Education Innovation for the Knowledge-Based Economy: the French Perspective

Prof. Michel Robert
President, University Montpellier 2
Sincere apologies from President Robert who had to cancel his visit to Asia due to an important Ministerial meeting.

Warmest greetings.

Best wishes for a very successful meeting.

Prof. Roger Frutos
Deputy Vice-President International Relations with Asia
Knowledge-Based Economy

OECD definition

The trends in advanced economies to go towards greater dependence on knowledge, information and high skill level with an increasing need for ready access to all of these by the business and public sectors.
Knowledge-based economy

Backbone of global growth in the XXIst Century

Our involvement is dual

Producers
Facilitators

Societal evolution

Specific requirements

Educational processes must adapt
Innovative companies (SMEs) will be leading

Academic research, R&D are on front line

National duty is to make it possible

Infrastructure

Exchange / Global / Networks
July 22, 2013

A law was issued making mandatory the development of digital, computer-based educational processes as a support for knowledge-based economy development.
A dedicated network system

Dark Fibre Network:

2005: 3000 km
- Rennes - Caen - Rouen - Paris
- Paris - Lille
- Strasbourg - Nancy - Paris
- Paris - Lyon
- Lyon - CERN
- Lyon - Grenoble
- Lyon – Montpellier - Toulouse
- Lyon - Marseille – Nice

2008: 8000 km

2014: 11900 km (10 GB – 110 GB Paris core node)
Outre Mer
Nouvelle Calédonie
Polynésie Française
La Réunion
Guyane
Guadeloupe
Martinique
Mayotte
An embedded system

Must be open

Must be organized

Several levels

France: RENATER

Europe: GEANT (two 20-GB nodes)

Worldwide
GÉANT: Pan-European network

Linked to Research Networks worldwide

North America (Internet2, ESnet, NLR, NISN and CANARIE)
Latin America
North Africa and Middle East
South Africa/Kenya
South Caucasus
Central Asia
Asia Pacific
Asia Pacific

Australia
Bangladesh
Bhutan
Cambodia
China
Hong Kong
India
Indonesia
Japan
Korea
Laos
Malaysia
Nepal
Pakistan
Philippines
Singapore
Sri Lanka
Thailand
Vietnam

Trans-Eurasia Information Network
Dedicated centers / nodes

CINES
National Informatic Center for Higher Education
Calculation power
Long term storage
Mass data storage
Service
Des infrastructures :
• 1500 m² de salles machine
• 2 lignes électriques : 2,6 MW et 10 MW
• accès réseaux haut débit (10 Gbits/s)
Des équipes de spécialistes : 50 agents

Participation à des projets Européens

HPC-Europa²

Missions nationales en synergie

La Conservation à long terme des données et documents numériques

Le Calcul de Hautes Performances

Jade 267 TFlops (267 mille milliards d’opérations par seconde)
23 040 cœurs, 91 To de mémoire
220 000 000 d’heures de calcul distribuées en 2012
High Calculation Power

Jade

267 TFlops super computer
Online knowledge

Service

National MOOCs platform

MOOC: Massive Open Online Courses

FUN : France Université Numérique

France Digital University
MOOC development in France: FUN national initiative

*Source: Catherine Mongenet, Policy officer FUN*
Digital Strategy for French higher education

Digital Agenda

4 strategic orientations

- Improving student academic success: from initial careers guidance to entering the working world
- Encouraging innovative teaching methods, rethinking how we teach
- Ensuring the development of connected campuses
- Reinforcing the French universities’ attractiveness both at the francophone and international levels

www.france-universite-numerique.fr
From the digital agenda to the MOOC initiative

Digital Agenda

- State-of-the-art infrastructures
- Efficient information systems
- Innovative digital services
- Better use of digital technologies in curricula
- Research on e-education and « digital studies »
- Transformation of university buildings and campuses using digital technologies
- Cooperation with the private sector

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From the digital agenda to the MOOC initiative

- Transforming curricula using digital technologies
  - Blended learning
  - Online learning for francophone students
  - Online learning for continuous education

- Transforming pedagogy and teaching practices

- A MOOC platform for higher education institutions
The MOOC initiative

- A shared platform for French higher education institutions
- An open source solution: Open edX
- Cooperation with public institutions to start the project: INRIA, CINES et RENATER
- Cooperation with French experts
- Agile mode organization to succeed in quite short delays

- Project launch: July 2013
- Release of the platform with the 25 first MOOCs open for registration in October 2013
- Start of the courses: January 2014
FUN : a shared platform for the French higher education institutions

- FUN hosts online courses provided by universities
  - Each university is in charge of its **editorial policy**
  - Each MOOC must follow the FUN **quality charter**
  - Each academic team can choose among **4 options of user licenses**

- FUN ensures the **confidentiality of the learners data**

- FUN can provide research labs with **anonymized data for research purposes**

- FUN cooperates with **French startups** to develop new functionalities on the platform
  - Speech-to-text, translation, rich media production tools, live events, ...
**FUN in 2014: facts and figures**

**Regular growth of the number of MOOCs on FUN...**

<table>
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<th>T1-2014</th>
<th>T2-2014</th>
<th>T3-2014</th>
<th>T4-2014</th>
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<td>24</td>
<td>36</td>
<td>43</td>
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- New MOOC
- 2e session

**...and of the number of universities**

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<td>15</td>
<td>18</td>
<td>24</td>
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- Environment
- Law
- Management
- Health
- Digital/IT
- Sciences
- Economy
- Education
- Humanities
- International Affairs
FUN ecosystem

45 HE institutions in March 2015
Partnership with AUF: 6 MOOC from Morocco, Tunisia, Vietnam, Mali and Burkina-Faso
FUN today: more than 50 MOOC

Management and entrepreneurship

Economy and international affairs

Law

Health

Digital / IT

- Concepts et méthodes en épidémiologie
- Contrôler une épidémie de maladies infectieuses émergentes
- SRAS : une « révolution » de la gouvernance mondiale des épidémies ?
- La bombe démographique est-elle désamorcée ?

- Comprendre le Transmedia Storytelling
- Soyez acteur de la sécurité de l’information
- Soyez acteurs du web!
- Internet, les autres et moi

- Création, publication et partage sur Internet
- Internet, les autres et moi
- Données et services numériques, dans le nuage et ailleurs

- Principes des Réseaux de données
- Introduction aux réseaux mobiles
- Introduction aux technologies des médias interactifs numériques
- La Fabrication numérique
- Introduction à HTML5 - Animations et jeux
- Programmation sur iPhone et iPad
- Python : des fondamentaux à l'utilisation du langage
- BD**2: Des Bases de Données à Big Data
FUN today: more than 50 MOOC

- Management and entrepreneurship
- Economy and international affairs
- Law
- Health
- Digital / IT
- Humanities
- Sciences
- Environment
- Education
FUN learners on November 17th 2014

Enrollments
- + 450 000

Learners
- + 230 000
- + 30 countries

Profiles
- 60% Age 25-50
- 54% Master or PhD

Where are they from?
- 82.7%
- 12.3%
- 1.2%
- 2.8%
FUN learners on November 17th 2014

**FACTS AND FIGURES**

- 450,000 Enrollments
- 231,000 Learners on FUN
- 8,400 Average number of learners on a MOOC
- 36,000 Learners on the most attractive MOOC

**Who are they?**

**Gender**

- Women: 43%
- Men: 57%

**Age**

- <18: 1%
- 18 <= age < 25: 14%
- 25 <= age < 35: 29%
- 35 <= age < 50: 35%
- 50 <= age < 65: 18%
- >= 65: 4%

**Level of education**

- None: 1%
- junior secondary: 2%
- Baccalaureate: 13%
- Bachelor Degree: 31%
- Master degree: 46%
- PhD: 8%

**Where are they from?**

- France: 82.7%
- International: 12.3%
- Other: 1.3%

Source: FUN platform – dashboard AT Internet – August 2014
FUN today : a community, a team

- A network of **200 MOOC representatives** in 150 French HE institutions
- **Training sessions**: 200 people have been trained since Sept. 2013
- **Support** for MOOC conception and production
  - Regular meetings with the teams
  - Guidelines and quality requirements
  - Methodology and processes
  - Support on intellectual property
  - Training on the platform
  - Helpdesk for academic teams and learners
- **Working groups** on various topics (certification, accessibility and handicap, surveys and data analytics, open edition,...)
- Participation of the FUN partners in the **FUN committees**
- **Participatory events**: MOOCAMP Days
In the future

- More MOOCs on the platform
- Encourage universities to create new online programmes
- Develop partnerships with the private sector
- Further European cooperation through Erasmus +
- French and English
Acknowledgements and contacts

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Thank you for your attention!