Next Generation By Design: The Next Generation Integration Scorecard project

Francesc Santanach, UOC – fsantanach@uoc.edu
Timo Väliharju, EduCloud Alliance – timo.valiharju@educloudalliance.org
Jeff Merriman, DXtera – merriman@dxtera.org
Open University of Catalonia (UOC) – http://www.uoc.edu

Online University
Started in 1995
Fully online from the beginning

- 70,274 students
- 71,598 graduates
- 562 faculty staff
- 3,991 Instructors
- 6,438 classrooms
- 600,000 online interactions x day
- 27 bachelor’s degrees
- 76 master’s degrees
- 3 PhD’s
- 271 postgraduates & specializations
Online University
Started in 1995
Fully online from the beginning
70,274 students

eLearning Research and innovation center
Vision/strategy provider
Educational Model implementation and evolution
Support to research and innovation
eLearn Lab
Experiments, Proof of concepts, etc.
Infrastructure and developments
Unlock your digital information. Unleash their potential.
DXtera MISSION

To transform the way higher education does business and drive student success by providing efficient access to information.
Understanding the Business of Higher Ed

87% Customized

50% Before Y2K
Technical Services

Community Support

Solutions Development
Next Generation By Design (NGBD) Series

- Address market failures
- Solutions developed through collaborative demonstration projects
- Growing repository of solutions
Learn more at DXtera.org
UOC: DXtera membership & projects

**Founding Member**
European HUB

**Demonstration projects:**
Integration Scorecard project
Chatbots for Education project
UOC Virtual Campus (Digital Learning Environment)

+20 year old DLE
A mix of technologies
Build from scratch

Ecosystem
66 tools and applications
Innovative & functional
but hard to maintain

Now, in transition to
Commercial/third-party
DLE solutions
NewDLE project:
A new Digital Learning Environment for UOC

- Reduce the complexity
- Step forward to the cloud
- Next step: innovation !!
NewDLE project:
DLE is more than a LMS. Many dependencies

Boundaries are not clear

DLE in the center and related to most of the other systems …
02 UOC Educational Model

- **Learning model**
  - Online learning
  - Course-centered learning
    - (theoretical and some practical)

- **Learning design**
  - ✓ Course design
    - (guided by: learning objectives & timelines)

- **Resources**
  - ✓ Content-based learning
    - (library support, publishing and sharing)

- **User interface**
  - ✓ Asynchronous interaction
    - (the most)
  - ✓ Multilingual environment

- **Assessment**
  - ✓ By Assignments
  - ✓ Continuous assessment

- **Learning communities**
  - ✓ UOC learning communities and groups
    - (guided by programs and courses)

- **Learning support**
  - ✓ Student Accompaniment
  - ✓ Tutoring and advising process
  - ✓ Teaching staff support

- **Student-centered**
  - ✓ Activity-based learning
  - ✓ Collaborative-based learning
UOC Educational model coverage

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Course-centered learning
(theoretical and some practical)

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Classrooms
AC classroom
Widgets page
External space
AR space
Library space
Search engine
External tool
Calendar
File Storage tool
Learning Activity
CAR (RAC)
CMS
Forum tool

EUNIS 2019
NewDLE project: Improvements & transformation project

This is more than just a replacement … we need to improve the system …

We can not avoid the opportunity to transform the institution …

From the users point of view this is a big change but no changes at all …
Next Gen UOC Model

Learning model
- Online learning
- Competency-based Education
- Flexible learning scenarios & ecologies

Learning design
- Program design (Degree, PhD, others)
- Course design (guided by learning objectives)
- Adaptive learning
- Learning Paths
- Learning space design (labs, projects, courses, ...)

Resources
- Digital content, digital libraries & digital publishing (immersive, interactive, lab ...)

User interface
- Sync. & Async. interaction
- User experience
- Mobile learning
- Multilingual environment

Learning Analytics

Learning support
- Student Accompaniment
- Tutoring and advising process
- Teaching staff support
- Intelligent Tutoring Systems (ITS)

Assessment
- By Assignments
- Continuous assessment
- Assignments and continuous assessment
- eAssessment & eFeedback
- Microcredits & badges
- ePortafolio
- eRubrics

Learning communities
- UOC learning communities and groups (guided by programs and courses)
- Student engagement
- Knowledge-building communities
- Chat-based communities: chatBots, Virtual Assistants, & other Artificial Intelligence (IA) engines.
5 years long project and high cost … and at the same time …
Software is always changing !!!

Technology in digital world has been changing many times faster than in physical world

Project would be like this ...
NewDLE project:
Requirements, Improvements; transformation; changes issues ...
02 PROBLEM: Classic product development process
SOLUTION: Other way to approach the projects

Software industry has been changing in this way:

- Object Oriented
- Software patterns
- Agile manifesto
...

This is about SOFTWARE and DATA ...

 Incremental and continuous projects
03 Digital world business models
03 DXtera Integration Scorecard.
Minimum set of information to manage my business
**DXtera Integration scorecard: Select good software products**

**Flexibility means Integrability**

**Level 0:**
No programmatic support

**Level 1:**
Underlying persistence technology documented and developer support provided

**Level 2:**
Application Programming Interfaces (APIs) documented and supported

**Level 3:**
All applications use the API
03  DXtera Integration Scorecard Workshops

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Level 3:
All applications use the API
DXtera Integration Scorecard

User Experiences (LMX - Provide user context and orchestrate / configure Applications)

- Institutional Management
- Master Learning Space Design
- Teaching and Learning Process

Applications (These should map to the Application Requirements section for each Functional Group)

- Instructor Management
- Learning Objective Design
- Program Design
- Program Enrolment
- Course Design
- Assessment Item Design
- Grading

- Talent Acquisition
- Competency Design
- Program Calendaring
- Program Enrolment
- Activity Design
- Assessment Design
- Sequenced Assessment Delivery

- Learning Path Design
- Academic Hierarchy Design
- Academic Record Access
- Course Enrolment
- Assessment Design
- Assessment Delivery
- Asset Management

Persistance (These map to the Functional Group documents which are informed by the OSID models. These would ideally be exposed as EIS)

- Person
- Org
- Position
- Appointment
- Learning (Outcomes)
- Program Offering
- Program Course
- Course Offering
- Item
- Grade Sylls.
- Grade Book

- Activity
- Position
- Credential
- Credential
- Assessment
- Assessment
- Offered
- Grade Entry
- Repository

- Proficiency
- Enrolment
- Assessment
- Activity
- Act.
- UML
- Bank
- Chronicle
- Catalog

API: UOC
# DXtera Integration Scorecard. RFP documents

## GET /courses/{courseId}

<table>
<thead>
<tr>
<th>Response 200</th>
<th>Course Object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response 401</td>
<td>Unauthorized</td>
</tr>
<tr>
<td>Response 404</td>
<td>Not found</td>
</tr>
</tbody>
</table>

**Needed:**  YES/NO  as a Consumer:  YES/NO  as a Provider:  YES/NO

**Implementation** (please complete with your strategy or intern API calls):

## POST /courses/{courseId}

<table>
<thead>
<tr>
<th>Response 200</th>
<th>The Course has been created</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response 401</td>
<td>Unauthorized</td>
</tr>
</tbody>
</table>

**Needed:**  YES/NO  as a Consumer:  YES/NO  as a Provider:  YES/NO

**Implementation** (please complete with your strategy or intern API calls):

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### API : UOC
Thank you!

Francesc Santanach - fsantanach@uoc.edu
eLearn Center - Lab
Universitat Oberta de Catalunya – http://www.uoc.edu