

Villa Welpeloo



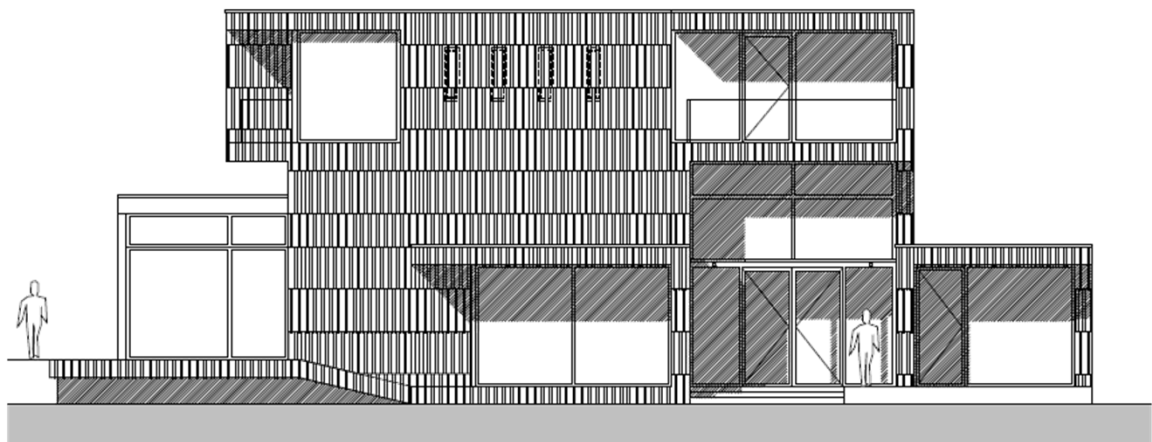
Stan van Dijck
Pim van de Bunt

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0750890

RELATING TO THE ENVIRONMENT

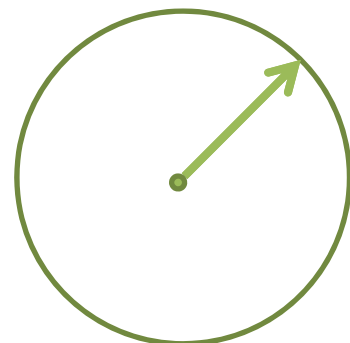


Built in a villa district, it's the most striking building, because of the use of unique materials.

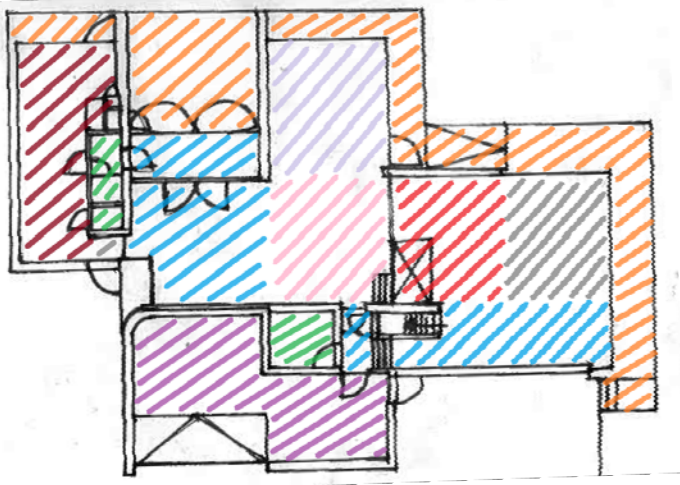


Big glass facades on the south: using the maximum sun potential

70% of all materials are acquired within a radius of 15 km, therefore reducing transport costs

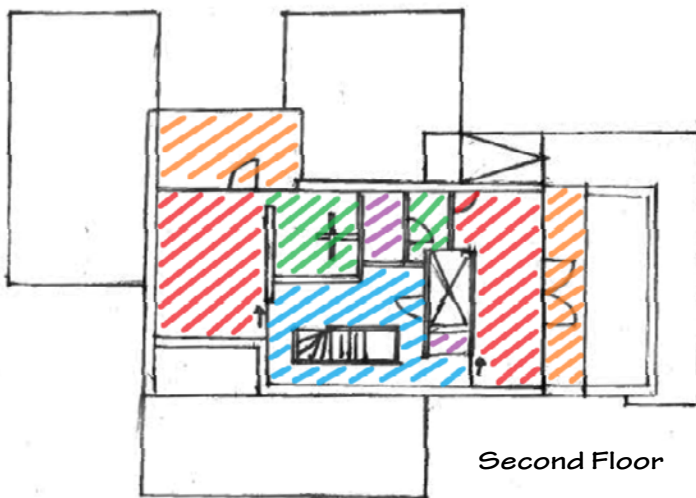


DEFINING SPACE



Ground Floor

- = Kitchen (ground floor) Bedroom (second floor)
- = Outside / Balcony
- = Hallways etc.
- = Living room
- = Storage / Garage
- = Dining room
- = Studio
- = Guesthouse
- = Toilets/bathrooms



Second Floor

The villa has 3 floors.

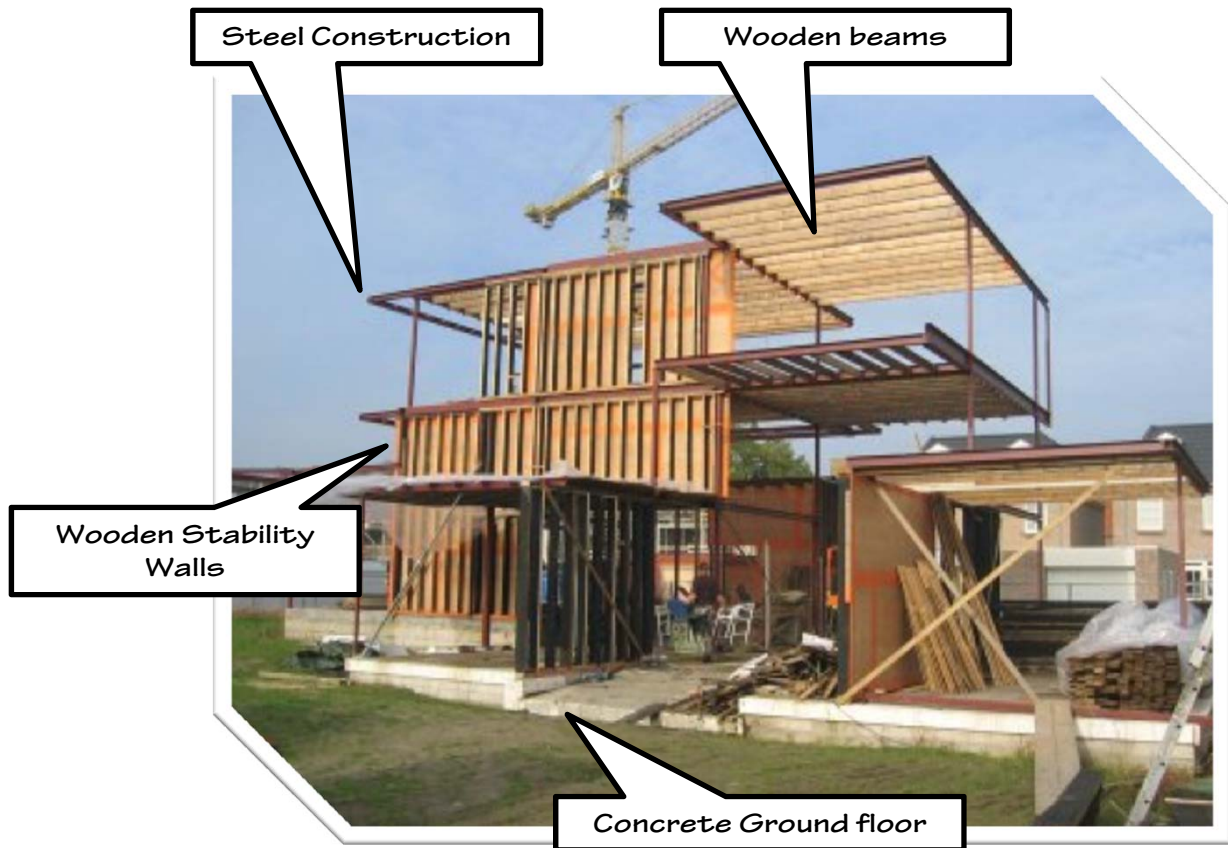
- The ground floor, with the living area for the owners and guests.
- First floor, with a storage for the art collection.
- Second floor, with the bedrooms and bathrooms for the owners.

The owners of the villa are artists. They've demanded a house has rooms for showing and making their art and the possibility to store the art.

The owners also demanded a guesthouse. So that they can invite guests.

The house has an elevator to transport the art from the ground floor to the upper floors.

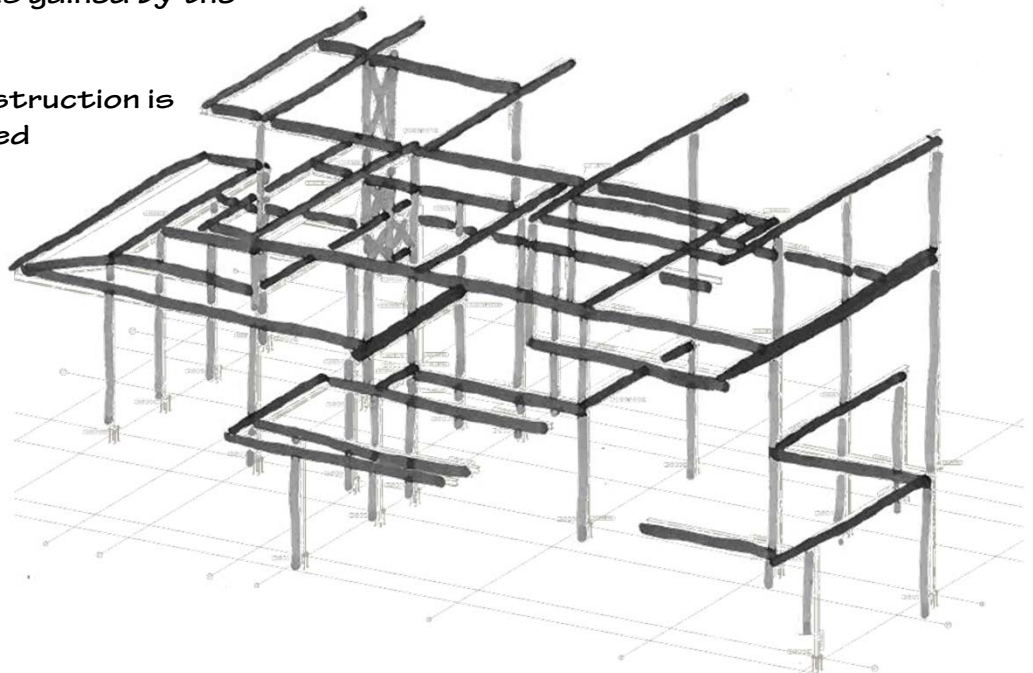
STRENGTH & STABILITY



The construction of the villa is made of reused steel and wood.

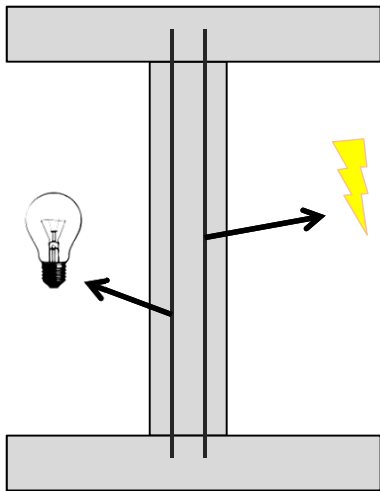
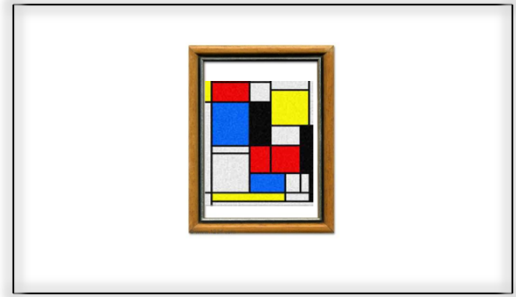
The stability is gained by the wooden walls.

The steel construction is as dimensioned in this sketch.



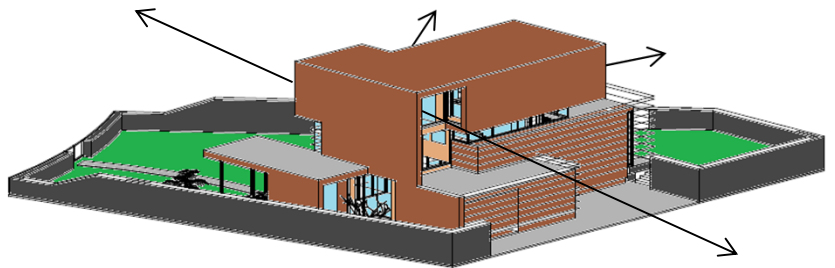
COMFORT

To make the paintings stand out the colours and materials of the interior are on the background.



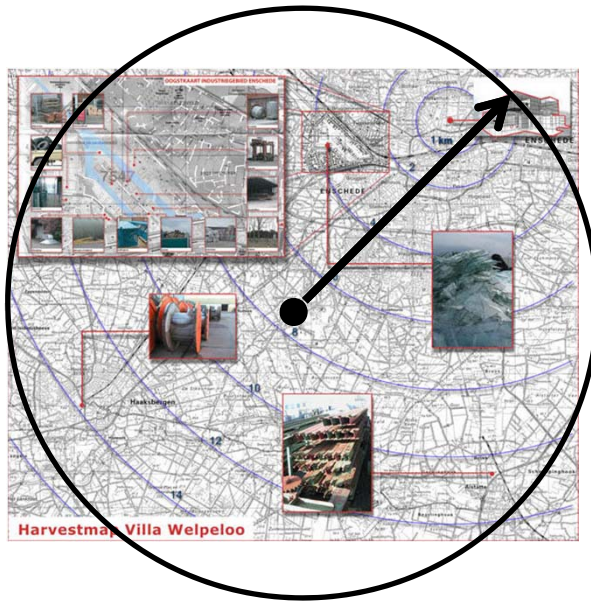
All the electrical wiring for appliances and lighting has been hidden inside the walls.

360° view of the villa district, while still having privacy



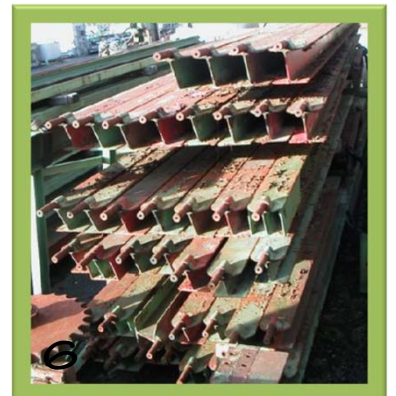
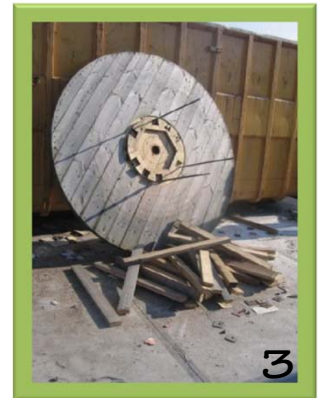
An built-in elevator for the transport of goods. The elevator was used during the construction of the steel frame. In its basic position it is hidden from sight, so it's not occupying a lot of space.

EFFICIENT & EFFECTIVE USE OF MATERIAL



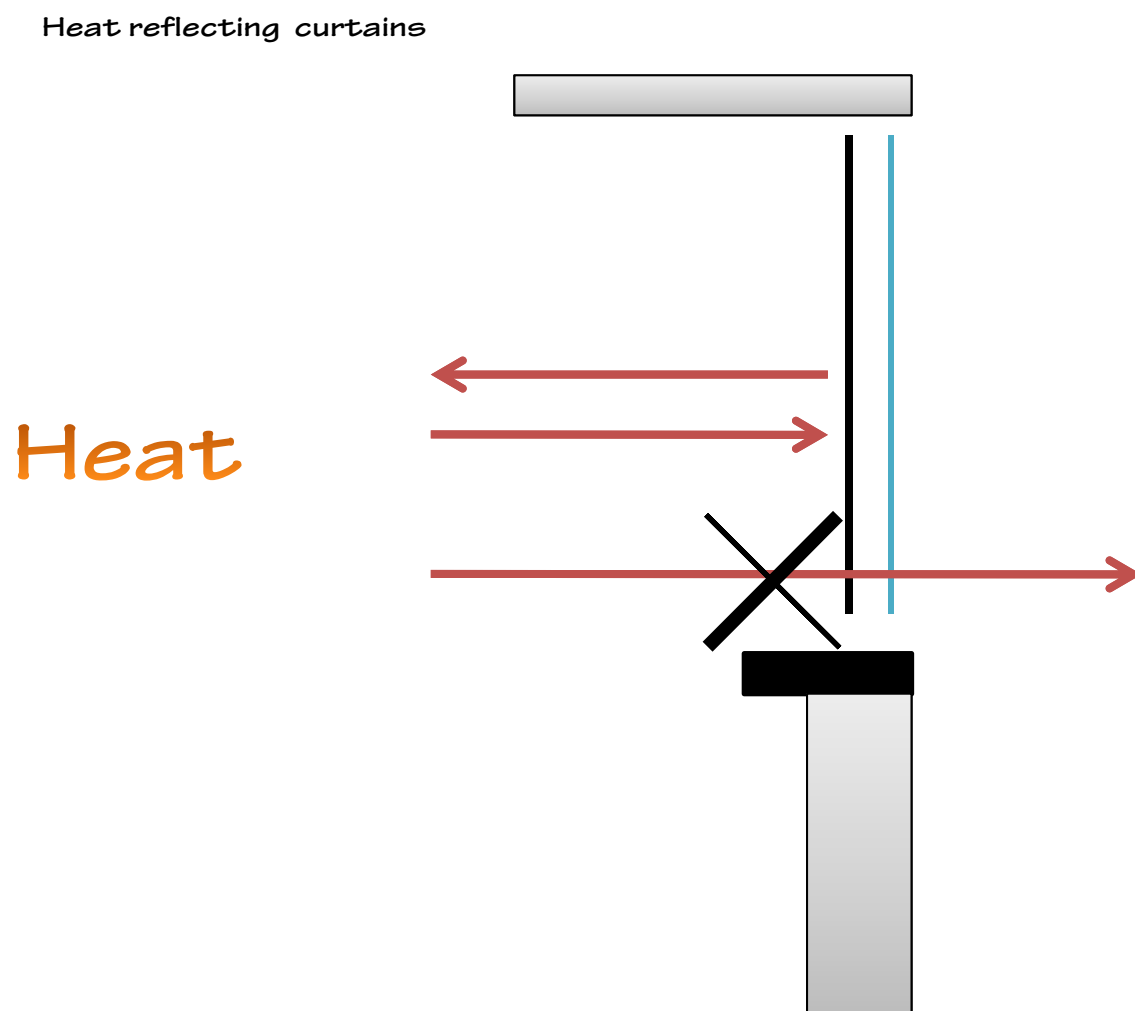
70% of all materials are acquired within a radius of 15 km, therefore reducing transport costs

1. Shells for in the crawl space
2. Iron beams from the Rosary
3. The wheel of the reel
4. Reel wood for facade
5. Service elevator
6. Old steel from the Rosary



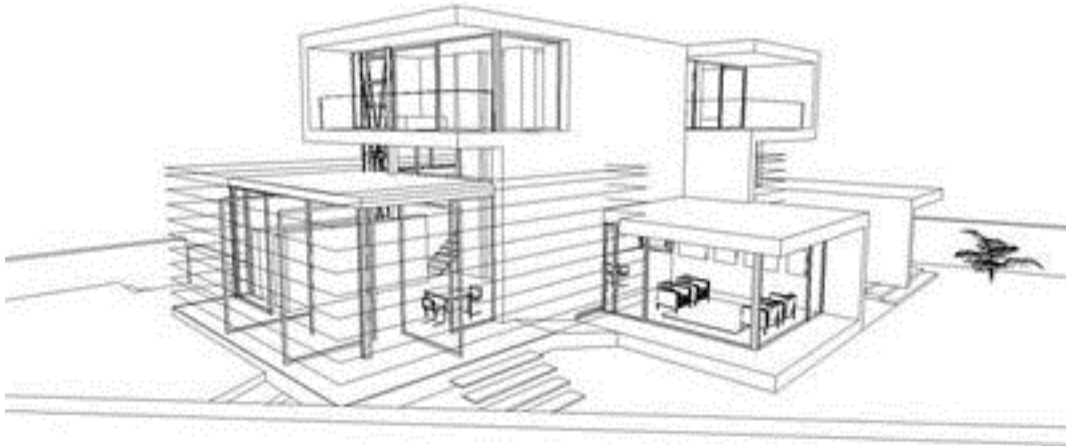
60% of all applied materials is recycled or re-used

EFFICIENT & EFFECTIVE USE OF ENERGY



Energy	
Use of energy	EPC: 0,8 (A-label)
Heating system:	kWh/m ² /year: 77,63
Total energy use:	kWh/m ² /year: 133,25

FLEXIBILITY & ADAPTABILITY



The flexibility of this building is very bad. The building is designed on demands of the owner. These demands were special and not very often applied on villa's.

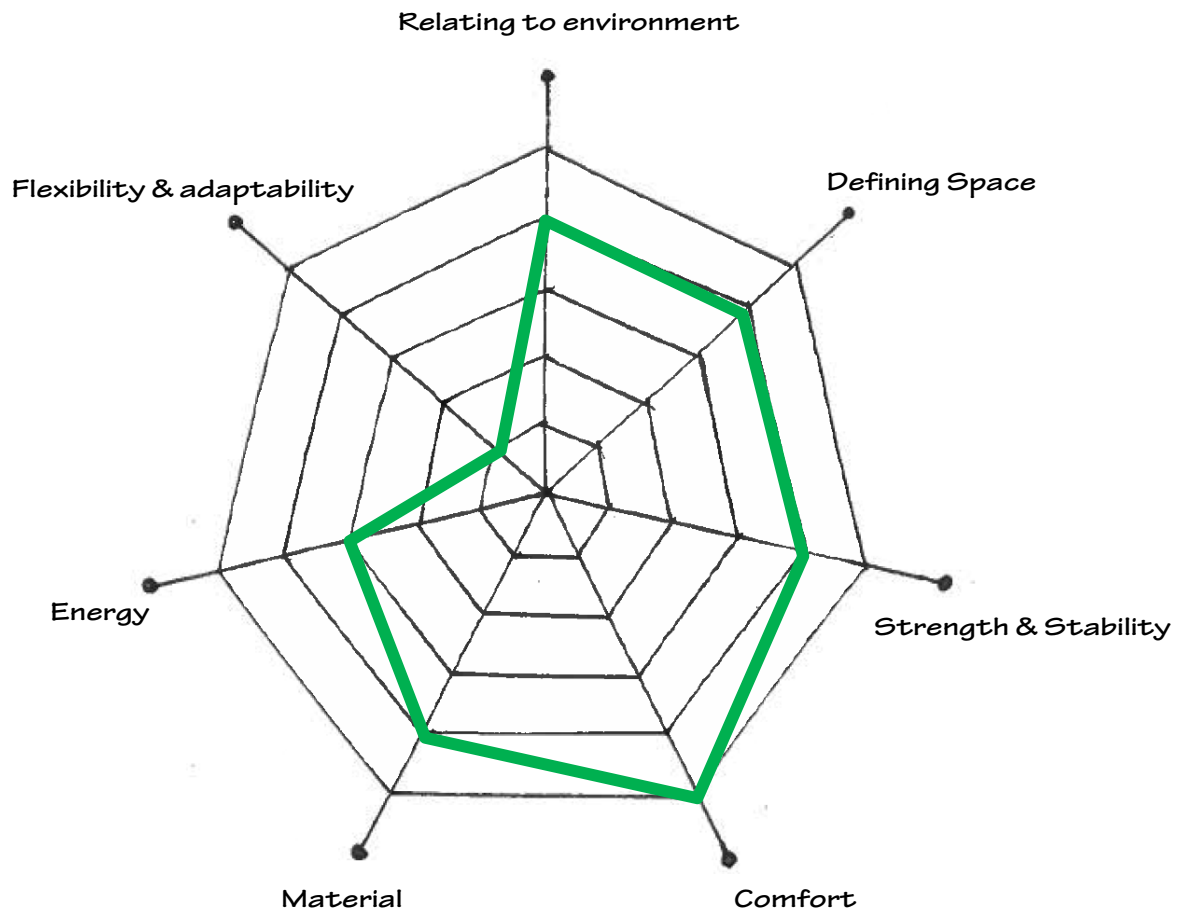
The floor levels have different heights, the first floor is very small and has only a storage function.

It is not possible to change the spaces of the villa. All space is designed on demands of the owner with specific demands for their artworks.

The reuse-factor of materials applied in this building is very high. This means the materials of the building can be 'recycled' instead of demolished after its use period.



SPIDERDIAGRAM



Question:

The villa is build on specific demands of the owners, how can this villa be reused after it's functional live?