Sun laboratories.

If you have any question about this project, you can send an email to these laboratories.

The aim of this project is to show DTrace (Solaris 10) information using the MOM 2005 utility, which will be installed on a Microsoft Windows Server 2003 R2.

Students have to install JBOSS or GLASSFISH server which will contain the Java Web Service.

This service will show information (log) about the network using a Java API given by DTrace.

A .NET application will assure interoperability between MOM and the Java Webservice.

Finally, students will have to create a package integrated to MOM to manage log messages.

#### 4.1.2. Duration

The duration of this project is evaluated at 6 Months with probably 110 hours of work.

#### 4.1.3. Return deadline

**May, 20<sup>th</sup> 2007 4 Pm (GMT +1)**

You have to return an archive containing:

- Your project source code
- Program binaries for the .NET application
- MOM Management pack files
- Documentation:
  - User manual
  - Technical Manual (a precise description of what you used for this project and how)
  - **Complete** Installation step by step documentation for MOM

Evaluation criteria:

A grade will be given following the following scheme:

- MOM Installation : 2 points
- Java Web Service Functionalities : 6 points
- Documentation : 4 points
- .NET/Java Interoperability : 2 points

The last 6 points attribution will be based on:

## 4.2. Individual project

### 4.2.1. IS2 ASP.NET development

#### Project description

This project must be realized in English

You will have to create a website, showing the client the shortest path between two points of a map. The classical use of this is an interactive underground train city map, answering the typical question: "Where do I have to change to get there?"

You will have to make your own map (automatic or manual generation), including at least 200 stations and the cost (in time) between any two stations.

A tool to edit the map would be a plus.

#### Project constraints

- Use of ASP.NET is mandatory
- Use of the Atlas Framework to avoid page reloading is mandatory
- Your site must be user friendly.

#### Return deadline

**June, 10<sup>th</sup> 2007 4 Pm (GMT +1)**

You have to return an archive containing:

- Your project source code
- Program binaries
- Documentation:
  - User manual
  - Technical Manual (a precise description of what you used for this project and how)
  - Installation tutorial

#### Evaluation criteria:

A grade will be given following the following scheme:

- Site Architecture: 4 points
- Algorithm implementation: 4 points
- Map Generation : 2 points

- Documentation (use, installation, troubleshooting): 4 points

The last 6 points attribution will be based on:

- Design (4 points)
- Use of Ajax (2 points)

#### 4.2.2. Internship project

##### Project Description

During this year, you will have to make a training course in a company from 3 to 4 months (1-2 months for Chinese students) during the school's summer holiday, in order to reinforce the assets which you will have learned. You are asked to conceive a note of Synthesis in hypertext, in HTML (SUPINFO-PROJECTS).

The note of synthesis relates to one of the projects which you carried out at the time of your training course. It acts like a technical or technological synthesis of your project which could be used by other students. You will try to develop the subject in a general manner.

##### Project Constraints

The format will have to correspond to rules defined by SUPINFO which are available on the Supinfo-Projects website.

##### Return deadline

**November, 9<sup>th</sup> 2007 4 Pm (GMT +1)**

## 5. IS3

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### 5.1. Group project

**This project is available for all SUPINFO students, excepted Chinese students.**

#### 5.1.1. Project description

Ce projet sera à réaliser en Français.

Merci de bien vouloir vous rediriger vers le mail de Mme Véronique CHAMBAUD.

En effet, le projet « Création d'entreprise » correspond au projet de groupe que vous devez réaliser cette année.

Nous vous invitons donc à reprendre les communications faites par Mme CHAMBAUD à ce sujet.

**CF Mail.**

#### 5.1.2. Return deadline

**CF Mail** envoyé par Mme Véronique CHAMBAUD.

### 5.2. Individual project

#### 5.2.1. IS3 VoIP project

Project description

This project must be realized in English

Installation of a VoIP platform

This project is for IS3 and uses technologies of the Cisco and SUN laboratories. If you have any question about this project, you can send an email to these laboratories.

The aim of this project is the study then the creation of complete VoIP platform, which contains a SIP server (Asterisk, SER), an external authentication server (SIP Registrar, database, LDAP server), and a DNS server.

The clients will be developed to work on different platforms:

- A desktop client developed with JAVA.  
This client must be a basic softphone.



Evaluation criteria:

- Base = 14 points
  - Basic softphone features = 6 points
  - Source code naming conventions & architecture = 2 points
  - Server installation = 2 points
  - Documentation (installation manual, technical documentation and user's guide) = 4 points
- Add-ons = 6 points
  - Additional features = 6 Points

Return deadline

**March, 31<sup>st</sup> 2007**

### 5.2.2. Master's Thesis

#### Project Description

This project must be realized in English

During this last year, you will have to make a training course in a company during 6 months, starting in March, in order to reinforce the assets which you will have learned. It is asked to you to conceive a Master's thesis in hypertext, in HTML (SUPINFO-PROJECTS).

The Master's thesis relates to one of the projects which you carried out at the time of your training course. It acts like a technical or technological synthesis of your project which could be used by other students. You will try to develop the subject in the most complete way.

#### Project Constraints

The format will have to correspond to rules defined by SUPINFO which are available on the Supinfo-Projects website.

Return deadline

**October, 12<sup>th</sup> 2007 4 Pm (GMT +1)**