Technology for more Ecology

E-Cow Built
Technology for more Ecology

دار العائلة

Preserving the past,powering the future,

PRESENTED BY : LILYA RASELMA

E-cow built Team

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- *DR. BABA SLIMANE NOUR EL HOUDA*

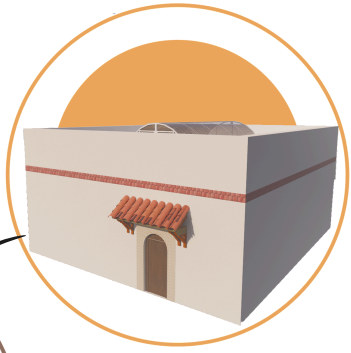
E-cow built work

The class of technology, environment, and architecture decided this year in e-cow built, to take a different turn choosing not only architecture but also mobility, and instead of designing new constructions we decided to improve the old ones with the guidance of our doctors.

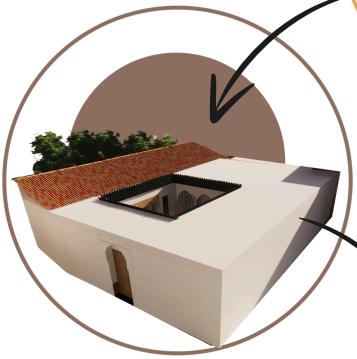
This project is dedicated to the later improving the indoor comfort while lowering the energy consumption in old building

Houses in Douirette :

Houses A. 1:



Houses A. 2:



Houses B. 1:

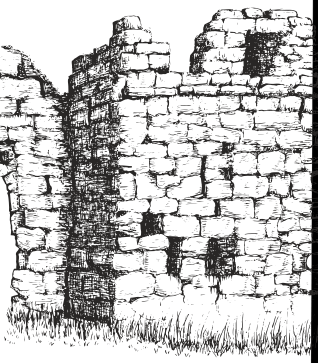
Houses C. 1:

Houses A. 1

It was constructed in the 1800s, space distribution is similar to traditional houses

ground floor plan :

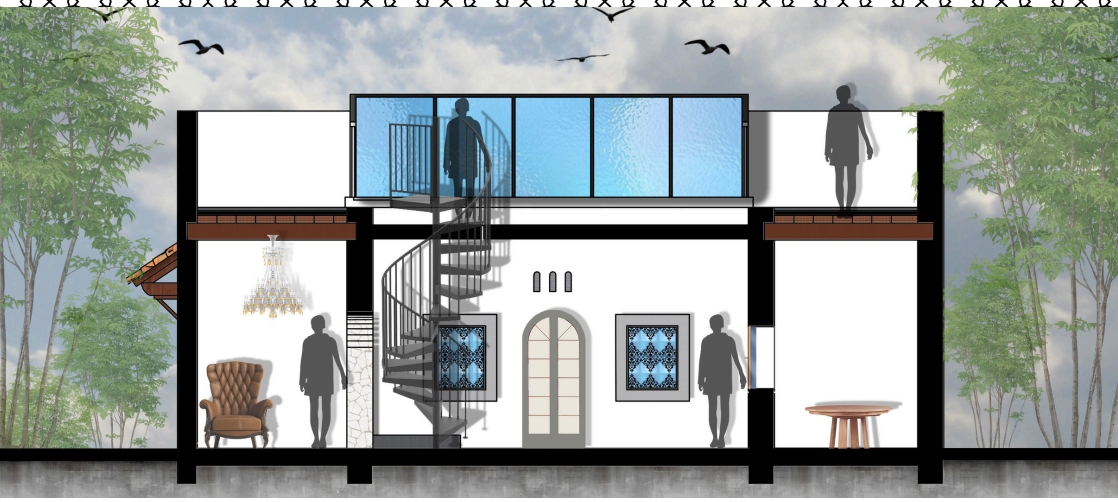
a patio surrounded by the other rooms with 116.09 square meters.



characterized by the patio, tiled floors, window tiles, and arched doors

Houses A. 1

It ´s constructed bearing adobe wall thuja joist floor, and wooden battens.



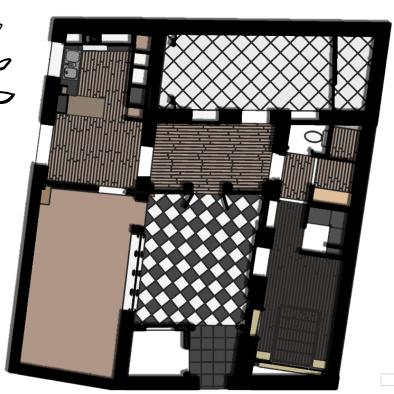
An introverted house as it has only one opening to the exterior and a patio.

house facade

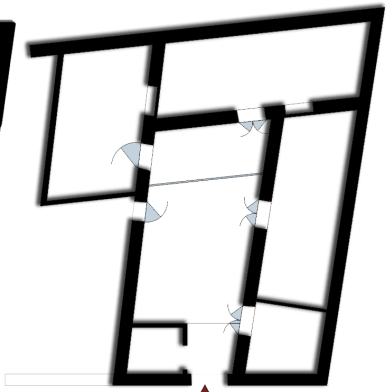
this house is in class 'C' certification indicates that, the house is relatively efficient

Houses A. 2

Built in the 1800s, and renovated in 2019The house has undergone several significant improvements to enhance its functionality, comfort, and aesthetic appeal.



AFTER



BEFORE

The characteristics are the patio, its gallery, arched doors, tiled floors, window tiles

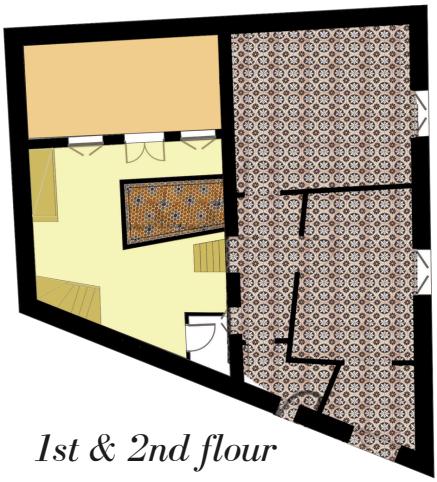
Houses A. 2

constructed with bearing adobe wall , with insolation with Rockwool, thuja joist floor, and wooden battens

This house is also introverted as it has only one opening to the exterior and a patio.

this house is in class 'E' certification indicating that the consumption is high due to so many devices

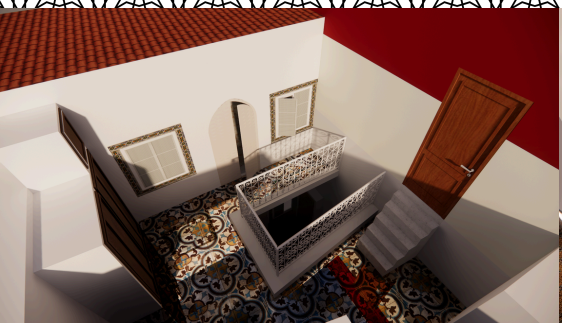
Houses B.1



1st & 2nd flour

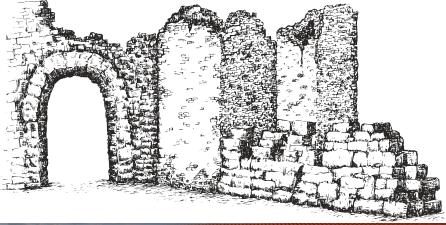
groud flour

constructed in the 1900s, and the house was expanded with an additional second floor all in 112.62 square meters,



the presence of a patio,
intricately designed floor tiles, decorative window tiles,
and elegant arched doors.

Houses B.1

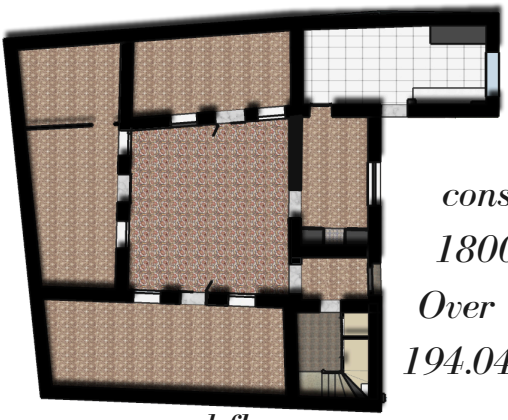


the house is a cause for concern, as it is currently in a state of disorder due to a lack of maintenance and the addition of a second floor,and the house in class 'F' indicating very high energy consumption

constructed with bearing wall , joist floor, and wooden battens . 2 nd floor was added with Brick walls, concrete, and tile for the rooftop.

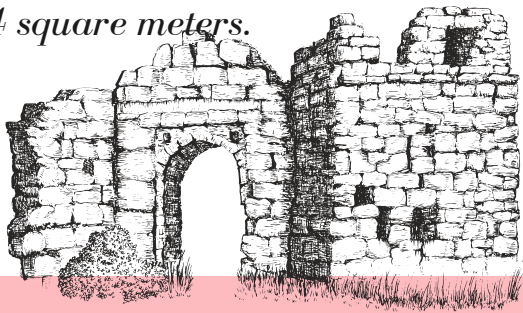
Houses C.1

The house and the A.2 next door,have a uniquebond.A shared garden, that improves outdoor living, uniting them.



groud flour

constructed in the 1800s this house is Over 150 years old , 194.04 square meters.

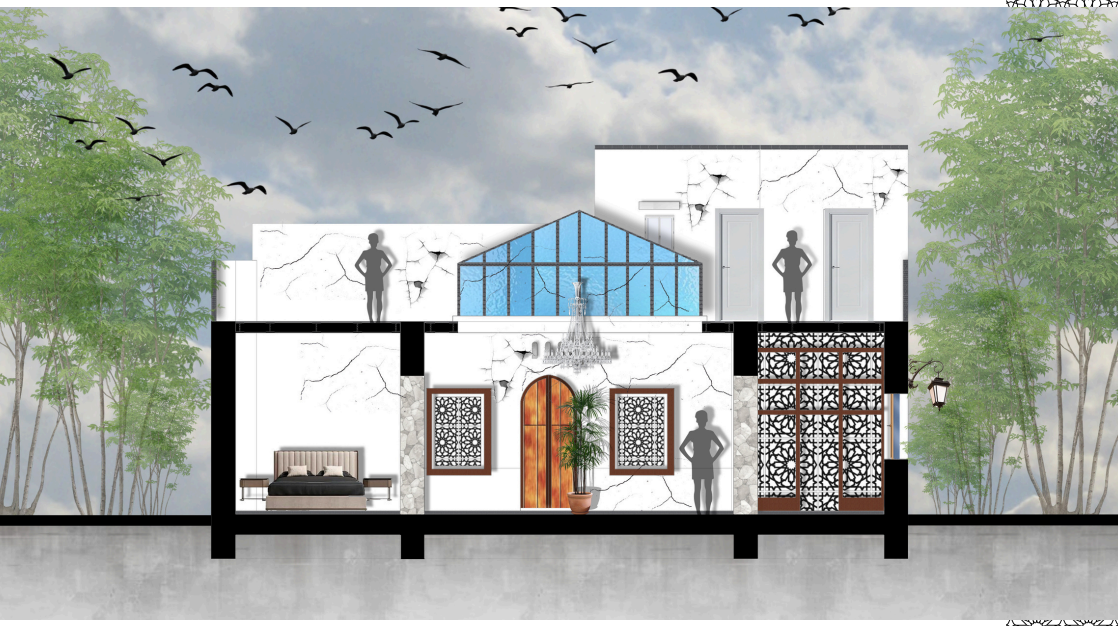


Houses C.1

The patio is adorned with distinctive elements : floor tiles , the intricately designed window tiles, the arched doors, and crafted wall tiles, each detail contributes to the unique character of the space

Despite its historical and architectural value, the oldest house is showing signs of deterioration and in need to be reshabilitated to its former glory.

Houses C.1



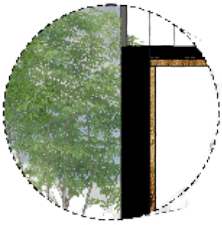
constructed with old wall bricked with earth, fine lime coatings (inside and outside) joist floor, and wooden battens.

part from the garden ,the house seems to be introverted as it only has a patio.with the G Class .

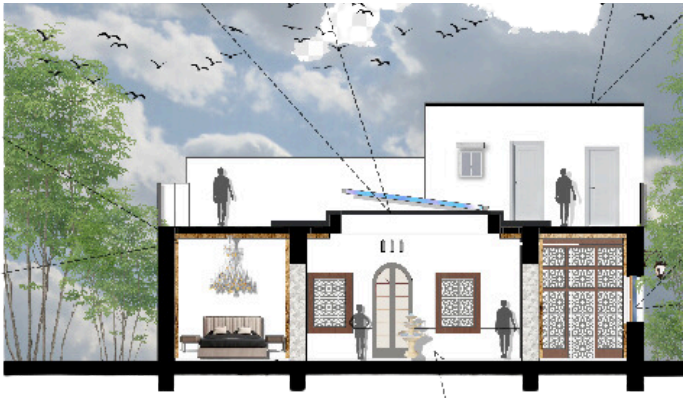
Houses C.1 after دار العائلة

After the scenarios that I did using the software design builder, these are the following changes that were made :

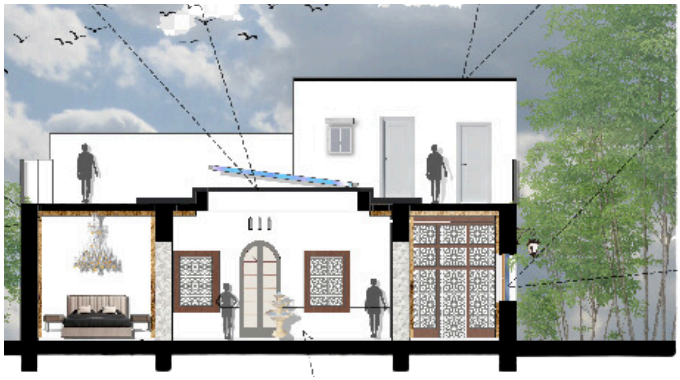
fiber wood insolation in the inner walls and roof.

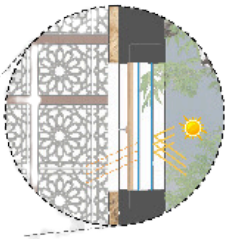


wood fiber insulation in walls and the roof

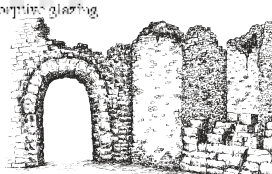


changing the glazing to double to minimaze the internal heat gain .



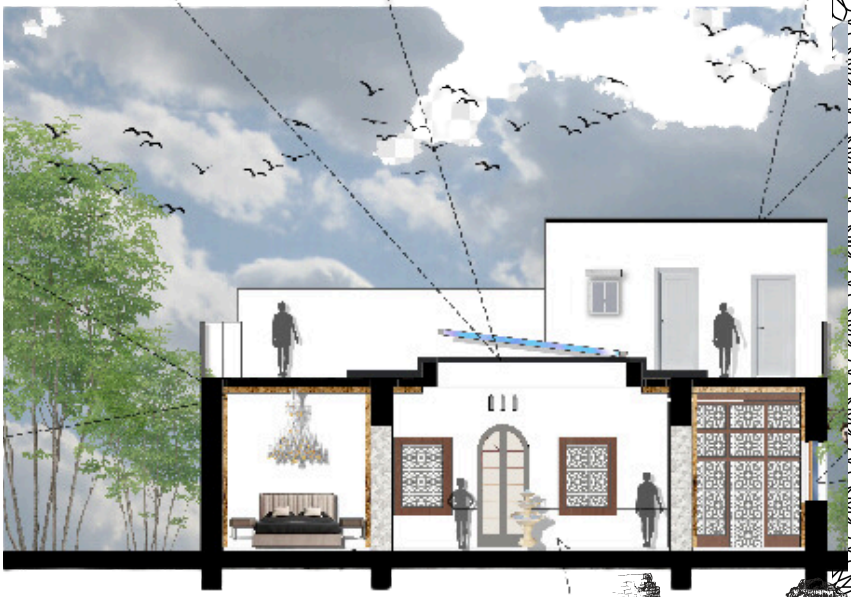


Double electrochromic absorptive glazing



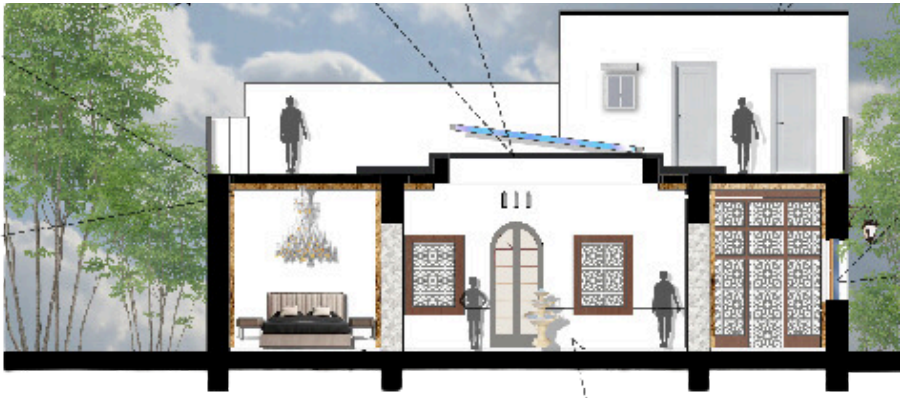
Houses C.1 after دار العائلة

changing the patio dome to a large mechanic light well to eliminate the greenhouse effect

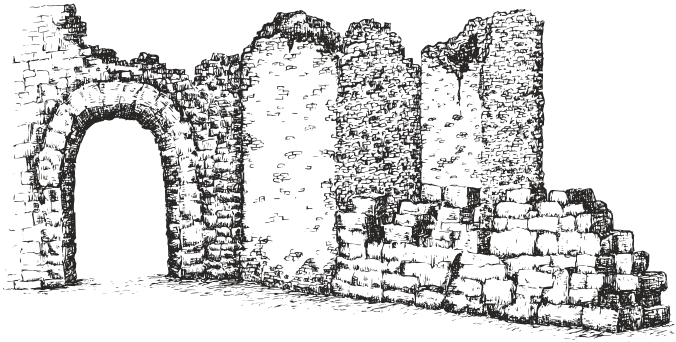


Houses C.1 after دار العائلة

restoring the house features one of them is the floor and walls tiles

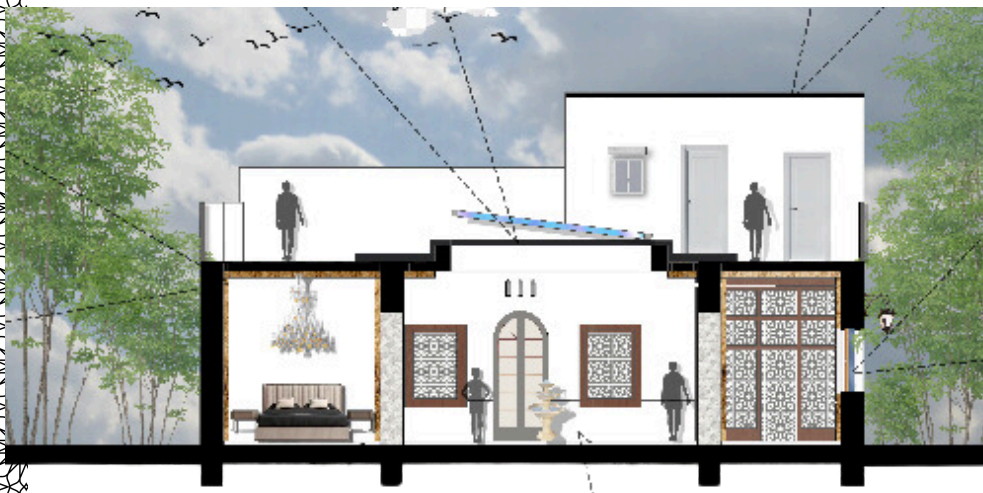


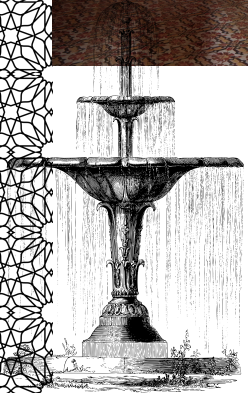
good fibre insulation in walls and the roof



Houses C.1 after دار العائلة

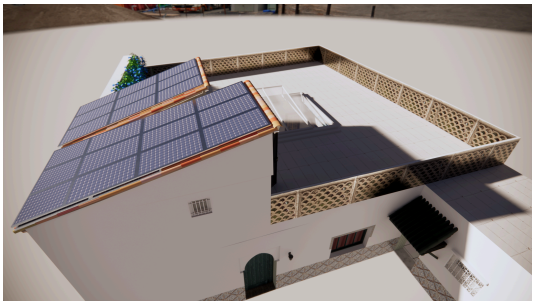
reinterpret the Fontaine in the center of the house for better cooling

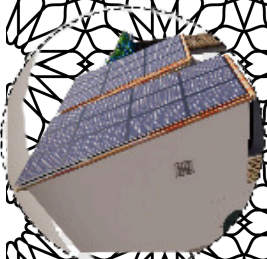


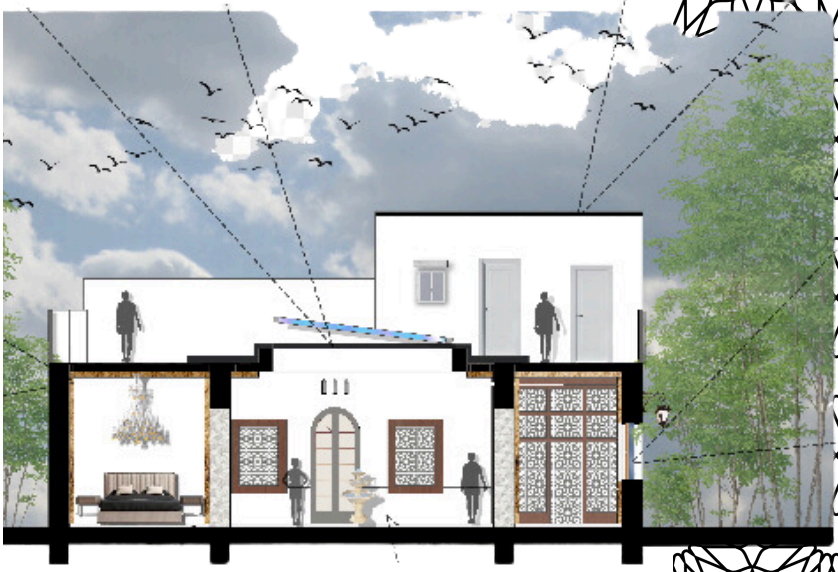


Houses C.1 after دار العائلة

to enhance energy efficiency in our old building, photovoltaic panals are installed to lower 53,9% o energy consomption

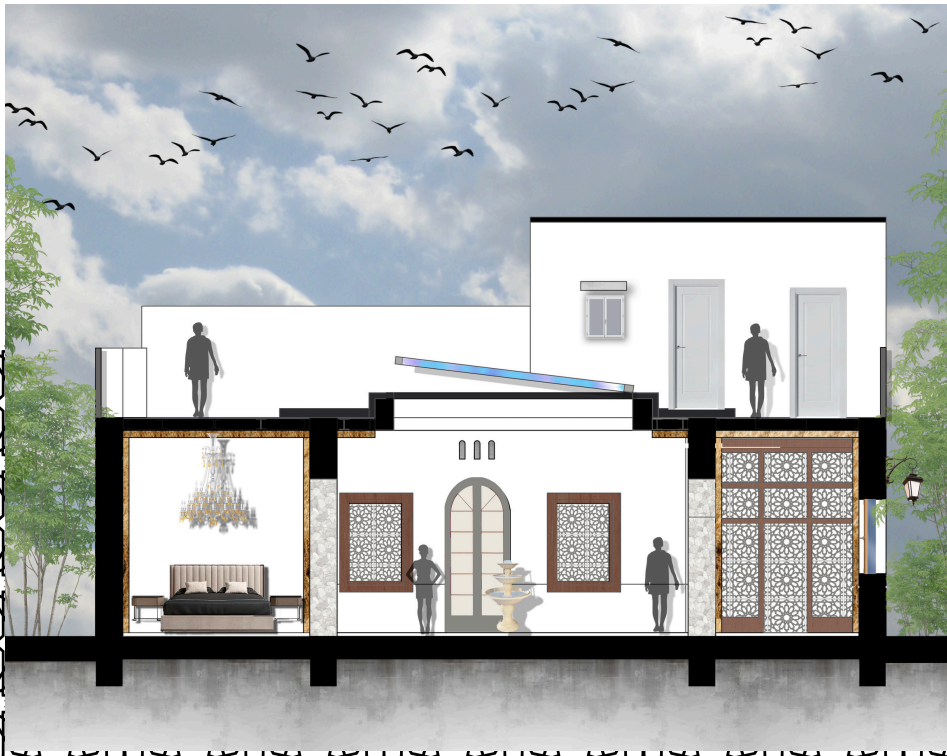






دار العائلة

The optimization process ensured cost-effective actions, maximizing benefits in energy reduction and comfort enhancement. we have achieved energy rehabilitation in House C.1, preserving the past while also empowering the future.



Preserving the past,powering the future,