

TeSLA / Val-id

Verificación de la identidad del
estudiante en el proceso de evaluación
en un entorno on-line

Agenda

1.- Introduction: Background

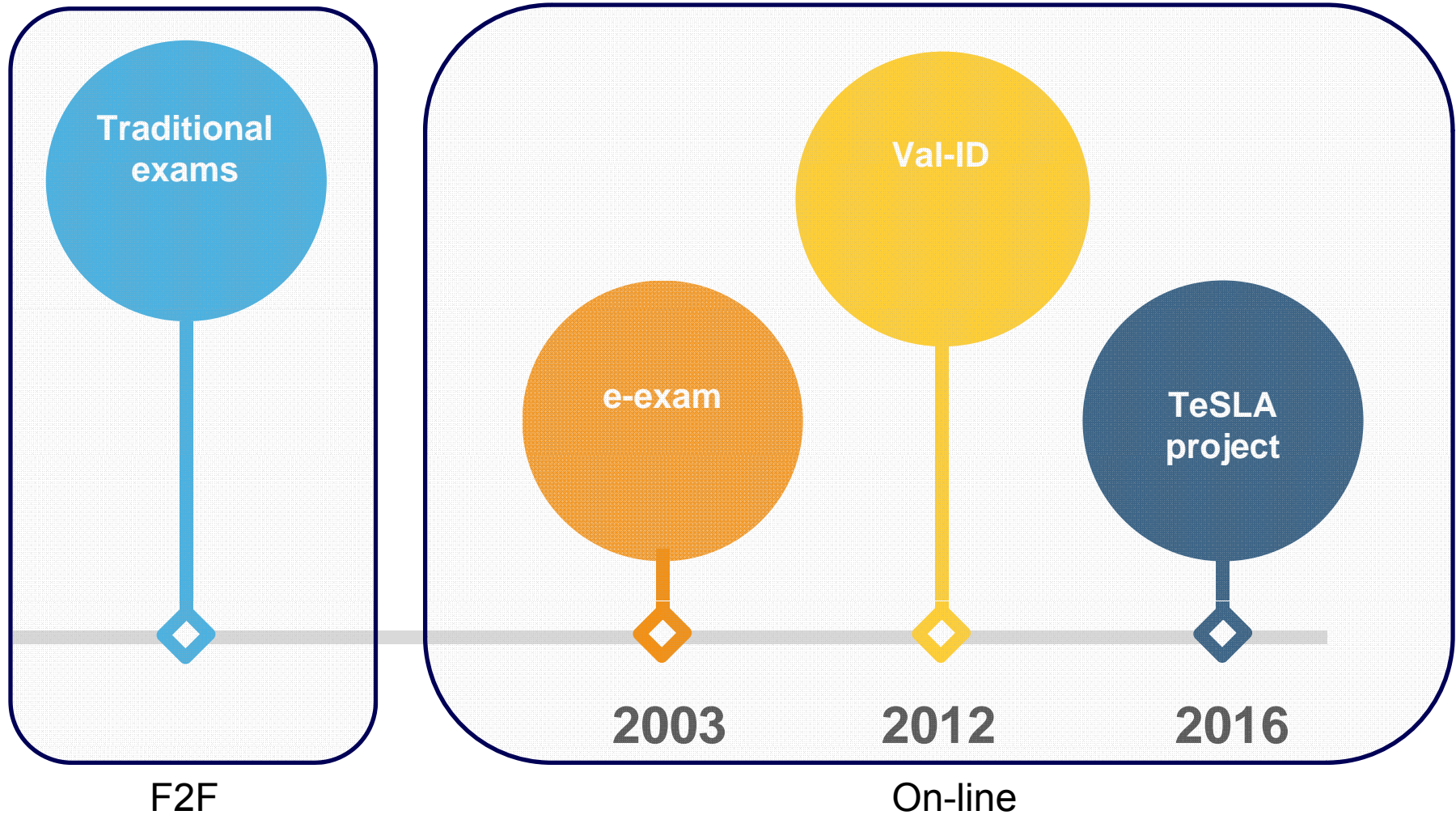
- 1.1 Background: traditional F2F exam
- 1.2 Background: e-exam, internal pilots & prototype (UOC case)
- 1.3 Background: Val-id & TeSLA

2.-TeSLA: H2020 project

- 2.1 Features of the call, consortium and Impact
- 2.2 Concept and objectives
- 2.3 Pilots scheme
- 2.4 The TeSLA system: Architecture Overview
- 2.5 Demo

3.- Val-id: UOC+Smowl system

1.- Introduction: Background



1.1 Background: traditional F2F exam

► Background: traditional exam – 1 [crime_scene]



► Background: traditional exam - 2 [trad_copy]



Background: traditional exam - 3 [solution_1]

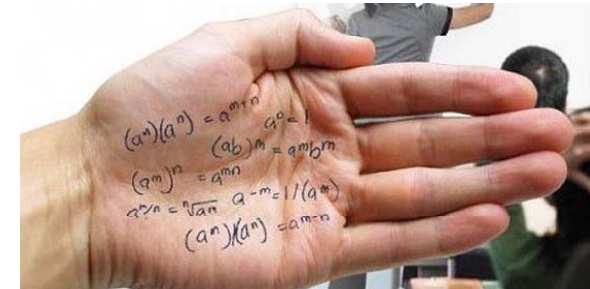


Copiar en un examen resulta cada vez más difícil

DESMOTIVAR.COM



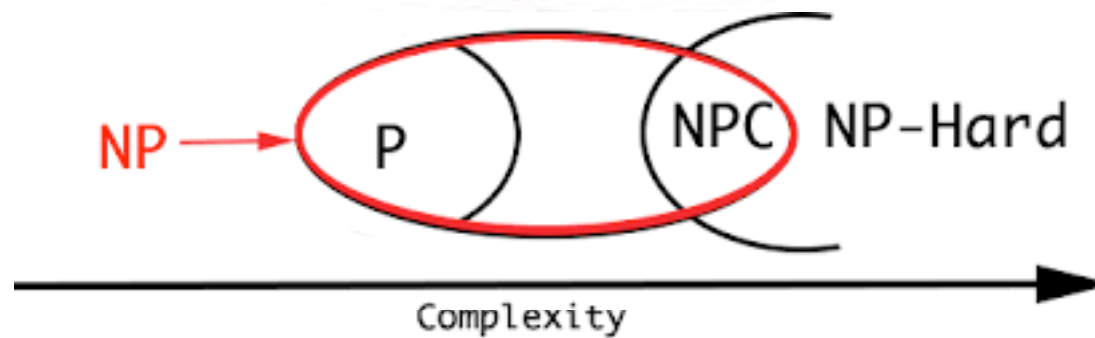
Background: traditional exam - 4 [unlimited_imagination]



► **Background: traditional exam - 5 [the_solution!]**



▶ Background: traditional exam - 6 [NP-Complete]

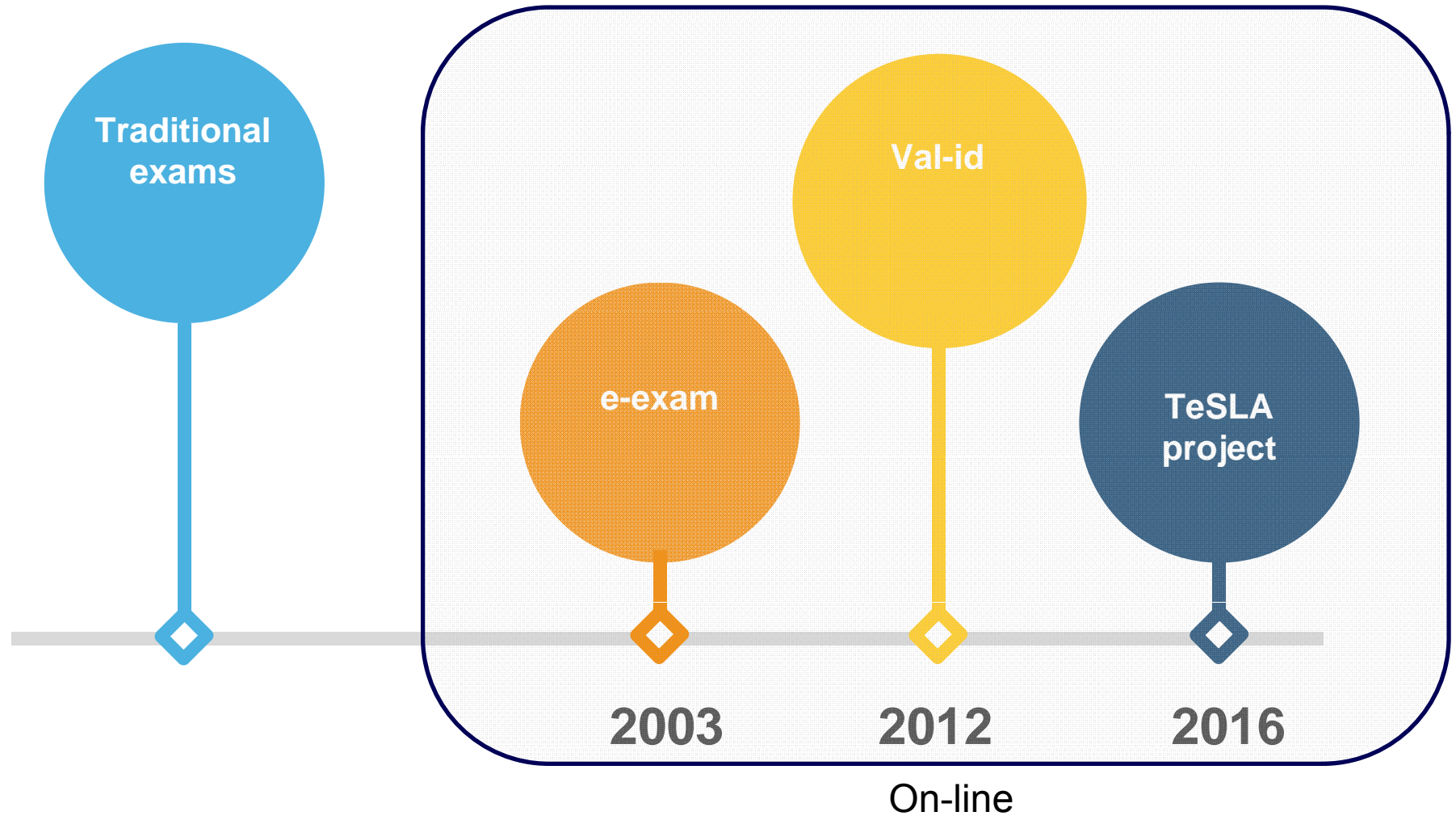


1.2 Background: e-exam & internal pilots & prototype (UOC case)

Background: To on-line scenarios

- **Mobility of teachers and learners** is increasing
 - As a **online/distance university** we consider the **e-assessment process** as a key element in learning process.
 - **Activities** are the core for **achieving competences** (cross curricula or specific competences).
 - **Technology** has to improve and to **facilitate how can we teach and how can students learn.**
 - **Authorship and student identity** is behind the teaching and learning process.
-

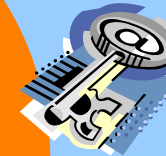
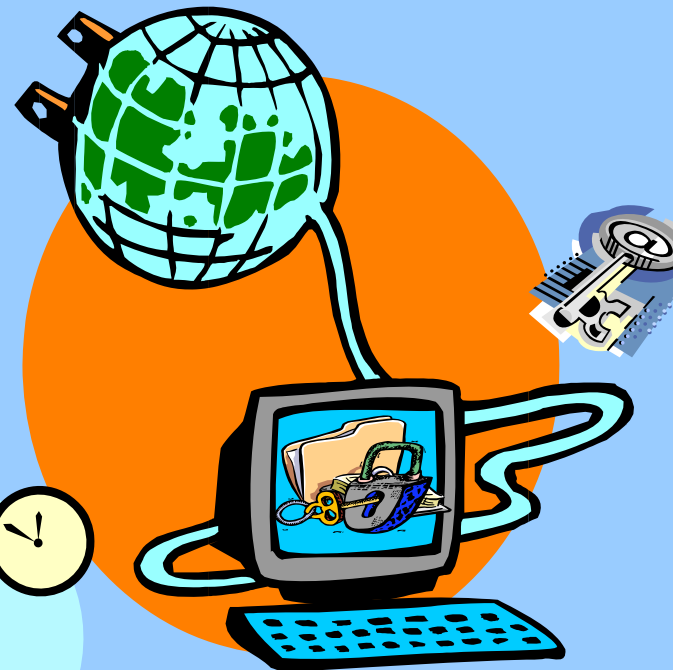
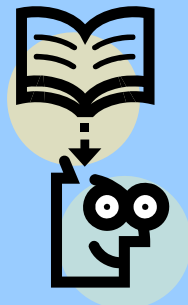
Background



► Background: e-exam – 1 (2003)

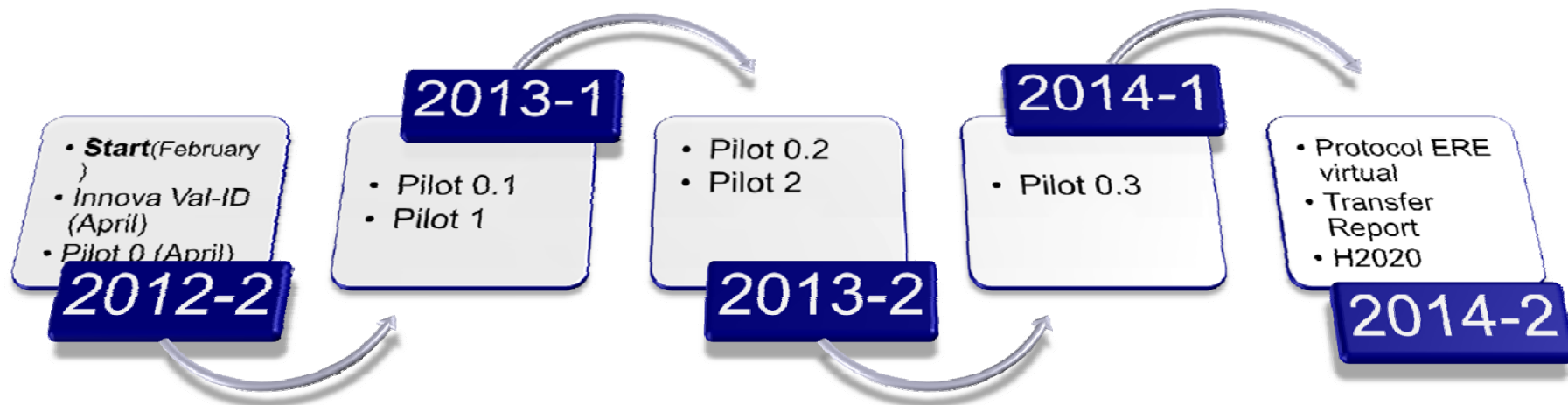
Keyson

- Autenticación
- Veracidad y integridad
- Confidencialidad
- No-copia:
- libros
- espectador experto
- ordenador limpio
- comunicación vía radio



Background: internal pilots & prototype (UOC case)

UOC-Val-ID project: Evolution



► **Background: internal pilots & prototype (UOC case)**

► **Pilot 2: March 2014- June 2014**

Goal: to test the same methods and techniques in other subjects and introduce a prototype for final exams

350 students from 11 subjects (degrees and master level, language school)

Continuous Assessment Activities:

Image and video in activities

Synchronous interviews

Plagiarism tools

Peer reviews on collaborative works

Trust level by teachers feedback

Final examination with prototype for:

Facial recognition/Keystroke dynamics

TimeStamp/Digital Signature

Background: internal pilots & prototype (UOC case)

UOC Prototype

- 1.- User login
- 2.- Current activities list
- 3.- If activity hasn't been started, it can be selected and downloaded from server
- 4.- Selection of desired activity
- 5.- Control acknowledgement and acceptance
- 6.- Available tools (video recording)
- 7.- Activity deliver (TS and signature)



► Background: internal pilots & prototype (UOC case)

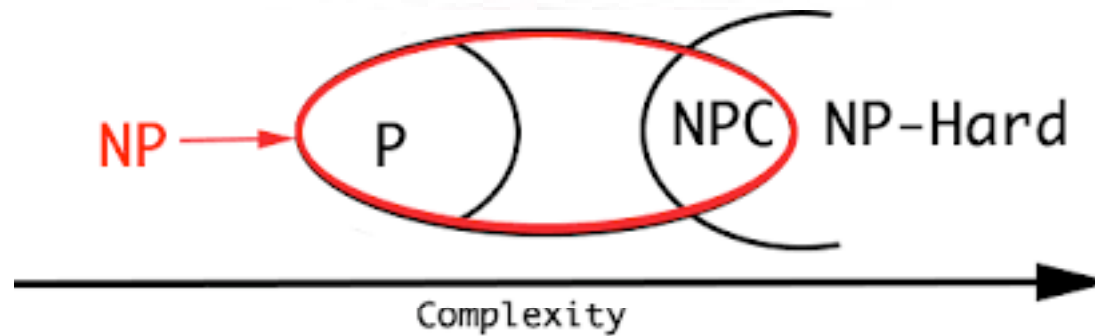
Prototype results

Tested Biometric Mechanisms

Facial Recognition	90.3%
Voice Recognition	71.2%
Keystroke patterns	52.6%

- Values present results of instruments **in an isolated manner**. In a real system, the different modalities must be combined.
- Small amount of data and classical instrument approaches (not state-of-the-art)
- During the pilots we have detected many **issues in how the learners use the tools**, that must be addressed in future implementations.

▶ Background: e-exam - 6 [NP-Complete]



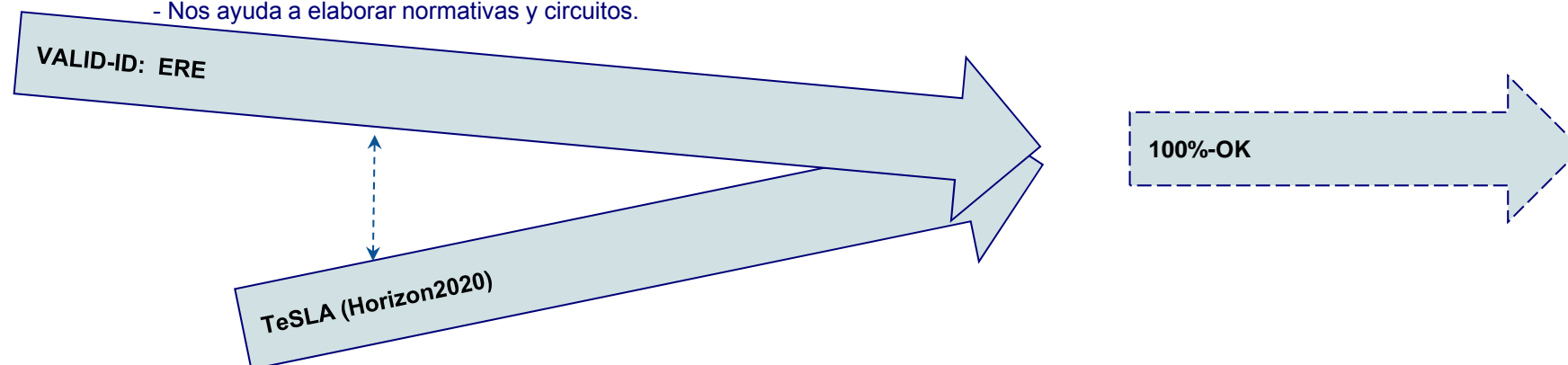
1.3 Val-ID vs TeSLA

TeSLA vs Val-ID



Objetivo: Incorporar el instrumento del reconocimiento facial en el proceso de exámenes virtuales de la UOC (ERES).

- Nos ayuda a probar el servicio como un servicio provisto externamente.
- Nos ayuda a elaborar normativas y circuitos.



Objetivo: Verificar la identidad del estudiante en todo el proceso de evaluación en línea

- Hub para incorporar diferentes instrumentos de reconocimiento (facial, voz, teclado, PACPlagi, ... etc).
- Agencias de calidad
- Metodología

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3.- Val-id: UOC+Smowl system



An Adaptive Trust-based e-assessment System for Learning

Overview

Call submitted

Horizon2020 – INFORMATION AND COMMUNICATION TECHNOLOGIES

Topic: Technologies for better human learning and teaching.

Type: Innovation Action, with Large Scale Pilots.



Funded by
the European Union

Project Number: 688520 – TESLA – H2020-ICT-2015/H2020-ICT-2015
Agreement Number: 688520

Features of the call and Budget

Horizon2020 – ICT 20 (Information and Communication Technologies)

Topic: Technologies for better human learning and teaching

Type: **Innovation Action**, with Large Scale Pilots

Means: 20% Research & 80% Innovation

TeSLA is one of the 6 selected projects for funding (universities, not usual, first)

Total budget: 7.283.092€

Consortium

18 Partners (130 members)

8 Universities

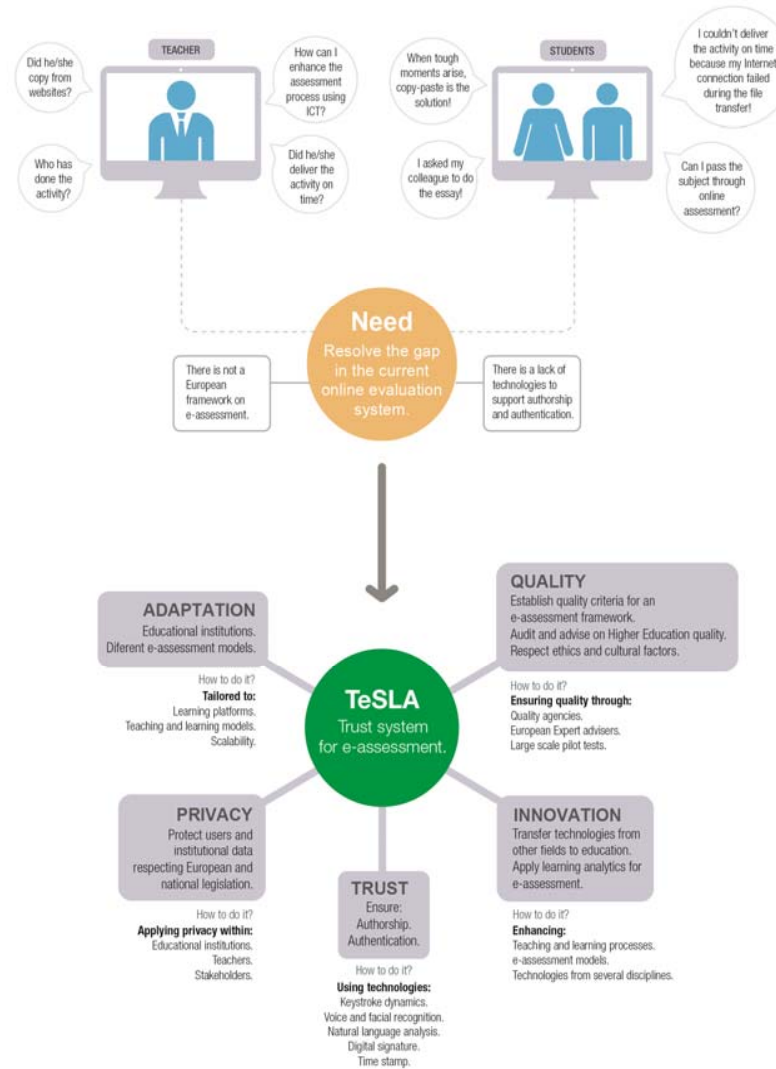
3 Quality Agencies

4 Research Centers

3 Enterprises



An Adaptive Trust-based e-assessment system for learning (TeSLA)



TeSLA concept

Specific objectives

- O1. Analyse and design the most appropriate **learning activities** for e-assessment taking into account both, academic requirements to ensure the learning process and the adaptation to a fully online and cross-curricular assessment.
 - O2. Improve the e-assessment process by **introducing tools and resources** in the learning activities that **capture learners' data** to ensure their authentication and authorship.
 - O3. **Conduct several pilots** of the TeSLA e-assessment system that **guarantee the equality of opportunity and respect for diversity** in real teaching and learning scenarios while ensuring the authentication and authorship of the learners during the e-assessment processes.
 - O4. Provide a **core version** of the TeSLA e-assessment system **free of charge** for educational institutions, in order to improve their e-assessment processes.
 - O5. Hold a set of **training** workshops, provide guidelines and elaborate learning resources for teachers to show how the TeSLA e-assessment system can be used for enhancing e-assessment processes.
 - O6. Implement a **professional and commercial version** of the TeSLA e-assessment system to be sold and distributed at international level.
-

Work Packages

- WP 1. Project Management (UOC).
 - WP 2. Requirements and modeling of the educational model (UOC).
 - WP 3. Data privacy and ethics (Namur).
 - WP 4. Quality assurance in online higher education (AQU).
 - WP 5. Design and implementation of trusted assessment mechanisms (Lplus).
 - WP 6. Integration of the framework in learning environments (Watchful).
 - WP 7. Design and development of pilots (SU).
 - WP 8. Pilots evaluation (OU).
 - WP 9. Communication, dissemination, liaisons and exploitation (protOS).
-

Finished →

Finishing →

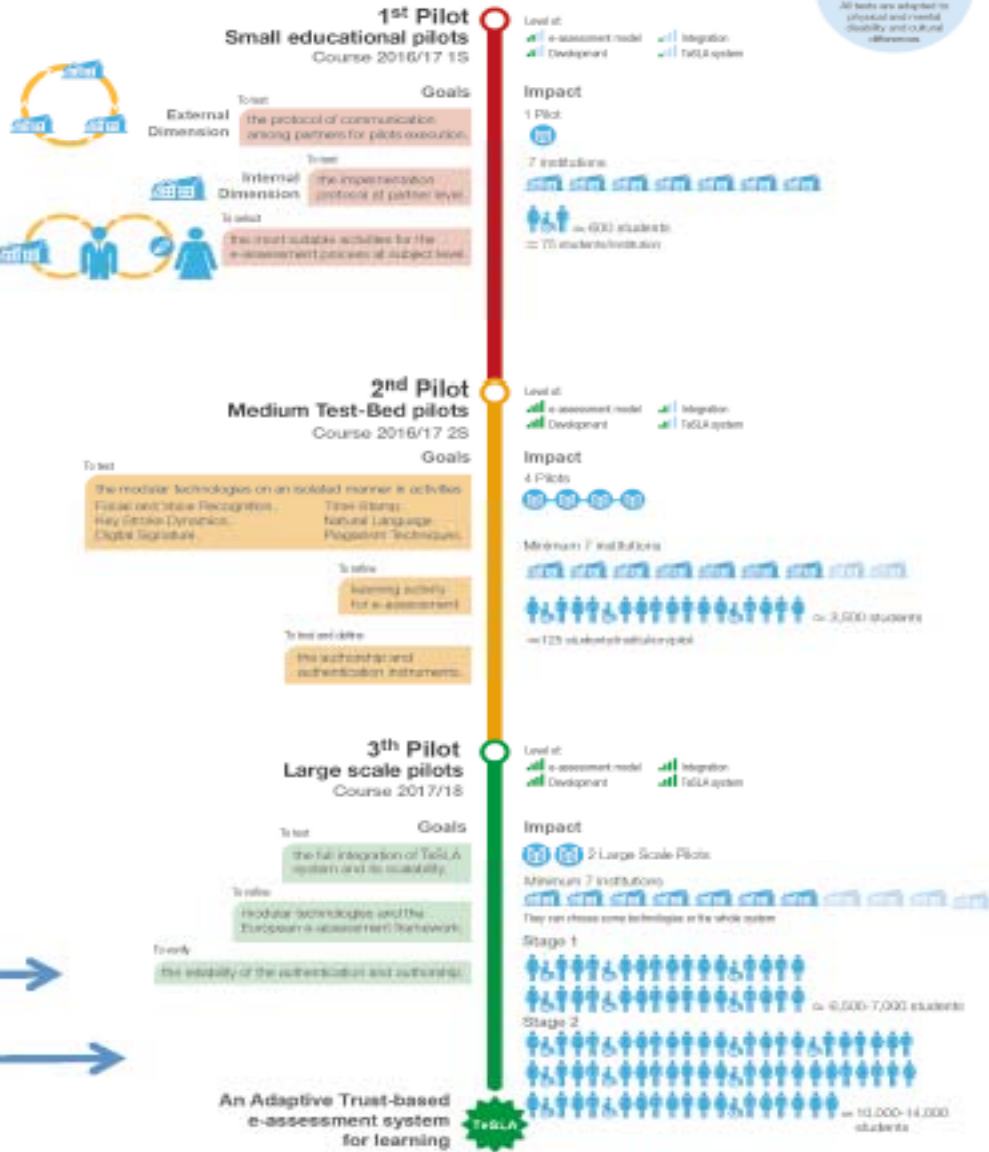
Large Scale Pilots scheme

September 2017 (1st stage) →

February 2018 (2nd stage) →

Pilots scheme

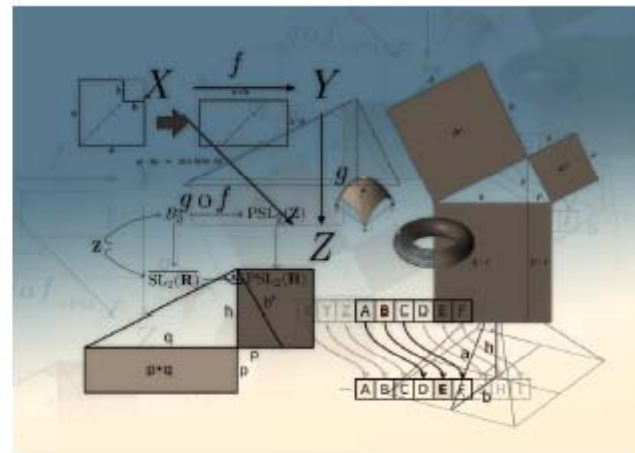
3 Years



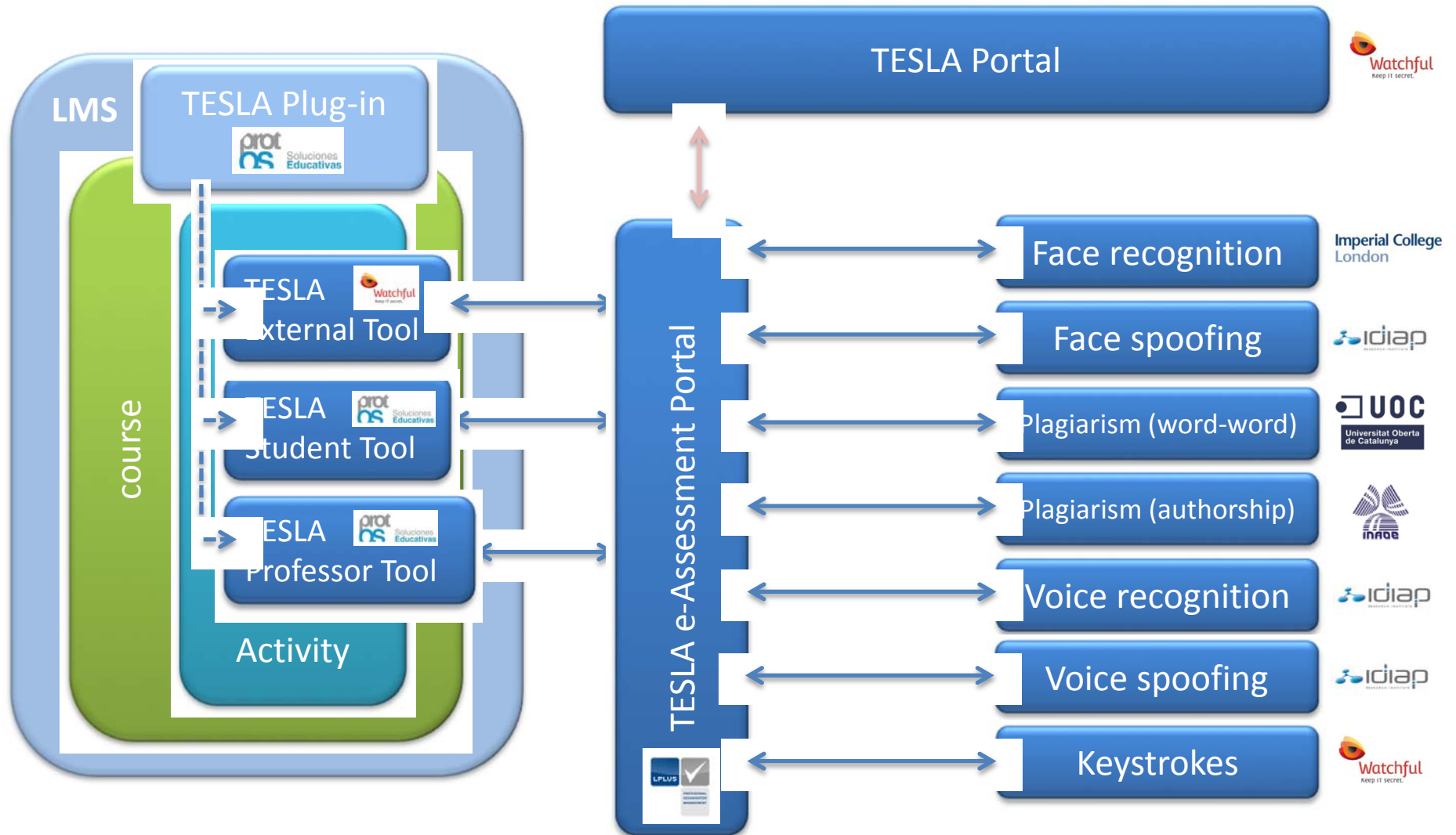
Tools and resources of TeSLA System

Authentication: digital certificate, face recognition, keystroke dynamics, voice recognition, time stamp.

Authorship: plagiarism tool and forensic analysis (linguistic techniques comparing creations from the same user and with Internet sources).



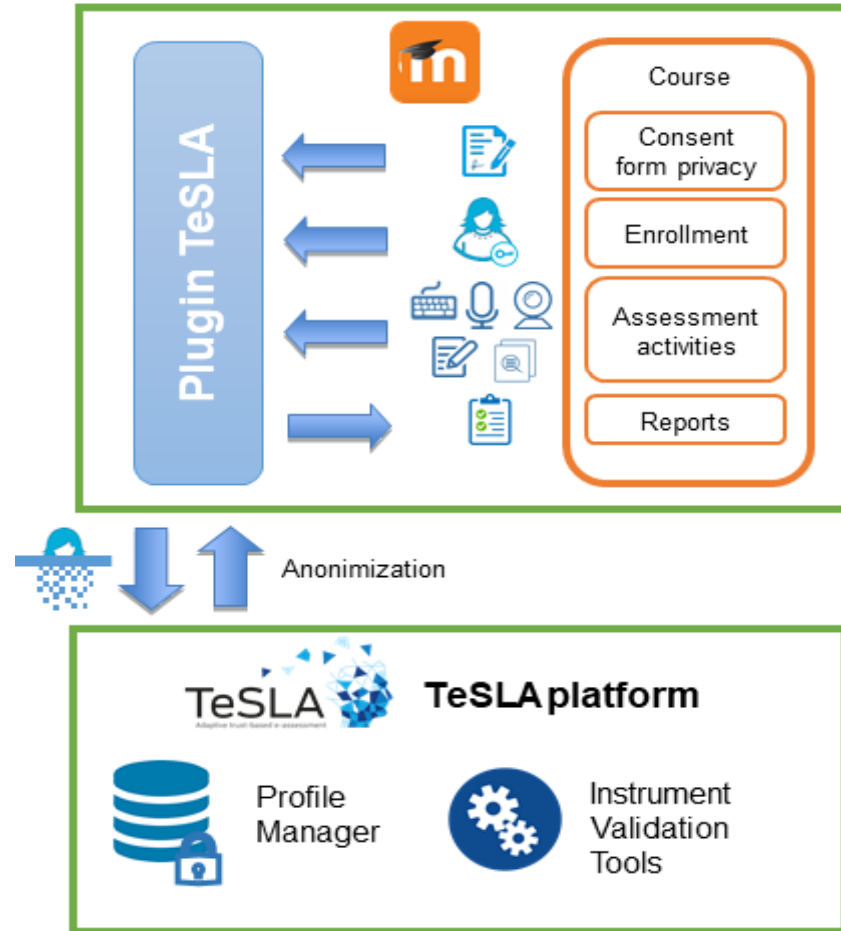
TeSLA architecture: available for Moodle & Blackboard



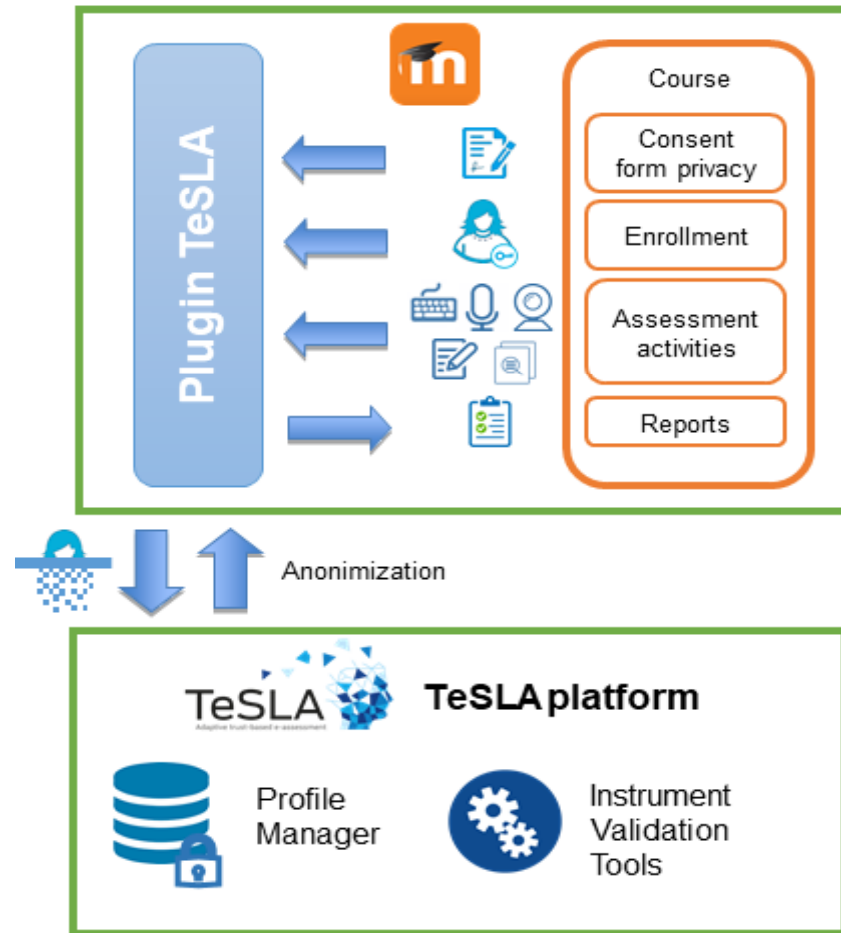


Demo TeSLA

Moodle TeSLA

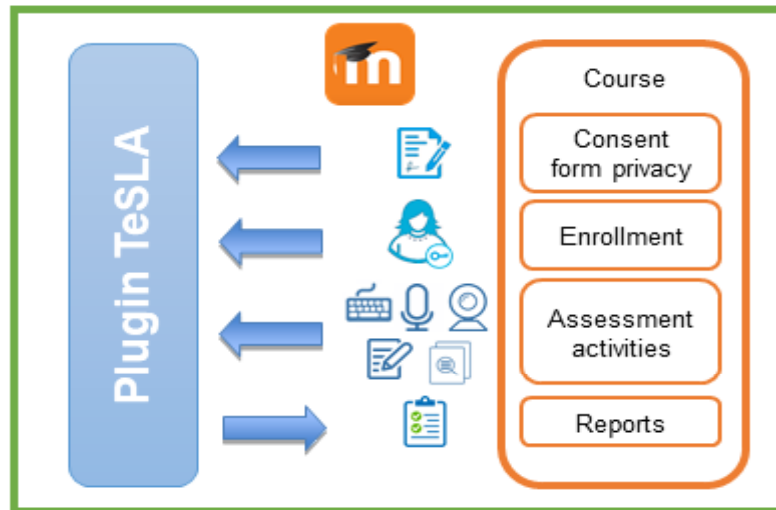


Moodle TeSLA

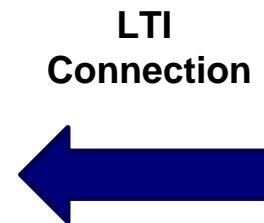
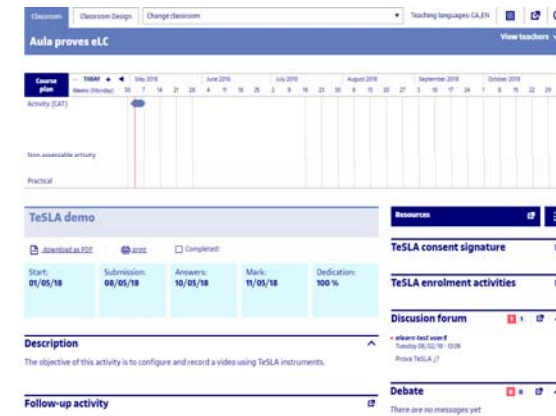


- TeSLA system can be used in other Virtual learning environment by using LTI connections

Moodle TeSLA



UOC Classroom



- TeSLA system can be used in other Virtual learning environment by using LTI connections



Student View



TeSLA Demo

- TeSLA system is based on three phases:
 - Signature the consent form
 - Realization of the enrollment activities
 - Follow-up activities where TeSLA instruments are deployed
-


➤ UOC Classroom

Classroom Classroom Design Teaching languages: CA, EN  

Aula proves eLC [View teachers](#) ▼

Course plan ← TODAY + May 2018 June 2018 July 2018 August 2018 September 2018 October 2018 ▶



Weeks (Monday) 30 7 14 21 28 4 11 18 25 2 9 16 23 30 6 13 20 27 3 10 17 24 1 8 15 22 29

Activity (CAT) 

Non-assessable activity

Practical

TeSLA demo



 [download as PDF](#)  [print](#) Completed!


Start: 01/05/18	Submission: 08/05/18	Answers: 10/05/18	Mark: 11/05/18	Dedication: 100 %
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Description 




The objective of this activity is to configure and record a video using TeSLA instruments.




Follow-up activity

Resources  

TeSLA consent signature 

TeSLA enrolment activities 

Discussion forum  1  

Debate  0  

There are no messages yet

← **1) Signature consent form**

← **2) Enrollment activities**

← **3) Follow-up activities**

Consent form

- Privacy policy document that the student has to accept

The screenshot shows a web interface for the TeSLA system. At the top, there is a breadcrumb trail: "Dashboard / My courses / Curs TeSLA". Below this is a settings gear icon. The main heading is "Informed Consent", followed by the instruction: "Please read below information and decide whether you consent to use of the TeSLA system." The form contains a message: "This browser does not support inline PDFs. Please download the PDF to view it: [Download PDF](#)". Below this is a checkbox with the text: "I have received all the necessary information to understand the purpose of the TeSLA system and I have had the opportunity to ask for additional information. I give permission for photographs/video/sound recordings and typing characteristics of me to be captured and processed to verify my identity and/or authorship of my written assignments." At the bottom of the form are two buttons: "Accept" and "Reject". A red error message at the bottom states: "There are required fields in this form marked [red icon]".

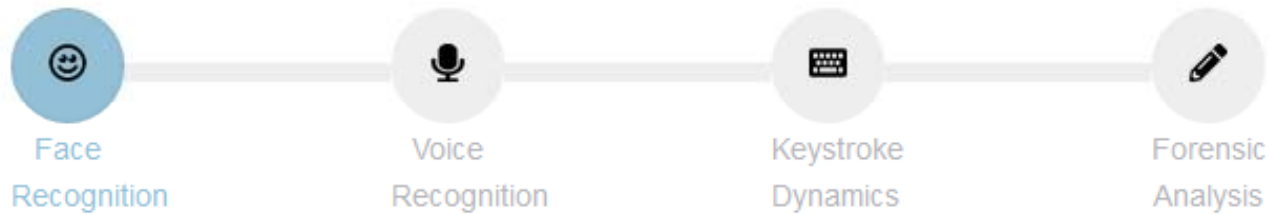
1) Privacy policy document

2) Checkbox to accept

3) Click to accept

Enrollment activities

- The enrollment has to be done for the four instruments



➤ Face recognition

instructions

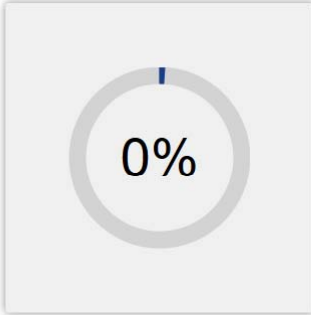
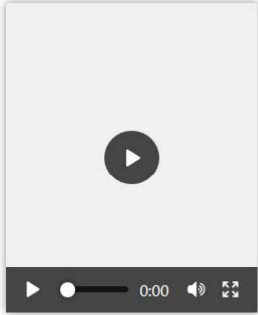

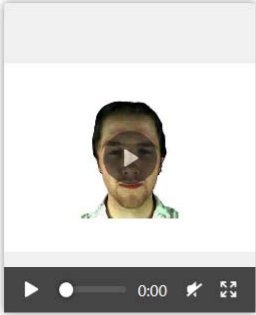
Stand in front of your screen with a webcam facing towards you.

It is important to make sure the following:

- Make sure that the camera is correctly capturing the whole face without leaving any parts outside of the image boundaries.
- It is also important to make sure that the camera is approximately facing your face with horizontal direction, i.e. the camera is approximately at the same height as your eyes/nose.
- Make sure that the activity is performed in an environment with reasonable lighting conditions (neither too bright nor too dark).
- Follow the instructions on the video at a similar speed. The final duration of the video will be of about 10 seconds.
- Please push Start button to start capturing the video. When ready, push Stop button to stop recording. Activity will close automatically.

Select video device

Follow the video instructions
In order to enroll face recognition



[Start](#)

Status face model

➤ Voice recognition

instructions

Stand in front of your screen with a webcam facing towards you

It is important to make sure that:

- Your microphone is connected and working
- There is no ambient noise.

It will be three questions for enrolment and five audio samples sent per question, each sample will last less than 15 seconds

Please, keep talking about the question asked, the tool will be sending samples frequently and you will see the enrolment percentage or the status messages.

Select audio device

Follow the instructions

In order to enroll voice recognition
What are your reasons for enrolling to this course or study?

Start Stop

0:00 / 0:00

0%

Status voice model

➤ Keystroke Dynamics

The screenshot displays the enrollment interface for Keystroke Dynamics. At the top, a navigation bar features four icons: Face Recognition, Voice Recognition, Keystroke Dynamics (highlighted in blue), and Forensic Analysis. Below this, an 'instructions' box states: 'In order to enroll keystroke dynamics, talk about yourself.' A text input area is labeled 'Type text into the text area' and contains the text 'lore ipsum'. To the right of the text area is a progress indicator showing '0%' completion. A red circle with the number '1' is located at the bottom right of the text area.

Face Recognition Voice Recognition Keystroke Dynamics Forensic Analysis

instructions
In order to enroll keystroke dynamics, talk about yourself.

Type text into the text area

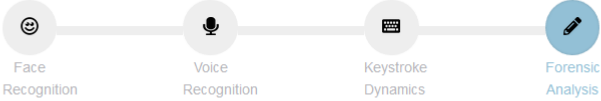
lore ipsum

1

0%

Status keystroke model

➤ Forensic analysis



Face Recognition Voice Recognition Keystroke Dynamics **Forensic Analysis**

instructions
In order to enroll forensic analysis, talk about your favourite film

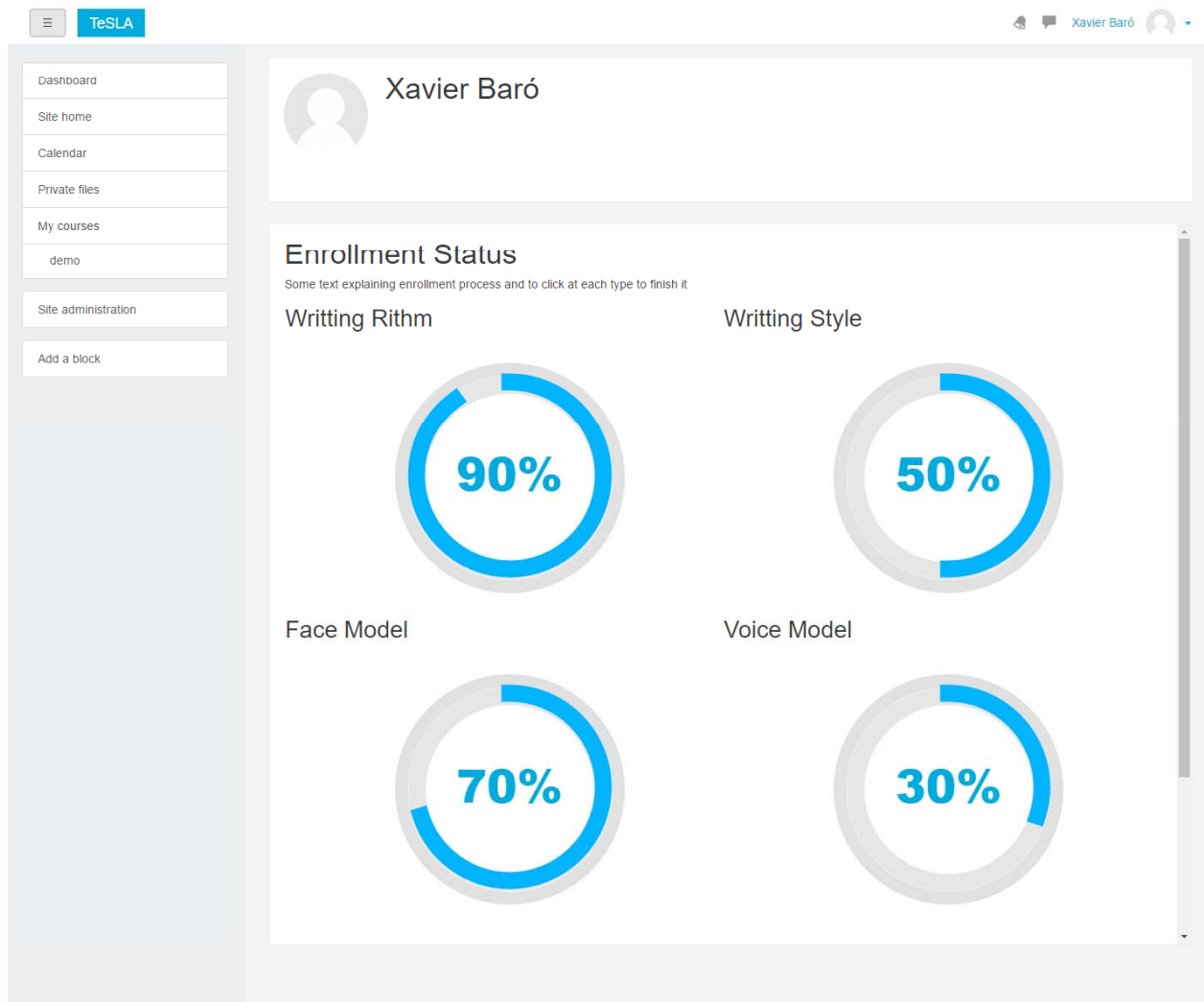
Type text into the text area

0 / 250 words

0%


Status forensic model

Enrollment activities



Follow-up activity

- The activity is a classical Moodle activity with some TeSLA instruments enabled




TeSLA_LTI

Mestral (usuari proves)

Curs Plantilla TeSLA

Dashboard / My courses / Curs TeSLA / General / Exemple quiz

Exemple quiz

TeSLA   

Aquesta activitat només s'haurà de fer en cas d'haver signat el consentiment informat i després d'haver completat el registre d'usuari.

L'instrument de reconeixement facial s'activarà durant la realització de l'activitat.

L'activitat s'ha de fer seguint les instruccions següents:

- Poseu-vos davant de la pantalla amb la *webcam* enfocada cap a vosaltres.
- Comproveu que la *webcam* està capturant correctament tota la cara sense deixar parts de la mateixa fora dels límits de la imatge.
- Comproveu que la *webcam* està alineada horitzontalment amb la vostra cara, aproximadament a la mateixa alçada que els ulls/nas.
- Garantieu que les condicions de llum són adequades (ni molt brillant ni molt fosc).
- Comproveu que el vostre micròfon està connectat i funcionant.
- Podeu modificar les vostres respostes a les preguntes formulades tantes vegades com vulgueu.

In this case, Face recognition and anti-spoofing is enabled

Instructors View

Configuration Activity TeSLA

- The activity TeSLA is configured equally to a Moodle activity
- At the end, the instruments have to be selected.

TeSLA_LTI ENGLISH (EN) ▾

- Layout
- Question behaviour
- Review options ⓘ
- Appearance
- Extra restrictions on attempts
- Overall feedback ⓘ
- Common module settings
- Restrict access
- Activity completion
- Tags
- Competencies
- ▾ TeSLA
Click here to configure this TeSLA Tool

Save and return to course Save and display Cancel

There are required fields in this form marked ⓘ .

Supported activities are:

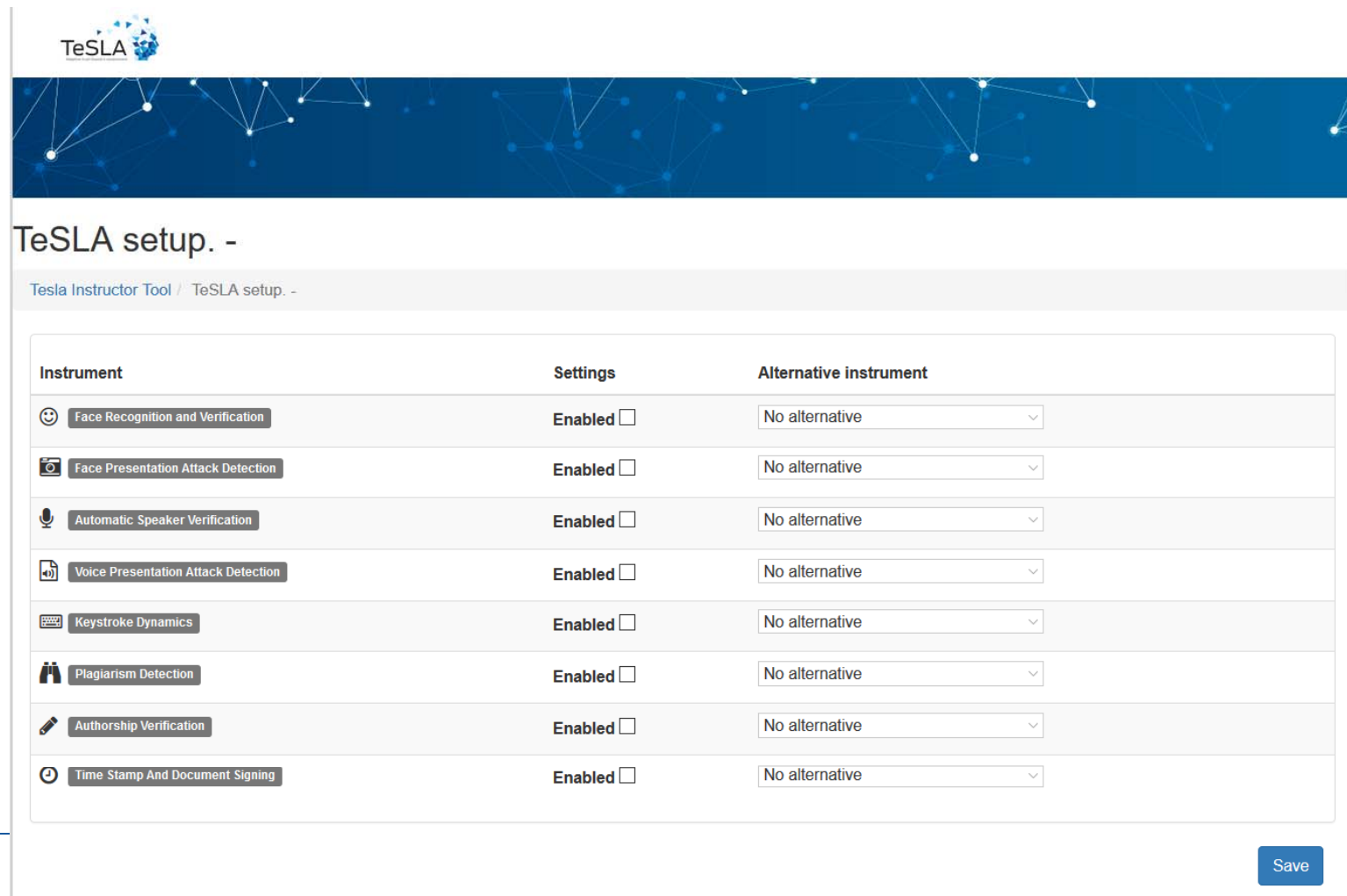
- Quizzes
- Discussion forums
- Assignment











The plugin TeSLA offers this new option in “Edit settings” of the activity

Configuration Activity TeSLA

- TeSLA platform is used to select the instruments




The screenshot shows the TeSLA setup configuration page. At the top, there is a TeSLA logo and a blue header with a network diagram. Below the header, the page title is "TeSLA setup. -". A breadcrumb trail shows "Tesla Instructor Tool / TeSLA setup. -". The main content is a table with three columns: "Instrument", "Settings", and "Alternative instrument". The table lists eight instruments, each with an "Enabled" checkbox and a "No alternative" dropdown menu. A "Save" button is located at the bottom right of the page.

Instrument	Settings	Alternative instrument
 Face Recognition and Verification	Enabled <input type="checkbox"/>	No alternative <input type="text"/>
 Face Presentation Attack Detection	Enabled <input type="checkbox"/>	No alternative <input type="text"/>
 Automatic Speaker Verification	Enabled <input type="checkbox"/>	No alternative <input type="text"/>
 Voice Presentation Attack Detection	Enabled <input type="checkbox"/>	No alternative <input type="text"/>
 Keystroke Dynamics	Enabled <input type="checkbox"/>	No alternative <input type="text"/>
 Plagiarism Detection	Enabled <input type="checkbox"/>	No alternative <input type="text"/>
 Authorship Verification	Enabled <input type="checkbox"/>	No alternative <input type="text"/>
 Time Stamp And Document Signing	Enabled <input type="checkbox"/>	No alternative <input type="text"/>

Save

- Instructors can review results using the monitoring feature



The screenshot shows the TeSLA LTI interface. At the top, there is a navigation bar with a menu icon, the text 'TeSLA_LTI', and a user profile for 'Mestral (usuari proves)'. Below this is the course title 'Curs Plantilla TeSLA' and a breadcrumb trail: 'Dashboard / My courses / Curs TeSLA / General / Exemple quiz'. The main content area is titled 'Exemple quiz' and contains a TeSLA logo with a camera icon and a gear icon. A green box highlights these icons. Below the logo, there is a warning message: 'Aquesta activitat només s'haurà de fer en cas d'haver signat el consentiment informat i després d'haver completat el registre d'usuari.' followed by instructions for facial recognition and a list of requirements for the activity.

← The icons are the links to the monitoring information

➤ Example on Keystroke Dynamics

Tesla Instructor Tool / Resultats TeSLA. -

Cercar estudiant

- Alejan
- Albert
- Sandr
- Fernar
- Jonath

Només es mostraran els instruments configurats o els alternatius.

Resultat de l'avaluació	Data d'inici	Data final
40.0%	May 2nd 2018, 8:00:52 pm	May 2nd 2018, 8:01:12 pm
71.6%	May 2nd 2018, 8:02:34 pm	May 2nd 2018, 8:02:59 pm



Three colors shows potential Issues:

- Green ($x \geq 70\%$): ok
- Yellow ($70\% > x \geq 50\%$): warning
- Red ($50\% > x$): check

Note that, thresholds can be configured by activity



Data summary					
	Num Enrollment Samples (Users)		Num Validation Samples (Users)		Num Users with both
video	1389 (418)		528 (283)		217
audio	1295 (407)		581 (301)		219
text	703 (450)		563 (329)		257
ks	8167 (495)		2130 (193)		162
Instrument results					
	TP	TN	FP	FN	Accuracy
plagiarism	588	527	81	21	91.62%
face recognition	68	7	13	32	62.50%
voice recognition	110	439	4	335	61.82%
forensic analysis	7	28	11	37	42.17%
keystroke				269	81.46%
	Output/Expected	Correct	Fail		
	Correct	TP	FP		
	Fail	FN	TN		



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Docker Images
Manage



Docker Services
Manage



Volumes
Manage



Environment Variables
Manage



Deployment Tokens
Manage

































File Management
Manage



TeSLA Properties
Manage

[+ New Service](#)

Search   

	Name	Description	Type	Version	Date	Licence	Constraints	
+	ca	TeSLA Certification Authority	Deployment	RC1 latest	2018-09-02	<input type="checkbox"/>		  
+	tpt	Plagiarism Detection	Instrument	RC1.1 latest	2018-04-05	<input type="checkbox"/>	cluster==restricted,host_type==small	  
+	rt	Reporting tool	Infrastructure	RC1.1 latest	2018-04-03	<input type="checkbox"/>		  
+	lti	LTI service	Infrastructure	RC1.1 latest	2018-04-03	<input type="checkbox"/>		  
+	tep	TeSLA eAssessment Portal	Infrastructure	RC1.1 latest	2018-03-23	<input type="checkbox"/>		  
+	ks	Keystroke Dynamics	Instrument	test latest	2018-03-19	<input type="checkbox"/>	cluster==public,host_type==large	  
+	portal	TeSLA Portal	TeSLA	RC1.1 latest	2018-03-14	<input type="checkbox"/>		  
+	email	TeSLA Portal	TeSLA	RC1.1 latest	2018-03-14	<input type="checkbox"/>		  
+	fr	TEST AUTO TFace Recognition and Verification	Instrument	tauto latest	2018-03-12	<input type="checkbox"/>	cluster==public,host_type==large	  
+	admin		Infrastructure	test latest	2018-03-09	<input type="checkbox"/>		  

Showing 1 to 10 of 94 rows rows per page



Statistics
View



Hosts
Manage



Services
Manage



Volumes
Manage



Monitoring
View



Wizards
View



Plugins
View



Certificates
Manage



Messages
Manage

Home / System / Hosts

 New Host

Search   

































Domain	Description	Cluster	Manager	Labels	Deploy File	
docker1.test.tesla-project.eu				cluster=restricted,host_type=small		  
docker2.test.tesla-project.eu				cluster=public,host_type=large		  
docker3.test.tesla-project.eu				cluster=public,host_type=large		  

Showing 1 to 3 of 3 rows

[Home](#) / [System](#) / [Services](#)





Force Refresh

Search   

Name	Description	Type	Version	Date	Port	Replicas	
fa	Authorship Verification	Instrument	RC1 latest	2018-02-09	-	1	  
nginx-proxy	Nginx Proxy	Deployment	RC1 latest	2018-02-09	-	1	  
dm	TeSLA Deploy Manager	Deployment	test latest	2018-03-08	-	1	  
es	Elasticsearch for logs	Infrastructure	6.2.2 latest	2018-03-08	-	1	  
tip	TeSLA Identity Provider	Infrastructure	RC1 latest	2018-02-09	-	1	  
beat		Infrastructure	test latest	2018-03-08	-	1	  
fr	TFace Recognition and Verification	Instrument	RC1	2018-02-09	-	1	   
vra	Voice Presentation Attack Detection	Instrument	RC1 latest	2018-02-09	-	1	  
fra	Face Presentation Attack Detection	Instrument	RC1 latest	2018-02-09	-	1	  
ts	TSA Server	TeSLA	test	2017-12-14	-	1	   

Showing 1 to 10 of 19 rows < 1 2 >

Search   

Name	Description	Type	Version	Date	
broker		Infrastructure	test latest	2018-03-08	
redis		Infrastructure	4.0.8 latest	1970-01-01	
kibana	Kibana for logs	Infrastructure	6.2.2 latest	2018-03-08	
worker		Infrastructure	test latest	2018-03-08	

Showing 1 to 4 of 4 rows

- Home
- User Management
- SEND**
- Learners
- Categories**
- Informed consent
- Data
- System
- Statistics

Special Educational Needs and Disabilities

Category

Select one category to edit

 New

TeSLAAdmin

Logout admin

- Home
- User Management
- SEND**
- Learners
- Categories
- Informed consent
- Data
- System
- Statistics

Special Educational Needs and Disabilities

Search learner

Provide the e-mail of the learner to load available data

@ xbaro@uoc.edu

Learner Data

Mail: xbaro@uoc.edu

TeSLA ID: 87da1765-8bcd-4220-abdl-d68b4ea6d52e

Informed Consent: ✔ Valid. Version 1.3.0 accepted on 2018-04-11 13:18:16.143396


Nothing selected




Activated features





- High Contrast
- Text to Speech
- Big Fonts

Disabled instruments

- Face Recognition and Verification
- Face Presentation Attack Detection
- Automatic Speaker Verification
- Voice Presentation Attack Detection
- Keystroke Dynamics Instrument
- Plagiarism Detection
- Authorship Verification

TeSLAAdmin 

🔍   3 Logout admin 

- 🏠 Home
- 👤 User Management
- 🔗 SEND 
- 📄 Informed consent
- 📊 Data **
 - Learner**
 - Activity
 - Course
- ⚙️ System 
- 📈 Statistics 

Data Management


Search learner

Provide the e-mail of the learner to load available data

Learner Data

Mail: xbaro@uoc.edu

TeSLA ID: 87dal765-8bcd-4220-abdl-d68b4ea6d52e

Informed Consent:  **Valid. Version 1.3.0 accepted on 2018-04-11 13:18:16.143396**

Number of courses: 1

Number of activities: 0

TeSLA © 2017-2019

- Home
- User Management
- SEND
- Informed consent
- Data**
 - Learner
 - Activity**
 - Course
- System
- Statistics

Activity Data Management

Delete Activity Data

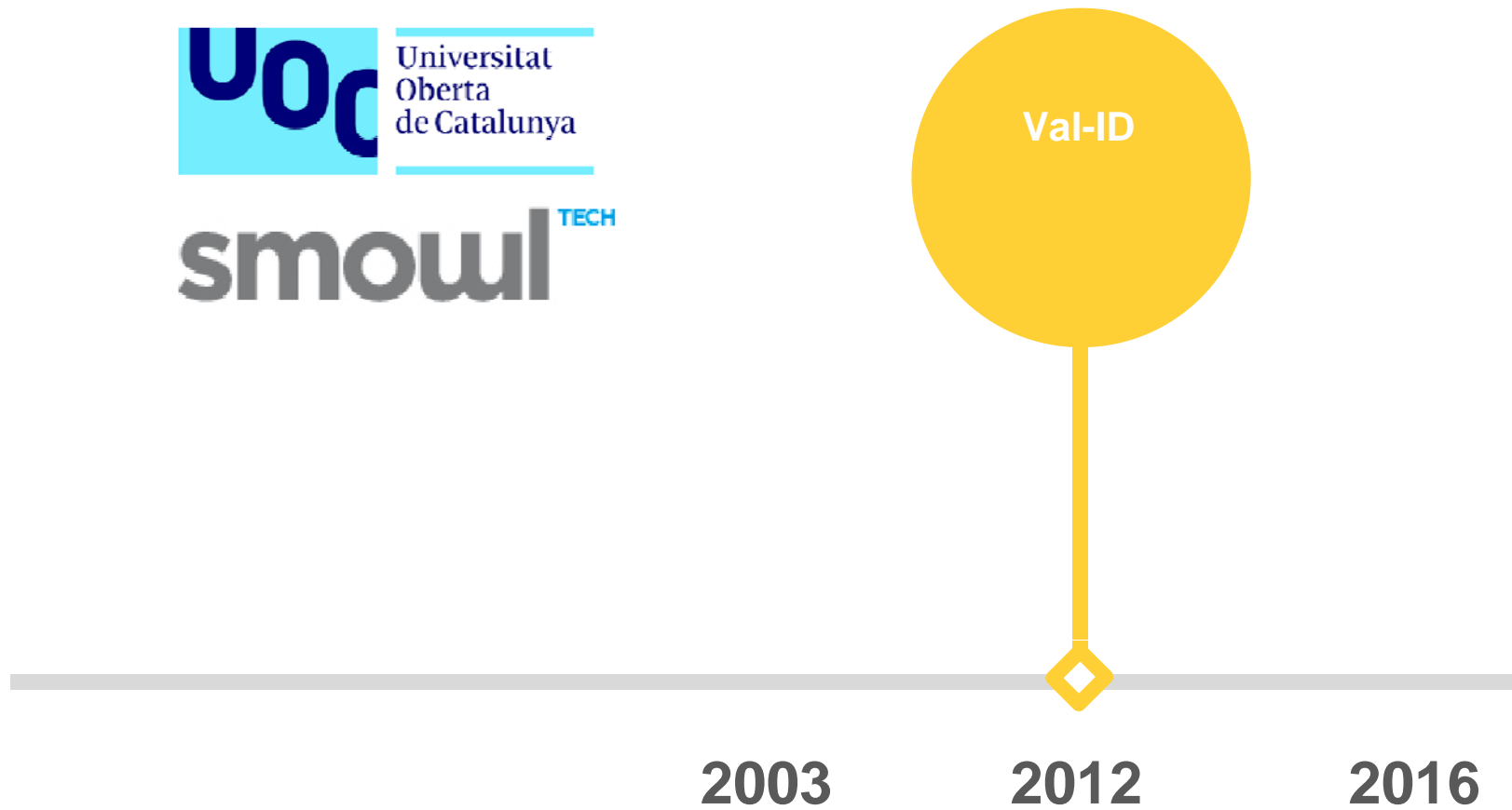
#	VLE	Type	Id	Description	
1	1	1	1	-	
2	3	FORUM	503923	-	
3	1	forum	666	-	
4	3	FORUM	845604	-	
5	1	activityType	activityId	-	
6	3	activityType	activityId	-	
7	1	assign	105	-	
8	1	quiz	1	-	
9	1	assign	106	-	
10	1	assign	107	-	

Showing 1 to 10 of 45 rows 10 rows per page

Agenda

- 1.- Introduction: Background
- 2.- TeSLA: H2020 project
- 3.- **Val-id: UOC+Smowl system**

3.- Val-ID





smowl - eProctoring

smowl es un sistema continuo de autenticación de la identidad del estudiante online que utiliza un algoritmo de reconocimiento facial automático para verificar la identidad del usuario y detectar comportamientos incorrectos a través de todo el proceso de aprendizaje. (tecnología patentada)



Continuous Assessment Proctoring

Autenticación continuamente la identidad del estudiante a través de la evaluación. **Tarifa plana.**

Este servicio monitoriza varias actividades del curso:



Exam Proctoring

Autenticación continuamente la identidad del estudiante a través del examen final. **Precio por examen.**

Este servicio monitoriza una actividad: el examen final.



Características

- Continuo
- Pasivo/Automático
- Escalable
- Fiable
- Fácil de usar
- Flexible
- Seguro
- Privado (LOPD)



1.- Resultados 2º piloto - 2017
Análisi imatges rebudes

Análisis imágenes recibidas:

Reconeixement facial	Número	%
% pruebas con el 100% de verificación	358	70,20%
% pruebas con más del 90% de verificación correcto	447	87,65%

→ El 90% parece un buen umbral.

Nº de imágenes por prueba

Grupo	Número	%	Conclusión
Imágen capturada cada 2 minutos o menos	423	82,94%	La mayoría van bien.
No aplica ya que no tenemos hora de subida y/o bajada de la prueba (sistema UOC)	56	10,98%	No tenemos información de un 10%
Imágen capturada entre 3-6 minutos	24	4,71%	No sembla significatiu i l'interval encara és acceptable
Imágen capturada en más de 6 minutos	7	1,37%	Revisar estos casos. En la mayoría no hay más de 3 imágenes.

1.- Resultados 2º piloto Análisi imágenes recibidas

67

Anàlisi imágenes por tipologia

Tipologia	Número	%	Conclusión
Condiciones no válidas	98	19,22%	Examen escrito = 41,84% La persona se mueve = 26,53% Afecta a 1-2 imágenes al principio o al final = 8,16% La persona se tapa la cara (se rasca o similar) = 8,16% Cámara mal colocada (sólo se ven los ojos) = 7,14% Cámara mal colocada (sólo se ve la boca) = 3,06% Poca luz = 2,04% No hay nadie en la imagen = 1,02%
Imágen vacía	37	7,25%	Primeras imágenes = 45,95% En medio = 40,54% (pocas imágenes seguidas) Últimas imágenes = 13,51%
No se detecta persona	26	5,10%	No hay persona = 80,77% (pocos fotográmicas. No significativo) La persona se ha levantado y se la ve al fondo de la imagen = 11,54% La misma persona que se gira = 7,69%
No hay cámara	13	2,55%	No es significativo, en todos los casos son pocas imágenes.
Reconoce más de 1 persona	6	1,18%	Pocos fotográmicas. No parece significativo.

1.- Resultados 2º piloto Análisi imágenes recibidas

68

Análisi imágenes por tipología

Tipología	Número	%	Conclusión
Reconoce más de 1 persona	6	1,18%	Pocos fotográmás. No parece significativo.
Webcam tapada	4	0,78%	Pocos fotográmás. No parece significativo.
Otra app bloquea la cámara	3	0,59%	No parece significativo.
Webcam rechazada	2	0,39%	No parece significativo.
Otra pestaña	2	0,39%	No parece significativo.
Usuario incorrecto	0	0%	
Intento de trampa	0	0%	
Navegador no soportado	0	0%	

Estudiantes FAKE:

- Ha detectado:
 - El uso de un programa que emite una grabación hecha previamente (Manycam).
 - Un caso de suplantación entre registro y examen.
 - No ha detectado:
 - El uso de un programa que emite una grabación hecha previamente. El programa es (vlc2vcam, plugin de VLC).
 - El uso de un portátil emitiendo un video pregrabado y con la cámara enfocada al video.
 - 2 gemelos que se intercambiaron.
-

Conclusiones:

- Si alguna de las imágenes tiene “intento de trampa” o “usuario incorrecto”:
Se tiene que revisar.
- Si el 90% de las imágenes son correctas se puede dar por bueno.
- Añadir en las instrucciones UOC para los estudiantes
 - No hablar por teléfono durante la prueba.
 - No levantarse
 - No puede aparecer nadie más en la imagen
 - Recalcar el tema de condiciones(luz, colocación cámara ...etc).
- Exámenes escritos: Muchas imágenes son detectadas como erróneas.
Pensar que hacer.

DATOS INICIALES

Entidad: UOC
 Actividad: quiz75_562
 Usuario: UOC_911942

LEYENDA DE COLORES

Usuario correcto (90)
No hay nadie (35)
Usuario incorrecto (0)
Varias personas (0)
Webcam tapada (0)
Luz o pose incorrectas (0)
Intento de trampa (0)
No hay cámara (0)
Otra app bloquea la cámara (2)
Webcam rechazada (2)
Navegador no soportado (0)
Otra ventana (0)
Imagen vacía (0)

IMÁGENES DE REGISTRO

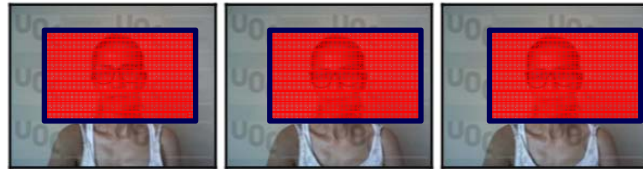
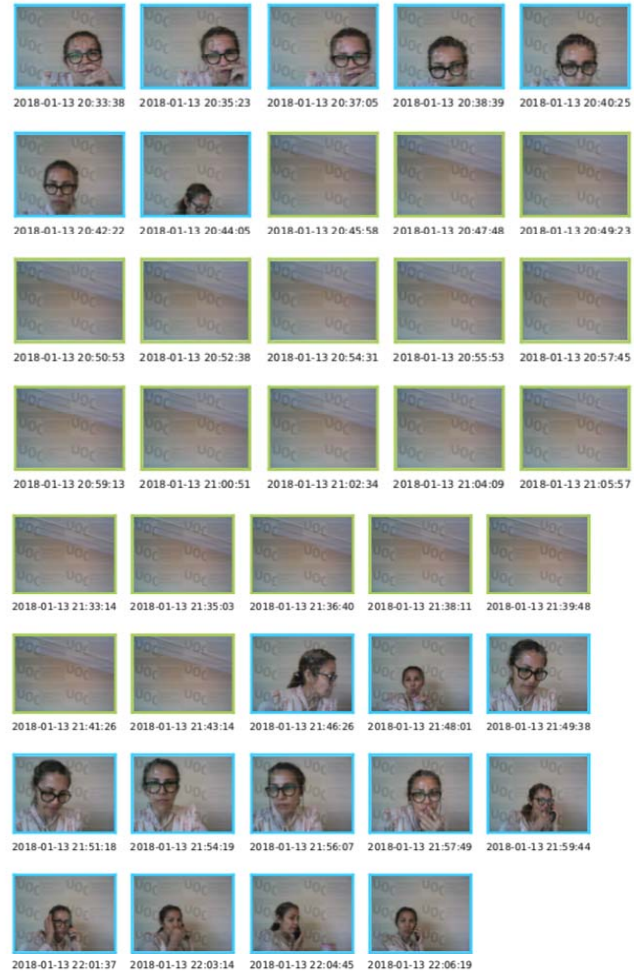
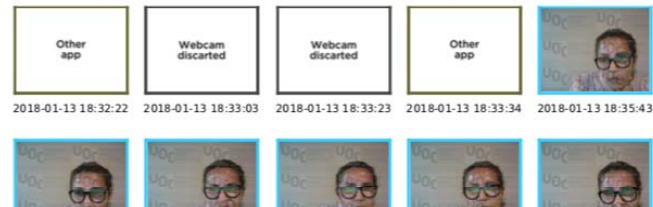


IMAGEN UNIVERSIDAD



IMÁGENES DE ACTIVIDAD



LEYENDA DE COLORES

Usuario correcto (90)

No hay nadie (35)

Usuario incorrecto (0)

Varias personas (0)

Webcam tapada (0)

Luz o pose incorrectas (0)

Intento de trampa (0)

No hay cámara (0)

Otra app bloquea la cámara (2)

Webcam rechazada (2)

Navegador no soportado (0)

Otra ventana (0)

Imagen vacía (0)

IMÁGENES DE REGISTRO

Resultados encuesta 2018

Pregunta		Resultados 1 piloto 20151	Resultatdo 2 pilot0 20161	Resultat 3 pilot 20162	Resultat 4 pilot 20171
Funcionament general de l'eina (de l'1 al 5)		4	3,9	3,9	4,3
Facilitat d'ús de l'eina (de l'1 al 5)		4,2	4,1	4	4,4
Comprensió manual d'usuari (de l'1 al 5)		4,2	4,2	3,9	4,3
Informació que et vam donar abans i durant la realització de la prova (de l'1 al 5)		4	3,9	3,6	4
Percepció de la seguretat i el tractament de dades		3.6	4,1	3,7	4
Has tingut alguna incidència durant la realització de la prova?	Sí	38%	61%	44,3%	32,2%
	No	58%	39%	55,7%	66,9%
	NS / NC	4%	-	-	0,9%
En el cas que sí, valora l'atenció rebuda (de l'1 al 5)		4,3	4,3	3,9	4,4

Muchas gracias!



Valladolid, 9 de mayo de 2018

Josep Prieto (jprieto@uoc.edu)
