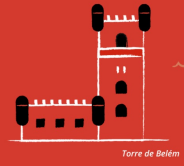


OPEN|edX[®] Conference 2022



Torre de Belém

Transforming the Open edX Platform into the Next on-Campus LMS

Carlos Delgado Kloos, Carlos Alario-Hoyos (UC3M)

Ignacio Despujol (UP Valencia)

Germán Montoro (UAM)



1

Speakers

- **Carlos Delgado Kloos**
 - Vice President for Strategy and Digital Education, UC3M
- **Carlos Alario-Hoyos**
 - Deputy VP for Strategy and Digital Education, UC3M
- **Ignacio Despujol**
 - MOOC Initiative Coordinator, UPV
- **Germán Montoro**
 - Delegate of the Rector for Educational Technologies, UAM



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2

The 3 only edX Partners in Spain

uc3m | Universidad Carlos III de Madrid

UAM | Universidad Autónoma de Madrid

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

uc3m | Universidad Carlos III de Madrid

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UNESCO
United Nations Educational, Scientific and Cultural Organization

uni twin
UNESCO Chair on Scalable Digital Education for All Spain

Universidad Carlos III de Madrid

3



Transforming the Open edX Platform into the Next on-Campus LMS

Carlos Delgado Kloos, Carlos Alario-Hoyos

Universidad Carlos III de Madrid

 @cdkloos, @calahoy

UNESCO
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4

Technical UC3M Team

- José Luis Hernández Fernández
 - Director of ITC Services
- Francisco Cruz Argudo
 - Director of MID Area (Multimedia and Teaching Innovation)
- Ignacio Díaz Asenjo
 - Developer at MID Area
- David Santín Cristóbal
 - Developer at MID Area



5

UniDigital



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UniDigital

- **Line 1: Improvement of digital equipment**
- **Line 2: Digital education**
 - Learning analytics platforms
 - Enrichment of educational technologies
 - Digital procedures for personalized education
- **Line 3: Content and training programs**
- **Line 4: Platforms for digital services**
 - Digital certification procedures
 - aligned with international standards and initiatives promoted by the European Commission such as EuroPASS, EDCI, EBSI
 - Central points of university information resources
 - Interuniversity brokerage services



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certidigital.es



CertiDigital Presentación Beneficios Situación Actual Objetivos Participantes

Despliegue de un **servicio de certificación digital para el Sistema Universitario Español** en el marco del Espacio Europeo de Educación Superior como iniciativa del Plan *UniDigital* del Ministerio de Universidades



- Adecuación de la legislación
- Conocimiento de la tecnología (APIs, wallet, formato de datos)
- Despliegue de servicios (afecta a distintas unidades de la organización)
- Adecuación de la organización a este nuevo conjunto de tecnologías/paradigmas
- Formalización y reconocimiento de cursos y programas de diferente duración
- Definición y evaluación del nivel de soporte que genera este tipo de servicios y los conocimientos y competencias necesarios por parte de la organización
- Coordinación con organizaciones a nivel internacional y en especial europeo



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Microcredentials

- Verifiable digital microcredentials for the Spanish University System
- Based on European formats
 - EDC: European Digital Credentials for Learning (DG EMPL)
 - EBSI: European Blockchain Services Infrastructure (DG CNECT)
 - A European Approach to Microcredentials (DG EAC)



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Coordinating Universities



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Other Partner Universities

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UniDigital

- **Line 1: Improvement of digital equipment**
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 - Learning analytics platforms
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IIU: Inteligencia Institucional Universitaria

1. Big data for universities



2. Improvement of Open edX



Partner Universities



Coordinating universities

- UPV
- UC3M
- UAM
- UCM
- UPM
- UAH
- URJC

Public universities in the region of Madrid



Goals

- Make Open edX ready for on-campus use



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Questionnaire

- What features would you need to use Open edX as an on-campus LMS?



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Goals

- Make Open edX ready for on-campus use
- Integration with SIS
- Improve analytics
- Improve feedback
- Improve assessments
- Improve communication with students
- Improve user interface
- Integrate surveys
- Improve multi-linguality
- Improve file system management
- Introduce a badge system
- Include a voice assistant
- Identify students at risk

Early Developments at UC3M

- Integration with on-campus environment
 - Access control, dashboard, usage data
- Learning Analytics
 - Students, instructors, and researchers
 - OnTask: analytics-based feedback
- Gamification
 - FlipApp: first approximation towards gamification
 - FlipAppQuiz: added challenges and new Unity-based interface
 - GeoQuiz: gamification with IoT (beacons)
- Voice assistant
 - Alexa



Requirements from UPV



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- Improvements in assessments (ORA, Turnitin)
- File management
- Video dubbing



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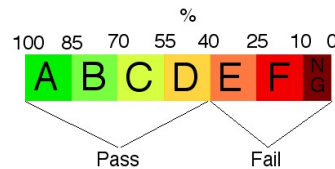
Requirements from UAM



Universidad Autónoma de Madrid



- Improvements in the interface and usability
- Grading



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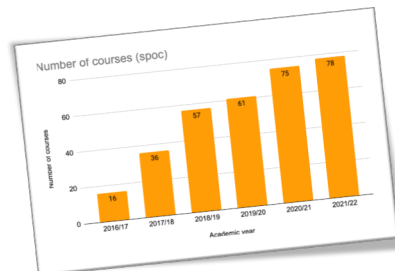
Campus Integration



Campus Integration



- Access control
- Dashboard
- Usage data

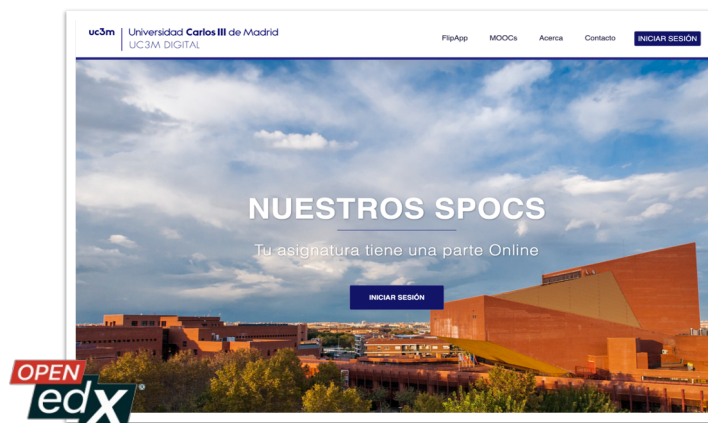


Access Control

- MOOC platform
 - Open enrollment
 - Anyone
 - Any course
- SPOC platform
 - Controlled enrollment
 - Only registered students at university
 - Access only to courses according to section roster

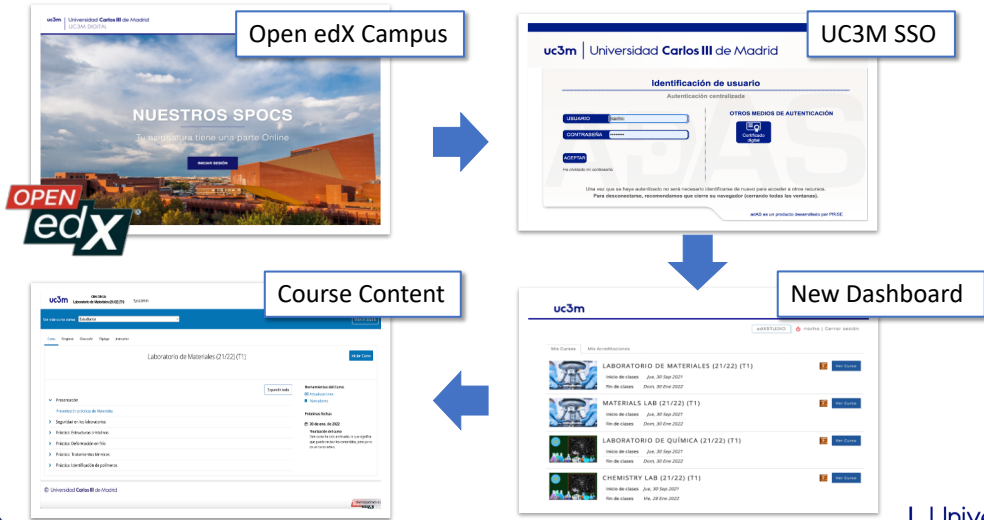


s poc . uc3m . es



Authentication

SAML



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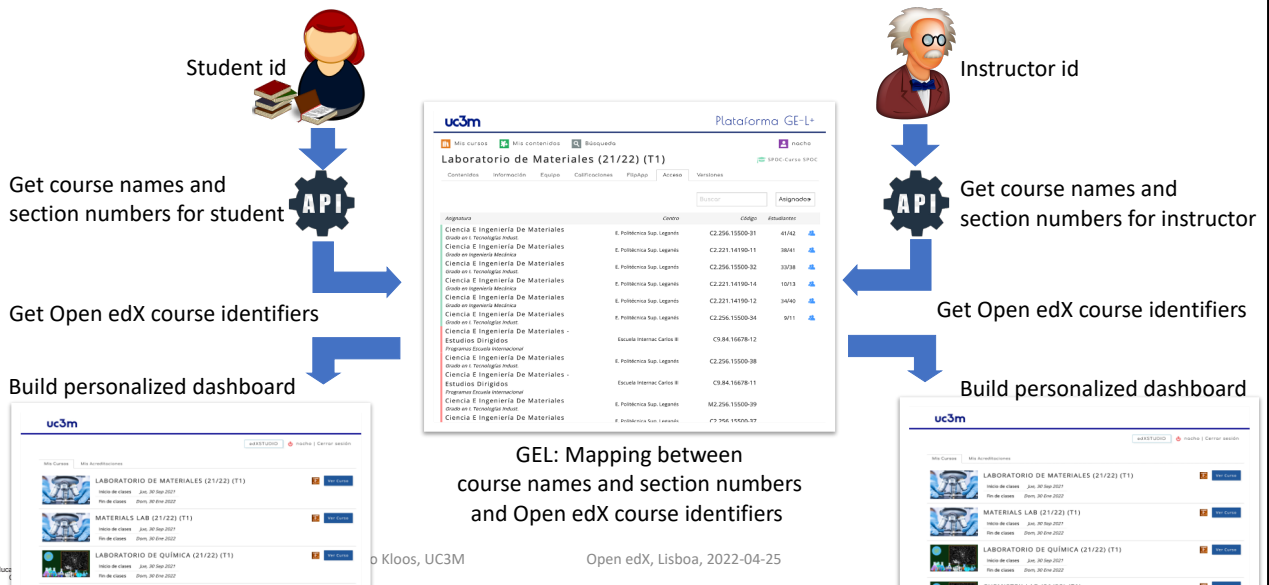
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New Dashboard

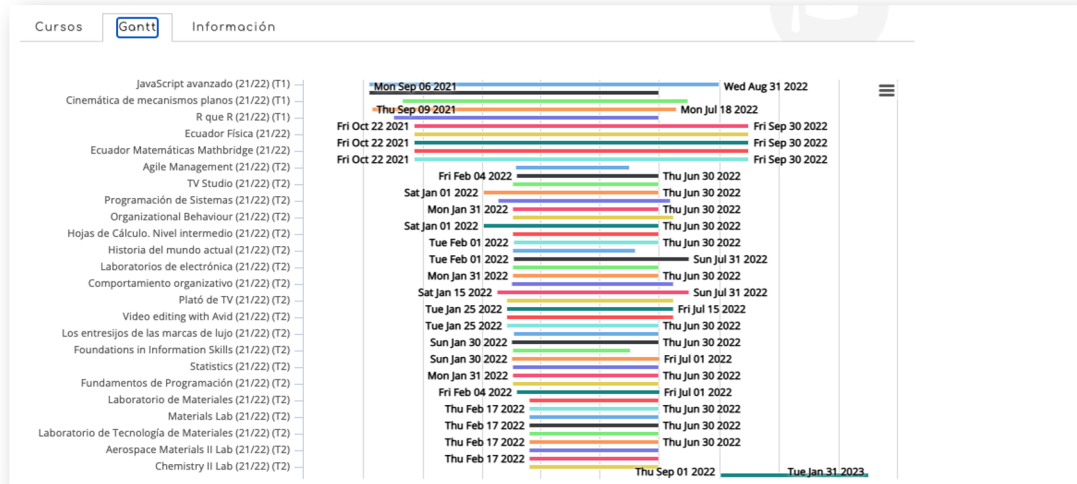


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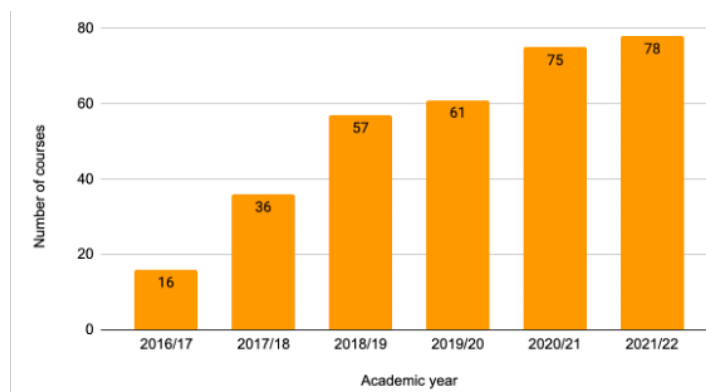
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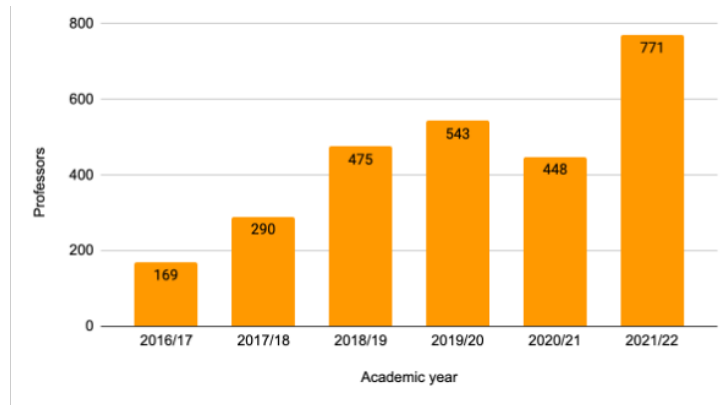
Timing of Courses



Usage Data: Number of Courses

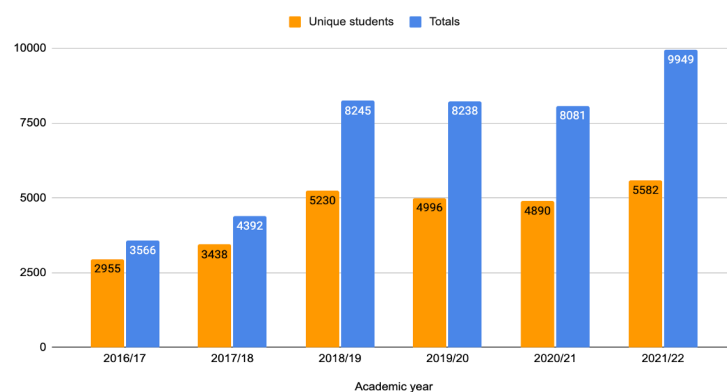


Usage Data: Number of Instructors



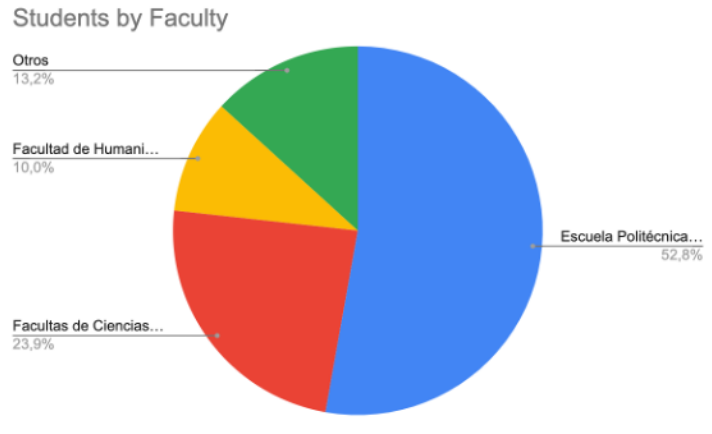
29

Usage Data: Number of Students



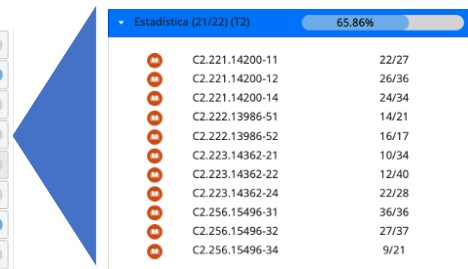
30

Usage Data: Student Distribution



31

Usage Data: Active vs. Enrolled Students



Detail by Subject and Section

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extension.uc3m.es



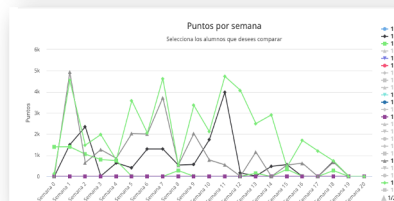
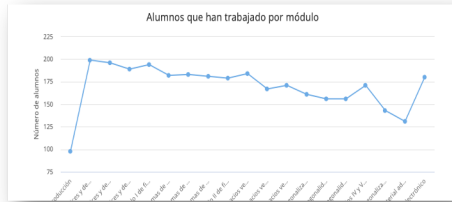
33

Learning Analytics

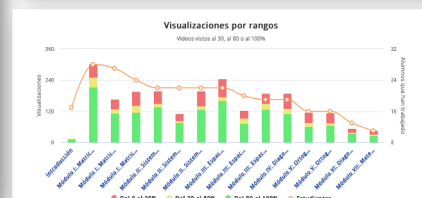
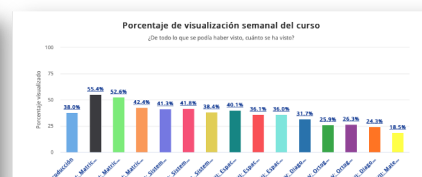
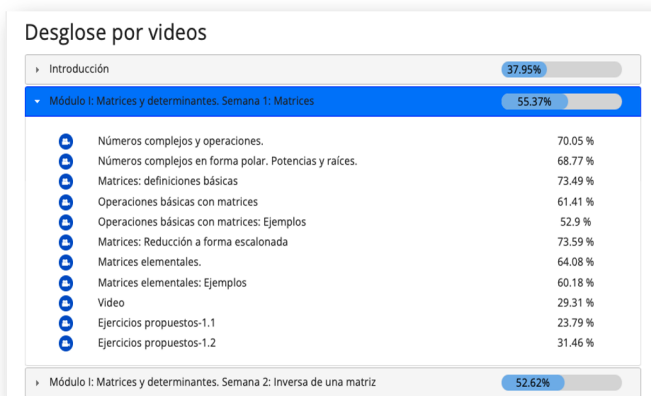


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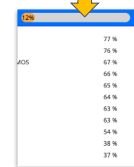
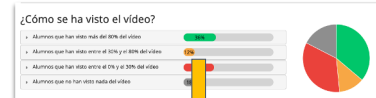
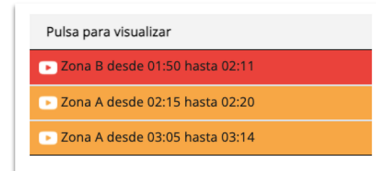
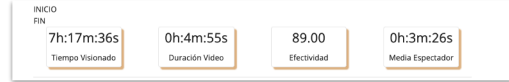
Analytics for Instructors



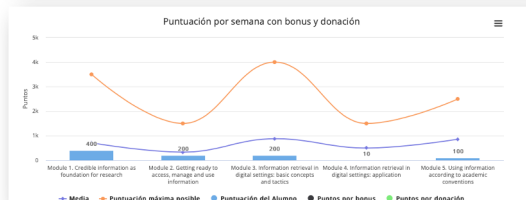
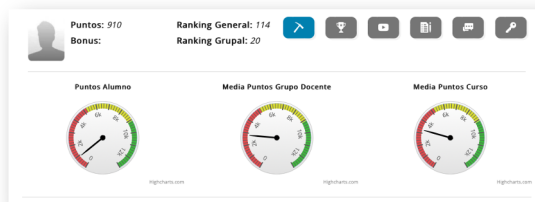
Analytics about Videos



Analytics about Videos



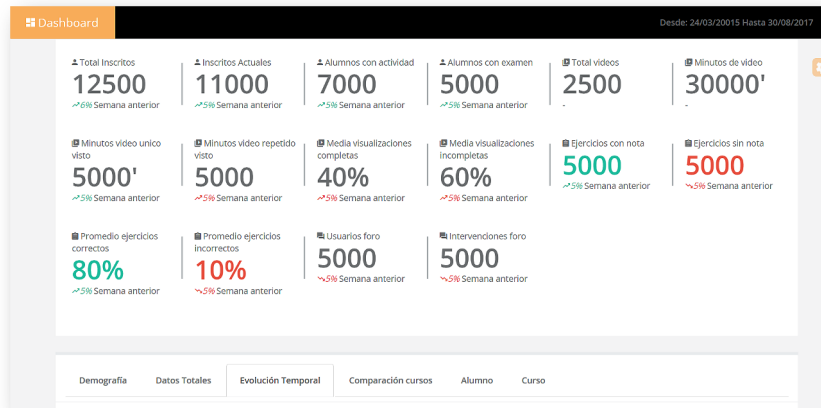
Analytics for Students



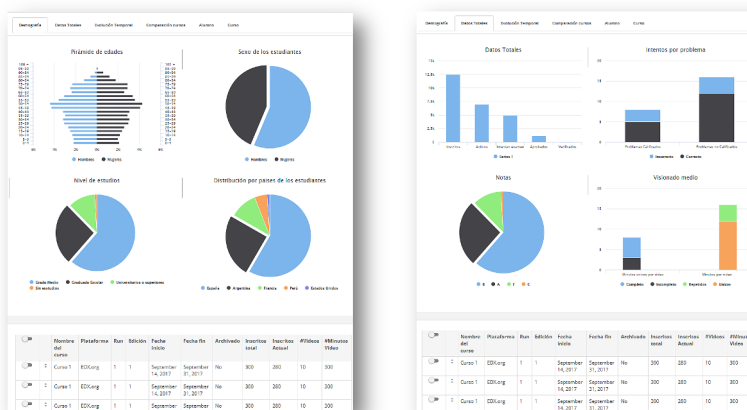
Desglose por videos y ejercicios

Objetivo	Video	Completado	Puntos
1.1.1. The path to knowledge	Video	0% actualizado	0 pts
	Video	0% actualizado	0 pts
	Video	0% actualizado	0 pts
	Video	0% actualizado	0 pts
	Video	0% actualizado	0 pts
1.2.1. History and secondary sources	Video	0% actualizado	0 pts
	Video	0% actualizado	0 pts
	Video	0% actualizado	0 pts
	Video	0% actualizado	0 pts
	Video	0% actualizado	0 pts
1.3.1. Accessible cinema	Video	0% actualizado	0 pts
	Video	0% actualizado	0 pts
	Video	0% actualizado	0 pts
	Video	0% actualizado	0 pts
	Video	0% actualizado	0 pts
Objetivo 1	Question 1	completado al 11 intentos	100 pts
	Question 2	completado al 11 intentos	100 pts
	Question 3	no realizado	0 pts
	Question 4	no realizado	0 pts
	Question 5	completado al 11 intentos	100 pts
	Question 6	completado al 11 intentos	100 pts
	Question 7	no realizado	0 pts

Analytics for Administrators



Analytics for Administrators



Analytics for Administrators



Integration with OnTask

- Abelardo Pardo, UniSA, Australia
- www.ontasklearning.org
- Open source
- The OnTask Project aims to improve the academic experience of students through the delivery of timely, personalised and actionable student feedback throughout their participation in a course

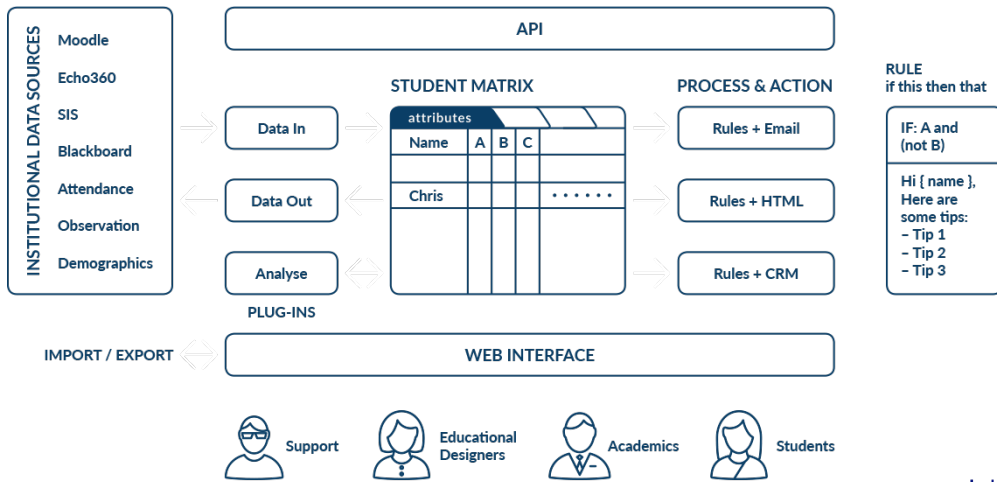


RULE
if this then that

IF: A and
(not B)

Hi { name },
Here are
some tips:
- Tip 1
- Tip 2
- Tip 3

OnTask



Gamification



FlipApp



- Mobile application (iOS and Android) for students
- Points are assigned for video viewing and exercises
- They can check their progress and compare themselves with the rest of their peers (social pressure)



FlipApp



FlipApp



- In-house development
 - The core of the application is a DjangoApp running inside OpenedX
- edX logger system is modified to extract the events of interest to an external database (FlipApp Database)
 - From these events, the time spent watching the videos and how the students have worked on the exercises is calculated
- Accompanying X-Blocks have been developed so that students can also see their progress within the Open edX platform

FlipApp Statistics



Temario del curso			Estado de la semana
50 ^o	Introducción	0 puntos	<div style="width: 0%;"></div>
6 ^o	Módulo I: Matrices y determinantes. Semana 1: Matrices	3937 puntos	<div style="width: 100%;"></div>
4 ^o	Módulo I: Matrices y determinantes. Semana 2: Inversa de una matriz	3381 puntos	<div style="width: 100%;"></div>
1 ^o	Módulo I: Matrices y determinantes. Semana 3: Determinantes	5580 puntos	<div style="width: 100%;"></div>
18 ^o	Examen Módulo I de fin de semana	780 puntos	<div style="width: 100%;"></div>
11 ^o	Módulo II: Sistemas de ecuaciones lineales. Semana 4: Introducción a los sistemas lineales	5250 puntos	<div style="width: 100%;"></div>
26 ^o	Módulo II: Sistemas de ecuaciones lineales. Semana 5: Resolución de sistemas lineales	2250 puntos	<div style="width: 100%;"></div>
1 ^o	Módulo II: Sistemas de ecuaciones lineales. Semana 6: Ecuaciones vectoriales: el espacio Rn	5760 puntos	<div style="width: 100%;"></div>
64 ^o	Examen Módulo II de fin de semana	400 puntos	<div style="width: 100%;"></div>

Student Feedback



Semana 1

1.1. Presentación del SPOC
 Presentación del SPOC ★ 3.6 | ★ 3.6 | [comment] [video] | 157 KB | 2018-03-22

1.2. Avid | first / Media Composer
 La versión gratuita de Avid para casa ★ 2.8 | ★ 3.8 | [comment] [video] | 203 KB | 2018-03-22

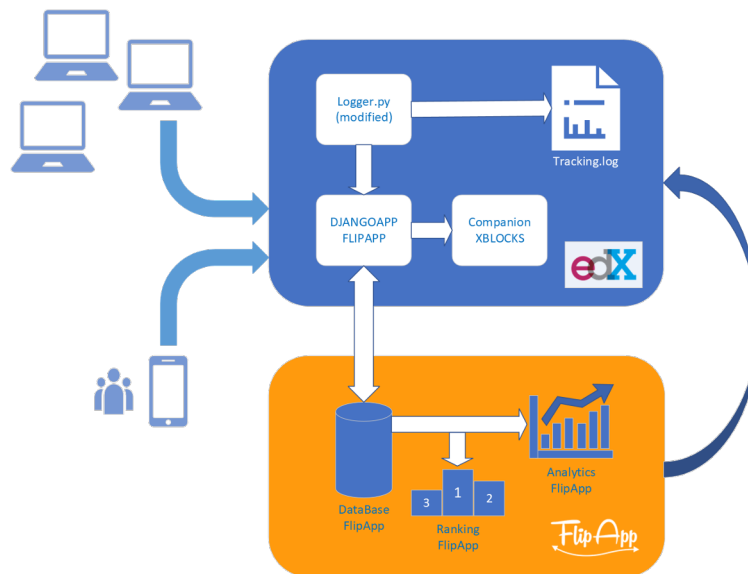
Semana 2

2.1. Objetivos
 Objetivos de la semana 2 ★ 4.3 | ★ 4.8 | [comment] [video] | 109 KB | 2018-03-22

2.2. Lectura El archivo de vídeo Digital
 Presentación del texto S.2 ★ 2.3 | ★ 2.7 | [comment] [video] | 67 KB | 2018-03-22

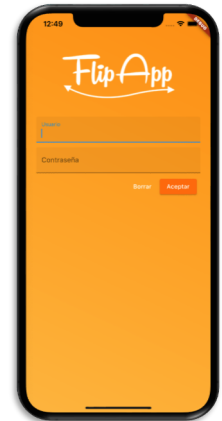
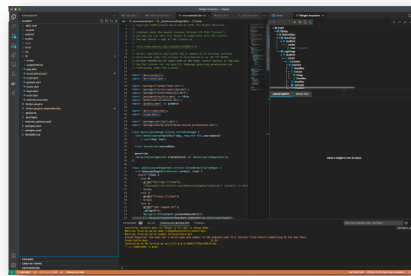
2.3. Crear un proyecto
 Crear un proyecto ★ 4.4 | ★ 4.4 | [comment] [video] | 139 KB | 2018-03-22

FlipApp



FlipApp (new Version)

- New version using the Flutter framework
- iOS and Android native applications from common code
 - Reduces error correction and improvement times
 - Native applications: no visible loss of performance



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FlipApp (new Version)



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FlipApp Quiz

- FlipApp Quiz is a phone videogame
- Students receive several multiple-choice questions
- The game saves the results obtained each week



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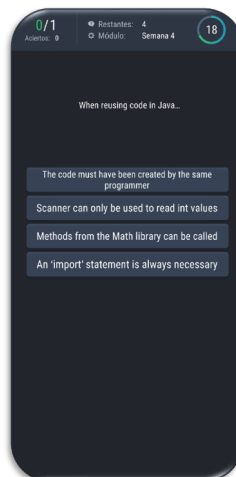
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FlipApp Quiz



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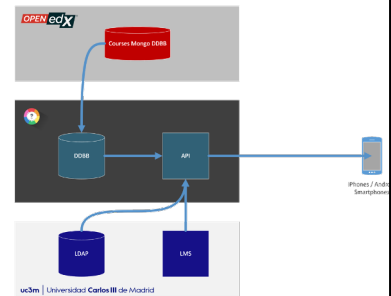


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FlipApp Quiz



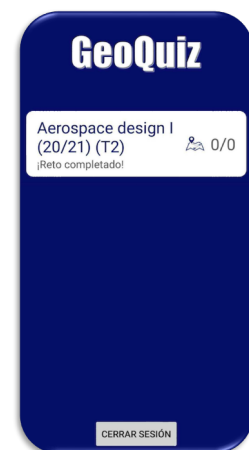
- The questions are obtained from the Open edX platform
 - A section hidden for the students is defined
 - The questions are placed into each subsection
- The FlipApp Quiz system extracts the questions from the Open edX courses database and stores and formats them in an own database
- The information is provided to the users via API, which is consumed by the mobile application



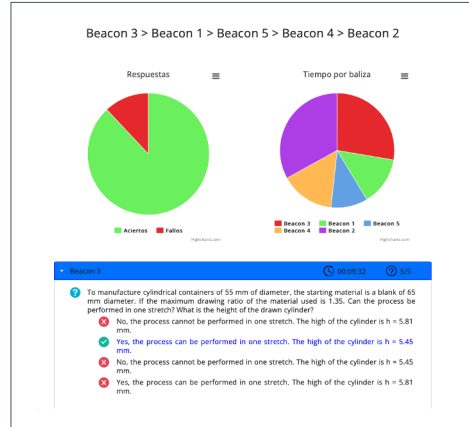
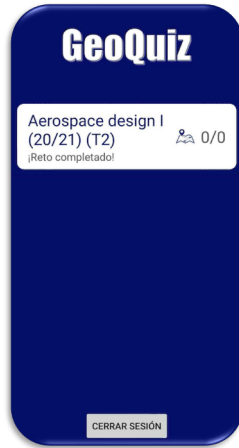
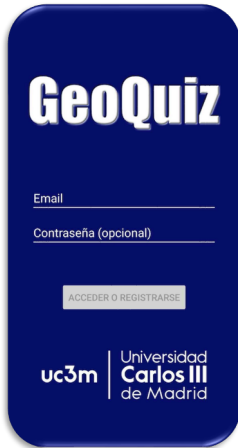
GeoQuiz



- GeoQuiz is a location-based game for mobile devices
- It allows to send multiple-choice questions to users that are at a specific location
 - This is achieved using positioning beacons
- Instructors can see the evolution and the results of the game through a control panel



GeoQuiz



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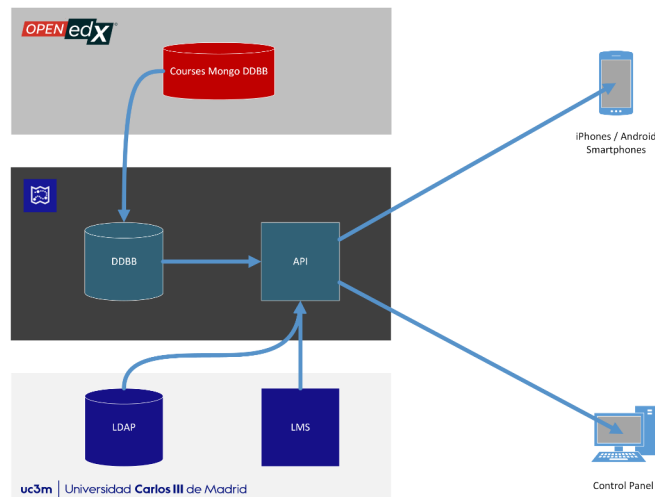
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GeoQuiz



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Voice Assistant



Voice Assistant

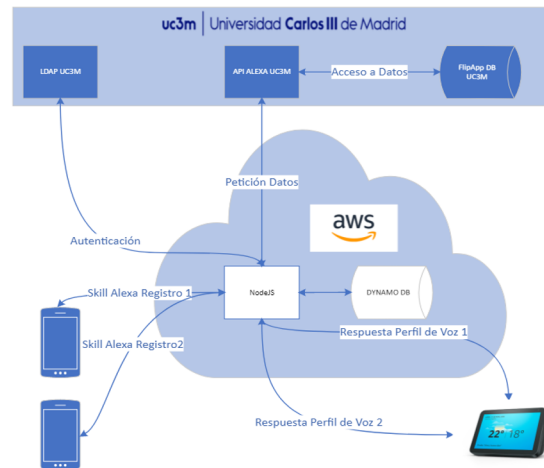


- Connected to the institutional account
- 2 sets of skills
 - Teachers
 - Students





Voice Assistant



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Voice Assistant (Instructor)

- **Subjects** taught by the instructor
 - Number of subjects, names, dates
- **Information about a specific subject**
 - Number of students
 - Open modules, opening and closing dates
 - Course modules, opening dates, points
- **Information about the sections** of a subject
 - Registered students
 - Active students
 - Percentage of work in all sections
 - Percentage of work in my section
- **Course dates and times**

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Voice Assistant (Instructor)

- Information about **student effort in the last 2 weeks**
 - Number of active students
 - Modules where there has been work
 - Number students working in each module
- **Students at risk** (those who don't work or work a little)
 - Students who have never worked
 - Students who have not worked in the last 10 days
- Student leaderboard wrt the **work done**
- Information about **videos viewed**
 - Weeks with most views
 - Videos with most and less viewing

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Voice Assistant (Student)

- Listing of **subjects registered**
 - Name and section
- Information about **work performed** in a subject
 - Points, average, position in leaderboard
 - Points needed to advance in leaderboard
- Information about **last module opened and own work**
 - Points, average
- Information about modules with **less own work**
 - Modules with 0 points
 - Modules below average

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Speakers

- Carlos Delgado Kloos
 - Vice President for Strategy and Digital Education, UC3M
- Carlos Alario-Hoyos
 - Deputy VP for Strategy and Digital Education, UC3M
- Ignacio Despujol
 - MOOC Initiative Coordinator, UPV
- Germán Montoro
 - Delegate of the Rector for Educational Technologies, UAM



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Requirements from UPV

- Improvements in assessments (ORA, Turnitin)
- File management
- Video dubbing



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Questionnaire

- What do you think is missing regarding learners' assessment in Open edX?

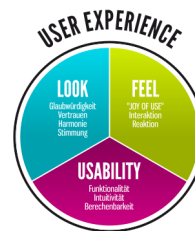


app.wooclap.com/openedx

Requirements from UAM



- Improvements in the interface and usability



- Grading

