FURNISH

Design Proposals

eit Urban Mobility

This activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under the Horizon 2020, the EU Framework Programme for Research and Innovation

EDUS POINT

UPC Team | Institut Barri Besòs | 20/11/2020-27/11/2020

This activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under the Horizon 2020, the EU Framework Programme for Research and Innovation

STATEMENT

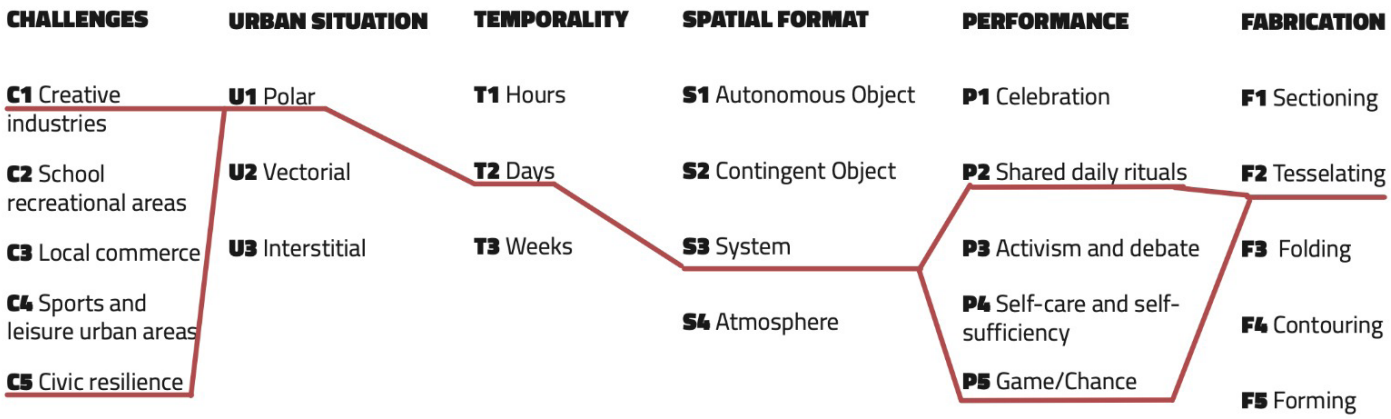
Under the conditions derived from the COVID-19 and the protocols for the use of spaces and physical distancing, we propose a new urban furniture system in order to experiment with urban relations and synergies, focusing on educational spaces. Based on the strategic location of an ephemeral and itinerant architectural device, the system is intended to:

1) **Intervene quickly with the participation of the citizen**, bringing more active, agile and informed possibilities for decision-making on the management of urban space. 2) **Promote proximity relationships.** From the study of existing relationships, attractor and daily uses, travel flows, micromobility, and adapting its daily utilizations to theenvironmental conditions. 3) **Extend educational activities and uses, beyond classrooms and centers.** From the appropriation of outdoor spaces, and of all kinds of public spaces and facilities. 4) **Empower students, teacher and citizens to become actors** of ICT's and the knowledge society through an artifact that becomes a classroom, a set and a meeting place at the same time.With the spirit of proposing an intervention module that is usable and adaptable in various places and conditions, being scalable and replicable, a pilot project is proposed that includes:

Design of a **removable architectural device and basic installation kit.** + **Urban strategy** with possible locations in proximity to an educational center. + Design of **thematic contents** according to the location of the module. + Design of an accessible **interactive digital interface**. + Design of a **sensorization and data collection system**. + Design of a **web mapping platform**, real time. + Design and realization of **participation days.** + Analysis of results and formulation of **proposals.** + Proposal of itineraries, scalability and future replicas.

The interventions will allow continuous learning and experimentation on the use and appropriation of urban space by citizens. Transdisciplinarity is encouraged and proposals are made that cross-sectionally address different issues for **tactical, urgent, resilient and proximity urban planning.**

DESIGN APROACH BET




VINCCI
BIT
Gran Via
Centre Ciutat
C-31
Mataró
EDUS Point / Punt EDUS
Educational Expanded Dispositive for Urban Space
& Community Networking
UN AULA, UN PLATÓ I UN PUNT DE TROBADA
ESCOLES
BARRIS
EDUS
FURNISH

Under the conditions derived from the COVID-19 Pandemic and the protocols for the use of spaces and physical distancing, we will focus on experimenting with urban relations and synergies, focusing on educational spaces. Based on the strategic location of an ephemeral and itinerant architectural device, it is intended:

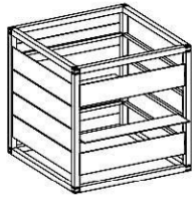
- **Intervene quickly with the participation of the citizen**, more active, agile and informed for decision-making on the management of urban space.
- **Promote proximity relationships.** From the study of existing relationships, attractor and daily uses, travel flows, micromobility, environmental conditions, etc.
- **Extend educational activities and uses, beyond classrooms and centers.** From the appropriation of outdoor spaces, and of all kinds of public spaces and facilities.

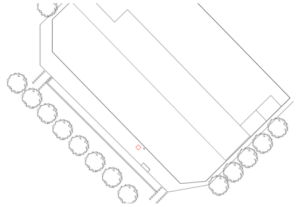
IMPLEMENTATION

Site selection criteria

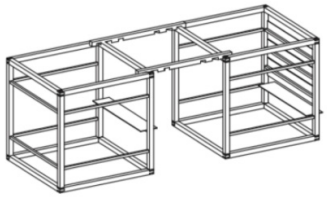
For the implementation of this multifaceted process of intervention in the urban space: artifact (furniture), interface and content, **the secondary school of the Besós neighborhood** has been selected, as it is a public educational center rooted in the social environment where it is located, open to the neighborhood to whom it attends, **with a democratic and participatory functioning,** which has tried to implement an educational offer linked to technological and scientific processes, with a focus on improving the life of the neighborhood and ithe perspectivess of its students. In addition to the great receptivity of this center for the implementation of this proposal in all its aspects (artifact, interface and contents (training and participation). Regarding the location, this center is culturally a melting pot located in **a strategic place in Barcelona, that allows us to know the interactions that occur in the neighborhood**. The center has shown great receptivity in the implementation of this proposal in all its aspects (artifact, interface) and contents (training and participation).

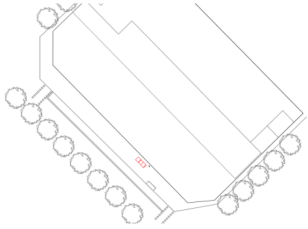
CUBE 1: WHAT'S THAT CUBE ON THE SIDEWALK?

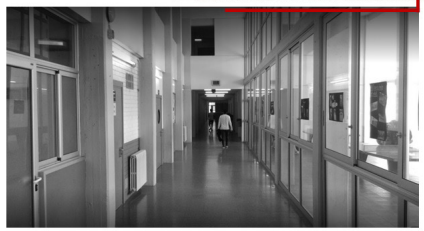


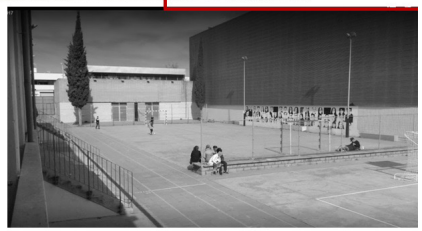


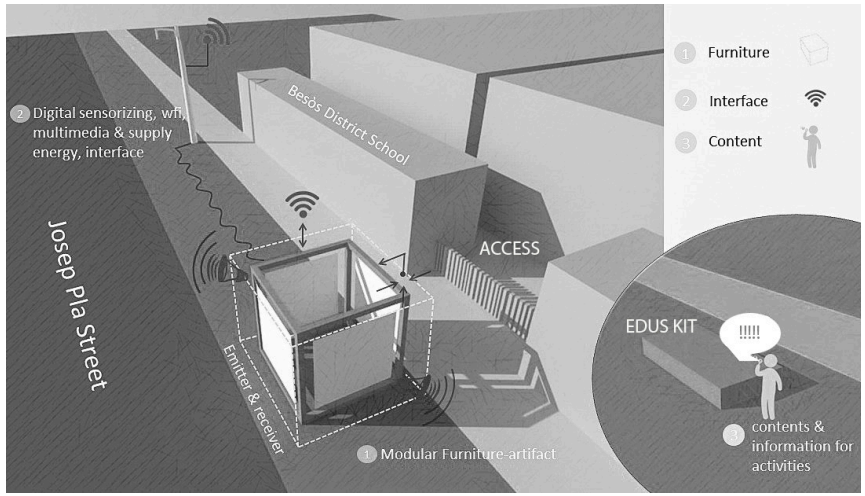
CUBE 2: APPROPIATION: TEACHING AND PARTICIPATING ON OUTDOORS EVENTS









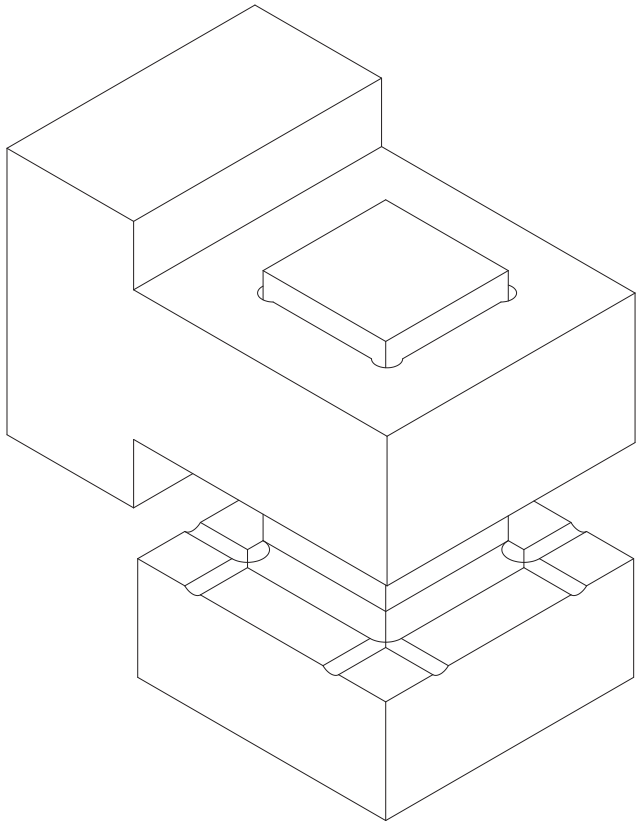


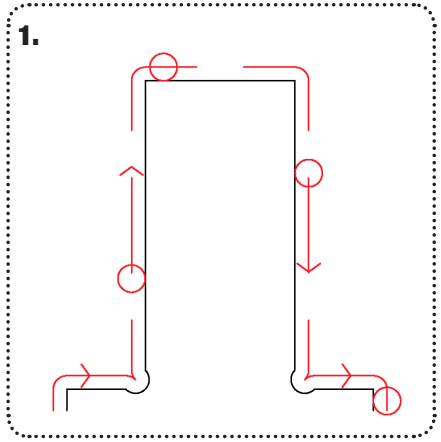
IMPLEMENTATION

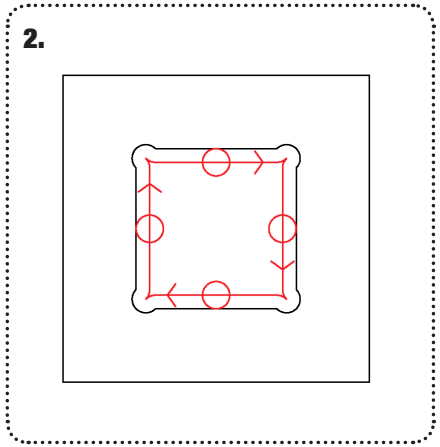
Assembly | Disassembly

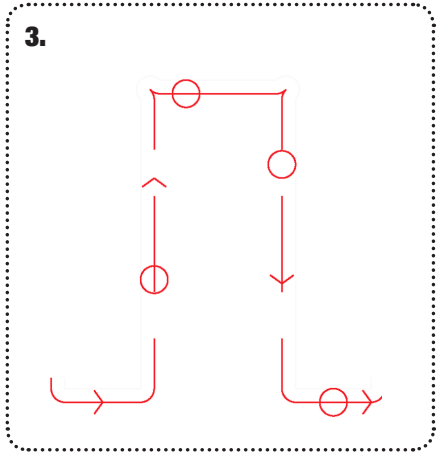
Milling instructions

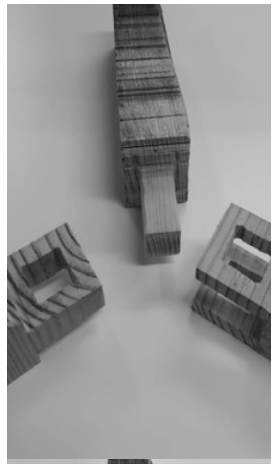
Finishing detail to ensure perfect fit

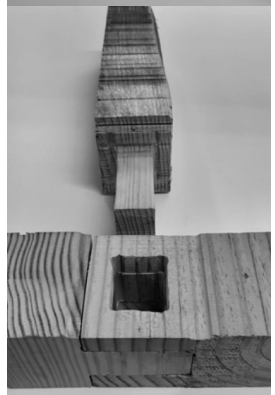


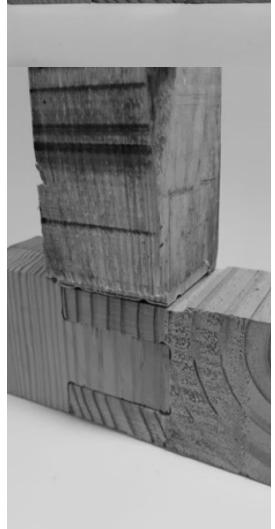








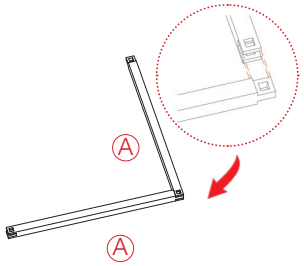




IMPLEMENTATION

Assembly | Disassembly **Artifact assembly instructions**

1.



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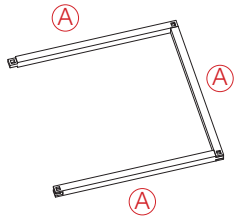

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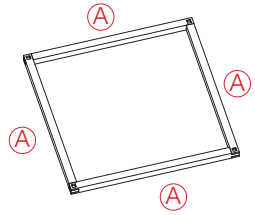
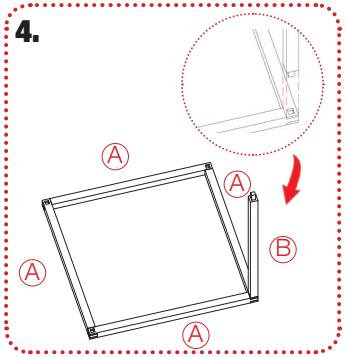


BOTTOM BASE

4.



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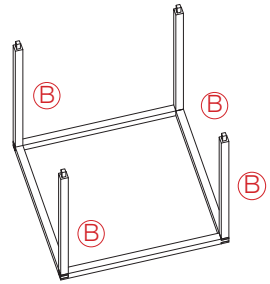

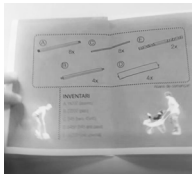

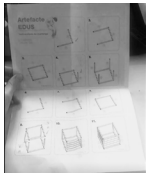

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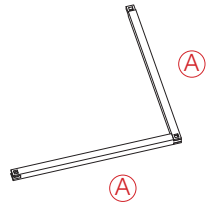

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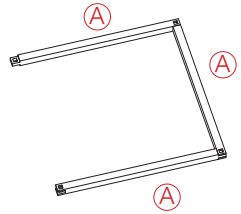

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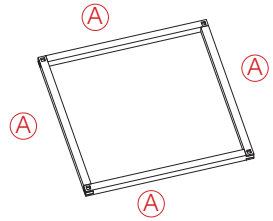
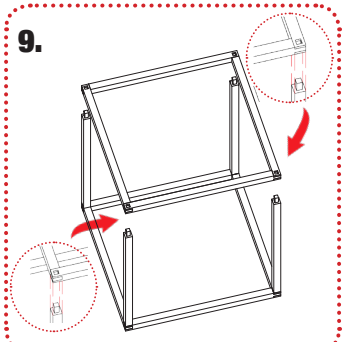


TOP BASE

9.



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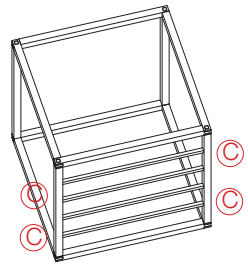
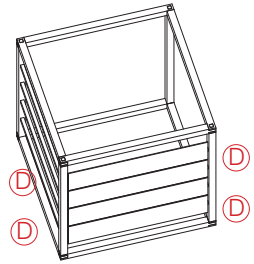


SIDE A

11.

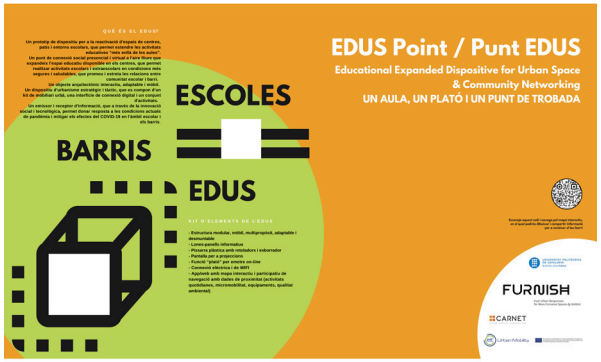


SIDE B

IMPLEMENTATION

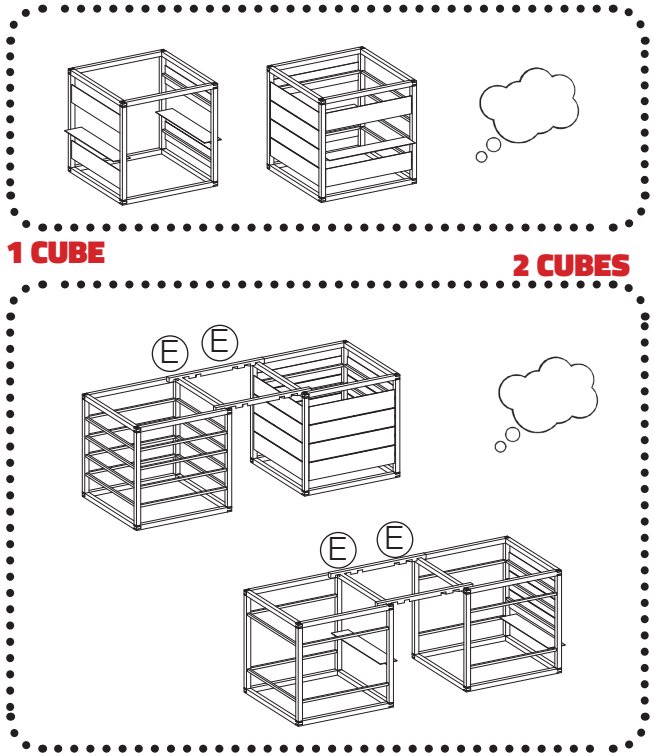
Assembly | Disassembly

114.00 x 180.00 printable area



IMPLEMENTATION
In action

VARIATIONS AND COMBINATIONS



YouTube canal IES Barri Besòs
https://www.youtube.com/watch?v=l4C78nRVzeY&feature=emb_logo&ab_channel=iesbarribesos


EDUS Point / Punt EDUS
ESCOLES
BARRIS
EDUS


Batxillerats
Arts escèniques
Científico-esportiu
Institut BarriBesòs
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IES
BARRI
BESÒS

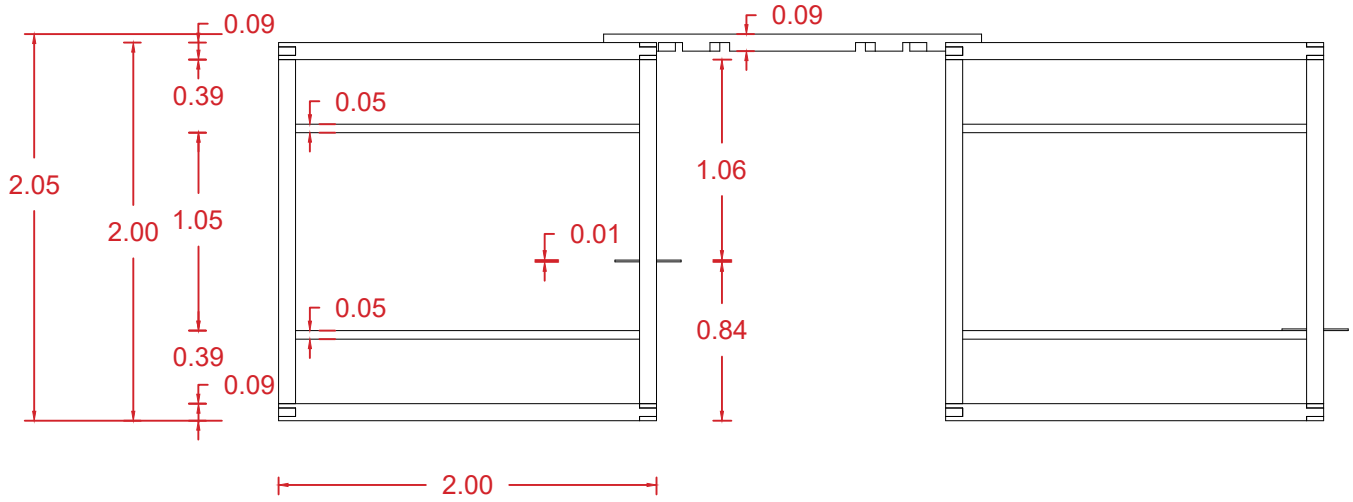

Institut BarriBesòs
Batxillerat


BARRIS

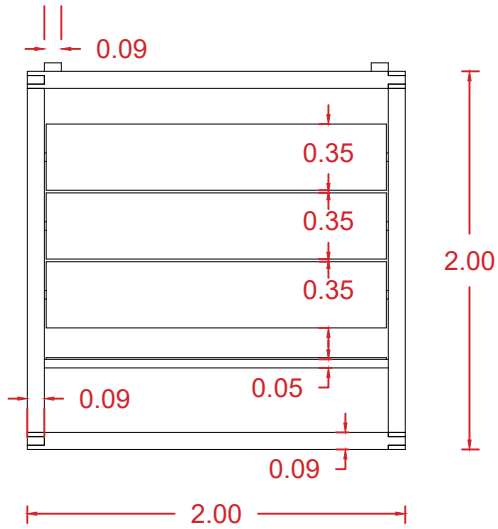
TECH SPECS

Grap

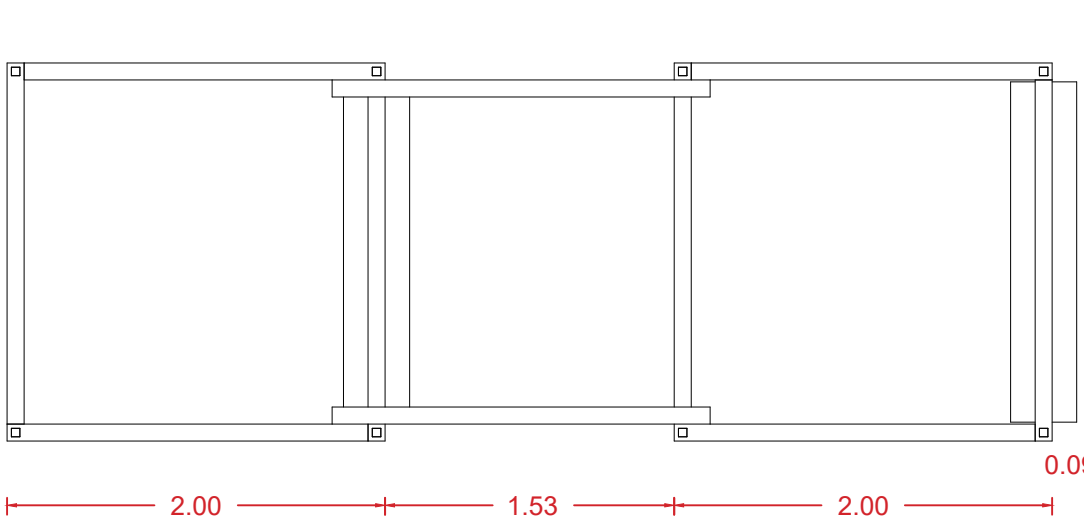
FURNISH



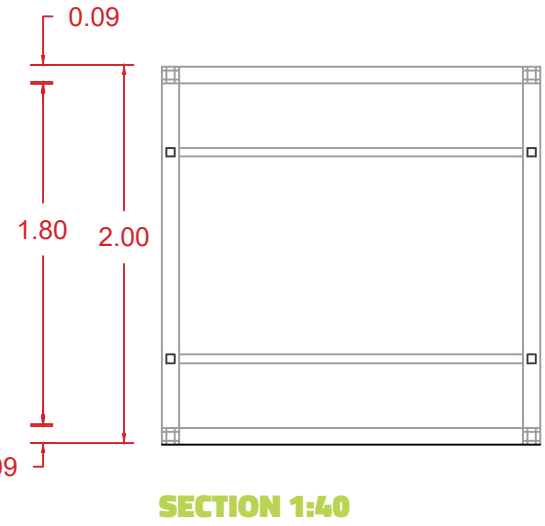
FRONT ELEVATION 1:40



LEFT ELEVATION 1:40



PLAN 1:40



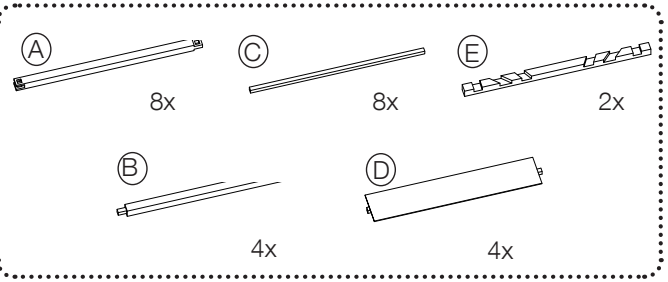
SECTION 1:40

EDUS POINT Tech Specs

TECH SPECS

List of materials and tools

WOOD ARTIFACT



A. YX200 (beam)
B. ZZ200 (pillar)
C. B45 (stick 45x45)
D. B45P (B45 amb panel)
E. UU200 (Universal union)

Artifact:

Modular reconfiguring structural system of 2 cubes (200x200x200).
With 2 modules:
- Removable architectural device and basic installation kit (8 beams,4 pillars, 8 wooden bar 45x45, 4 wooden bar 45x45 with panel, 2 universal union) x2.
-5 440g PVC Flex Banner in Rolls High Quality Laminated Vinyl Mesh Banner
- 1 440g Backligth PVC Flex Banner Laminated Vinyl

EDUS accessories:

- 1 Arduino Sensor Kit
- 1 Post-it® Super Sticky Dry Erase Surface
- 1 Cable multi-tap Extension Reel 20m 3x1.5 mm
- 1 WiFi Repeater - TP LINK AC750, 750 Mbps.

Web mapping platform.

SENSORIZATION & MAPPING

https://carercities.com/u/ies-barri-besos

TECH SPECS
Budget

ITEM / CONCEPT		DESCRIPTION	COST IN €	IVA
	Overhead UPC	Management UPC	2.000,00€	420,00€
INTERFACE	Interactive and participative map "Neighborhood Atlas" to visualize, draw and share information about the school environment.	Interactive online web platform that allows its users to view, draw, save and share information on an interactive and navigable map will include the ability to add different layers of external data (p.e environmental quality)	863,34€	181,30€
ACTIVITIES	Documentation for monitoring and analyzing the social impact.	Documentation, for the observation and analysis of the social impact during the installation of the prototype.	1.200,00€	252,00
ARTIFACT	Documentation for the digital manufacture of the prototype.	Documentation and files of the 3D model in STL format, type file "master" for all the mounted prototype, in addition to all the individual files so that each subcomponent is manufactured digitally.	863,33€	181.30€
	Outdoor advertising banner set with energy, wi-fi & sound installation.	Informative canvases and for video projection and dissemination of contents related to the functionality of the proposed prototype and the educational activities to be developed.	2.217,33	465,64€
	Informative canvases	Informative canvases	660, 00	138,60
	Construction materials	Various materials (Wood, anchors and others) for the construction of the prototype of the basic EDUS module	120,00€ 462,53€ 870,38€ 205,70€	25,20€ 97,13€ 182,78€ 43,20€
	Fab-Lab UPC	Personal	537,39€	112,8€
	TOTAL		10.000,00€	2100,00€

TECH SPECS

Organizational chronogram

Task	Responsible	W1 5-11 Oct	W2 12-18 Oct	W3 19-25 Oct	W4 26 Oct -1 Nov	W5 2-8 Nov	W6 9-15 Nov	W7 16-22 Nov	W8 23-29 Nov	W9 30 Nov -6 Dec	W10 7-13 Dec	W11 14-20 Dec
Conceptualization, content design												
Analysis of urban and localization strategies												
Design, construction, assembly artifact												
Sensorization and data collection												
Real time web mapping programming												
Days of participation, dynamization, data collection and returns												
Analysis of results for proposals												
Roaming, scalability, and future replicas												

Each member of the team will be in charge of operational aspects of a certain work activity according to their knowledge and specific qualities. However, a large part of the activities to be developed are collaborative in nature, therefore, the group of members will work on the same data repository to obtain a common result.

1. **Conceptualization, content design** (Patricia, Fanny, Miguel, X. Costa, Inma, Julian)
2. **Analysis of urban and location strategies** (Patricia, Fanny, Miguel, Miquel,Julian)
3. **Design, construction, assembly of the artifact** (X.Ferrer, Patricia, Fanny, Israel, Maria Camila, Francesco, Marta, Cristina, Miguel)
4. **Sensing and data collection** (Patricia, Fanny, Miguel, Josep, Jorge)
5. **Real time web mapping programming** (Jorge, Patricia, Fanny, Miguel, Josep)
6. **Analysis of results for proposals** (Patricia, Fanny, Miguel, Julián, Miquel, Josep, Inma, Cristina)
7. **Days of participation, dynamization, data collection and returns** (Patricia, Fanny, Miguel, Cristina, X. Costa and Miquel)
8. **Roaming, Scalability, and Future Replications** (All)

PERFORMED ACTIVITIES

Friday 20 Nov

EDUS hub installation (ETSAB UPC); Creative workshop: Are we puppets of technologies? (Cultural Transformants Association)

Tuesday 24 Nov

Chemistry class

Wednesday 25 Nov

Installation of the second EDUS cube (ETSAB UPC); Linguistic couples; School-institute transition; Visions and songs; Gender Assembly

Thursday 26 Nov

Hang business library posters; Sensor workshop (UPC); Poblenou Activism Talk (Eix Pere IV); Performing arts; Karaoke

Friday 27 Nov

Talk We Are History Besòs (Associació Cultural Transformants); Draw class; Proximity App Workshop (Corolari.cat)

DESIGN TEAM

The project's author team is made up of members from **different disciplines and specialties** who have come together with common interests around urban sustainability, art, culture, education, design, technology and public space. We are interested in **collective work, and reflection and action, around urban and spatial relationships between individual and place, between citizen and environment.**

Coordinator: **Miguel Y. Mayorga Cárdenas.** Urbanist. PHD and MSc in Urbanism, Architect, Adjunct Lecturer Professor at the ETSAB-UPC.

1: **Julián Galindo González.** Urbanist. PHD and MSc in Urbanism, Architect, Professor in the ETSAB UPC. Director of the DUOT at the ETSAB-UPC.

2: **Inmaculada Rodríguez Cantalapiedra.** Technical Architect PHD in Physical Sciences. Director of the Polytechnic Building School EPSEB-UPC.

3: **Josep Bordonau.** PhD and master at UPC. Degrees in electrical engineering from the UPC. Associate Professor in UPC.

4: **Miquel Estrada.** PhD in Civil Engineering is associate professor of transportation in the Barcelona School of Civil Engineering at UPC-BarcelonaTech.

5: **Xavier Ferrer Masip.** Architect. Specialist in Computer Assisted Procedures for creating shapes and processing images in architecture. Head of the laboratory Labmaq-ESTSAB-UPC. + **Israel Arias Reyna.** Bachelor's in industrial design. Currently studying a Master's in Advanced Studies in Design at the UPC. Collaborator in Labmaq-ETSAB-UPC. + **Maria Camila Olaya.** MSc in Advanced Studies in Design-Barcelona. MBDesign UPC. Collaborator in Labmaq-ESTSAB-UPC. + **Francesco Caradonna.** Degree in Architecture in Polytechnic University of Catalunya. Collaborator in Labmaq-ETSAB-UPC. + **Marta Gamiz Sanchez.** Actually finishing an Architecture Degree at the ETSAB.

6: **Patricia Paniagua Abreu.** Architect by the Autonomous University of Santo Domingo. MSc in Advanced Construction in Building from the UPC

7: **Fanny Esther Berigüete Alcántara.** Architect by the Autonomous University of Santo Domingo, MSc in Advanced Construction in Building by the UPC. Student PhD at UPC.

8: **Cristina Poza López.** Architect by the ETSAB-UPC. She is part of the Col·lectiu d'Arquitectes El Tinglado, association of architects that focuses its work on social transformation from sustainability.

9: **Xavier Costa.** Graduated in Communication Sciences and Master in Interactive Communication, Telecommunications and Multimedia in the UAB . CEO of Transversal Business S.L. President of Transformants cultural association.

10: **Jorge Rodríguez.** Telecommunications Engineer. UPC specialized in the field of Information Technologies, having participated in multiple Business Intelligence and Data Warehouse projects. Co-founder of CityFOV Urban Lab.

This activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under the Horizon 2020, the EU Framework Programme for Research and Innovation

FURNISH

Fast Urban Responses to New Inclusive Spaces & Habitat

www.furnish.tech