

International Master Program in Free Software: a higher education experience



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Outline

1. Precedents, motivation and objectives
2. Academic program
3. Final remarks

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Introducing the UOC

- University degrees, distance learning (e-learning) based on the Internet (virtual campus)
- First semester: Fall 1995
- 18 officially approved degrees, an unofficial (own) degree, several postgraduate courses, master degrees and a PhD program
- More than 30000 students
- Computing and Multimedia Department: 3 officially approved degrees (2 Technical Computer Engineering degrees and Computer Engineering) with approximately 5000 students
- Postgraduate students (master degrees, postgraduate degrees and specialization degrees) and an unofficial degree (Multimedia graduate)
- Students profile: adult (above 25 years old), employed, with a family and with little time available to study

Precedents of the master program

- Platform GNU/Linux used in the practical activities of Operating Systems and Networking subjects, since 1997.
- Virtual tutored lab to support the students (installation problems, modem set up, etc.)
- Usage of free software applications in several subjects of the official degrees:
 - ◆ Dev-C++ (programming)
 - ◆ MySQL, TOAD (databases)
 - ◆ GnuPG (security)
 - ◆ Eclipse (software engineering)
 - ◆ Apache, Tomcat (computer networks, e-commerce)
 - ◆ OpenOffice (document exchange)
- A FS CD and a GNU/Linux CD (Knoppix) are distributed to the students.
- Postgraduate program in GNU/Linux since November 2001.

Other initiatives

- Adaptation of the virtual campus, web portal of the UOC, virtual library, and other services to free browsers (e.g. Mozilla)
- Usage of multi-platform formats (PDF, HTML, RTF, plain text) for document exchange
- Development of a metadistribution of GNU/Linux adapted to the UOC students (within the Hispalinux metadistros project)
- Search for free alternatives to proprietary programs currently on use in the official degrees

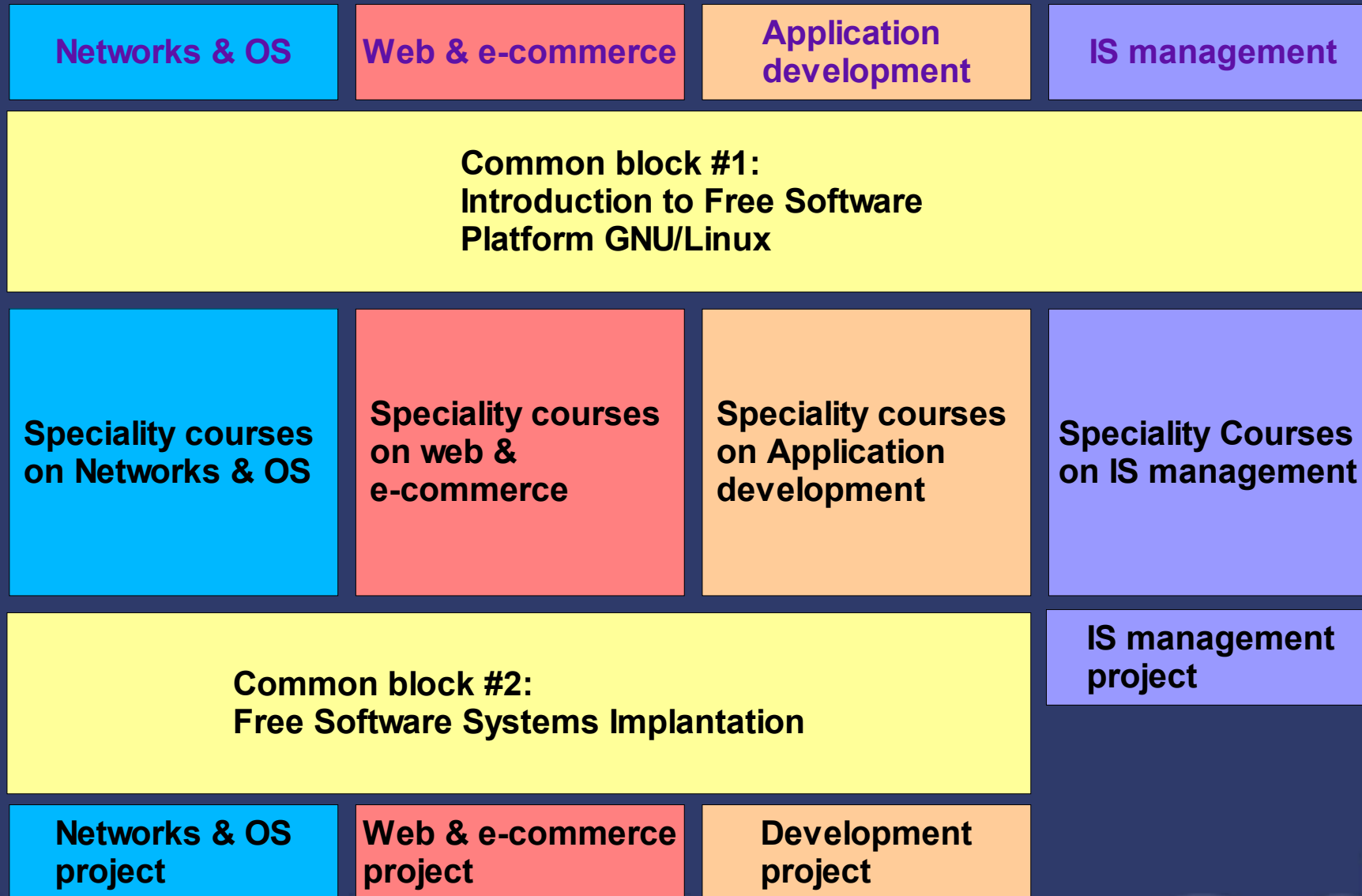
Why a master program in FS?

- Increasing request for qualified professionals in FS technologies.
- Our students (who are employed) feel quite satisfied with the use of GNU/Linux and other FS packages in the official degrees.
- Several lecturers in the Computing and Multimedia Department believe in FS and encourage its promotion and dissemination.
- IT professionals do not usually have enough time to become self-taught in FS technologies (web sites, forums, papers, books, etc.)
- This master program offers guided/tutored teaching, materials written by experts and different itineraries according to the students needs or preferences.
- The students of the master program can help promote and disseminate FS.

Program design

- Different itineraries according to professional profiles:
 - ◆ Networks and Operating Systems administrator
 - ◆ Web and e-commerce administrator
 - ◆ Applications developer
 - ◆ Information Systems management in a free software environment

Program design



Scientific advising council

- A scientific council integrated by recognised experts of different fields has been constituted in order to:
 - ◆ Watch over the quality of the master's contents and design.
 - ◆ Take into account sound opinions of different members of the FS community.
 - ◆ Contribute to the promotion, dissemination and development of FS projects.
 - ◆ Take into account viewpoints coming from different cultures and environments.
 - ◆ Make the master program internationally known to gather students from various origins.

Scientific advising council

- Members:

- ◆ Manuel Castells, president (UOC)
- ◆ Vinton Cerf (WorldCom)
- ◆ Marcelo D'Elia Branco (software libre project, Brazil)
- ◆ Juantomás García (Hispalinux)
- ◆ Jesús M. González Barahona (Univ. Rey Juan Carlos)
- ◆ Pekka Himanen (University of California at Berkeley)
- ◆ Miguel de Icaza (Ximian/Novell)
- ◆ Òscar del Pozo (Softcatalà)
- ◆ Pam Samuelson (University of California at Berkeley)

- ◆ Rafael Macau, secretariat (UOC)
- ◆ Jordi Mas, secretariat (UOC/Ximian/Softcatalà)
- ◆ David Megías, secretariat (UOC)

Return to the FS community

- All the didactic materials are published under a free license (GFDL) so that they can be widely used, modified, extended, edited, etc.
- A bibliographic corpus on FS (in Spanish) is being created.
- The final projects and developments carried out within this program will be published using free licenses.

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Program courses

International Master in Free Software

Itinerary #1 **540 h**

Itinerary #2 **585 h**

Itinerary #3 **675 h**

Itinerary #4 **360 h**

**Networks and
Operating Systems
Administrator**

**Web and
E-commerce
Administrator**

**Application
Developer**

**Information
Systems
Management**

Introduction to Free Software

Basic Operating System GNU/Linux

Advanced Administration
of the OS GNU/Linux

Advanced Administration
of the OS GNU/Linux

Advanced Administration
of the OS GNU/Linux

**Legal Aspects
and Exploitation**

Computer Networks

Web Development

Introduction to
Software Development

Utilities and Tools

Advanced Networking:
Security Issues

Database Systems

Advanced Aspects of
Software Development
Free Software
Engineering

Implantation

**Networks and OS
Project**

**Web
Project**

**Development
Project**

**IS Management
Project**

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Final remarks

- About 90 students registered for the first edition of the master program (started on November the 17th, 2003).
- November 2003: four virtual classrooms, two for each course: “Introduction to Free Software” and “Basic Operating System GNU/Linux”, with about 45 students per classroom.
- A consultant lecturer for each classroom supports the learning process and programs evaluation activities.
- The didactic materials of these courses are published under the GFDL and are available in the portal www.uoc.edu:

<http://www.uoc.edu/masters/softwarelibre/esp/materiales.html>

Final remarks

- About 60 students more enrolled the master program from January to March 2004. The total number of enrolled students is roughly 150.
- There are currently 8 simultaneous courses with 9 different classrooms and 13 tutors (consultant lecturers).
- The first few students will graduate on July (Postgrad in IS Management on FS environments).
- Some South American students are granted by the Spanish “Fundación Carolina” each year.

Final remarks

- We are in touch with 12 European universities in order to develop a common curriculum on FS and to design an officially recognized European Master Program.
- We are also in contact with different South American universities (from Mexico and Colombia) which are interested in offering this program.

Presentation written using:



Thank you!!!