



Co-thinking and Creation for STEAM diversity-gap reduction (CreaSTEAM)

2020-1-ES01-KA201-082601

Augmented Reality PILL – by Dr. David Fonseca

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<https://creasteam.eu/>

<https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/2020-1-ES01-KA201-082601>



Cofinanciado por el
programa Erasmus+
de la Unión Europea



- AR History, uses, and Education
- Approach proposed
- Examples





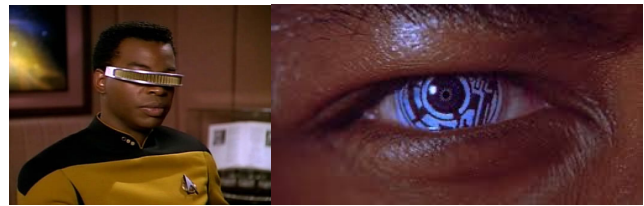
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1.- Little freak history...

... the collective imaginariu



1977



1979



1984



1989



1987

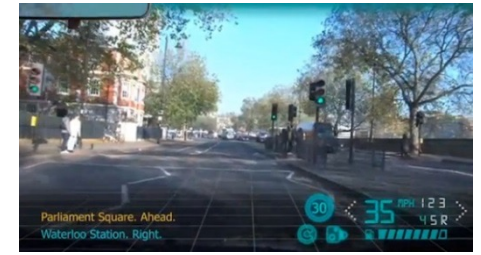
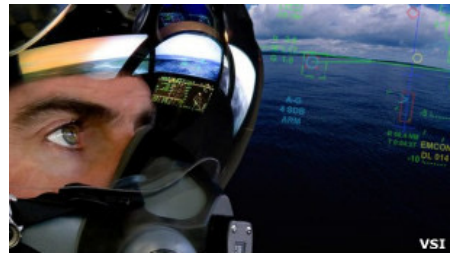


2002



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2.- AR in our society





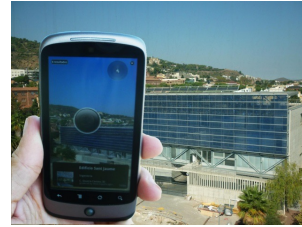
3.- AR in Education (1)



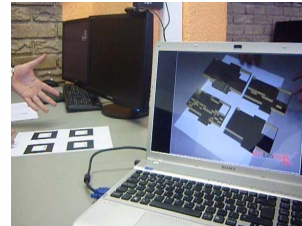
CONSTRUCTION



GEO-LOCATION



REPRESENTATION



INDOOR & OUTDOOR

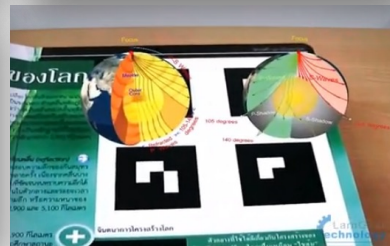




3.- AR in Education (3): anatomy, science,



[VIDEO](#)

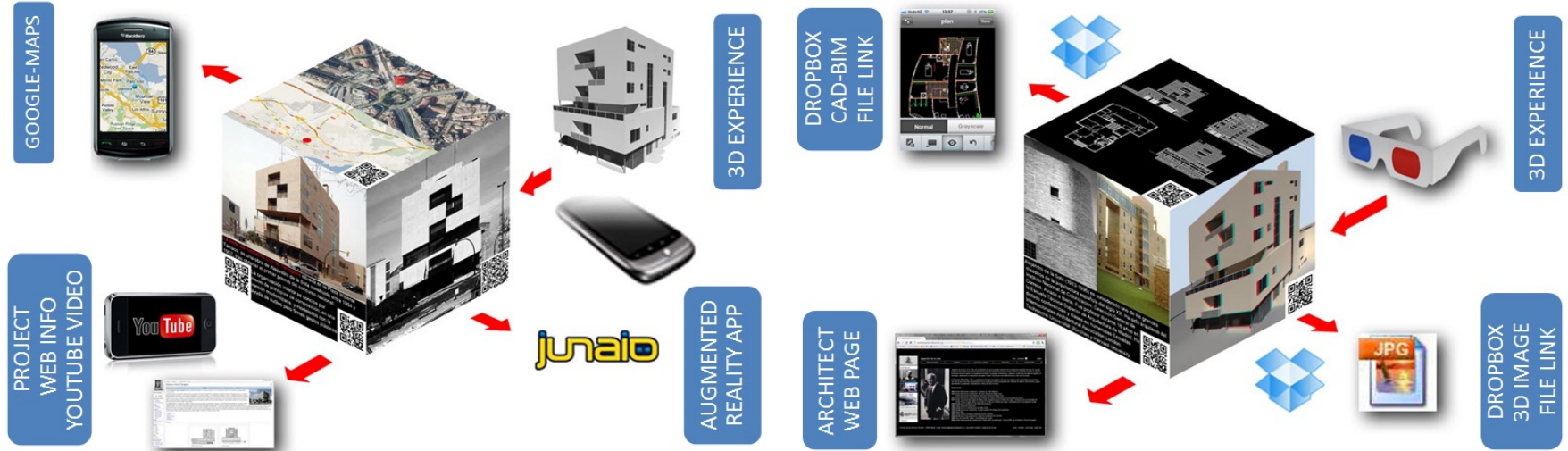


[VIDEO](#)



[VIDEO](#)

4.- New systems and Interactions





5.- The approach proposed

- Conceptualization of the model (what), and the space (where and how) to view it.
- Design: From drawings and sketching to CAD model
- Modeling: basic models in TinkerCAD, complex models in AutoCAD (you can send them to us to model).
- Exporting in the correct format to AR Plattform: AR-Media
- Evaluate the best option: FREE or PAY for a license
- Visualization
- EVALUATION





5.- SOME EXAMPLES (1): **House of CARDS (Charles & Ray Eames)**

- Serious Game created in 1952: series of interlocking printed cards to form three-dimensional structures
- The images represent familiar, and everyday objects, containing 32 cards in rigid cardboard and its images have been selected from the original Little version. The set is also available in Medium and Giant versions.
- **OFFICIAL SITE:** <https://eames.com/en/house-of-cards>
- <https://www.eamesoffice.com/the-work/house-of-cards-2/>
- <https://shop.eamesoffice.com/medium-house-of-cards.html>
- <https://www.amazon.com/-/es/Charles-RAY-Eames-House-Cards/dp/B001U1U4A4>

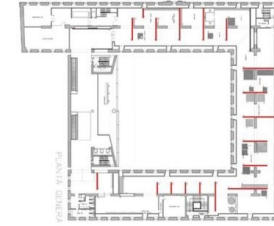




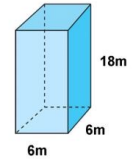
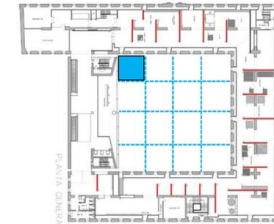
5,1. Previous Performances

- GAME4CITY (Spanish Government project UPC+La Salle URL)
 - How to design and contextualize urban/architectural ephemeral spaces using 3D forms based on the House of Cards pieces.
 - ITERATION 1. GAME PLAY Expo at Barcelona 2020-2021 (from BIM models to virtual haptic interactions, with panel presentations):
<https://www.facebook.com/watch/?v=219158269498870>

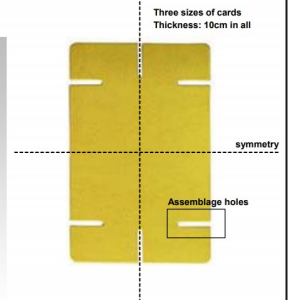
Location: CCCB – Centro de Cultura Contemporánea de Barcelona



Requirements: Measurements



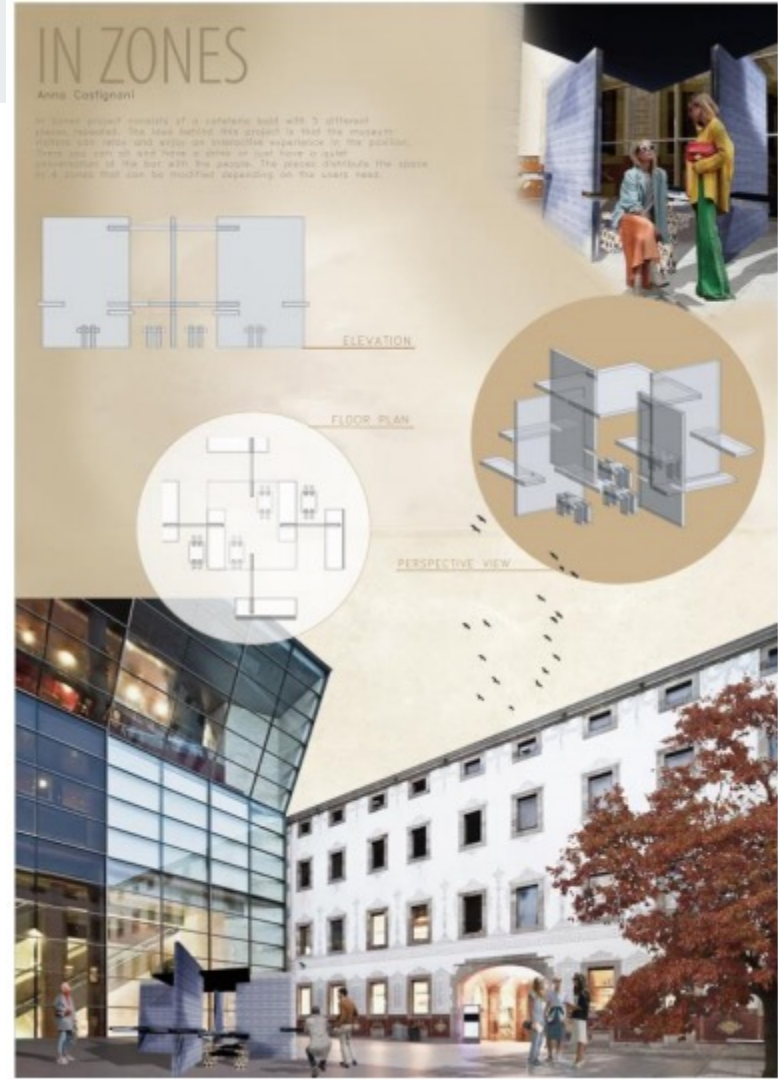
Requirements: Elements Properties





5,2. Previous Performances

- Some examples of proposals and photo edition...





5.3. Previous Performances

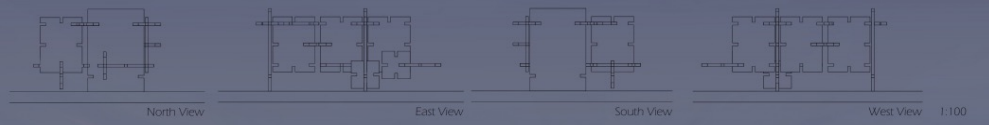
- Some examples of proposals and photo edition...





Floorplan 175

NIGHT VIEW



North View

East View

South View

West View

1:100



IN ZONES

The concept of this project is to make a pavilion for the visitors of the CCCS (Centro de Cultura Contemporanea de Barcelona) in an established area and with some dimensions that we had to take into consideration. We decided to make a cafeteria where the museum visitors can relax and enjoy an interactive experience. There you can sit and have a drink or just have a nice conversation.

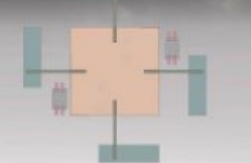
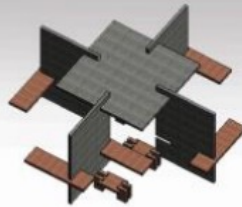


Site plan

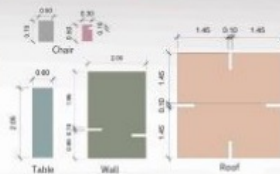


18m
6m
Dimensions of the space

One of the requirements was to make the pavilion with 5 different cards. The space was distributed within 4 different zones, two for sitting and the other ones to chat around. The cards were used to settled down the spaces. Depending on how you put them, the functional requirement of each zone might change.



The main materials are concrete for the "structure" and wood for the "furniture".



Chair

Table

Wall

Roof

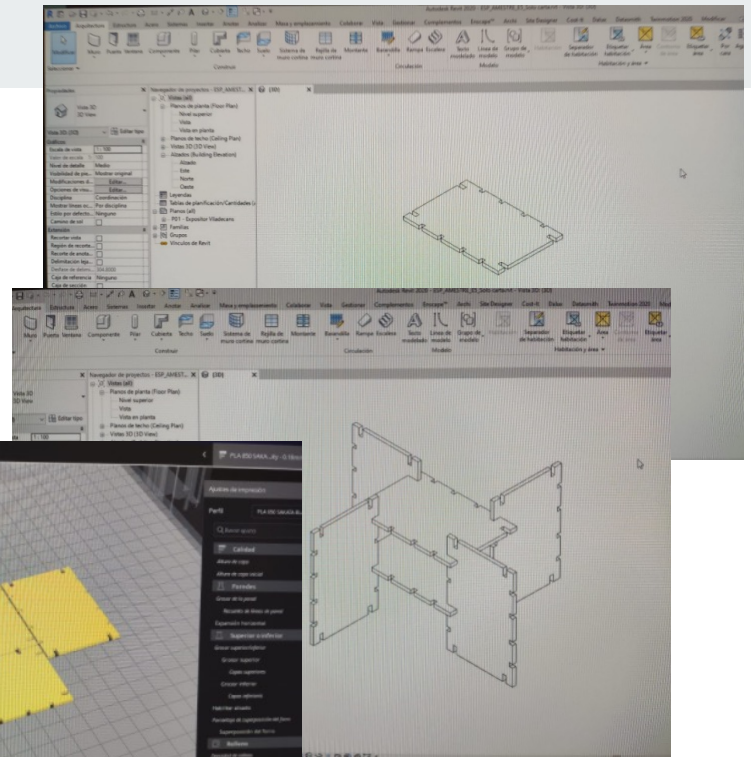
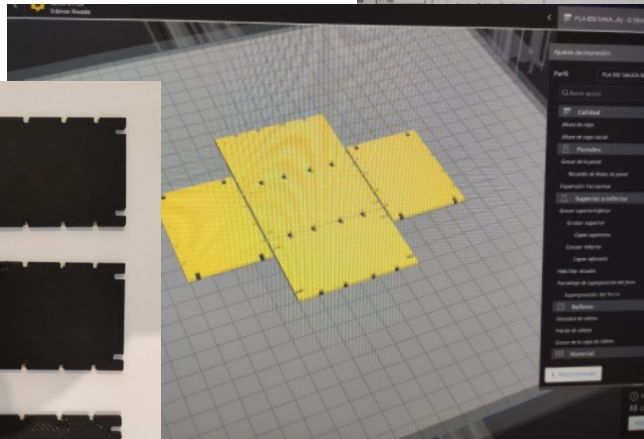
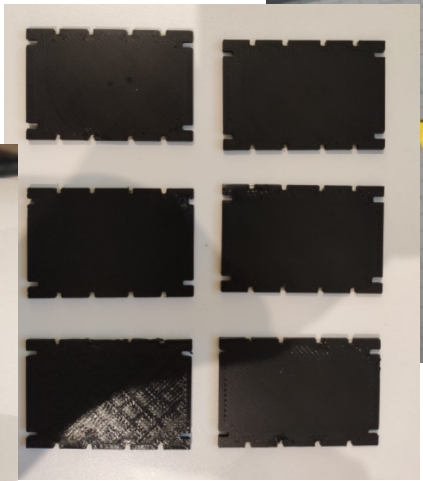
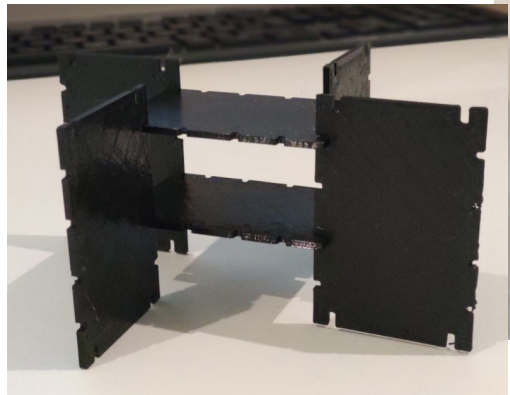






5.4. Previous Performances

- From digital idea to 3D printing:



6. OTHER EXAMPLE: Access to the architectural culture for disabled people



"... of every sense, sight is the most superficial, the ear the sense most arrogant, the most voluptuous is smell, taste, the more superstitious and more variable, touch is the deepest and philosophical".
Diderot

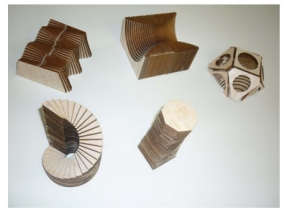




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6.1 Steps

ANALYSIS OF 3D MODELS

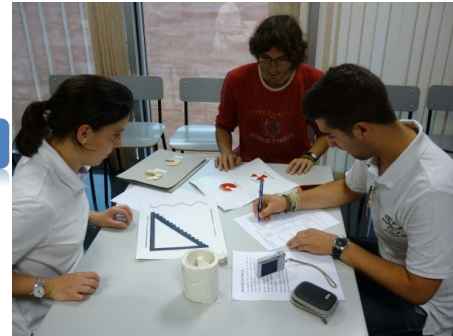
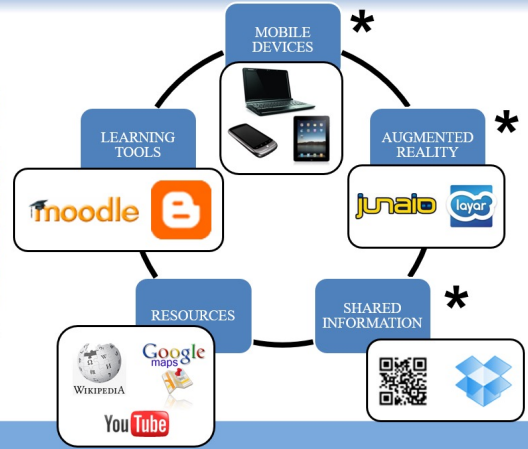


EXPERIENCES IN AUGMENTED REALITY

Evaluation of models by disabled users



Trail with 3D models in Augmented Reality



6.2 Steps

Visit to the Basilic o Holy Family

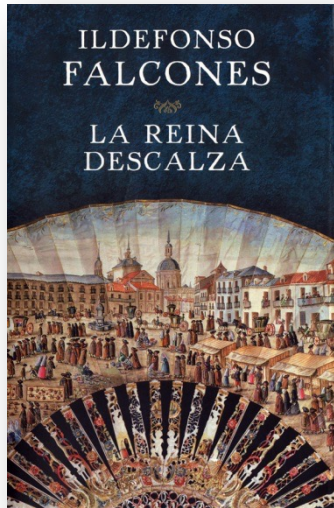
Exhibition of projects with adapted materials



- 1 - Students explaining architecture geometries with adapted materials
- 2 - Trip around the Basilic with blind people touching real materials
- 3 - Visit to an exhibition about relationship of architecture and nature



7. Last Example: **The “Falcons Project” a case study applying technology in the Humanities framework at high school level.**

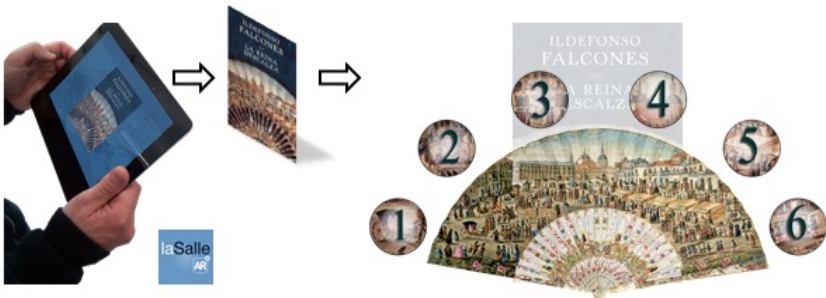


1. Selection of physical work on which to deploy the experience: the cover of the book ‘La Reina descalza’
2. Development of the contents :
 - Biography of the writer Ildefonso Falcones.
 - History of the gypsies in Spain, affecting the Great Raid of 1751.
 - Slavery in Spain during the 18th century.
 - Tobacco in the 18th century.
 - The city of Seville in 1750.
 - The Coliseum of the Prince in the 18th century.
3. The presentation of the content with AR technology



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7.1



Proyecto Falcones: una ilusión hecha realidad

Alumnos del Colegio La Salle Virgen del Mar de Almería, en colaboración con el autor de la novela 'La reina descalzada', han creado el Proyecto Falcones, una aplicación en español de realidad aumentada con la que se puede ver el contenido de la obra de una manera diferente, desde una perspectiva única.

El 17 de abril, día de reabertura del Colegio La Salle Virgen del Mar de Almería, se presentó la aplicación en un acto que contó con la presencia de los profesores de Ciencias y de Lengua y Literatura, así como de los alumnos de 1º de Bachillerato.

El proyecto, desarrollado por los alumnos de Ciencias y Lengua y Literatura, consiste en una aplicación de realidad aumentada que permite ver el contenido de la obra de una manera diferente, desde una perspectiva única.

El proyecto, desarrollado por los alumnos de Ciencias y Lengua y Literatura, consiste en una aplicación de realidad aumentada que permite ver el contenido de la obra de una manera diferente, desde una perspectiva única.

Diario de Almería

www.almeria.es

VIERNES 10 DE MAYO DE 2013

Sección de LITERATURA de ILDEFONSO FALCONES

Más de 2.000 manifestantes en la huelga de la educación

La ciudad pide una ronda de la Davis

Ildefonso Falcones

La historia se hace novela

INICIO ILDEFONSO FALCONES LIBROS PRENSA INTERNACIONAL DESCARGAS

PRENSA/LA REINA DESCALZA

02/07/13 - La Salle

Los alumnos de La Salle lanzan una app basada en LA REINA DESCALZA

Alumnos de La Salle lanzan una app de realidad aumentada para ver contenido extra a partir de la cubierta de *La reina descalzada*, de Ildefonso Falcones.

El proyecto es una colaboración de La Salle Campus Barcelona URJ y el Colegio La Salle Virgen del Mar de Almería. Los alumnos de Ciencias para el Mundo Contemporáneo de 1º de Bachillerato han desarrollado una aplicación que permite ver, mediante realidad aumentada, una serie de vídeos con contenido sobre la novela *La reina descalzada*, de Ildefonso Falcones. La aplicación, desarrollada en el programa Aurasma, permite que al enfocarse la cubierta de la novela puedan verse una serie de contenidos extra como son presentaciones de la historia de los gitanos en España, el Coliseo del Príncipe, la biografía del autor o el vídeo de una bailarina interpretando una pieza de la época. La app está disponible para su descarga en las principales plataformas:

Ya a la venta

Consulta la agenda de eventos de Ildefonso Falcones



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