



## Versus Plus, heritage for people : educational tools to transmit heritage values

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educational tools to transmit  
heritage values

# versus plus

heritage for people

outils pédagogiques pour transmettre les valeurs du patrimoine / strumenti educativi per trasmettere i valori del patrimonio /  
instrumentos educativos para transmitir valores patrimoniais / herramientas educativas para transmitir los valores del patrimonio /  
eines educatives per transmetre els valors patrimonials



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instrumentos educativos para transmitir valores patrimoniais  
herramientas educativas para transmitir los valores del patrimonio  
eines educatives per transmetre els valors patrimonials

## Project leader



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DICAAR  
DIPARTIMENTO DI INGEGNERIA CIVILE,  
AMBIENTALE E ARCHITETTURA  
UNIVERSITÀ DI CAGLIARI



UNIVERSITÀ  
DEGLI STUDI  
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DIDA  
DIPARTIMENTO DI  
ARCHITETTURA

UNESCO Chair Earthen architecture,  
building cultures and  
sustainable development



Chair



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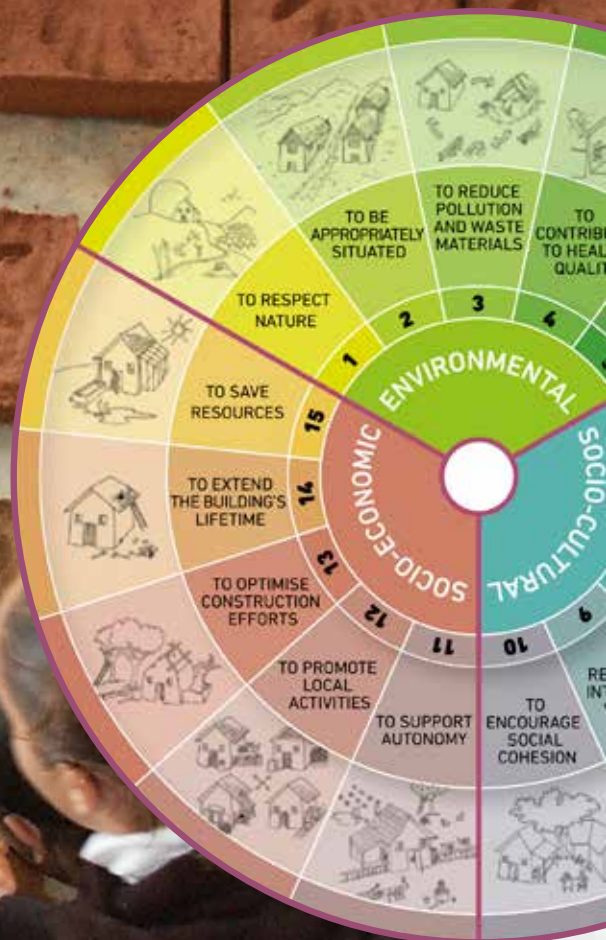
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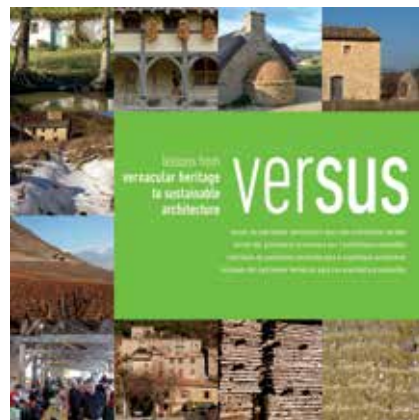


# Introduction

**This booklet is a continuation of the European Project VERSUS “Lessons from VERNacular Heritage to SUStainable Architecture” (2012-2014), coordinated by Escola Superior Gallaecia and implemented with the partnership of Universitat Politècnica de València, Università degli Studi di Cagliari, Università degli Studi di Firenze and CRATERre-Grenoble School of Architecture. The project was defined as “a success story by the European Commission, for its impact, contribution to policy-making, innovative results and creative approach – a source of inspiration for others”.**

As part of this initial project, two books were published that can be downloaded at [www.esg.pt/versus/](http://www.esg.pt/versus/). They present values of the vernacular heritage that everybody can draw on to better integrate the principles of sustainable development in contemporary projects. This work is based on a framework of 15 sustainability principles that VERSUS researchers defined in 2014 to structure their reading of heritage and that they represented in the form of the VERSUS wheel that you can see on the left.

The two VERSUS books, downloaded by thousands of Internet users in 145 countries, are a first form of communication from which many researchers, designers and architects have benefited. Many other forms of transmission are possible and have been widely spread by the VERSUS partners, using a great variety of educational tools. The authors of these books are all educators and practitioners and know that the best way to understand heritage and the associated skills is to get your hands dirty. It is in the spirit of sharing these educational practices that they have prepared this new publication. Twenty educational tools selected from the most commonly practised ones are presented in this booklet. They have been used on various audiences on different continents and have proven their adaptability.









# Aims of the versus+ project

The aims of the versus+ project are:

- To promote, strengthen and expand international and transcultural relations
- To apply knowledge from the fundamental lessons and principles of vernacular heritage
- To disseminate the principles, techniques, and solutions of vernacular heritage in European society

Specific aims and main axes:

- To create a multidisciplinary study methodology
- To develop didactic creative activities
- To strengthen the role of local artists, craftsmen and companies
- To promote the study methodology, action strategies, activities developed and project results

Work axes:

1. Vernacular heritage contribution to sustainable architecture
2. Materials and art
3. Local craftsmen and traditional construction knowledge
4. Innovative communication and dissemination strategies for improving audiences

## OBJECTIFS DU PROJET VERSUS+

L'objectif de VERSUS+ est de promouvoir les relations transculturelles, d'appliquer les leçons fondamentales du patrimoine vernaculaire et de diffuser l'intelligence de ce patrimoine dans la société européenne. Les objectifs spécifiques du projet sont les suivants :

- Créer une méthodologie d'étude multidisciplinaire
- Développer des activités créatives didactiques
- Renforcer le rôle des artistes, artisans et entreprises locales
- Promouvoir la méthodologie d'étude, les stratégies d'action, les activités développées et les résultats du projet.

## OBIETTIVI DEL PROGETTO VERSUS+

Lo scopo del progetto VERSUS+ è la promozione delle relazioni transculturali, applicando le lezioni fondamentali del patrimonio vernacolare per disseminare l'intelligenza e il valore di questo patrimonio nella società europea. Gli obiettivi specifici sono:

- Creare una metodologia di studio multidisciplinare
- Sviluppare attività didattiche creative
- Rafforzare il ruolo degli artisti locali, gli artigiani e le compagnie
- Promuovere la metodologia di studio, le azioni strategiche, le attività e i risultati sviluppati dal progetto

## OBJETIVOS DO PROJECTO VERSUS+

O Projeto VERSUS+ tem como objetivo promover as relações transculturais, aplicar ensinamentos fundamentais do património vernáculo e disseminar o conhecimento desse património vernáculo na sociedade Europeia.

Os objetivos específicos do Projeto são:

- Criar uma metodologia de estudo multidisciplinar;
- Desenvolver atividades didáticas criativas;
- Fortalecer o papel dos artistas, artesãos e empresas locais;
- Promover a metodologia de estudo, as estratégias de ação, atividades desenvolvidas e resultados do projeto.

## OBJETIVOS DEL PROYECTO VERSUS+

El objetivo de VERSUS+ es promover las relaciones transculturales, aplicar las lecciones fundamentales del patrimonio vernáculo y difundir la inteligencia del mismo en la sociedad europea. Los objetivos específicos del proyecto son:

- Crear una metodología de estudio multidisciplinar
- Desarrollar actividades creativas didácticas
- Reforzar el papel de los artistas, artesanos y empresas locales
- Promover la metodología de estudio, las estrategias de acción, las actividades desarrolladas y los resultados del proyecto

## OBJECTIUS DEL PROJECTE VERSUS+

L'objectiu de VERSUS+ és promoure les relacions transculturals, aplicar les lliçons fonamentals del patrimoni vernacle i difondre la intel·ligència del patrimoni vernacle en la societat europea. Els objectius específics del projecte són:

- Crear una metodologia d'estudi multidisciplinari
- Desenvolupar activitats didàctiques creatives
- Enfortir el paper dels artistes, artesans i empreses locals
- Potenciar la metodologia d'estudi, les estratègies d'actuació, les activitats desenvolupades i els resultats del projecte

### Axes de travail

1. Contribution du patrimoine vernaculaire à l'architecture durable
2. Matériaux et art
3. Artisans locaux et connaissances traditionnelles en matière de construction
4. Stratégies innovantes de communication et de diffusion pour améliorer les publics

### Assi di lavoro

1. Il contributo all'architettura sostenibile del patrimonio vernacolare
2. Materiali e arte
3. Artigiani locali e sapere costruttivo tradizionale
4. Maggiore coinvolgimento del pubblico attraverso strategie di disseminazione e comunicazione innovative

### Eixos de trabalho

1. Contributos do património vernáculo para a arquitetura sustentável.
2. Materiais e artes.
3. Artesãos locais e conhecimento construtivo tradicional.
4. Estratégias de comunicação e disseminação inovadoras para incrementar audiências.

### Líneas de trabajo

1. Contribución del patrimonio vernáculo a la arquitectura sostenible
2. Materiales y arte
3. Los artesanos locales y el conocimiento tradicional de la construcción
4. Estrategias innovadoras de comunicación y difusión para mejorar el alcance

### Eixos de treball

1. Contribució del patrimoni vernacle a l'arquitectura sostenible
2. Materials i art
3. Artesans locals i sabers tradicionals de la construcció
4. Estratègies innovadores de comunicació i difusió per a millorar l'abast al públic







## Target Audience

The project is aimed at a wide audience as safeguarding heritage is a shared responsibility. Apart from the general public, special attention is given to the following audiences:

- children and young people
- migrants and refugees
- local, regional and national administrations
- specialists and experts in the field of architecture
- craftsmen and companies from the construction and tourism sectors

Experience has shown that heritage values speak to everyone, from the youngest children to elderly people and in all cultural and economic contexts. Educational tools just need to be adapted to the audience and to the time available to ensure that target groups learn lessons that will inform their projects.

### PUBLIC CIBLE

Le projet s'adresse à un public très large, car la conservation du patrimoine est dans l'intérêt de tous. En dehors du grand public, une attention particulière est accordée :

- Aux enfants et aux jeunes
- Aux migrants et les réfugiés
- Aux administrations locales, régionales et nationales
- Aux spécialistes et les experts dans le domaine de l'architecture
- Aux artisans et aux entreprises du secteur de la construction et du tourisme.

L'expérience a montré que les valeurs du patrimoine parlent à tout le monde, des enfants aux retraités, dans tous les contextes culturels et économiques. Il suffit d'adapter les outils pédagogiques au public et au temps disponible.

### AUDIENCE DI RIFERIMENTO

Il progetto è indirizzato a un'audience vasta poiché il patrimonio culturale è nell'interesse di tutti. Oltre al pubblico generale il progetto è rivolto con attenzione speciale a:

- Bambini e giovani
- Migranti e rifugiati
- Amministrazioni locali, regionali e nazionali
- Specialisti ed esperti nell'ambito dell'architettura
- Artigiani e compagnie nell'ambito delle costruzioni e del turismo

Esperienza dimostrato che il valore del patrimonio culturale è per tutti, dai bambini alle persone in pensione in tutti i contesti socio-economici. Abbiamo per questo ho bisogno di adattare gli strumenti educativi a questo tipo di pubblico come al momento attuale in cui viviamo.

### PÚBLICO ALVO

O Projeto é direcionado a um público bastante alargado, uma vez que o património é de interesse comum. Além do público geral, atenção especial será dada a:

- crianças e jovens
- migrantes e refugiados
- administrações locais, regionais e nacionais
- especialistas e peritos na área da arquitetura
- artesãos e empresas do sector da construção e do turismo

A experiência tem demonstrado que os valores patrimoniais sensibilizam todos, das crianças aos idosos, nos distintos contextos culturais e económicos. Só necessitamos de ajustar as ferramentas educacionais ao público e ao tempo disponível.

### DESTINATARIOS

El proyecto se dirige a un público muy amplio, ya que el patrimonio es de interés común. Además del público en general, se presta especial atención a:

- niños y jóvenes
- inmigrantes y refugiados
- administraciones locales, regionales y nacionales
- especialistas y expertos en el campo de la arquitectura
- artesanos y empresas del sector de la construcción y el turismo

La experiencia ha demostrado que los valores del patrimonio se dirigen a todos, desde los niños hasta los jubilados, en todos los contextos culturales y económicos. Únicamente se trata de adaptar las herramientas educativas al público y al tiempo disponible.

### PÚBLIC OBJECTIU

El projecte està dirigit a un públic molt ampli ja que el patrimoni és d'interès per a tots. A més del públic en general, es presta especial atenció a:

- nens i joves
- migrants i refugiats
- administracions locals, regionals i nacionals
- especialistes i experts en el camp de l'arquitectura
- artesans i empreses dels sectors de la construcció i el turisme

L'experiència ha demostrat que els valors patrimonials parlen a tots, des dels nens fins als jubilats en tots els contextos culturals i econòmics. Només necessitem adaptar les eines educatives al públic i al temps disponible.









# How to use this booklet

This book offers 20 educational tools. All these tools have in common that they emphasise hands-on activities that facilitate the transmission of knowledge in a friendly atmosphere. Some of the tools are accessible to all, while others are more technical and target a specific audience, such as students. The table on page 15 specifies for each exercise:

- to which of the 9 categories of target audiences they are addressed;
- at what scale it addresses heritage, from the building element to the landscape scale;
- which of the 15 sustainability principles defined by the VERSUS project this exercise meets.

This book invites you to be pedagogically creative. We are aware that the activities proposed may not correspond to your needs and we therefore invite you to adapt them to the human, cultural and material resources available to you. Nor does this book provides all the keys and recipes needed to embark on such educational adventures. A bibliography is provided page 64 to investigate further ideas. You can also get in touch with the teaching teams of the five partner universities in this VERSUS+ programme. For each pedagogical exercise, the name of the university that practises it is indicated at the top of the page.

## COMMENT UTILISER CE LIVRET

Ce livre propose 20 outils pédagogiques pratiques et ludiques qui facilitent la transmission des connaissances dans une ambiance conviviale. Le tableau de la page 15 précise pour chaque exercice :

- À laquelle des 9 catégories de publics cibles il s'adresse ;
- À quelle échelle il aborde le patrimoine, de l'échelle matérielle à l'échelle du paysage ;
- Auquel des 15 principes de durabilité définis par le projet VERSUS cet exercice répond.

Cet ouvrage vous invite à faire preuve de créativité, car les activités proposées peuvent ne pas correspondre à vos besoins. Nous vous invitons à les adapter aux ressources humaines, culturelles et matérielles dont vous disposez. Vous pouvez également consulter la bibliographie en page 64.

## COME USARE QUESTO BOOKLET

Questo piccolo libro offre 20 strumenti educativi pratici che facilitano la trasmissione del sapere in modo semplice. La tabella a pagina 15 specifica per ogni esercizio:

- A quale delle nove categorie di pubblico è indirizzato l'esercizio;
- A quale scala si riferisce il patrimonio culturale, dalla scala del singolo materiale a quella del paesaggio;
- Quali dei 15 principi di sostenibilità definiti dal progetto VERSUS vengono trattati nell'esercizio.

Questo libro invita ad essere creativi poiché non è detto che le attività proposte corrispondano perfettamente alle vostre necessità. È per questo che vi invitiamo ad adattarle ai vostri bisogni culturali e materiali come alle vostre risorse disponibili. Per questo è anche possibile consultare la bibliografia a pagina 64.

## COMO USAR ESTE BOOKLET

Este Livro apresenta 20 ferramentas educacionais, práticas e lúdicas, que facilitam a transmissão de conhecimentos num ambiente agradável.

A tabela na páginas 15 especificam para cada exercício:

- Para quais das 9 categorias de público-alvo são dirigidas;
- Qual a escala de patrimônio abordada, do material à paisagem;
- Quais dos 15 princípios de sustentabilidade, definidos pelo projeto VERSUS, são aplicados no exercício;

Este booklet convida o leitor a ser criativo, uma vez que as atividades propostas podem não corresponder às suas necessidades. Convidamos o leitor a adaptá-las aos recursos humanos, culturais e materiais disponíveis. Também pode consultar a bibliografia na página 64.

## CÓMO UTILIZAR ESTE MANUAL

Este libro ofrece 20 herramientas educativas prácticas y divertidas que facilitan la transmisión de conocimientos en un ambiente acogedor. La tabla de la página 15 especifica, para cada ejercicio:

- a cuál de las 9 categorías de público objetivo se dirigen;
- a qué escala aborda el patrimonio, desde la escala material hasta la paisajística;
- a cuál de los 15 principios de sostenibilidad definidos por el proyecto VERSUS responde dicho ejercicio.

Este libro le invita a ser creativo, ya que las actividades propuestas pueden no corresponder a sus necesidades. Le invitamos a adaptarlas a los recursos humanos, culturales y materiales de que disponga. También puede consultar la bibliografía de la página 64.

## COM USAR AQUEST LLIBRE

Aquest llibre ofereix 20 eines educatives pràctiques i divertides que faciliten la transmissió de coneixements en un ambient agradable. La taula de la pàgina 15 especifica per a cada exercici:

- a quin de les 9 categories de públic objectiu es dirigeixen;
- a quina escala aborda el patrimoni, des de l'escala material fins a la paisatgística;
- quin dels 15 principis de sostenibilitat definits pel projecte VERSUS compleix aquest exercici.

Aquest llibre et convida a ser creatiu ja que les activitats proposades poden no correspondre a les teves necessitats. Et convidem a adaptar-los als recursos humans, culturals i materials de què disposes. També pots consultar la bibliografia en la pàgina 64.

## EXAMPLE

### DESCRIPTION

The main characteristics of each activity are briefly described in this fact box. These data correspond to what has been practised by the VERSUS partner who provided the information, but are not exhaustive. A course that has only been delivered in English and Spanish for example may of course work in other languages.

**WEB LINK**

Some of the educational activities are described in more detail on websites or in downloadable publications. Links are provided here.

versus  
plus

05

PRACTICAL WORKSHOP

Conservation work camp

TYPE OF TOOL

Practical workshop

LOCATION

Old building with a series of pathologies but without safety hazards. The possibility of sleeping on site adds value to the social atmosphere of the camp.

NUMBER OF INSTRUCTORS/PARTICIPANTS

2 instructors for 25 trainees maximum

LANGUAGES

French

DURATION OF THE SESSIONS

2 weeks

DATE AND USE

Implemented every 2 years since 2009

CURRENT USERS

CRA terre postgraduate students, house owners, craftsmen

POTENTIAL USERS

Architecture and engineering lecturers who want to offer a practical experience to their students

WEB LINK

18 from vernacular heritage

20 from vernacular heritage

### Main topics addressed

- Diagnosis including pathologies survey and study of the decay processes
- Study of the values
- Proposal for intervention, distinguishing between urgent stabilisation measures and measures to enhance the values identified
- Implementation of works

### VERSUS principles addressed

NATURE RESPECTED	●
WELL SITUATED	○
POLLUTION REDUCED	●
HEALTH PROTECTED	●
HAZARDS MITIGATED	○
CULTURAL LANDSCAPE PROTECTED	●
CULTURE TRANSFERRED	●
CREATIVITY ENCOURAGED	●
INTANGIBLE VALUES RECOGNISED	○
SOCIAL CO-ESION ENCOURAGED	○
AUTONOMY SUPPORTED	○
LOCAL ACTIVITIES PROMOTED	○
CONSTRUCTION OPTIMISED	○
LIFETIME EXTENDED	○
RESOURCES SAVED	○

ENVIRONMENTAL  
SOCIO-CULTURAL  
SOCIO-ECONOMIC

to sustainable architecture 19

## VERSUS PARTNER

Each activity has been proposed by one of the 5 VERSUS partners. You will need to refer to their websites for more in-depth knowledge of the activity and its adaptability to your own context.

## TOPICS

Each activity covers specific themes to transfer targeted knowledge, such as the ability to master a construction technique using earth or the analysis of a vernacular architectural typology for example.

## 15 VERSUS Principles

Not all activities meet the 15 VERSUS principles. Some are focused on the transfer of endangered traditional skills and others on creativity for example.

The 15 VERSUS principles are described in the 2014 booklet which you can download at: [www.esg.pt/versus](http://www.esg.pt/versus)







## Educational tools

The improvement of our living environment and the need to make a rational use of resources urge us to draw inspiration from the past in order to abandon unsustainable practices and adopt more viable ones. To do so, we must be able to understand the past by analysing all its tangible and intangible heritage. This analysis can be done by observation, by photographic representation, by drawing, but also by revitalising skills and construction techniques that have disappeared. Practising is the best way to understand and convince oneself of the intelligence of a material or a technique. The educational tools proposed suggest various ways of approaching this journey into the past in order to stimulate creativity. They are practical tools that awake the senses, the mind, the way of reading what surrounds us and the way of conceiving our role in the territory that welcomes us. Sustainability issues are complex and require a multiscale approach of the environment, from the grass we walk on to the landscape we live in, as well as a dynamic reading of the life cycle of each project we design. This is why the exercises proposed are so different, some enter into the secret of the material while others reflect on architecture or the evolution of urbanism.

The transformation of our practices also requires that everyone be prepared to understand and make better use of local resources. The conservation of heritage and its values and the improvement of contemporary architectural production should not be restricted to researchers and students. The general public and political decision-makers must be made aware of these development issues, as well as the new generations that must be prepared from an early age. The resources used by our ancestors, such as wood and earth, have the advantage of being non-toxic and can be handled without danger by everyone. They enable to invent practical and fun tools to transmit the scientific knowledge that is essential for changing our construction practices.

### OUTILS PÉDAGOGIQUES

L'amélioration de notre cadre de vie et la nécessité d'une utilisation rationnelle des ressources nous incitent à nous inspirer du passé. Les outils pédagogiques proposés ici suggèrent différentes manières d'aborder ce retour aux sources afin de stimuler notre créativité. Ce sont des outils pratiques qui éveillent les sens, l'esprit, la manière de lire ce qui nous entoure et la manière de concevoir notre rôle dans le territoire qui nous accueille. Chaque outil est unique et vise une échelle spécifique, certains entrent dans les micro-secrets de la matière tandis que d'autres réfléchissent sur l'architecture ou l'urbanisme.

### STRUMENTI EDUCATIVI

Il miglioramento del nostro ambiente di vita e il bisogno di fare uso razionale delle risorse ci spinge a prendere ispirazione dal passato. Gli strumenti educativi qui proposti suggeriscono diverse modalità di apprezzare questo viaggio verso le nostre radici così da stimolare la nostra creatività. Questi sono strumenti pratici che risvegliano i sensi la mente e il modo di leggere ciò che abbiamo intorno a noi e il modo in cui concepiamo nei territori e gli ambienti che ci ospitano. Ogni strumento è unico ha un indirizzo specifico, come entrare nella micro scala dei materiali oppure riflettere sull'architettura o l'urbanistica.

### FERRAMENTAS EDUCACIONAIS

A melhoria do nosso meio ambiente e a necessidade de efetuar um uso racional dos recursos impele-nos a extrair inspiração do nosso passado. As ferramentas educacionais, propostas, sugerem várias formas de abordar esta jornada como forma de estimular a criatividade. São ferramentas práticas que despertam os sentidos, a mente, a forma de interpretar o que nos rodeia e a maneira de compreender o nosso papel no território que nos acolhe. Cada ferramenta é única e dirige-se a uma escala específica, algumas mergulham nos micro segredos do material enquanto outras relacionam-se com a arquitetura ou com o urbanismo.

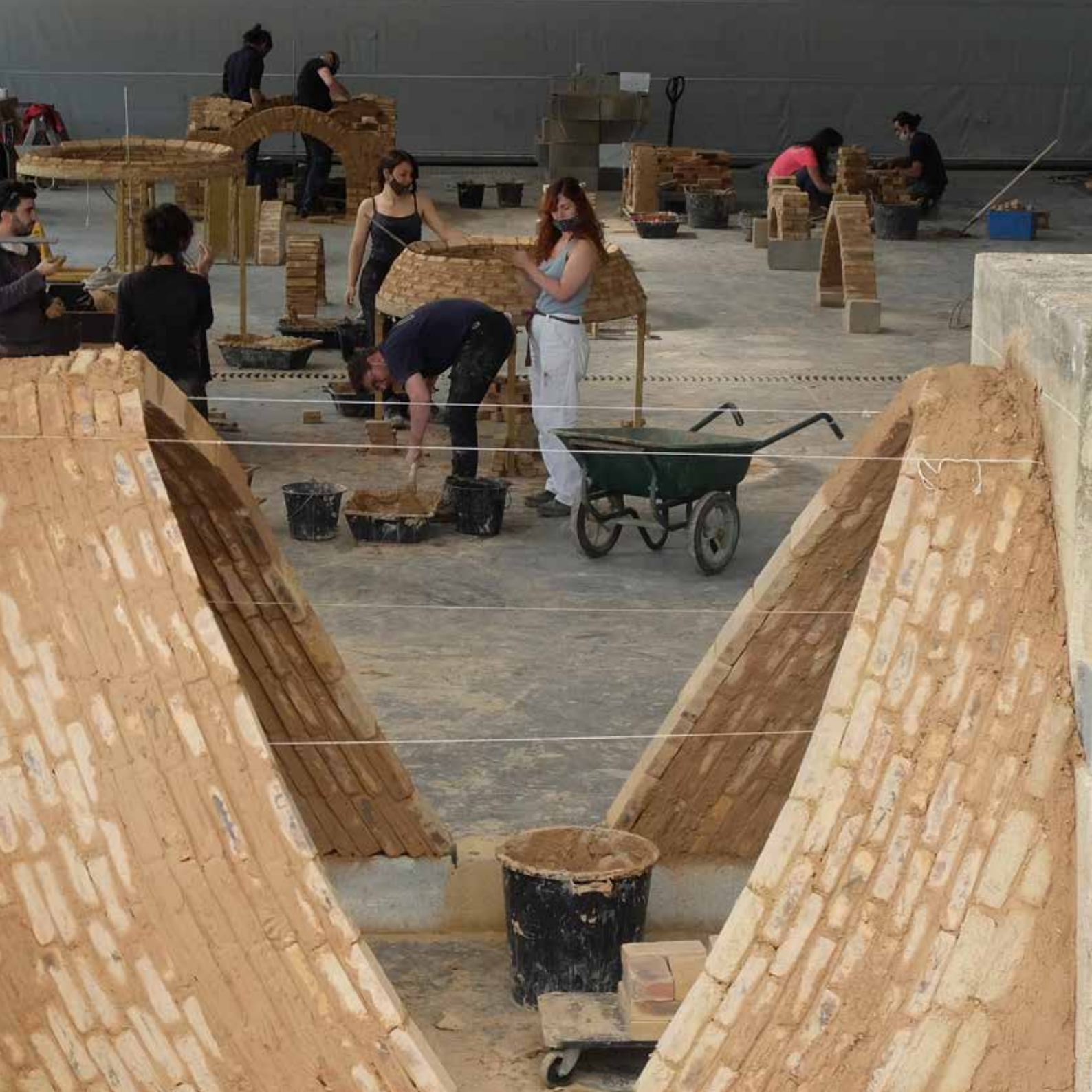
### HERRAMIENTAS EDUCATIVAS

La mejora de nuestro entorno vital y la necesidad de hacer un uso racional de los recursos nos impulsa a inspirarnos en el pasado. Las herramientas educativas que aquí se proponen sugieren diversas formas de abordar este viaje de vuelta a nuestras raíces para estimular nuestra creatividad. Se trata de herramientas prácticas que despiertan los sentidos, la mente, la forma de leer lo que nos rodea y la manera de concebir nuestro papel en el territorio que nos acoge. Cada herramienta es única y se dirige a una escala concreta, adentrándose algunas en los microsecretos de la materia mientras que otras reflexionan sobre la arquitectura o el urbanismo.

### EINES EDUCATIVES

La millora del nostre entorn de vida i la necessitat de fer un ús racional dels recursos ens insten a inspirar-nos en el passat. Les eines educatives que aquí es proposen suggereixen diverses maneres d'abordar aquest viatge de retorn a les nostres arrels per a estimular la nostra creativitat. Són eines pràctiques que desperten els sentits, la ment, la manera de llegir el que ens envolta i la manera de concebre el nostre paper en el territori que ens acull. Cada eina és única i apunta a una escala específica, algunes s'endinsen en els micro-secrets del material mentre que unes altres reflexionen sobre l'arquitectura o l'urbanisme.







# 20 PROPOSED EDUCATIONAL TOOLS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
El Rincón de Ademuz																			
Hunting for heritage values																			
Vernacular Heritage hand drawing																			
Educational kit on traditional architecture																			
Learning from vernacular																			
Digital survey for cultural heritage																			
Educational game on built heritage																			
Playing with traditional architecture																			
ElementeTerre																			
Full immersion in earth																			
Sensations labyrinth																			
Learning from craftspeople																			
Conservation work camp																			
Lab Terra Cruda																			
Sceptical rammed earth																			
Tile vaulting																			
Composite earth shell construction																			
Heritage for People																			
Heritage Game app design																			
Unsuspected wood workshop																			

## Target group

School teachers																			
School kids																			
Students																			
Researchers																			
Heritage professionals																			
Craftspeople																			
Authorities																			
Tourism professionals																			
General public																			

## Scale

Quarries and raw materials																			
Materials (ex. adobe)																			
Construction elements (ex. wall)																			
Buildings																			
Neighbourhoods and villages																			
Cities and human settlements																			
Cultural landscape																			

## Sustainability principles

ENVIRONMENTAL	Nature respected																		
	Well situated																		
	Pollution reduced																		
	Health protected																		
	Hazards mitigated																		
SOCIO-CULTURAL	Cultural landscape protected																		
	Culture transferred																		
	Creativity encouraged																		
	Intangible values recognised																		
	Social cohesion encouraged																		
SOCIO-ECONOMIC	Autonomy supported																		
	Local activities promoted																		
	Construction optimised																		
	Lifetime extended																		
	Resources saved																		









## El Rincón de Ademuz

### TYPE OF TOOL

**Series of workshops, practical seminars and teaching activities**

### NUMBER OF INSTRUCTORS/PARTICIPANTS

15-20 participants (workshops), 30-40 (practical seminars), 40-50 (teaching activities)

### LANGUAGES

Spanish and English

### DURATION OF THE SESSIONS

1-2 weeks (workshops), 2-3 days (practical seminars), 1-2 days (teaching activities)

### DATE AND USE

Created in 1996 and implemented each year till today

### CURRENT USERS

Professors and students of architecture, engineering, geography and anthropology from different countries, general public, local population, builders and other construction professionals

### OTHER POTENTIAL USERS

School kids, students, heritage professionals, craftspeople, general public

### REQUIRED BACKGROUND TO HANDLE THE ACTIVITY

No prior practical experience is necessary

### FEELINGS OF THE ORGANISERS

These workshops constitute an interesting educational experience, given that they allow active collaboration between very different groups, an experience rich in study and camaraderie combined with a contribution to international dissemination and increased awareness of vernacular architecture.

### WEB LINK(S)

<https://talleresarquitecturatradicional.blogs.upv.es>





### General description

The isolated location of Rincón de Ademuz had contributed to the preservation of its vernacular architecture in its original condition. However, this isolation was also the reason for the depopulation of all its villages in the last decades. The desertification of the region had contributed to the survival of this traditional architecture, although it had had an effect on its poor conservation, which was in urgent need of attention. Lack of information, or even mental association of these primitive constructions with a time of subsistence economy and isolation from the rest of the world, resulted in a disdain for this vernacular architecture which was in real danger of disappearing. Given the urgency of that situation, the traditional architecture workshops organised over the last twenty years aimed to carry out in-depth studies of the region, its architecture, urban planning and landscape, as well as its vernacular constructions and techniques, seeing this knowledge as a first step towards promoting and recovering heritage. The activities have varied in content, audience and methodology over the years, but have always maintained the objective of acquiring and providing information on vernacular architecture in a region rarely studied, promoting it and increasing awareness among local population and outsiders.

### Main topics addressed

- Promote the vernacular architecture of the region of Rincón de Ademuz through a series of workshops, continued over time, to raise awareness among both locals and outsiders.
- Think and discuss a series of criteria for the restoration of specific traditional elements of the region between technicians, students and local population, and, therefore, favour moments of exchange and learning about vernacular architecture.
- Explore the building culture of a place in a gradual and sustained way over time, as a means to deepen the degree of detail and speciality acquired and to reinforce the link of the population to its traditional architecture.



# El Rincón de Ademuz

## WORKSHOPS

The international workshop series comprised 20 annual workshops. They included an introduction to the architecture and landscape of the region (excursions and visits); the monographic study work on the theme of the workshop (data collection, drawing, notes and group discussions); a final presentation of the work of the participants to the authorities and the local population in an exhibition that remained on show for several months.

The theme of the workshops varied with each edition:

- Construction details of vernacular architecture.
- Preindustrial architecture in the region and minor religious heritage which was in a state of abandonment.
- Characteristics, resistance and conservation of traditional construction materials in the region.
- The landscape and the transition from nature to anthropic space.
- The impact of new constructions on the rural context.
- Sustainability of vernacular architecture.

## TEACHING ACTIVITIES

The international workshop series comprised 20 teaching activities. They consisted of visits to several locations and traditional buildings in the region, combined with explanations from the instructors and local residents on vernacular architecture: descriptions of traditional processes for quarrying stone from the mountain, making gypsum, manufacturing brick and slates, weaving wicker, winemaking, etc.; practical demonstrations on the construction of gypsum floors and ceilings, building stone walls, rendering, etc.; and illustrating other traditional tasks such as bringing wood for construction down river, manufacturing traditional soap, extracting honey and wax from beehives, etc.

The contents of the visits varied according to the age and background of the public taking part, with ages from 3 years old to adults up to 80 years old, including also groups of university students and teachers from various countries, architecture associations from different places, groups of international experts in vernacular architecture, etc.

## PRACTICAL SEMINARS

The international workshop series comprised 5 practical seminars. They always involved local craftsmen and master builders who taught traditional building techniques to the participants. These seminars were held both on the Universitat Politècnica de València and in a house in the region whose original construction was intact.

These seminars dealt with practical experiences examining traditional building techniques in the area with local materials. Practical seminars were carried out on constructions with adobes, rammed earth, gypsum flooring, as well as gypsum rendering and construction using reeds.

Exceptionally, practical construction seminars with earth were also held with the collaboration of a kindergarten in Valencia, which allowed children aged 3 to 5 to learn to build small adobe constructions and render them with earth mortar.

## ADDITIONAL INFORMATION

- The format of the workshops proved to be useful in addressing depopulation and abandonment in the region and could be taken as a reference for other places in Spain and Europe.
- Over a thousand people aged from 3 to 80 have taken part in these workshops: kindergarten pupils, school pupils, university students, professionals, architects, engineers, builders and other trades from the construction sector, people with no specific training. Participants from twenty countries and four continents all became involved along with local inhabitants.
- The information gathered in the workshops resulted in the publication of two books, which have contributed to its dissemination beyond the tool itself: *Memoria Construida. Arquitectura tradicional del Rincón de Ademuz* and *"Homo faber. Arquitectura preindustrial del Rincón de Ademuz"*. Furthermore, a conservation handbook called *"Renovar conservando, Manual para la restauración de la arquitectura rural del Rincón de Ademuz"* has been published.





## VERSUS principles addressed

NATURE RESPECTED	●	ENVIRONMENTAL
WELL SITUATED	●	
POLLUTION REDUCED	●	
HEALTH PROTECTED	○	
HAZARDS MITIGATED	○	
CULTURAL LANDSCAPE PROTECTED	●	SOCIO-CULTURAL
CULTURE TRANSFERRED	●	
CREATIVITY ENCOURAGED	●	
INTANGIBLE VALUES RECOGNISED	●	
SOCIAL COHESION ENCOURAGED	●	
AUTONOMY SUPPORTED	●	SOCIO-ECONOMIC
LOCAL ACTIVITIES PROMOTED	●	
CONSTRUCTION OPTIMISED	●	
LIFETIME EXTENDED	●	
RESOURCES SAVED	●	

# Hunting for heritage values

## TYPE OF TOOL

**Observation walk, photo collection and debate among villagers**

## LOCATION

Village

## NUMBER OF INSTRUCTORS/PARTICIPANTS

2 instructors for 40 participants maximum

## LANGUAGES

French

## DURATION OF THE SESSIONS

1 day

## DATE AND USE

Implemented since 2013

## CURRENT USERS

CRAterre staff with municipalities

## OTHER POTENTIAL USERS

Municipalities who want to sensitise their citizens to heritage values

## PARTICIPANTS' FEELINGS

- We see our village differently
- We can meet people we didn't know before
- Makes us love the place we live in
- Gives us ideas to preserve our heritage

## FEELINGS OF THE ORGANISERS

- Quite easy to implement
- Very little logistics involved
- The participants are always very happy, very friendly activity

## Main topics addressed

- Understand heritage values of the place where the participants live
- Develop a different view of heritage through the 15 VERSUS principles
- Discuss conservation and rehabilitation options with villagers, to help them decide on what is appropriate or not







## PROGRAMME

- 10:00 Welcome and introduction to the day's activities
- 10:15 PowerPoint presentation "The values of our heritage"
- 11:00 Group formation and handing over of material to each group (map and inventory sheets)
- 11.15 Group discussion of the buildings that the group would like to visit
- 11.30 "Heritage values hunting"
- 14.30 Centralisation of the photos brought back by the groups during a shared snack
- 15.30 Restitution by the groups
- 17.00 Discussion and conclusion

## VERSUS principles addressed

NATURE RESPECTED



WELL SITUATED



POLLUTION REDUCED



HEALTH PROTECTED



HAZARDS MITIGATED



CULTURAL LANDSCAPE PROTECTED



CULTURE TRANSFERRED



CREATIVITY ENCOURAGED



INTANGIBLE VALUES RECOGNISED



SOCIAL COHESION ENCOURAGED



AUTONOMY SUPPORTED



LOCAL ACTIVITIES PROMOTED



CONSTRUCTION OPTIMISED



LIFETIME EXTENDED



RESOURCES SAVED



ENVIRONMENTAL

SOCIO-CULTURAL

SOCIO-ECONOMIC



# Vernacular Heritage hand drawing

## TYPE OF TOOL

**Documentation Camp of Vernacular Architecture (Hand drawing survey)**

## NUMBER OF INSTRUCTORS/PARTICIPANTS

10 instructors + 10 external participants

## LANGUAGES

English (official language)

## DURATION OF THE SESSIONS

2 weeks (1 week: field work + 1 week: drawing studio)

## DATE AND USE

3 editions already, last one in 2022

## CURRENT AND POTENTIAL USERS

ICOMOS-CIAV associates, architects, archaeologists, historians, material heritage technicians

## REQUIRED BACKGROUND TO HANDLE THE ACTIVITY

No previous knowledge is necessary

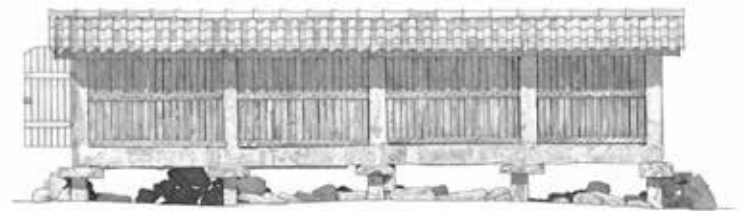
## WEB LINK

[www.upt.pt](http://www.upt.pt)

<https://esg.pt/workshop-vernadoc-2019>

## Main topics addressed

- To perform technical architectural drawings of high representation complexity;
- To engage local communities in analysing the value of their traditional built heritage;
- To consolidate a network of international heritage inventories and documentation experts.






















## ADDITIONAL INFORMATION

Developed under the aegis of the ICOMOS-CIAV network, the Vernacular Heritage hand drawing surveys consist in international camps, combining the work of foreign experts and local technicians, aiming to protect and enhance vernacular heritage sites and their communities. Initially associated with the CIAV annual meeting activities programme, these workshops, have produced a series of national spin-offs. As the previous international survey camps in Portugal, UPT is organising other Portuguese editions of the vernacular heritage hand drawing courses. The measuring tools used are manual, no digital mechanism is allowed. The precision elements for data collection are simple water levels, measuring tapes, ropes, plumbs and pendulums. The drawing process just resorts to graphite pencils and isographic ink pens on watercolour paper, in a A2 plus format. Rulers, compasses, cutting blades, transparent paper, brush and duct tape are used as auxiliary tools.

The drawing process is divided in two weeks corresponding to different stages. The first week is dedicated to on site pencil drawing, to mark directly on the paper the measures, creating an abstract matrix. Photographic reportage is advised to complement the survey process. The second week is dedicated to permanent inking process and it is done in a studio with visits to the site, in order to solve eventual doubts. The inking process is divided in 4 stages: 1- section lines (thick lines); 2- geometric contours (thin lines); 3- textures (thin weak hatches); 4- shadows (thin hatches). The end of the process is celebrated with a public exhibition of the results. A seminar is held during the event, based on the international experts' experiences and backgrounds. It is also common to disseminate the results within a thematic publication of high graphic quality.

## VERSUS principles addressed

NATURE RESPECTED		ENVIRONMENTAL
WELL SITUATED		
POLLUTION REDUCED		
HEALTH PROTECTED		
HAZARDS MITIGATED		
CULTURAL LANDSCAPE PROTECTED		SOCIO-CULTURAL
CULTURE TRANSFERRED		
CREATIVITY ENCOURAGED		
INTANGIBLE VALUES RECOGNISED		
SOCIAL COHESION ENCOURAGED		SOCIO-ECONOMIC
AUTONOMY SUPPORTED		
LOCAL ACTIVITIES PROMOTED		
CONSTRUCTION OPTIMISED		
LIFETIME EXTENDED		
RESOURCES SAVED		

## Educational kit on traditional architecture

### TYPE OF TOOL

**Set of exercises and games for children**

### NUMBER OF INSTRUCTORS/PARTICIPANTS

2 instructors / 20 participants

### LANGUAGES

Spanish and English (easily adaptable to other languages)

### DURATION OF THE SESSIONS

From one hour (exercise) to one day (excursion)

### DATE AND USE

Created in 2016 and implemented each year till today

### CURRENT USERS

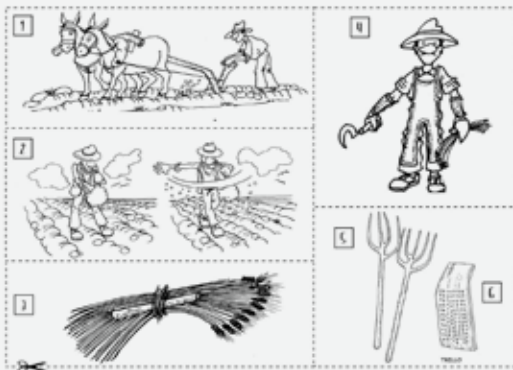
Schoolteachers and children (8 to 10 years old)

### OTHER POTENTIAL USERS

Teachers and pupils in pre-primary, primary and secondary education, voluntary education (camps and summer schools) and education in the family or community context.

### WEB LINK(S)

<https://www.culturaydeporte.gob.es/planes-nacionales/dam/jcr:e09e72b3-e55f-4db6-ad61-143200a87dd9/2016-maleta-educativa.pdf>







### Main topics addressed

- Approaching, understanding and raising awareness of the tangible and intangible values of architectural heritage since childhood, in an experimental, fun and visually attractive way.
- Raising general public awareness of the value of traditional heritage as part of the culture of a place.
- Active learning with exercises/games related to various dimensions of heritage (traditional architecture, the house, materials and techniques, the environment, and the culture) in which the teacher acts as a mediator and the pupils play a key role.
- Familiarity with a glossary of terms related to architecture and traditional construction necessary to carry out the exercises.

### General description and objectives

The exercises address the values of traditional architecture (history, tradition, identity, ecology, resource-saving, respect for nature), through the factors that determine it, such as materials, location, climate, crafts and culture. The guide is divided into 9 chapters grouped into four thematic blocks and include a total of 15 sessions in which one or two exercises are conducted:

- **BLOCK 1 BASIC CONCEPTS:** The objective is to learn what traditional architecture is, that is, to know its definition and the most characteristic features in order to be able to identify it.
- **BLOCK 2 MATERIALS AND TECHNIQUES:** The objective is to familiarise children with the main construction materials used in traditional architecture in Spain, discover their properties, study the construction techniques, as well as to introduce different construction elements in which they are used and the name, function and characteristics of these elements.
- **BLOCK 3 ENVIRONMENT:** The aim is to raise awareness of the relationship between place, environment, materials and traditional architecture, and to show how climate influences the design, form and typology of different examples of vernacular buildings.
- **BLOCK 4 CULTURE:** The objective is to analyse the differences between a rural and an urban environment, both in the typology of housing and in the different economic activities; to show some important trades related to traditional architecture; to get to know the culture, history and traditions linked to the buildings by means of visits and excursions.



# Educational kit on traditional architecture

## BLOCK 1 BASIC CONCEPTS

### Chapter 1. Traditional architecture

#### SESSION 1: FIRST STEPS

- Exercise 1. Where does Laura live?
- Exercise 2. Traditional architecture

#### SESSION 2. MY HOUSE

- Exercise 3. Residential groupings
- Exercise 4. What is my house like?

## BLOCK 2 MATERIALS AND TECHNIQUES

### Chapter 2. Materials and techniques

#### SESSION 3. FEEL THE MATTER

- Exercise 5. Sensory mural

#### SESSION 4. EARTH

- Exercise 6. Properties of earth
- Exercise 7. Building with earth

#### SESSION 5. WOOD

- Exercise 8. Properties of wood
- Exercise 9. Building with wood

#### SESSION 6. STONE

- Exercise 10. Properties of stone
- Exercise 11. Building with stone

### Chapter 3. Constructive elements

#### SESSION 7. CONSTRUCTIVE ELEMENTS

- Exercise 12. Scramble for words
- Exercise 13. Vocabulary cards

## BLOCK 3 ENVIRONMENT

### Chapter 4. The place

#### SESSION 8. BUILD YOUR OWN HOUSE

- Exercise 14. The Spanish Houses
- Exercise 15. Build your house

### Chapter 5. The climate

#### SESSION 9. THE WEATHER

- Exercise 16. The rain
- Exercise 17. The sun

#### SESSION 10. BUILDING

- Exercise 18. Analyzing my house
- Exercise 19. Improving my home

## BLOCK 4 CULTURE

### Chapter 6. Ways of life

#### SESSION 11. TYPES OF HOUSING

- Exercise 20. Urban and rural housing

#### SESSION 12. ARCHITECTURE FOR WORK

- Exercise 21. Other constructions

### Chapter 7. The trades

#### SESSION 13. MEET THE CRAFTS

- Exercise 23. Construction trades
- Exercise 24. Learning a trade

### Chapter 8. Local reality

#### SESSION 14. DISCOVER YOUR ENVIRONMENT

- Exercise 25. Where do I live?

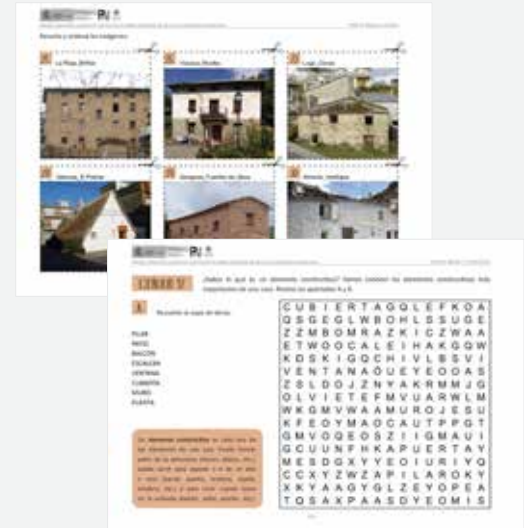
### Chapter 9. Excursions

#### SESSION 15. GO ON AN EXCURSION

- Exercise 26. Let's go for a visit!

## ADDITIONAL INFORMATION

- Implemented in 2016 and 2017 as part of the activities of l'Escola d'Estiu, a summer school for children organised annually during the month of July at the UPV. Partially implemented in 2018 in the village of Baasneere (Burkina Faso), as part of the ConBurkina research project, and in 2022 in Dhulikhel (Nepal), as part of the HouSe-Nepal research project.
- The educational kit could be used not only in schools, but also in out-of-school training centres, in museums or as part of cultural heritage enhancement events (local festivals, craft festivals, workshops and seminars organised for adults, etc.)
- The guide with the description of the activities is freely available online.







### SUGGESTED LIST OF EQUIPMENT

- Almost all the exercises and games can be done in the classroom or outdoors using the worksheets available on the website and school materials (paper copies of the different exercises, pencils, crayons, scissors and glue).
- Specific materials for Exercise 3 (Groupings): coloured cubic pieces (wooden or plasticine).
- Specific materials for Exercise 5 (Sensory mural): 50x20cm rigid support, white glue, natural materials (stones, branches, leaves, sand, earth, etc.) that can be collected by the students if the activity is outdoors.
- Specific materials for exercises 6, 7, 8, 9, 16, 17: they are described in the activity sheets available on the website.
- Specific materials for exercise 15 (Build your house): natural materials (stones, branches, leaves, sand, earth, etc.) that can be collected by the students if the activity is outdoors or by the teacher.

### VERSUS principles addressed

NATURE RESPECTED	●	ENVIRONMENTAL
WELL SITUATED	○	
POLLUTION REDUCED	○	
HEALTH PROTECTED	●	
HAZARDS MITIGATED	●	
CULTURAL LANDSCAPE PROTECTED	●	SOCIO-CULTURAL
CULTURE TRANSFERRED	●	
CREATIVITY ENCOURAGED	●	
INTANGIBLE VALUES RECOGNISED	●	
SOCIAL COHESION ENCOURAGED	●	
AUTONOMY SUPPORTED	●	SOCIO-ECONOMIC
LOCAL ACTIVITIES PROMOTED	●	
CONSTRUCTION OPTIMISED	●	
LIFETIME EXTENDED	○	
RESOURCES SAVED	●	

## Learning from vernacular

### TYPE OF TOOL

**Interdisciplinary Local Workshop with Students**

### NUMBER OF INSTRUCTORS/PARTICIPANTS

3-5 Instructors / 10-15 Participants

### LANGUAGES

Italian-French

### DURATION OF THE SESSIONS

5-10 days

### DATE AND USE

From 2005 (every year)

### CURRENT USERS

UNIFI students, other university students

### OTHER POTENTIAL USERS

Architecture and engineer lecturers and students

### WEB LINK(S)

### Main topics addressed

- To facilitate a better understanding of the local cultures and traditional construction systems.
- To interact with the communities.
- To design architectural projects taking account both aspects of architectural design, building systems, energy efficiency and climate.
- To develop projects in harmony with the social context, the building local culture, the climatic and environmental context.







#### ADDITIONAL INFORMATION

The workshops were developed with the involvement of students, professors and lecturers, which analysed the local architecture of a specific context (Morocco, Italy, Spain, Portugal...) through an interdisciplinary approach: from the analysis of materials and building systems, to architectural, urban and landscape morphology, and social context. The final objective of the workshops was that of identifying and experimenting with new architectural concepts able to foster and maintain an equal and sustainable development, capable both of ascribing value to the intangible heritage, and of building innovative economies and urban structures with an emphasis on low costs and low environmental impact.

#### VERSUS principles addressed

NATURE RESPECTED	●	ENVIRONMENTAL
WELL SITUATED	●	
POLLUTION REDUCED	●	
HEALTH PROTECTED	●	
HAZARDS MITIGATED	●	
CULTURAL LANDSCAPE PROTECTED	●	SOCIO-CULTURAL
CULTURE TRANSFERRED	●	
CREATIVITY ENCOURAGED	●	
INTANGIBLE VALUES RECOGNISED	●	
SOCIAL COHESION ENCOURAGED	○	SOCIO-ECONOMIC
AUTONOMY SUPPORTED	○	
LOCAL ACTIVITIES PROMOTED	○	
CONSTRUCTION OPTIMISED	○	
LIFETIME EXTENDED	○	
RESOURCES SAVED	○	

## Digital survey for cultural heritage

### NAME OF THE ACTIVITY

**Summer school on Digital survey for archaeological heritage**

### TYPE OF TOOL

**Augmented Reality**

### NUMBER OF INSTRUCTORS/PARTICIPANTS

5 Instructors / 11 Participants

### LANGUAGES

Italian

### DURATION OF THE SESSIONS

8 months

### DATE AND USE

2021

### CURRENT USERS

Ghibertiana Project

### OTHER POTENTIAL USERS

Students, tourists, local people

### WEB LINK(S)

[www.ghibertiana.it](http://www.ghibertiana.it)



### Main topics addressed

- Visualizing in real time the features of an historical built heritage and the various evolutionary phases of a settlement through an App.
- Understanding the formal and geometric characters of the most emblematic buildings by means of augmented reality systems, that allow, again on the visitors' devices, to view models equipped with the texture of their apparent colour, thus also being able to appreciate the chromatic information.
- Interrogating 3D models in all their aspects, allowing a smart use of the information obtained through historical, archaeological and morphometric analyses.
- Increasing, both at the cognitive and perceptive levels, the knowledge of a specific historical-cultural heritage.

### General description

The Summer School on "Digital survey for archaeological heritage", promoted by the Department of Architecture of the University of Florence in collaboration with the chair of Medieval Archeology of the same University, the City of Londa and the "Ghibertiana Project", is an international activity that allowed to document some important settlements in the Valdisieve that belonged to the Guidi Counts. The ultimate goal of this operation is the recognition of the architectural and landscape invariants that have characterized the area since the times when Lorenzo Ghiberti (Pelago, 1378 - Florence, 1455) lived and worked and which constitute the visual reference that the artist represented in his most famous works.

Ghibertiana is an interdisciplinary project - developed by the DM\_SHS Research Unit of DIDA (Department of Architecture of the University of Florence) and by the Municipality of Pelago - which focuses on the figure of Lorenzo Ghiberti, that includes a Centre for the Interpretation of the Territory of the Val di Sieve, named in his honour, as well as a Documentation Centre devoted to him, both to be housed in the restored halls of the Palazzo Comunale in Pelago's castle, in the vicinity of the place where the artist was born and grew up.





### Teaching activities

The programme of the working days included a communication every day about specific aspects relating to the architectural survey, the archaeology of the elevations and the application of augmented reality techniques for the communication of Cultural Heritage.

### Practical seminars

The students were able to experiment in the field with the digital survey techniques learned in the training activities and apply the notions of archaeology in the recognition of the stratigraphic masonry units of the buildings analyzed. In the laboratory activities of the following months, the students were able to create navigable and searchable three-dimensional models, viewable in augmented reality thanks to the use of a dedicated app.



### ADDITIONAL INFORMATION

Augmented reality, unlike other forms of 3D use of digital content, allows you to always have a close relationship with reality to which a set of information related to 3D models is added. It is therefore possible to work on the imported photogrammetric model by implementing the information it can provide in augmented reality using scripts and by inserting additional three-dimensional objects to complete the scene.

### VERSUS principles addressed

NATURE RESPECTED	<input checked="" type="radio"/>	ENVIRONMENTAL
WELL SITUATED	<input checked="" type="radio"/>	
POLLUTION REDUCED	<input checked="" type="radio"/>	
HEALTH PROTECTED	<input checked="" type="radio"/>	
HAZARDS MITIGATED	<input checked="" type="radio"/>	
CULTURAL LANDSCAPE PROTECTED	<input checked="" type="radio"/>	SOCIO-CULTURAL
CULTURE TRANSFERRED	<input checked="" type="radio"/>	
CREATIVITY ENCOURAGED	<input checked="" type="radio"/>	
INTANGIBLE VALUES RECOGNISED	<input checked="" type="radio"/>	
SOCIAL COHESION ENCOURAGED	<input checked="" type="radio"/>	SOCIO-ECONOMIC
AUTONOMY SUPPORTED	<input type="radio"/>	
LOCAL ACTIVITIES PROMOTED	<input type="radio"/>	
CONSTRUCTION OPTIMISED	<input type="radio"/>	
LIFETIME EXTENDED	<input type="radio"/>	
RESOURCES SAVED	<input type="radio"/>	

# Educational game on built heritage

## TYPE OF TOOL

**Serious Game**

## NUMBER OF INSTRUCTORS/PARTICIPANTS

1 player at a time

## LANGUAGES

English

## DURATION OF THE SESSIONS

15-30 min

## DATE AND USE

2019: design of the prototype

## CURRENT USERS

none: under development

## OTHER POTENTIAL USERS

Students, tourists, local people

## WEB LINK(S)

[www.youtube.com/watch?v=6mzSFQ\\_-qSM&ab\\_channel=Universit%C3%A0degliStudiDiFirenze](https://www.youtube.com/watch?v=6mzSFQ_-qSM&ab_channel=Universit%C3%A0degliStudiDiFirenze)



## Main topics addressed

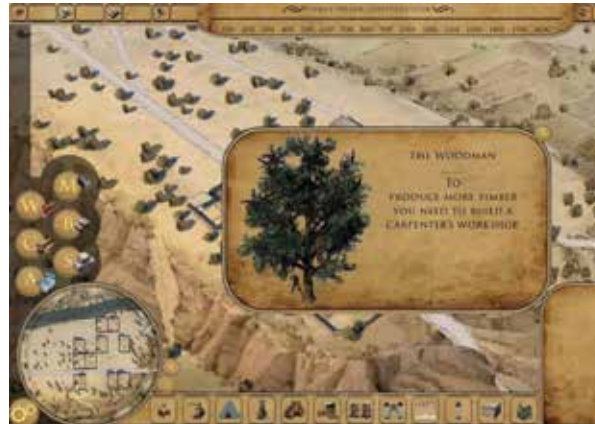
- Learning the features of the historical built heritage and the various evolutionary phases of the settlement in a playful way.
- Increasing, both at the cognitive and perceptive levels, the knowledge of a specific historical-cultural heritage.





## ADDITIONAL INFORMATION

The serious game, as devised, belongs to the category of “management” videogames set in various historical eras, and whose objective is that of actively involving the player in the processes of formation and development of an urban context. The task of the player, as he moves within the 3D virtual space, is that of making the settlement evolve, utilising with awareness and in an adequate manner, a series of exhaustible resources, such as labour and building materials, and applying the construction techniques and building typologies that characterise each of the historical periods.



## VERSUS principles addressed

NATURE RESPECTED	<input checked="" type="radio"/>	ENVIRONMENTAL
WELL SITUATED	<input checked="" type="radio"/>	
POLLUTION REDUCED	<input checked="" type="radio"/>	
HEALTH PROTECTED	<input checked="" type="radio"/>	
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CULTURAL LANDSCAPE PROTECTED	<input checked="" type="radio"/>	SOCIO-CULTURAL
CULTURE TRANSFERRED	<input checked="" type="radio"/>	
CREATIVITY ENCOURAGED	<input checked="" type="radio"/>	
INTANGIBLE VALUES RECOGNISED	<input checked="" type="radio"/>	
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LOCAL ACTIVITIES PROMOTED	<input type="radio"/>	
CONSTRUCTION OPTIMISED	<input type="radio"/>	
LIFETIME EXTENDED	<input type="radio"/>	
RESOURCES SAVED	<input type="radio"/>	

## Playing with traditional architecture

### TYPE OF TOOL

**Workshops on traditional architecture including interactive workshops + video + postcards + online game. This activity is known as "Rehabimed kids".**

### NUMBER OF INSTRUCTORS/PARTICIPANTS

2-3 Instructors / 15-20 Children

### LANGUAGES

French / English / Spanish / Catalan

### DURATION OF THE SESSIONS

4 hours (workshops)

### DATE AND USE

2010-2012. 6 workshops

### CURRENT USERS

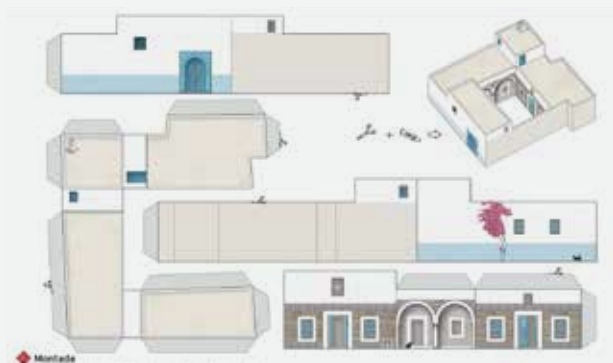
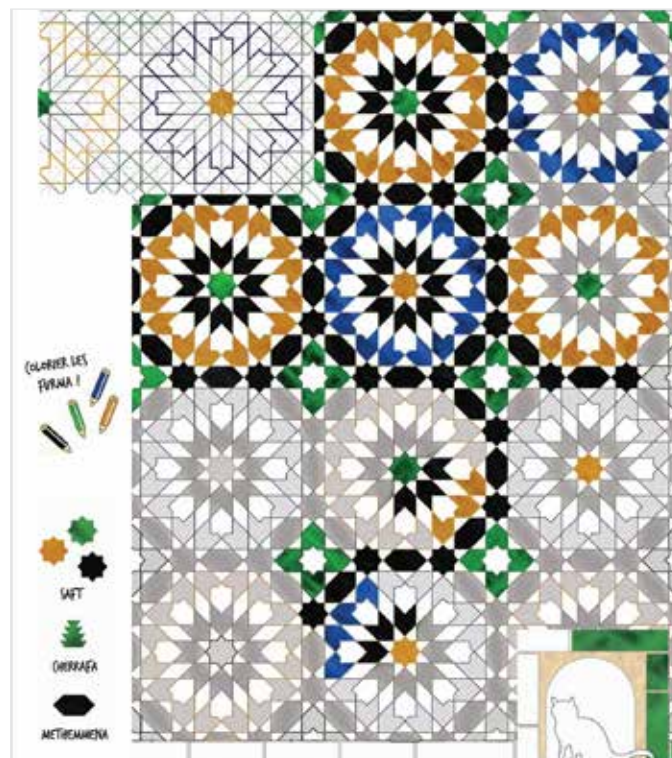
School teachers, school children.

### OTHER POTENTIAL USERS

School teachers, school children, communities

### WEB LINK(S)

<http://www.rehabimed.net/ca/2011/12/montada-kids/>





### Main topics addressed

- Understanding the tangible and intangible values of the traditional architecture
- Involving children in the appropriation and raising awareness of their cultural heritage values
- Promoting knowledge of local traditional heritage in a way that combines academic content and fun.

### Things to improve or step forward

- Online activities could be improved and disseminated through social networks
- Workshop could be replicated with children of different ages



### ADDITIONAL INFORMATION

UNIFI collaborated with RehabiMed to organize 6 workshops on traditional Maghreb architecture, aimed at children (7-13 years old) in the cities of Ghardaïa, Dellys, Marrakech, Salé, Sousse and Kairouan. The workshops stimulated the creativity and individual perception of each child. The results of the workshops and the various materials created form the basis for the development of the next workshops on traditional Mediterranean architecture.



### VERSUS principles addressed

NATURE RESPECTED	<input checked="" type="radio"/>	ENVIRONMENTAL
WELL SITUATED	<input checked="" type="radio"/>	
POLLUTION REDUCED	<input checked="" type="radio"/>	
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CULTURAL LANDSCAPE PROTECTED	<input checked="" type="radio"/>	SOCIO-CULTURAL
CULTURE TRANSFERRED	<input checked="" type="radio"/>	
CREATIVITY ENCOURAGED	<input checked="" type="radio"/>	
INTANGIBLE VALUES RECOGNISED	<input checked="" type="radio"/>	
SOCIAL COHESION ENCOURAGED	<input checked="" type="radio"/>	SOCIO-ECONOMIC
AUTONOMY SUPPORTED	<input type="radio"/>	
LOCAL ACTIVITIES PROMOTED	<input type="radio"/>	
CONSTRUCTION OPTIMISED	<input type="radio"/>	
LIFETIME EXTENDED	<input type="radio"/>	
RESOURCES SAVED	<input type="radio"/>	

# ElemenTerre

## TYPE OF TOOL

**12 scientific experiments** contained in 3 boxes of 20 kg each

## LOCATION

Can be organised anywhere indoors or outdoors in schools, universities, museums, festivals, etc. All it needs is 12 tables to set the various experimentations.

## NUMBER OF INSTRUCTORS/PARTICIPANTS

1 instructor for 25 trainees maximum

## LANGUAGES

French / English / Spanish / Arabic

## DURATION OF THE SESSIONS

2 h (fast version) / 1 day (complete version)

## DATE AND USE

2010, used by hundreds of thousands of people in exhibitions worldwide

## CURRENT USERS

Museums, Universities, CRAterre staff, former CRAterre postgraduate students worldwide

## POTENTIAL USERS

Architecture and engineering students, professionals, schoolchildren and the general public, adults and children

## WEB LINK

<https://craterre.hypotheses.org/3187>

## Main topics addressed

- Know the properties of the earth material to understand why and how it is possible to build with it.
- Initiate a global reflection for an eco-responsible development based on an introduction to earth, a material used for more than 11,000 years on all continents







## VERSUS principles addressed

NATURE RESPECTED	<input checked="" type="radio"/>	ENVIRONMENTAL
WELL SITUATED	<input type="radio"/>	
POLLUTION REDUCED	<input checked="" type="radio"/>	
HEALTH PROTECTED	<input checked="" type="radio"/>	
HAZARDS MITIGATED	<input type="radio"/>	
CULTURAL LANDSCAPE PROTECTED	<input type="radio"/>	SOCIO-CULTURAL
CULTURE TRANSFERRED	<input type="radio"/>	
CREATIVITY ENCOURAGED	<input type="radio"/>	
INTANGIBLE VALUES RECOGNISED	<input type="radio"/>	
SOCIAL COHESION ENCOURAGED	<input type="radio"/>	
AUTONOMY SUPPORTED	<input type="radio"/>	SOCIO-ECONOMIC
LOCAL ACTIVITIES PROMOTED	<input type="radio"/>	
CONSTRUCTION OPTIMISED	<input type="radio"/>	
LIFETIME EXTENDED	<input type="radio"/>	
RESOURCES SAVED	<input type="radio"/>	

## Full immersion in earth

### TYPE OF TOOL

**Hands-on workshop**

### NUMBER OF INSTRUCTORS/PARTICIPANTS

10 instructors, 40-65 participants

### LANGUAGES

3 (Italian, English, French)

### DURATION OF THE SESSIONS

6 days

### DATE AND USE

Since 2018, once a year

### CURRENT USERS

Architecture and Engineering students, craftspeople, workers, professionals, citizens

### WEB LINK(S)

<https://www.facebook.com/fullimmersionnellaterra/>

### General description

This activity is part of a broad effort to recognize and preserve the architectural history of the south-western part of Sardinia (the Campidano plain), strongly characterized by villages and towns built with earth, displaying adobe-made courtyard houses called *case campidanesi* (houses of the Campidano).

The yearly event is a practical workshop called Full Immersion nella Terra. Each workshop is open to a maximum of 15 participants and includes 6 modules supervised by 2 lecturers. All participants take part in the first module on the material and then

rotate on the other modules. This year's 5<sup>th</sup> edition targets professionals, workers, artisans and citizens. These people will be involved in a deep constructive confrontation based on their individual experiences. This workshop can welcome a variety of participants (students, academics, craftspeople from surrounding municipalities, architects, engineers, etc.). The participants are mainly local but originate also from abroad (USA, India). The participation of people with different profiles leads to mutual enrichment and allows for a diversity of questioning and appropriation.







#### ADDITIONAL INFORMATION

The workshop has a duration of 5 days, 8 hours a day, is organized in five modules, each coordinated by professionals trained at CRAterre. The workshop takes place at the LAT\_Laboratorio Arti della Terra, in Serrenti, Sardinia. Participants learn with hands-on methodology about earth as a building material and related different techniques.

Together with practical activities, a conference and a guided visit is offered to earthen houses of the hosting territory.

The workshop is open to students and teachers of architecture and engineering, professionals, workers, artisans, citizens.

#### VERSUS principles addressed

NATURE RESPECTED	<input checked="" type="radio"/>	ENVIRONMENTAL
WELL SITUATED	<input checked="" type="radio"/>	
POLLUTION REDUCED	<input checked="" type="radio"/>	
HEALTH PROTECTED	<input checked="" type="radio"/>	
HAZARDS MITIGATED	<input type="radio"/>	
CULTURAL LANDSCAPE PROTECTED	<input checked="" type="radio"/>	SOCIO-CULTURAL
CULTURE TRANSFERRED	<input checked="" type="radio"/>	
CREATIVITY ENCOURAGED	<input checked="" type="radio"/>	
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AUTONOMY SUPPORTED	<input type="radio"/>	SOCIO-ECONOMIC
LOCAL ACTIVITIES PROMOTED	<input type="radio"/>	
CONSTRUCTION OPTIMISED	<input type="radio"/>	
LIFETIME EXTENDED	<input type="radio"/>	
RESOURCES SAVED	<input type="radio"/>	

## Sensations labyrinth

### TYPE OF TOOL

**Experimental research and practical workshop**

### ORGANISERS OF THE WORKSHOP

Architecture students

### LOCATION

Festival Grains d'Isère - Grands Ateliers (Villefontaine)

### NUMBER OF INSTRUCTORS/PARTICIPANTS

1-2 construction instructors (according to the building techniques) / Up to 10 participants

### REQUIRED BACKGROUND TO HANDLE THE ACTIVITY

Theoretical knowledge of construction. No prior practical experience is necessary.

### LANGUAGES

French

### DURATION OF THE SESSIONS

1 week preparation; 1 week session

### DATE AND USE

First time in May 2021, as part of the Grains d'Isère Festival, with the aim of learning about different earth and straw construction techniques and experiencing their physical qualities.

### CURRENT USERS

DSA students and participants of the "Grains d'Isère" festival.

### OTHER POTENTIAL USERS

Other architecture or engineering students, architects, builders or even untrained people interested in earthen construction techniques.



### PARTICIPANTS' FEELINGS

They consider it a very good opportunity to put into practice the techniques they knew theoretically. They especially appreciate the opportunity to learn less known techniques, such as cob, from experienced instructors, and rehearse innovations such as cast earth. The workshop also allowed to establish contacts between professionals and people with the same interests. Overall, they are proud to have created this series of samples displaying more environmentally friendly ways of building.

### FEELINGS OF THE ORGANISERS

The construction of the labyrinth makes it possible to practise, in a single workshop, several construction techniques. In addition, the intention to design an object that has a utility after its construction, connects the group with a common goal. Thus, the outcome of the workshop is not only the learning of the participants but also an installation that can serve both to raise public awareness and to test the walls for research.





## General description

The workshop proposes the construction of small sections of walls, each with a different construction technique using different combinations of the same materials, mainly earth and straw.

## Main topics addressed

- Put into practice different building techniques in order to learn their construction process (tools, composition of the mixtures, steps to follow, duration, etc.) and to test and compare their thermal response.
- Understand how the improved traditional techniques can be considered as low-cost and low environmental impact.
- Reflect on how to reduce the energy footprint of construction while ensuring greater comfort in an environment strongly affected by global warming.
- Taking advantage of the experience, create a route, a sort of labyrinth, from the heaviest to the lightest techniques, so that, once built, visitors can feel the differences between the different techniques.

## ADDITIONAL INFORMATION

The workshop could be held in open-air public spaces, such as gardens and squares, or in exhibition spaces in schools, museums or galleries, since the aspiration of the "labyrinth" is to be visited so as to get to know, touch, feel and experience the physical qualities of natural building materials (stone, earth, straw). The techniques to be practised may vary according to the availability of materials or the geographical context in which the workshop takes place as a tool to promote local techniques.

## VERSUS principles addressed

NATURE RESPECTED	<input checked="" type="radio"/>	ENVIRONMENTAL
WELL SITUATED	<input type="radio"/>	
POLLUTION REDUCED	<input checked="" type="radio"/>	
HEALTH PROTECTED	<input checked="" type="radio"/>	
HAZARDS MITIGATED	<input type="radio"/>	
CULTURAL LANDSCAPE PROTECTED	<input type="radio"/>	SOCIO-CULTURAL
CULTURE TRANSFERRED	<input type="radio"/>	
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SOCIAL COHESION ENCOURAGED	<input type="radio"/>	
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LOCAL ACTIVITIES PROMOTED	<input type="radio"/>	
CONSTRUCTION OPTIMISED	<input type="radio"/>	
LIFETIME EXTENDED	<input type="radio"/>	
RESOURCES SAVED	<input type="radio"/>	

## Learning from craftspeople

### TYPE OF TOOL

**Scientific School**

### NUMBER OF INSTRUCTORS/PARTICIPANTS

5 teachers, 25 students

### LANGUAGES

3 (Italian/French)

### DURATION OF THE SESSIONS

6 days

### DATE AND USE

2019, 2021 one event per year

### CURRENT USERS

Students/craftspeople

### OTHER POTENTIAL USERS

Workers/professionals

### WEB LINK(S)

[https://www.facebook.com/Scientific-School-Shared-Languages-Sardegna-105187084159633/photos/?ref=page\\_internal](https://www.facebook.com/Scientific-School-Shared-Languages-Sardegna-105187084159633/photos/?ref=page_internal)

### General description

The scientific school brings students, craftspeople and teachers together in a common activity that stimulates the sharing of personal experiences on techniques and crafts from different parts of the world. It mainly focuses on earthen plasters. Craftspeople demonstrate how their unique decorations are done using different techniques to prepare the earth-mortars and apply them on walls.

### Main topics addressed

- Hands-on training on earth construction techniques.
- Sharing and learning from others.





## ADDITIONAL INFORMATION

This activity was born out of the “share languages” project, which aims to facilitate dialogue between craftspeople and the academic world. The facilitators are craftspeople and the participants are students. The invited craftspeople are high-level professionals who present a specific technique, such as Moroccans who present the tadelakt plaster-technique or Japanese who present the Migaki plaster-technique. Craftspeople express themselves with their own technical language and above all with their body language, with gestures allowing to overcome the language barrier. These workshops bring to light the mechanics and gestures that the students are unaware of. This subsequently enables them to design better. The students appreciate this workshop, which exposes them to manual activities that are too rare in their learning curriculum.



## VERSUS principles addressed

NATURE RESPECTED	<input type="radio"/>	ENVIRONMENTAL
WELL SITUATED	<input type="radio"/>	
POLLUTION REDUCED	<input type="radio"/>	
HEALTH PROTECTED	<input checked="" type="radio"/>	
HAZARDS MITIGATED	<input type="radio"/>	
CULTURAL LANDSCAPE PROTECTED	<input type="radio"/>	SOCIO-CULTURAL
CULTURE TRANSFERRED	<input checked="" type="radio"/>	
CREATIVITY ENCOURAGED	<input checked="" type="radio"/>	
INTANGIBLE VALUES RECOGNISED	<input checked="" type="radio"/>	
SOCIAL COHESION ENCOURAGED	<input checked="" type="radio"/>	
AUTONOMY SUPPORTED	<input type="radio"/>	SOCIO-ECONOMIC
LOCAL ACTIVITIES PROMOTED	<input type="radio"/>	
CONSTRUCTION OPTIMISED	<input type="radio"/>	
LIFETIME EXTENDED	<input type="radio"/>	
RESOURCES SAVED	<input type="radio"/>	

## Conservation work camp

### TYPE OF TOOL

**Practical workshop on the conservation of earthen buildings implemented on an old barn** in the Isere department in France.

### LOCATION

Old building with a series of pathologies but without serious safety hazards. The possibility of sleeping on site adds value to the social atmosphere of the camp.

### NUMBER OF INSTRUCTORS/PARTICIPANTS

2 instructors for 25 trainees maximum

### LANGUAGES

French

### DURATION OF THE SESSIONS

2 weeks

### DATE AND USE

Implemented every 2 years since 2009

### CURRENT USERS

CRAterre postgraduate students (architects, engineers and archaeologists), house owners, craftsmen, neighbours.

### OTHER POTENTIAL USERS

Architecture and engineering lecturers who want to offer a practical experience to their students. Similar workshops have also been implemented worldwide to offer practical training to heritage practitioners.

### REQUIRED BACKGROUND TO HANDLE THE ACTIVITY

The instructors need strong experience on conservation. No experience required from the participants.

### PARTICIPANTS' FEELINGS

The participants appreciate the group work and the possibility to implement conservation techniques in a real setting. This exercise allows to make mistakes, to test several tools and to keep on experimenting until confidence and good results are reached. It provides self-confidence and develops a sense of listening to others and working together in a positive spirit.

### FEELINGS OF THE ORGANISERS

A very rich exercise that unites the group and opens up many professional perspectives for the students. Allows for a strong link between theory and practice.

### WEB LINK

[www.grenoble.archi.fr/dsa-terre](http://www.grenoble.archi.fr/dsa-terre)

### SUGGESTED LIST OF EQUIPMENT

#### Work

- Watering cans
- Tarpaulin
- Sweeper
- Wire brush
- Helmet
- Lime & Cement
- Nails
- Scaffolding
- Ladder
- Sponge
- Gloves
- Hammer
- Sledgehammer
- Levels
- Shovels
- Paint brushes
- Pickaxes
- Rakes
- Hand saws
- Buckets
- Clamps
- Trowels
- Sieves
- Screws and screwdrivers

#### Bedding

- Tents + sleeping bags + sleeping foams

#### Food

- Cooking pots

- Each person's own cutlery
- Wooden spoons
- Basic tableware
- Matches
- Food and drinks
- Stoves
- Barbecue grill
- Clothes pegs
- Toilet paper, wipes
- Other**
- String
- Clothes, towels, toiletries and other personal effects
- Flashlights
- Candles
- Multi-plugs
- Extension cables







### Main topics addressed

- Complete diagnosis of a building with a survey of the pathologies and study of the degradation processes
- Study of the values of the building and the cultural landscape it sits in
- Proposal for intervention, distinguishing between urgent stabilisation measures and measures to enhance the values identified
- Implementation of conservation works



### ADDITIONAL INFORMATION

This exercise is time consuming in terms of logistics, to prepare all the safety equipment, tools, materials required and cooking/sleeping arrangements. Agreements are necessary with the house owners and municipalities beforehand. Working on a building that will serve public uses is more interesting than working on a private home.

### VERSUS principles addressed

NATURE RESPECTED	<input checked="" type="radio"/>	ENVIRONMENTAL
WELL SITUATED	<input checked="" type="radio"/>	
POLLUTION REDUCED	<input checked="" type="radio"/>	
HEALTH PROTECTED	<input checked="" type="radio"/>	
HAZARDS MITIGATED	<input type="radio"/>	
CULTURAL LANDSCAPE PROTECTED	<input checked="" type="radio"/>	SOCIO-CULTURAL
CULTURE TRANSFERRED	<input checked="" type="radio"/>	
CREATIVITY ENCOURAGED	<input checked="" type="radio"/>	
INTANGIBLE VALUES RECOGNISED	<input type="radio"/>	
SOCIAL COHESION ENCOURAGED	<input checked="" type="radio"/>	SOCIO-ECONOMIC
AUTONOMY SUPPORTED	<input type="radio"/>	
LOCAL ACTIVITIES PROMOTED	<input type="radio"/>	
CONSTRUCTION OPTIMISED	<input type="radio"/>	
LIFETIME EXTENDED	<input type="radio"/>	
RESOURCES SAVED	<input type="radio"/>	

## Lab Terra Cruda

### TYPE OF TOOL

**Approach primary School students to sustainable construction**

### NUMBER OF INSTRUCTORS/PARTICIPANTS

1 instructor, 20 participants

### LANGUAGES

Italian

### DURATION OF THE SESSIONS

4 hours

### DATE AND USE

organised regularly since 2006

### CURRENT USERS

Primary school Students

### POTENTIAL USERS

Secondary school Students

### General description

This activity focuses on raising awareness on the local building cultures. Through hands-on activities, it presents local building materials used in vernacular architecture as “friendly materials” that can easily be handled. In a preliminary phase, children get to know the most important components of a house (basements, walls, openings, roof), and the sequence of its construction. Then after, they learn how to manipulate basic materials (wood, stone and earth) to build small objects.







## ADDITIONAL INFORMATION

This workshop is part of a catalogue of didactic activities offered by the Region. Teachers can choose from this catalogue the offers that seem relevant to them and that will be financed by the Sardinia Region. It is intended for primary and secondary schools.

The activity starts with a story about the place. The children tell their stories about their present house or their grandparents' house. This is followed by the construction of a model house step by step, from the base to the roof, using clay and elements found in the school yard (wood, leaves, etc.). In this way, children understand the construction logic (openings, lintels).

Afterwards, all the houses are assembled to form a model-village that stays at the school. If the child is not old enough to make a house, he or she can make a tree or any other element, which will also be integrated into the village. The children are delighted to participate in this individual and collective project.



## VERSUS principles addressed

NATURE RESPECTED	<input checked="" type="radio"/>	ENVIRONMENTAL
WELL SITUATED	<input type="radio"/>	
POLLUTION REDUCED	<input checked="" type="radio"/>	
HEALTH PROTECTED	<input checked="" type="radio"/>	
HAZARDS MITIGATED	<input type="radio"/>	
CULTURAL LANDSCAPE PROTECTED	<input type="radio"/>	SOCIO-CULTURAL
CULTURE TRANSFERRED	<input checked="" type="radio"/>	
CREATIVITY ENCOURAGED	<input checked="" type="radio"/>	
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SOCIAL COHESION ENCOURAGED	<input checked="" type="radio"/>	SOCIO-ECONOMIC
AUTONOMY SUPPORTED	<input type="radio"/>	
LOCAL ACTIVITIES PROMOTED	<input type="radio"/>	
CONSTRUCTION OPTIMISED	<input type="radio"/>	
LIFETIME EXTENDED	<input type="radio"/>	
RESOURCES SAVED	<input type="radio"/>	

## Skeptical rammed earth

### TYPE OF TOOL

**Technical workshop in earth building: introduction to rammed earth practical principles**

### NUMBER OF INSTRUCTORS/PARTICIPANTS

3 instructors/15 participants

### LANGUAGES

Portuguese/Spanish/English

### DURATION OF THE SESSIONS

2 weeks programme

### DATE AND USE

Each year since 2014 (except COVID conditioned years)

### CURRENT USERS

Circumstantial

### OTHER POTENTIAL USERS

Architecture students, engineering students, craftsmen, building technicians...





## Main topics addressed

- To transfer basic know-how regarding rammed earth construction;
- To address traditional buildings performance limitations;
- To stimulate younger generations to research about traditional building techniques.

## PROGRAMME

### 1<sup>st</sup> Workshop

- implementing the fundamentals;
- Establishing wrong assumptions;
- Provoking errors;
- Testing limits.

### 2<sup>nd</sup> Workshop Stage
















- Observing the failure;
- Monitoring the decay;
- Confirming the causes
- Establishing criteria.



## ADDITIONAL INFORMATION

Awareness training session, regarding empirical procedures and low-tech building principles. Workshop articulated with the curricular unit History of Construction. This annual event intends to introduce architecture students and traditional construction enthusiasts into the elemental process of this secular construction system. The pedagogical originality consists in exploring the main critical vulnerability of the system, in order to develop conceptual strategies to prevent deficient construction, using the error as learning evidence.

## VERSUS principles addressed

NATURE RESPECTED		ENVIRONMENTAL
WELL SITUATED		
POLLUTION REDUCED		
HEALTH PROTECTED		
HAZARDS MITIGATED		
CULTURAL LANDSCAPE PROTECTED		SOCIO-CULTURAL
CULTURE TRANSFERRED		
CREATIVITY ENCOURAGED		
INTANGIBLE VALUES RECOGNISED		
SOCIAL COHESION ENCOURAGED		
AUTONOMY SUPPORTED		SOCIO-ECONOMIC
LOCAL ACTIVITIES PROMOTED		
CONSTRUCTION OPTIMISED		
LIFETIME EXTENDED		
RESOURCES SAVED		



## Tile vaulting

### TYPE OF TOOL

**Practical and theoretical workshop or seminar**

### NUMBER OF INSTRUCTORS/PARTICIPANTS

Up to 25 speakers, up to 5 practical instructors, 1 specialist craftsperson / 20 to 50 participants

### LANGUAGES

Spanish, English and French

### DURATION OF THE SESSIONS

3 - 5 days (20 - 35 hours)

### DATE AND USE

Implemented from 2011 till today

### CURRENT USERS

Students of architecture, construction engineering and conservation of cultural heritage.

### OTHER POTENTIAL USERS

Professionals in the construction sector, craftspeople, general public interested in traditional and sustainable building techniques.

### REQUIRED BACKGROUND TO HANDLE THE ACTIVITY

Theoretical construction knowledge is necessary. No prior practical experience in tile vaulting is necessary.





### General description

Tile vaulting is a traditional constructive technique from the east of Spain that uses thin ceramic tiles joined with gypsum to build light vaulted systems. Thanks to the rapid setting of the gypsum, the first layer of brick serves to shape the vault without the need for centring, if the vault is supported on a side wall, or using a single guide if the vault is free-standing. The first brick loadbearing sheet is usually doubled with one or two layers of tiles rendered with lime to increase thickness and resistance. This technique, which was in risk of being forgotten, is starting to be used again as an economical and durable contemporary solution that is also rooted in local tradition. The tool has the following objectives:

- Provide practical knowledge about tile vaults, as well as theoretical knowledge about their structural functioning, their possible pathologies and their repair options, and use in historical and contemporary constructions.
- Identify the appropriate materials for use according to their composition and construction technique.
- Learn the fundamentals of tile vaults architecture and practice through applied exercises.
- Know the management of materials and resources in new or restoration building works that use the tile vault construction technique.



### Main topics addressed

- Valorise and recover a typical construction technique in Valencia through its understanding and practical application, as well as through the knowledge of its use in other contexts, in historical buildings in the city and also in contemporary architecture.
- Gain an overview of the strategies for designing, assessing and consolidating tile vaults.
- Highlight the skills of the craftspeople who continue to practise this technique.
- Introduce participants to the design of vaulted spaces.



# Tile vaulting



## ADDITIONAL INFORMATION

### This tool can be used in two modalities:

- As an international seminar to learn about the use of the vault in other contexts and to present the solutions used in Valencia to professionals from other places. This format covers 5 days and includes lectures, theoretical lessons, practical workshops and visits to the city. Two international seminars have been held in Valencia in 2011 and 2018.
- As a theoretical-practical workshop to teach the basics of the construction technique of the tile vault in a local context. This format covers 3 days and includes theoretical lessons and practical workshops. This kind of workshops have been organised in Valencia (2015-2017) and in other contexts (2018, Burkina Faso; 2020, Cuba; 2022, Nepal).

## THEORY CONTENT

1. Origin and history of the tile vault
  - 1.1. Precedents of the tile vault
  - 1.2. The birth certificate of the tile vault
  - 1.3. First examples in Valencian architecture
  - 1.4. Subsequent development of the tile vault
2. The application of catenary in vault design
  - 2.1. Precedents and origin of catenary use
  - 2.2. The use of the catenary in the architecture of Gaudí
  - 2.3. Contemporary applications
  - 2.4. Catenary vault design
3. Why are vaults still standing? Analysis, pathologies and repair
  - 3.1. How to plan a vault without knowing about structures?
  - 3.2. The concept of equilibrium and force transmission
  - 3.3. Most common pathologies in tile vaults
  - 3.4. Systems for the repair and reinforcement of tile vaults
4. The work of Rafael Guastavino
  - 4.1. Precedents of the work of Rafael Guastavino
  - 4.2. The work of Rafael Guastavino in Spain
  - 4.3. The work of Rafael Guastavino in the United States
  - 4.4. Rafael Guastavino's legacy in contemporary architecture

## PRACTICAL CONTENT

1. Practical demonstration of the construction of tile vault.
  - 1.1. Basic principles of design and approach
  - 1.2. Tools and materials needed
  - 1.3. The handling of gypsum and ceramic tiles
  - 1.4. The construction process of the tile vault
2. Practical workshops on tile vaults
  - 2.1. Approach and conception of a tile vault
  - 2.2. Learning to use the construction tools
  - 2.3. Learning how to manage building materials
  - 2.4. Criteria and tips for the construction process
  - 2.5. The placement of the successive layers of ceramics
  - 2.6. Planning and construction of spiral staircases
  - 2.7. Construction of traditional tile vault staircases
  - 2.8. Constructions of the steps in a tile vault staircase.
3. Practical workshop on the construction of funicular models
  - 3.1. Approach and conception of a funicular model
  - 3.2. The construction of a 3D space from a 2D surface
  - 3.3. Process and training for making a funicular model
  - 3.4. Plaster coating and hanging process for drying





### SUGGESTED LIST OF EQUIPMENT

#### For the funicular vaults workshop:

- Wooden frame
- Pieces of fabric
- Ropes
- Gypsum
- Water
- Buckets
- Drawing materials

#### For the tile vaults workshop:

- Ceramic tiles
- Gypsum
- Water
- Lime or cement
- Buckets
- Towels
- Mixing tray
- Ropes or chain
- Wooden base
- Metal guide or wooden board

### VERSUS principles addressed

NATURE RESPECTED	○	ENVIRONMENTAL
WELL SITUATED	○	
POLLUTION REDUCED	●	
HEALTH PROTECTED	○	
HAZARDS MITIGATED	○	
CULTURAL LANDSCAPE PROTECTED	●	SOCIO-CULTURAL
CULTURE TRANSFERRED	●	
CREATIVITY ENCOURAGED	●	
INTANGIBLE VALUES RECOGNISED	●	
SOCIAL COHESION ENCOURAGED	○	
AUTONOMY SUPPORTED	●	SOCIO-ECONOMIC
LOCAL ACTIVITIES PROMOTED	●	
CONSTRUCTION OPTIMISED	●	
LIFETIME EXTENDED	○	
RESOURCES SAVED	●	

# Composite earth shell construction

## TYPE OF TOOL

**Workshop**

## NUMBER OF INSTRUCTORS/PARTICIPANTS

2 teachers, 25 students

## LANGUAGES

1 (English)

## DURATION OF THE SESSIONS

5 days

## DATE AND USE

2018, one edition

## CURRENT USERS

Students/artisans/workers/professionals

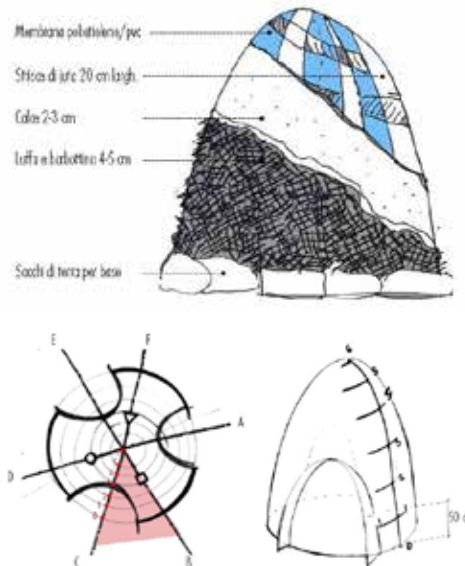
## OTHER POTENTIAL USERS





### Main topics addressed

- Hands on learning on earth construction techniques.
- Construction with earth on inflatable membranes



### ADDITIONAL INFORMATION

The experimental workshop has been organized by the Universities of Cagliari (Italy) and Gent (Belgium). The students prepared materials and equipment to build a shelter shell made of light earth on an inflatable PET membrane. The workshop has been part of a common research programme of the partners on emergency construction using local materials.

### VERSUS principles addressed

NATURE RESPECTED	<input checked="" type="radio"/>	ENVIRONMENTAL
WELL SITUATED	<input checked="" type="radio"/>	
POLLUTION REDUCED	<input checked="" type="radio"/>	
HEALTH PROTECTED	<input checked="" type="radio"/>	
HAZARDS MITIGATED	<input checked="" type="radio"/>	
CULTURAL LANDSCAPE PROTECTED	<input type="radio"/>	SOCIO-CULTURAL
CULTURE TRANSFERRED	<input type="radio"/>	
CREATIVITY ENCOURAGED	<input type="radio"/>	
INTANGIBLE VALUES RECOGNISED	<input type="radio"/>	
SOCIAL COHESION ENCOURAGED	<input type="radio"/>	SOCIO-ECONOMIC
AUTONOMY SUPPORTED	<input type="radio"/>	
LOCAL ACTIVITIES PROMOTED	<input type="radio"/>	
CONSTRUCTION OPTIMISED	<input type="radio"/>	
LIFETIME EXTENDED	<input type="radio"/>	
RESOURCES SAVED	<input type="radio"/>	



# Heritage for People

## TYPE OF TOOL

**Web Application**

## LANGUAGES

English

## DATE AND USE

The app was first developed in 2022

## CURRENT USERS

Students from the Versus partners universities, researchers

## OTHER POTENTIAL USERS

Students from other universities, researchers, craftspeople and masters, professionals and associations working in the field of traditional heritage, local people

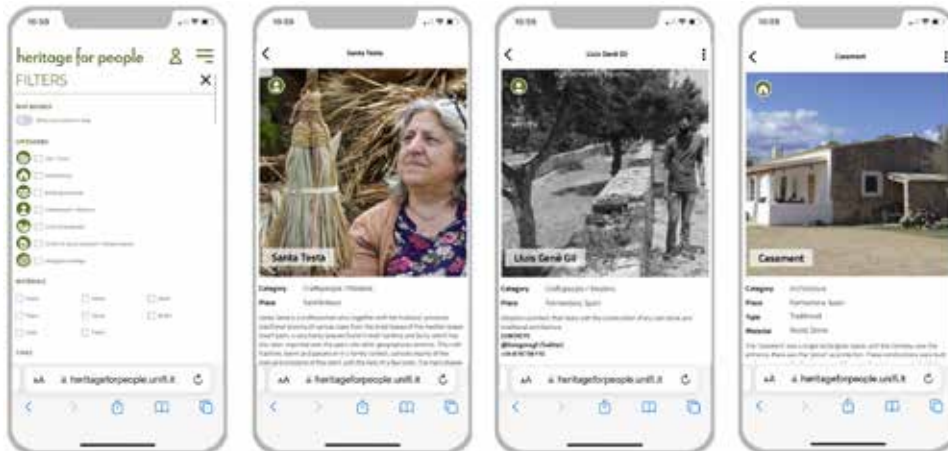
## WEB LINK(S)

[www.heritageforpeople.unifi.it](http://www.heritageforpeople.unifi.it)



## Main topics addressed

- To foster the transfer of knowledge regarding tangible and intangible vernacular heritage.
- To share models and examples encouraging new architecture towards a sustainable approach.
- To learn from traditional adaptive strategies in harmony with the climatic, environmental, and socio-cultural context.
- To engage a wide public, thanks to the use of digital and interactive technologies.
- To create and foster a network of people interested in sustainability and vernacular architecture.



## General description

*Heritage for People* is a map-based web App designed to collect and systematise examples of tangible and intangible heritage derived from vernacular knowledge, as well as to encourage a better and more sustainable development in the field of architecture. Its main objective is to provide students, scholars and designers with landmark examples from the past in order to be used to create innovative design solutions, by reusing, recombining and improving them, following a Case-Based Reasoning approach.

The examples on the platform are organised in a clear and accessible way, according to: category (from cultural landscape to human scale); type of intervention (traditional, contemporary or rehabilitation); employed building materials; 15 principles of sustainability with related strategies.

The 15 sustainability principles, identified by the EU project "VerSus: Lessons from Vernacular Heritage in Sustainable Architecture", have become leading attributes for indexing, assessing, and researching examples from the traditional to the contemporary architectural world.

The App is a collaborative tool, where people can easily access, share information on vernacular or contemporary cases, link references, add video or photos. The building of a network of people actively implementing the database of the App fosters public participation and helps explore the co-production of knowledge regarding vernacular heritage.
















Unlike non-digital means of dissemination, such as printed books, web Apps are tools that can be constantly updated and enriched with more examples, materials and links, thus providing a space not only for documenting but also for nurturing international and trans-cultural relations and enabling connections with other digital platforms.

## ADDITIONAL INFORMATION

The work is part of the project "VerSus+ / Heritage for People" co-founded by the European Union (2019-2023), under the Creative Europe Programme. The first entries included in the platform come from the two case studies of Sant'Antioco (Italy) and Formentera (Spain), as part of the VerSus+ project, and then extend to other inter-project experiences. The first mapping campaign of items took place during an interdisciplinary seminar and workshop and involved students of Architecture from Florence and Cagliari. The tool also supports university courses and research that develop the transmission, enhancement, and use of vernacular knowledge in the design of new sustainable architecture. It works as an archiving tool and as a catalogue of examples and references to be consulted.

Existing networks among scholars and professionals in the fields of sustainability and vernacular knowledge will be the main channels to disseminate the VerSus plus App.

## VERSUS principles addressed

NATURE RESPECTED		ENVIRONMENTAL
WELL SITUATED		
POLLUTION REDUCED		
HEALTH PROTECTED		
HAZARDS MITIGATED		
CULTURAL LANDSCAPE PROTECTED		SOCIO-CULTURAL
CULTURE TRANSFERRED		
CREATIVITY ENCOURAGED		
INTANGIBLE VALUES RECOGNISED		
SOCIAL COHESION ENCOURAGED		
AUTONOMY SUPPORTED		SOCIO-ECONOMIC
LOCAL ACTIVITIES PROMOTED		
CONSTRUCTION OPTIMISED		
LIFETIME EXTENDED		
RESOURCES SAVED		

# Heritage Game app design

## TYPE OF TOOL

**Workshop for the creation of Game apps**

## NUMBER OF INSTRUCTORS/PARTICIPANTS

2 teachers, 5 tutors, 15 students

## LANGUAGE

Italian

## DURATION OF THE SESSIONS

5 days

## DATE AND USE

The first workshop to create a heritage app was held in 2022

## CURRENT USERS

Students from the Versus partners universities, researchers

## POTENTIAL USERS

Students from other universities, researchers, craftspeople and masters, professionals and associations working in the field of traditional heritage conservation and presentation, local people.

## WEB LINK

<https://sites.unica.it/pip/2022/04/26/t0-1/>



## Main topics addressed

- Foster the transfer of knowledge regarding tangible and intangible vernacular heritage.
- Connect the inhabitants with their heritage.
- Share models and examples encouraging new sustainable architecture.
- Learn from traditional adaptive strategies in harmony with the climatic, environmental, and socio-cultural context.
- Engage a wide public, thanks to the use of digital and interactive technologies.
- Create and foster a network of people interested in sustainability and vernacular architecture.

## General description

This Heritage-app design activity has been conceived and experienced in April 2022 by a group of 15 university students of the schools of architecture of Cagliari and Florence (Italy), led by 2 teachers and 5 tutors (in architectural design, architectural drawing, restoration, and game specialists). The aim of the activity is to provide students with the skills necessary to analyze, understand, decode and communicate the values of the territorial, urban and architectural heritage, for the creation of a serious online game.

The island of Sant'Antioco and in particular the Municipality of Calasetta were used as a case study.

The game was designed by architecture students during a 5-day immersion workshop at the site. Local artisans and producers were interviewed, music and sounds recorded and architectural surveys were carried out to map vernacular architecture. This allowed identifying the characteristics of the local cultural heritage and evaluating its environmental, socio-cultural and socio-economic sustainability. The survey and documentation process aimed at feeding the information base and creating the virtual environment necessary for the completion of the game app. The students, supervised by teachers, reconstructed the story, designed the riddles, prepared the visual aids (video, cartography) and finalized the computer game.







#### ADDITIONAL INFORMATION

The first Heritage-app design was prepared in Calasetta, on the island of Sant'Antioco (Italy) as part of the VerSus+ project. The game itself starts with a postcard featuring a QR code that allows access to the online app. Postcards are already available in strategic places in the village (the municipality, tourist info point and the two museums) and anyone can play. A story with riddles allows the discovery of the territory and the associated stories. Several subjects are presented: relationship to the sea, urban morphology and monuments, culinary traditions, cultural landscape. This game is intended for all audiences. A similar activity is planned in Formentera (Spain) during 2023. This serious game will support university courses and investigations that develop the transmission, enhancement, and use of vernacular knowledge in the design of new sustainable architecture. It may also work as an instrument to disseminate knowledge on local culture for tourists.

#### VERSUS principles addressed

NATURE RESPECTED	<input checked="" type="radio"/>	ENVIRONMENTAL
WELL SITUATED	<input checked="" type="radio"/>	
POLLUTION REDUCED	<input checked="" type="radio"/>	
HEALTH PROTECTED	<input checked="" type="radio"/>	
HAZARDS MITIGATED	<input checked="" type="radio"/>	
CULTURAL LANDSCAPE PROTECTED	<input type="radio"/>	SOCIO-CULTURAL
CULTURE TRANSFERRED	<input type="radio"/>	
CREATIVITY ENCOURAGED	<input type="radio"/>	
INTANGIBLE VALUES RECOGNISED	<input type="radio"/>	SOCIO-ECONOMIC
SOCIAL COHESION ENCOURAGED	<input type="radio"/>	
AUTONOMY SUPPORTED	<input type="radio"/>	
LOCAL ACTIVITIES PROMOTED	<input type="radio"/>	
CONSTRUCTION OPTIMISED	<input type="radio"/>	
LIFETIME EXTENDED	<input type="radio"/>	
RESOURCES SAVED	<input type="radio"/>	

## Unsuspected wood workshop

### TYPE OF TOOL

**Workshop on a traditional Japanese wood building technique:  
Burnt-wood protection (Shou-sugi-ban)**

### NUMBER OF INSTRUCTORS/PARTICIPANTS

2 instructors/20 participants

### LANGUAGES

Portuguese/Spanish/English

### DURATION OF THE SESSIONS

1 week programme

### DATE AND USE

June-July 2022

### CURRENT USERS

Architecture students and architects

### OTHER POTENTIAL USERS

Architecture students, engineering students, craftsmen,  
building technicians...

### WEB LINK(S)

[www.upt.pt](http://www.upt.pt)

### Main topics addressed

- To promote traditional building cultures;
- To understand the potential of renewable building resources;
- To increase the traditional material knowledge.





### ADDITIONAL INFORMATION

The advent of the industrial modified wood has created a new range of possibilities regarding building technologies. The circumstances have determined a new approach regarding traditional resources and a new perspective on sensible procedures. The current workshop applies the ancient Japanese shou-sugi-ban process on several types of wood (from the original cryptomeria to national cedar) to compare results and understand their potential. The workshop is integrated in the Curricular Units: Project-Concept Design studio and Building Systems, in a open class format.
















### CONTENTS

Cultural background  
Wood types and elements  
The cherishing process  
The ash brushing  
Oil hydrating  
The crusting effect

### PROCEDURES

Safety measures  
Material preparation  
Tools management  
Experimenting the techniques  
Elements assemblage  
Workplace organization

### VERSUS principles addressed

NATURE RESPECTED		ENVIRONMENTAL
WELL SITUATED		
POLLUTION REDUCED		
HEALTH PROTECTED		
HAZARDS MITIGATED		
CULTURAL LANDSCAPE PROTECTED		SOCIO-CULTURAL
CULTURE TRANSFERRED		
CREATIVITY ENCOURAGED		
INTANGIBLE VALUES RECOGNISED		
SOCIAL COHESION ENCOURAGED		SOCIO-ECONOMIC
AUTONOMY SUPPORTED		
LOCAL ACTIVITIES PROMOTED		
CONSTRUCTION OPTIMISED		
LIFETIME EXTENDED		
RESOURCES SAVED		



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## LIST OF CREDITS

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Finally, we thank all the participants for the happiness they have brought to these pedagogical experiences. Without their full participation, we would not have been able to bring these tools to the level of development that we present in this book.



# versus plus

heritage for people

The VERSUS+ project is a continuation of the European VERSUS project which described the lessons to be learnt from vernacular heritage to inform contemporary sustainable architecture. VERSUS+ Heritage for people project proposes a series of didactic tools widely tested by the partners to transmit these heritage values to the greatest number of people. Whether you are a local government official, a teacher, a researcher or just a heritage passionate, you will find in this booklet ideas to transfer vernacular intelligences in a playful and interactive way to various audiences and in a wide range of time formats.



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