

**REVISIT**

**TO MOLENVLIET PROJECT**

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## INTRODUCTION

Derived from a prize-winning design, Molenvliet Project (Papendrecht, the Netherlands) was realised in 1976. This project coalesced the merits of Support Building in an all-sided scope of tissue, support and infill level, and was appraised by Prof. John Habraken as “the first blown Support/Infill project”.



Original Photos (Provided by Mr. Frans van der Werf)

GENERAL IMPRESSION

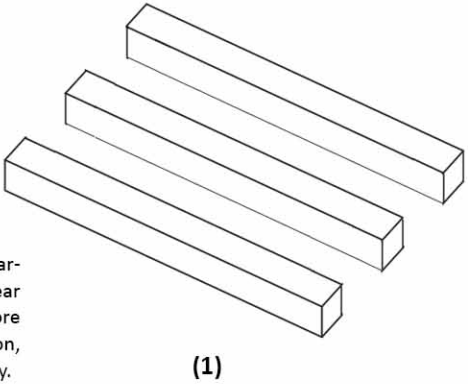
Living Environment

Basic Elements

There are three basic elements, which shaped the community, were involved: the courtyard, the parking street and the alleys.

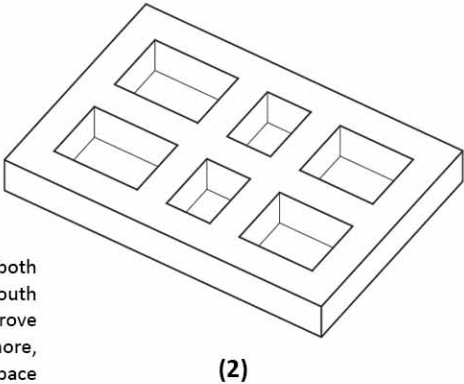
Ordinary housing

Normally, housing is arranged as rows. And linear open space, which is more suitable for transportation, is created correspondingly.



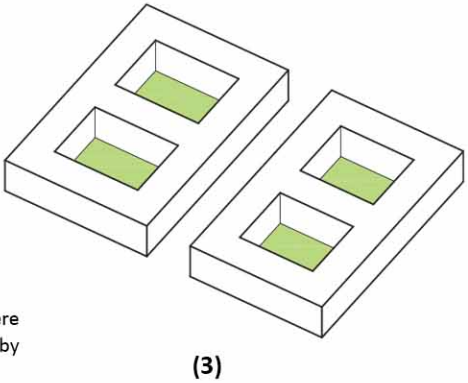
Element 1:  
Courtyard

Arranging dwellings in both east-west and north-south directions helps to improve the density. What's more, the concentric open space is created to promote neighbourhood communication.



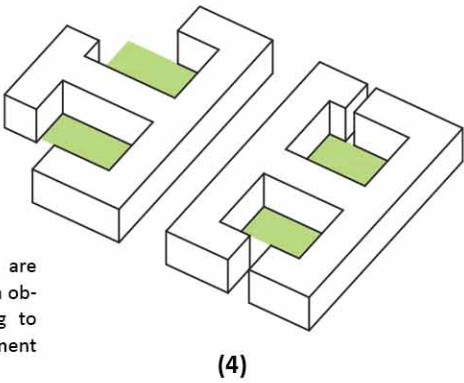
Element 2:  
Parking street

The four courtyards were divided into two groups by a central road.



Element 3:  
Connecting Alleys

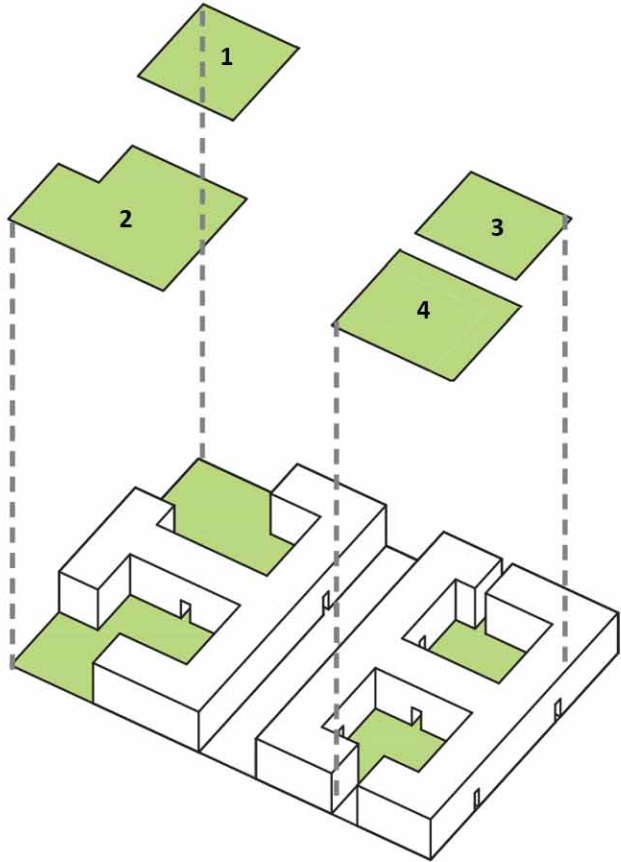
The four courtyards are never isolated, but with obvious breaks according to the original environment and existing buildings.



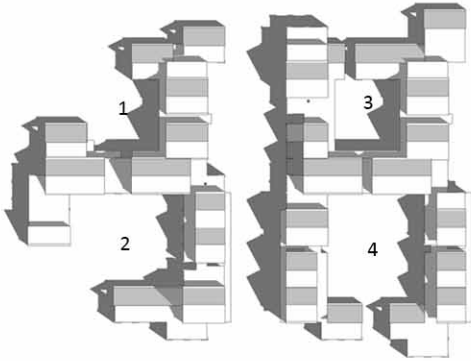


COURTYARD

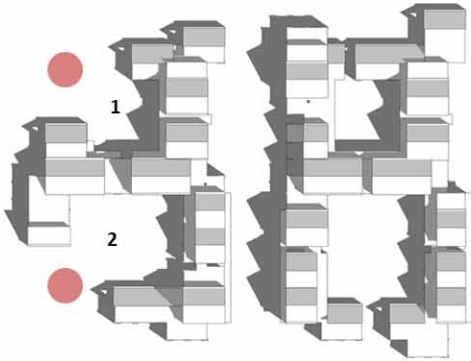
The courtyards as the concentric open space were adapted not only to promote neighbourhood communication, but also to achieve high density.



- 1. Entrance courtyard
- 2. Garden courtyard
- 3. Entrance courtyard
- 4. Garden courtyard



Two kinds of courtyards were designed. All the entrances for each apartments were organised in the entrance courtyards, while garden courtyards consist of private or shared gardens. They were completely different design. However, one garden courtyard were changed without the users approval.



Two big breaks were made as response to the existing buildings.



Picture of entrance courtyard 1



Picture of garden courtyard 4



Picture of garden courtyard 2 (Original design)



Picture of garden courtyard 2 (current design). After change, the original character of garden courtyard fades, and it is now just the same as the other entrance courtyard.



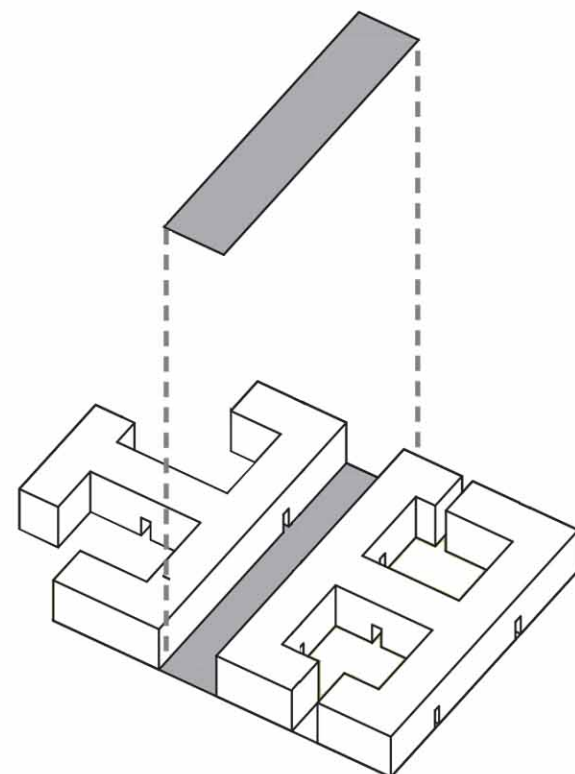
Break in courtyard 2 was made as the response to existing housing, which works as a part of the courtyard now.



Break in courtyard 1 was created for the primary school nearby. Consequently, the courtyard is connected with the entrance square for the school. In lunch time, the children eat their meals, play and talk in this place.

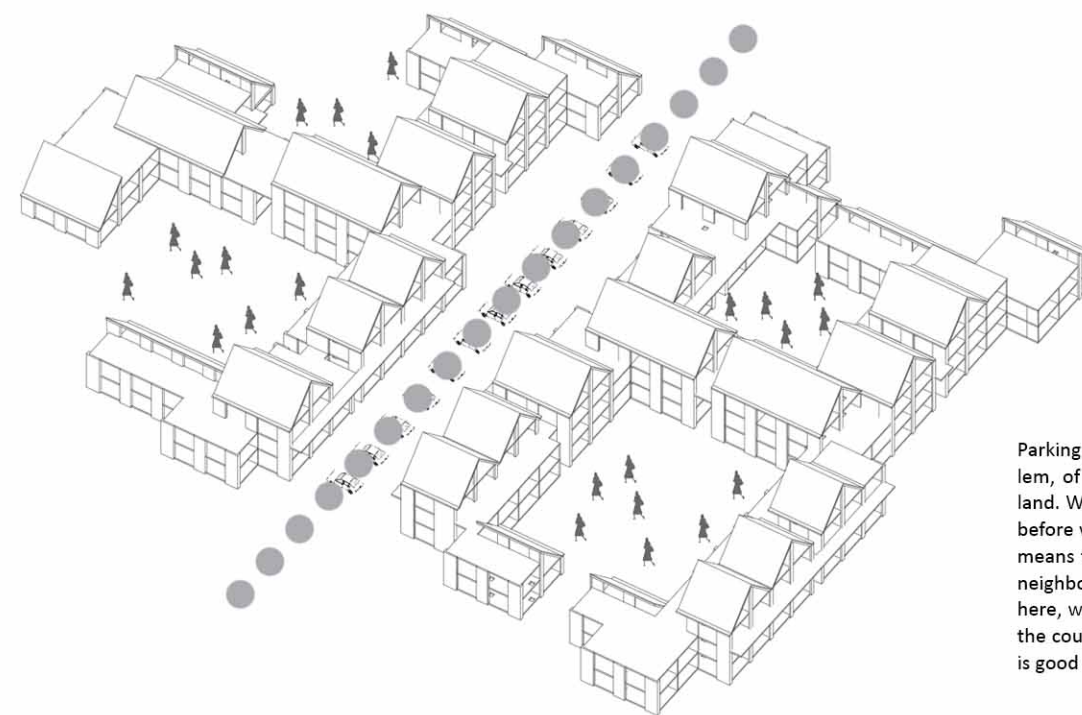
## PARKING STREET

The cars are planned to be parked in the street. This form is attributed to a car-free neighbourhood, and in addition indicated a slow speed on the street. Influenced by Alexander, the footway along the street was raised.



The central way is for cars, their driving and parking. This pattern is inspired by Christopher Alexander's pattern language. According to it, the walking road should be at least 18 inches (457.2mm) above the driving road. In Molenvliet, the height is only 300 mm.

Parking on the street is attributed to a low speed on the central street and a car-free community. This advantage is particularly appreciated by users in the interviews.



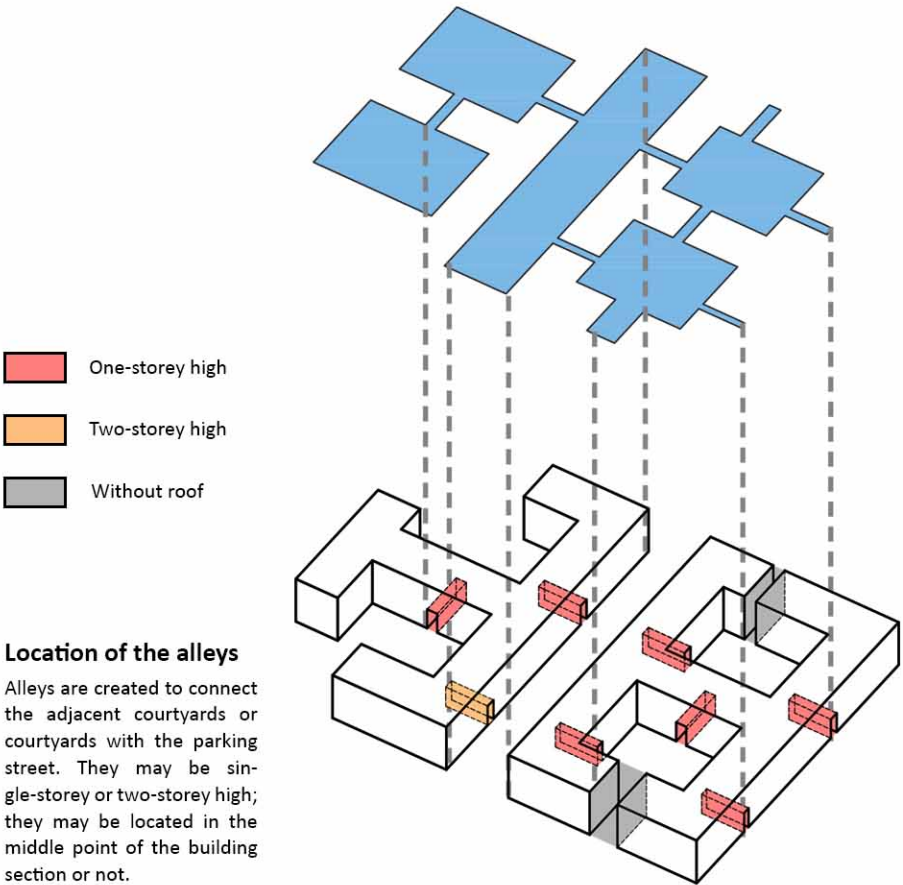
Parking on the street is not a problem, of course. It is normal in Holland. We have to park on the street before we enter the courtyard. That means the car is not allowed in the neighbourhood. When we came here, we had little children. (.....) In the courtyards, there is no traffic. It is good especially for the children.

Interview with Family 67.



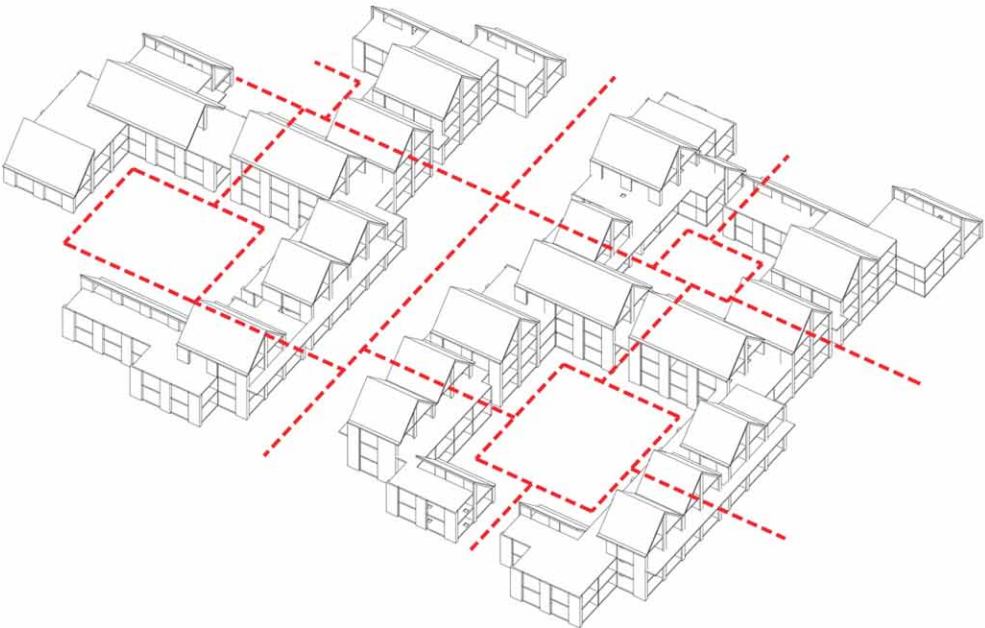
ALLEYS

Alleys were designed to connect both the adjacent courtyards and courtyard with the street. Once needed, these alleys could also be blocked conveniently by adding some doors.



The ways created by the alleys.

“Different alleys lead us to different directions”. This is a representative comment which was acquired in the interview with users. From this image, we may find how many ways is allowed in this project. Walking in this community is also a way to have fun.



The alleys can be open or partially closed.

Alleys were designed to connect both the adjacent courtyards and courtyard with the street. Once needed, these alleys could also be blocked conveniently by adding some doors.

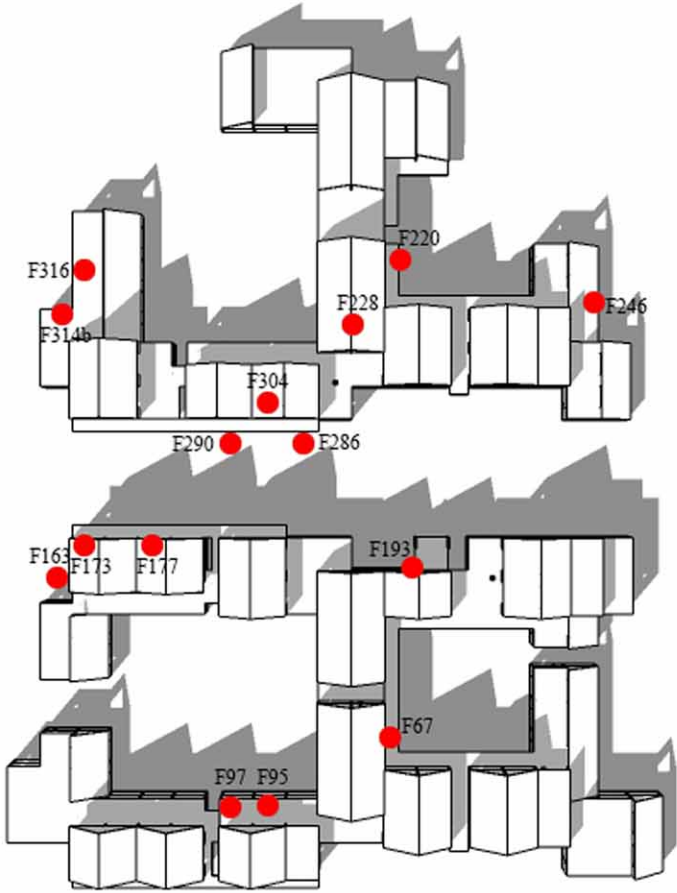


LIVING STORIES

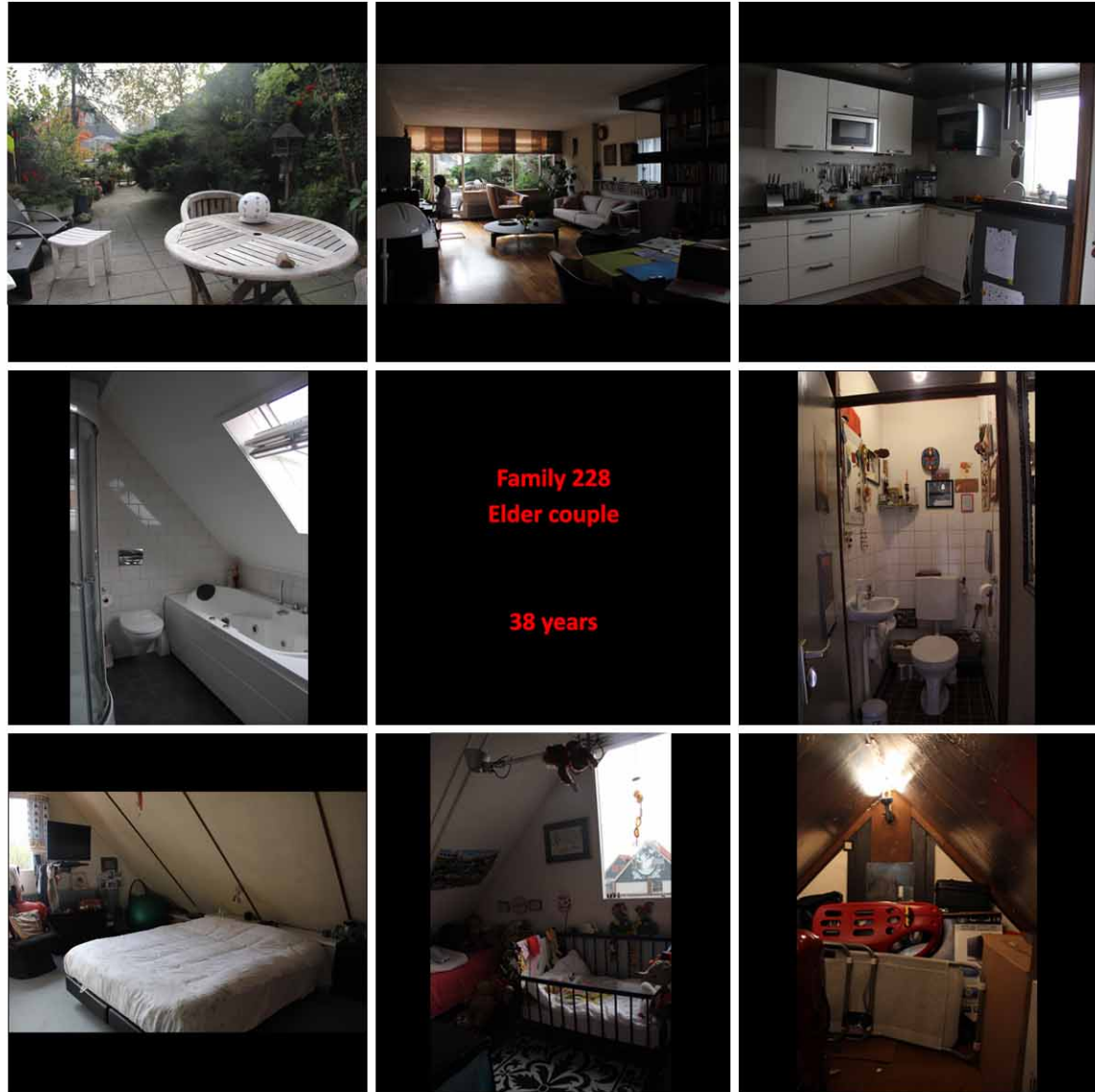
The current living situation of fifteen families is recorded.

	Basic Information				Activity		
	Location	Period	Family	Duplex	Renovation	Plan of change	Plan of move
Class 1	228	38	Elderly couple	√	√		
	220	38	Elderly couple	√	√		
	95	38	Elderly couple	√			
	316	38	Elderly couple	√			
Class 2	286	33	Elderly couple	√	√		
	290	31	Middle-aged madam				
	97	31	Elderly man				
	246	29	Elderly couple	√	√	√	
	304	19	Elderly madam	√	√		
	177	16	Middle-aged madam	√	√		
Class 3	67	8	Family of three	√	√		√
	193	3	Office				
	173	1	Young couple	√			√
	163	1	Young lady	√	√	√	√
	314b	1	Family of three	√			√

Table: The selection of interviewees.







**Infill (upper floor):**  
Colour and materials of the windows were selected by original users.

**Infill (upper floor):**  
Partitions were designed according to original user's demand.

**Remove (upper floor):**  
by the user. A small part of partition in the bathroom was removed.

**Add (upper floor):**  
by the user. A new partition was added.

**Support (upper floor):**  
by architect

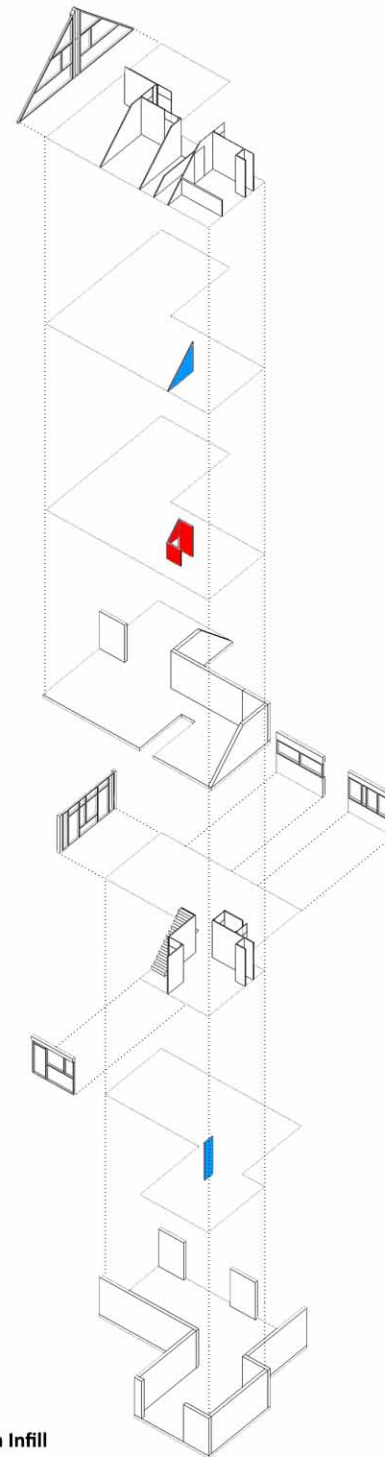
**Infill (lower floor):**  
Colour and materials of the windows.

**Infill (lower floor):**  
partitions were designed according to original user's demand.

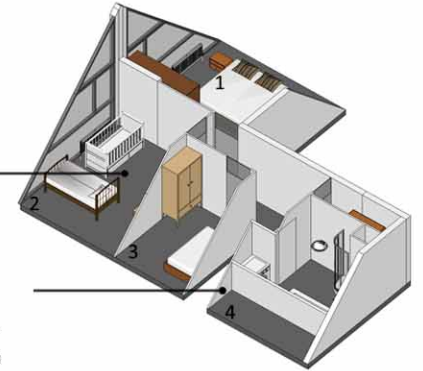
**Remove (upper floor):**  
by the user. A small part of partition in the kitchen was removed.

**Support (lower floor):**  
by architect

**Separation of Support from Infill**

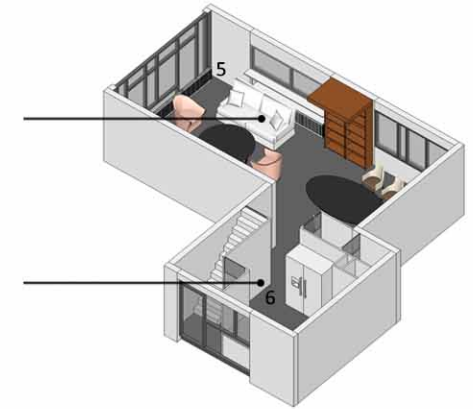


It was a son's bedroom. Now a baby's cot is placed under the window. When the little granddaughter comes, she will use this room as her bedroom.



The equipments in the bathroom were completely changed by the tenants. In order to hold the washing machine, a partition was moved a little.

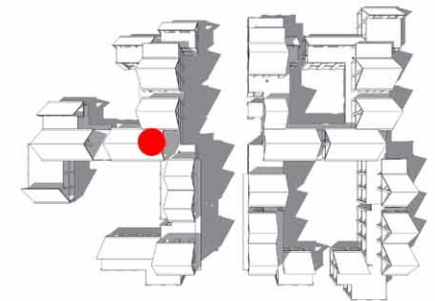
As the original design, the living room is still combined with dining room. Till now, the tenants are very satisfied with this spacious space.



The equipments in the kitchen was changed by the users. And the housing corporation paid some fee.

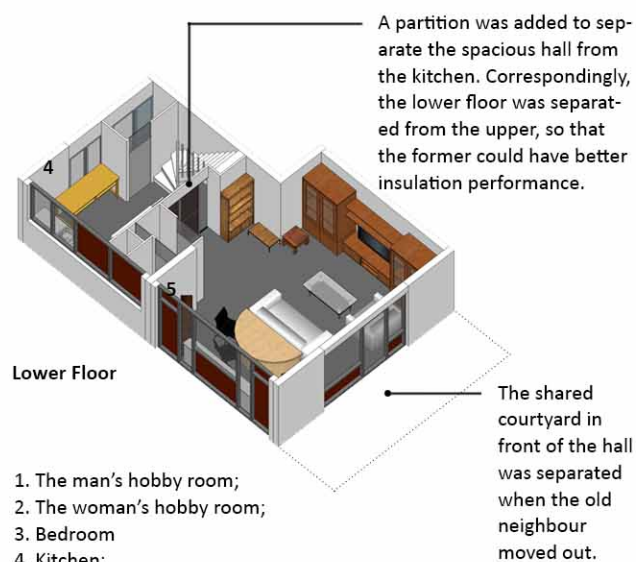
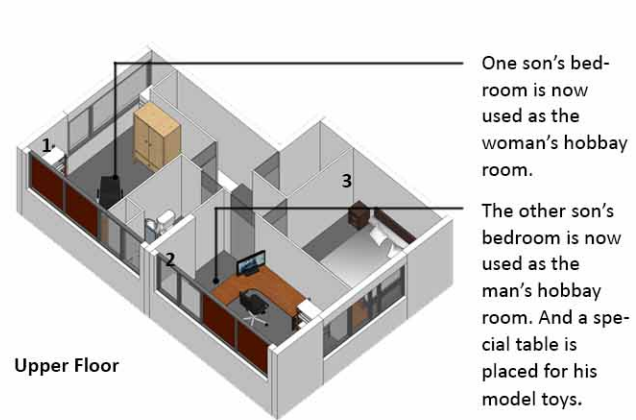
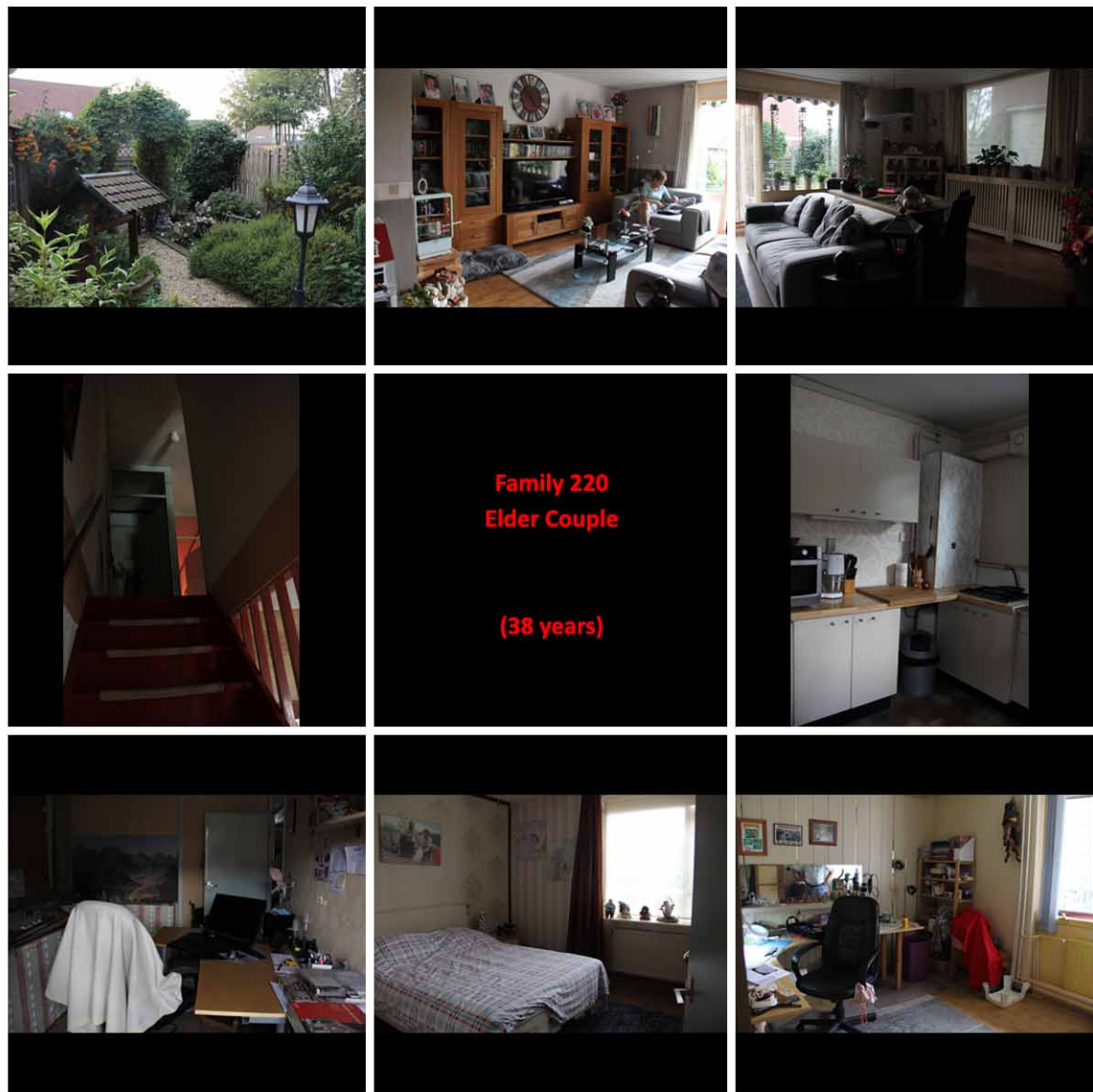
1. Main bedroom
2. Second bedroom
3. Second bedroom
4. Bathroom
5. Living room & Dining room
6. Kitchen

**Fig. Current living situation**



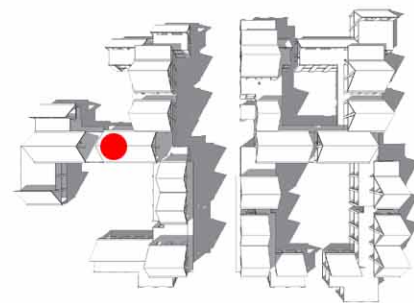
This apartment is on the second and third floor, facing the central street.

**Fig. Location in the community**



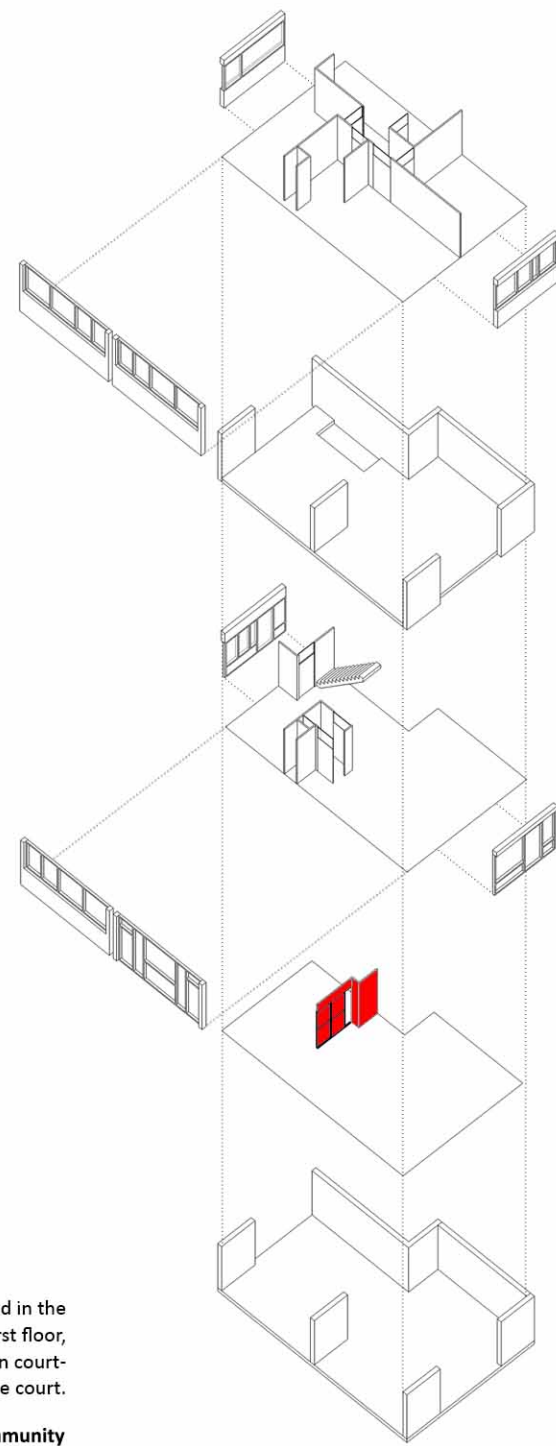
1. The man's hobby room;
2. The woman's hobby room;
3. Bedroom
4. Kitchen;
5. Living room & Dining room

#### Current Living Situation



This family is located in the ground floor and first floor, "connecting" a garden courtyard with an entrance court.

#### Location in the community



**Infill (upper floor):** partitions were designed according to original user's demand.

**Infill (upper floor):** Colour and materials of the windows were selected by original users.

**Support (upper floor):** by architect

**Infill (lower floor):** partitions were designed according to original user's demand.

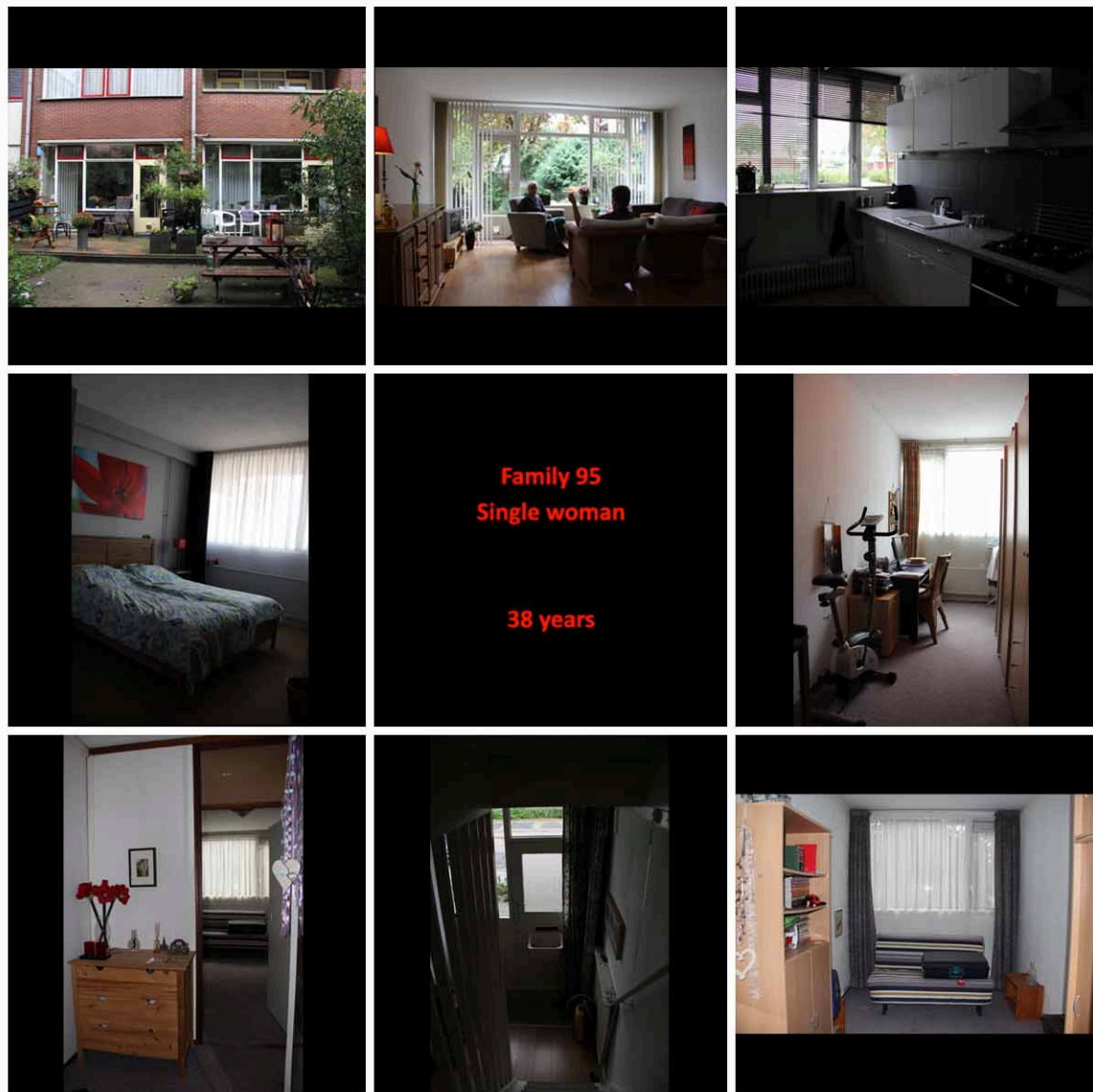
**Infill (lower floor):** Colour and materials of the windows were selected by original users.

**Add (lower floor):** A partition was added to separate the living room from kitchen.

**Support (upper floor):** by architect

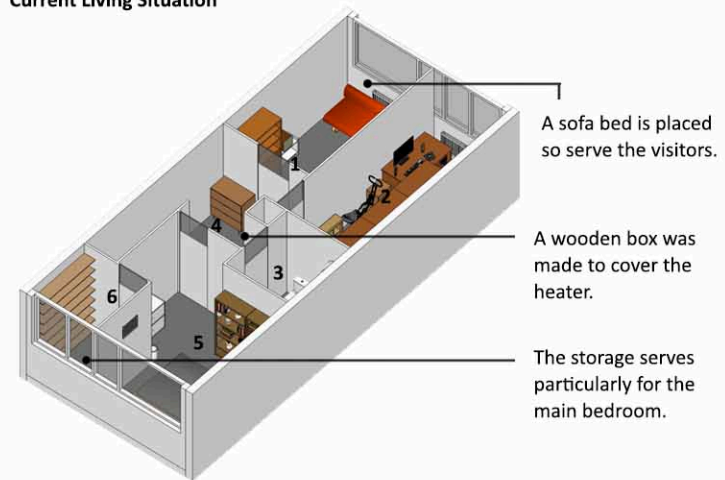
**Separation of Support from Infill**



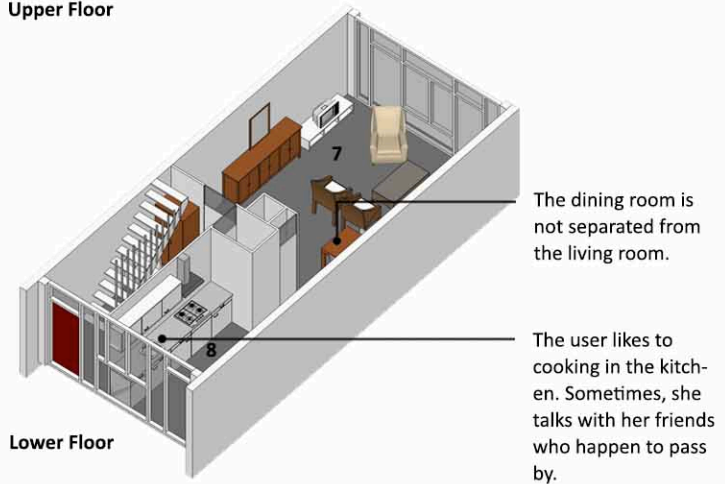


Family 95  
Single woman  
38 years

#### Current Living Situation



#### Upper Floor

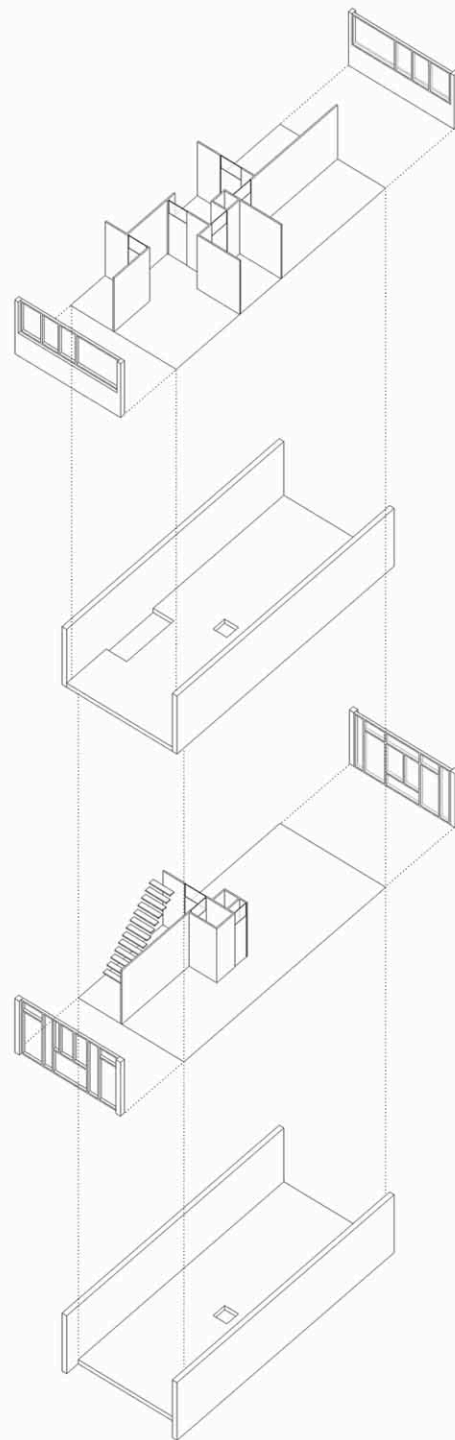
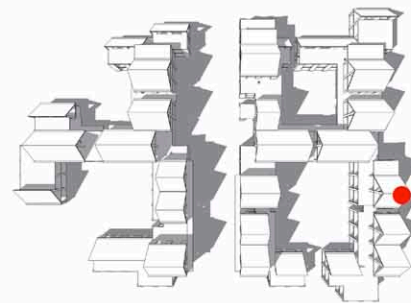


#### Lower Floor

- 1. Guest room
- 2. Study room
- 3. Bathroom
- 4. Hall
- 5. Bedroom
- 6. Storage
- 7. Living room
- 8. Kitchen

This apartment is located in the ground floor, along the city street.

Fig. Location in the community



**Infill (upper floor):**  
The colour and materials of the window are selected by the user.

**Infill (upper floor):**  
partitions were designed according to the user's demand.

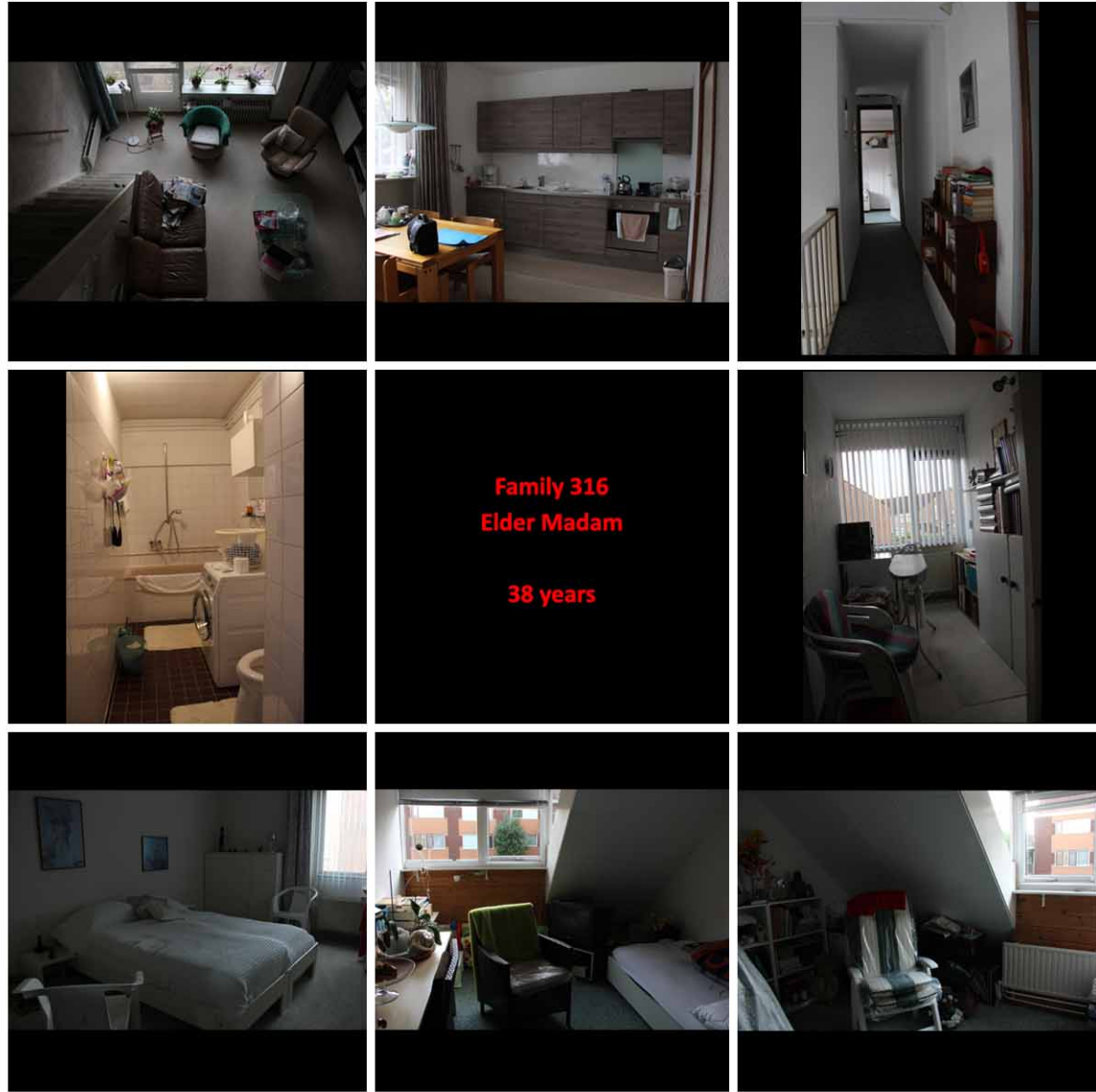
**Support (upper floor):**  
by architect.

**Infill (lower floor):**  
The colour and materials of the window are selected by the user.

**Infill (lower floor):**  
partitions were designed according to the user's demand.

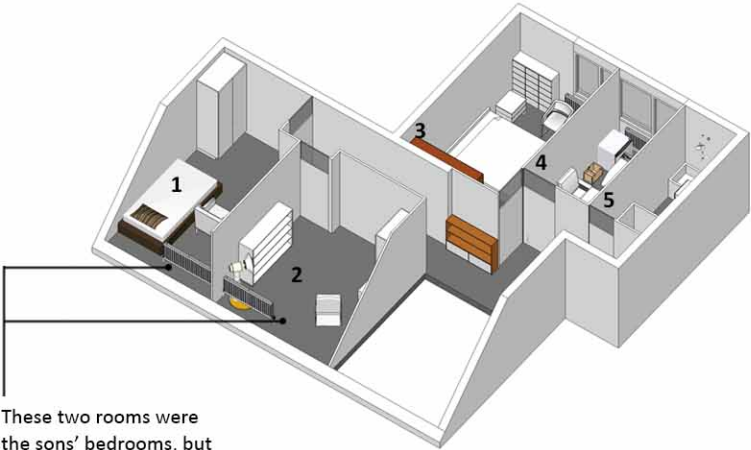
**Support (lower floor):**  
by architect.

Fig. Separation of Support from Infill



**Family 316**  
**Elder Madam**  
**38 years**

**Current Living Situation**



These two rooms were the sons' bedrooms, but now they are left empty.

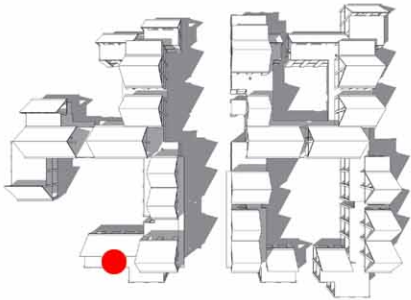
The users fought with the architect for a toilet in ground floor and finally got it. It is proved to be necessary as time goes by.

The internal staircase was strengthened several times in the past years.

- 1. Bedroom
- 2. Bedroom
- 3. Main bedroom
- 4. Housework room
- 5. Bathroom
- 6. Living room
- 7. Storage
- 8. Dining room & Kitchen

It is located in the ground floor and first floor, facing a garden courtyard.

**Location in the Community**



**Infill (upper floor):**  
Colour and materials of the windows were selected by original users.

**Infill (upper floor):**  
partitions were designed according to original user's demand.

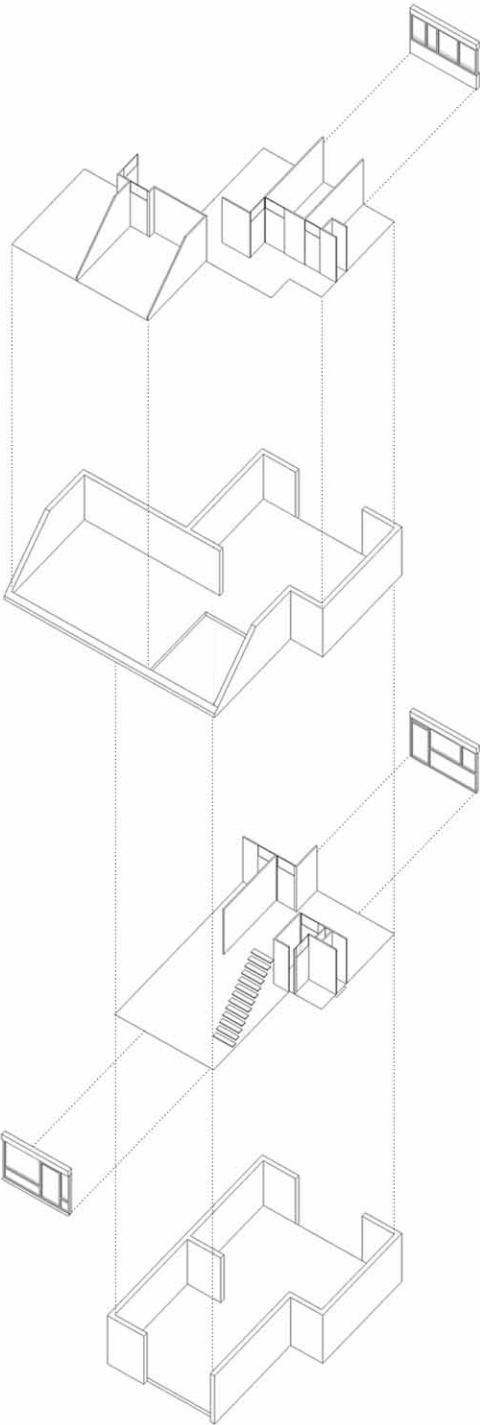
**Support (upper floor):**  
by architect

**Infill (lower floor):**  
partitions were designed according to original user's demand.

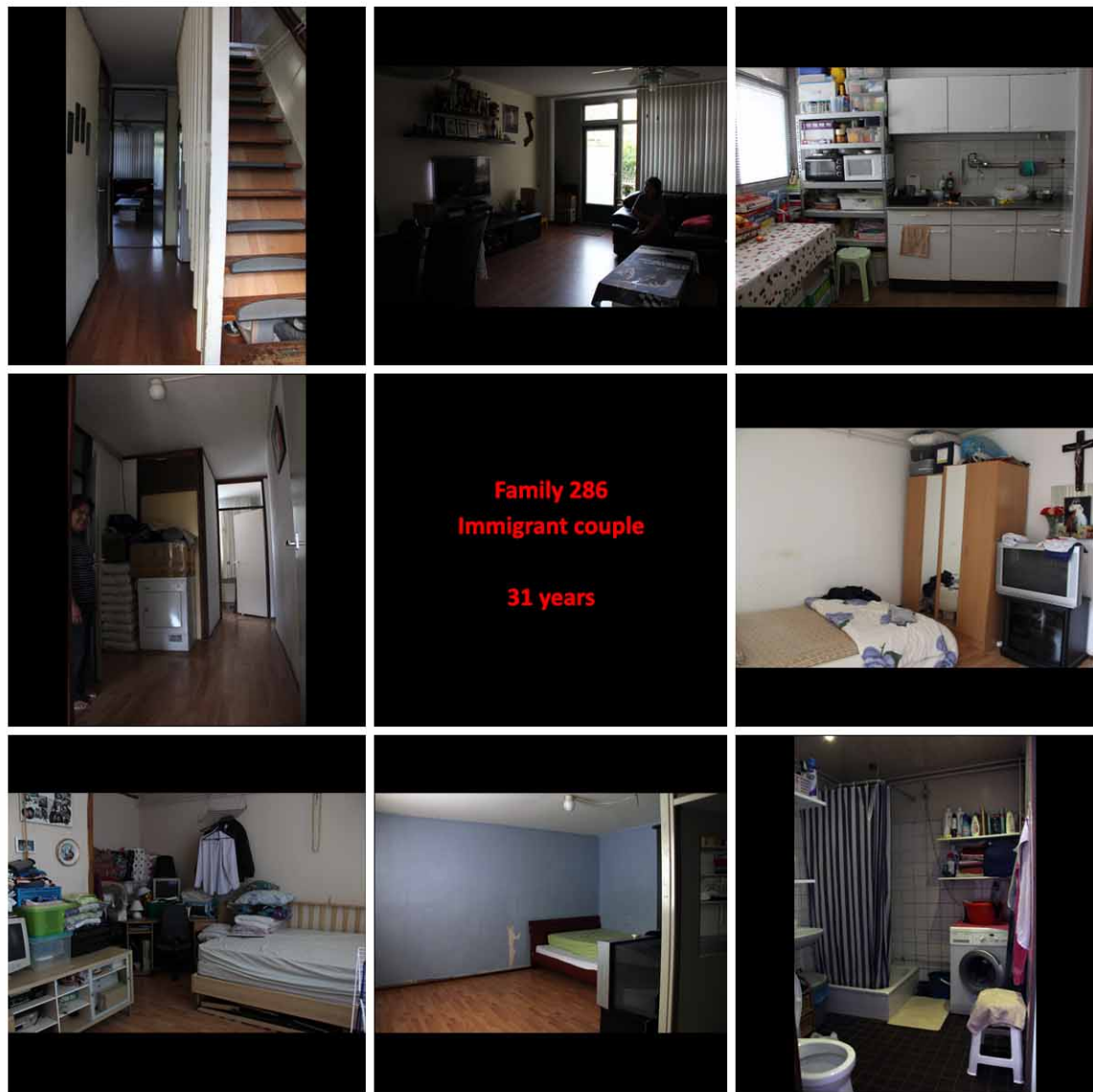
**Infill (lower floor):**  
Colour and materials of the windows were selected by original users.

**Support (lower floor):**  
by architect

**Separation of Support from Infill**



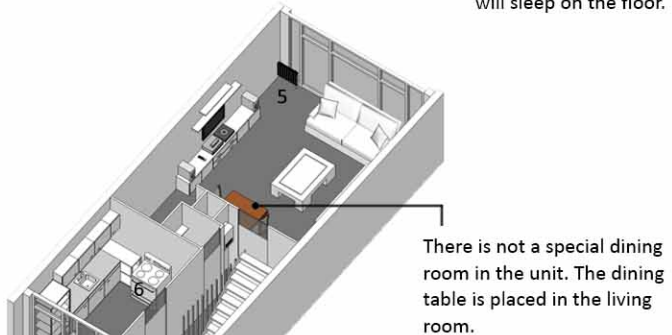
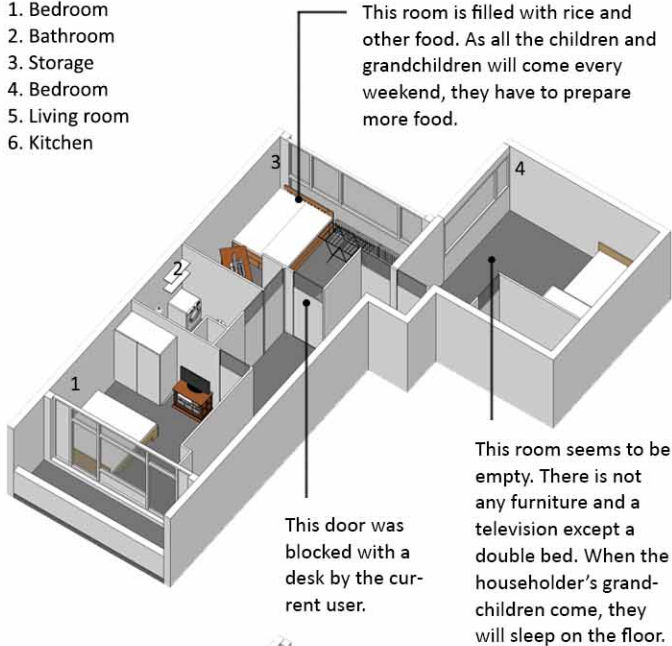




**Family 286**  
**Immigrant couple**  
**31 years**

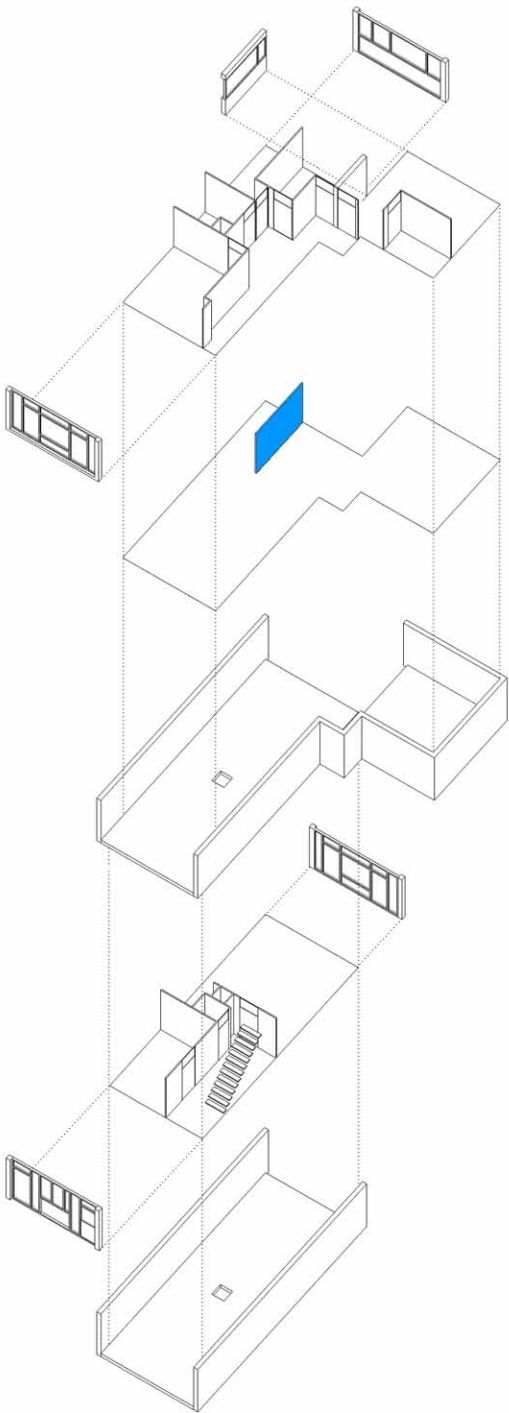
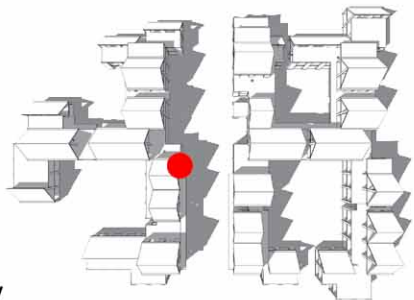
# Current Living Situation

1. Bedroom
2. Bathroom
3. Storage
4. Bedroom
5. Living room
6. Kitchen



It is located in the ground and first floor, facing the central parking street.

## Location in the Community



**Infill (upper floor):**  
Colour and materials of the windows were selected by original users.

**Infill (upper floor):**  
Interior space was divided according to first users' requirement.

**Remove:**  
A partition between two bedrooms were removed by one user.

**Support (upper floor):**  
by architect

**Infill (lower floor):**  
Colour and materials of the windows were selected by original users.

**Infill (lower floor):**  
Interior space was divided according to first users' requirement.

**Support (lower floor):**  
by architect

**Separation of Support from Infill**

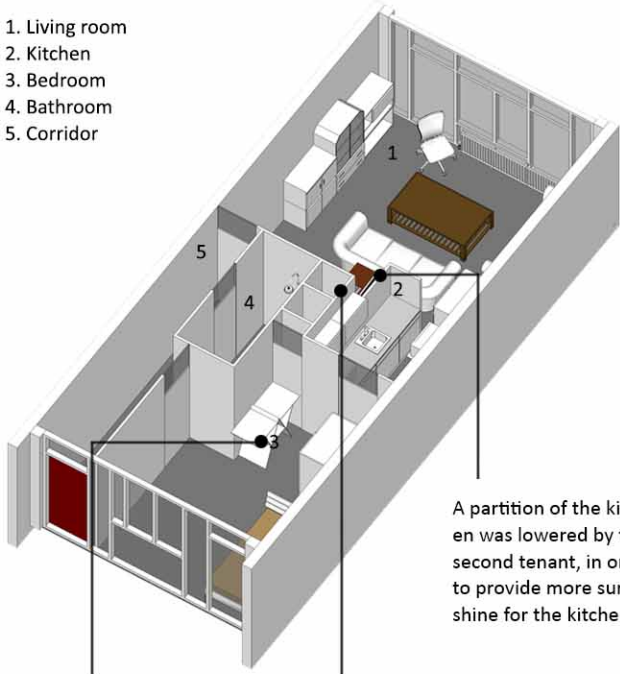


**Family 290**  
**Middle-aged madam**

**31 years**

# Current Living Situation

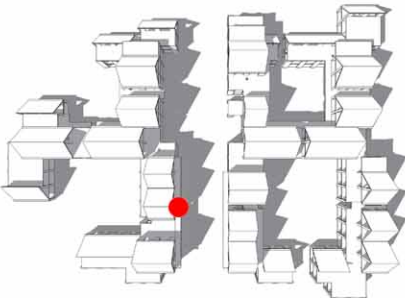
1. Living room
2. Kitchen
3. Bedroom
4. Bathroom
5. Corridor



A partition of the kitchen was lowered by the second tenant, in order to provide more sunshine for the kitchen.

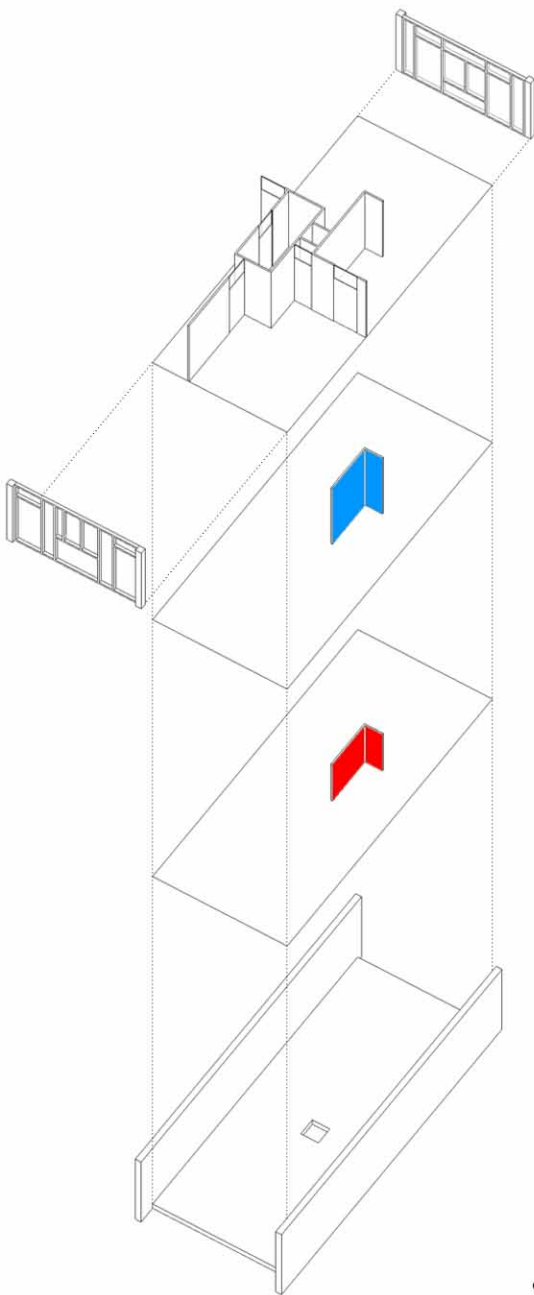
The clothes hanger is placed in the bedroom. The user may take it to the living room when she prefers more sunshine.

The corner of the living room is now occupied by a desk with a computer. It is the user's study room.



It is located in the ground floor, facing the central parking street.

Location in the community



**Infill:**  
Colour and materials of the windows were selected by original users.

**Infill:**  
partitions were designed according to original user's demand.

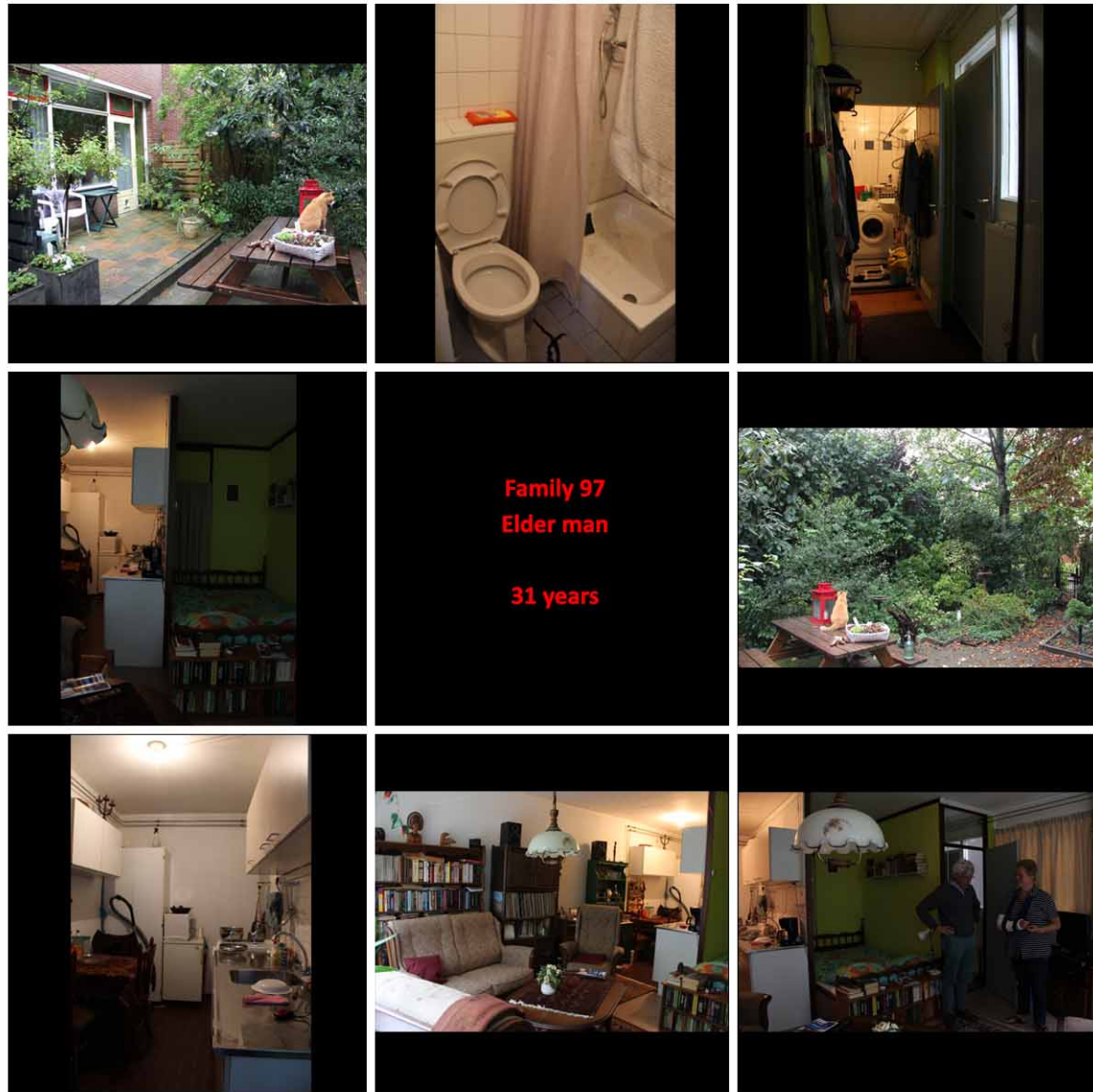
**Remove:**  
a partition of the kitchen was removed.

**Add:**  
A new partition with lower height was built.

**Support (lower floor):**  
by architect

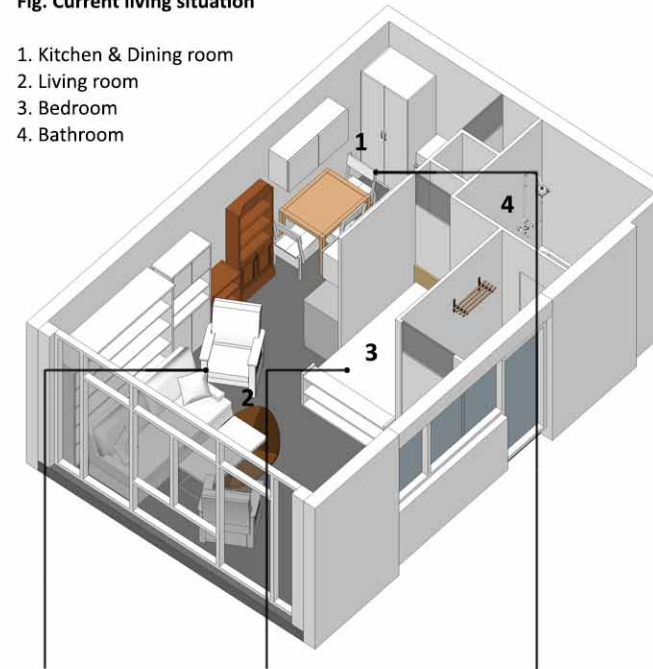
Separation of Support from Infill





**Fig. Current living situation**

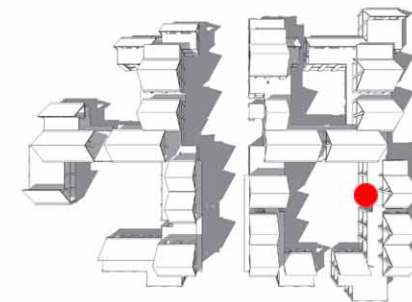
1. Kitchen & Dining room
2. Living room
3. Bedroom
4. Bathroom



The living room is with a big france window, facing the shared garden.

For the limited interior area, the space for sleeping is not strictly separated from the living room.

For the limited area, the dining room is not separated from the kitchen. There is a big bowl on the table of the kitchen. The user cook a very delicious soup.



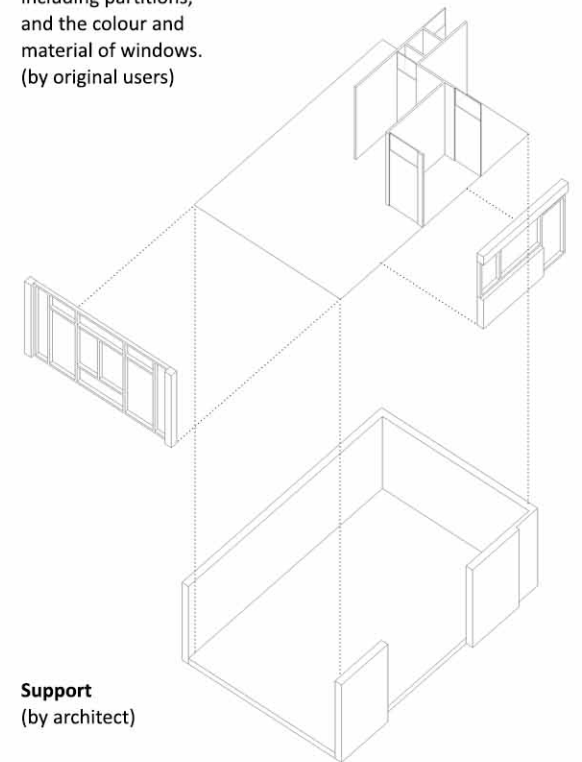
**Fig. Location in the community**

**Introduction:**

This is the smallest apartment in the community. The current user is an elder single man, who cooks a wonderful soup. He did not make any change in the past 31 years.

**Infill:**

including partitions, and the colour and material of windows. (by original users)

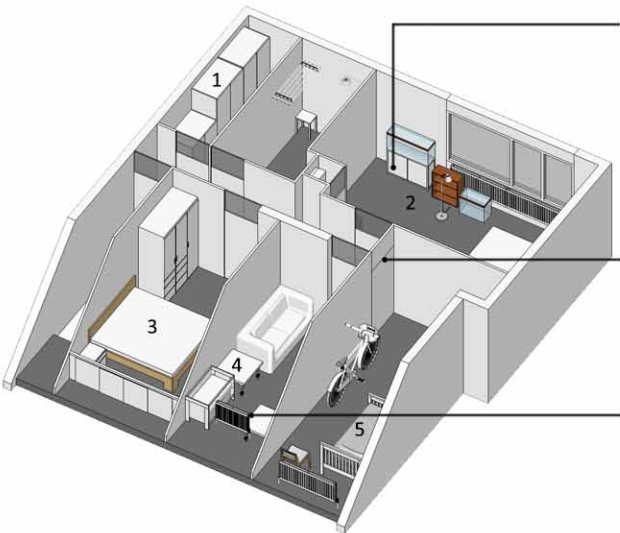


**Support**  
(by architect)

**Fig: The separation of Support and Infill**



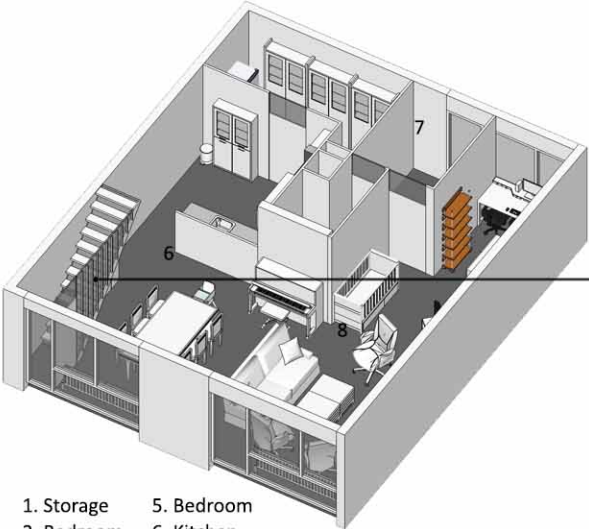
Family 246  
Couple  
  
29 years



It was the four daughters' bedroom. Now the tenants plan to add a kitchen, before the man's mother comes.

The partition of the son's room was changed a little.

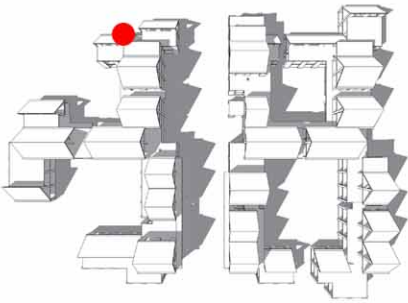
It was two sons' bedroom. Now it is used as a granddaughter's room.



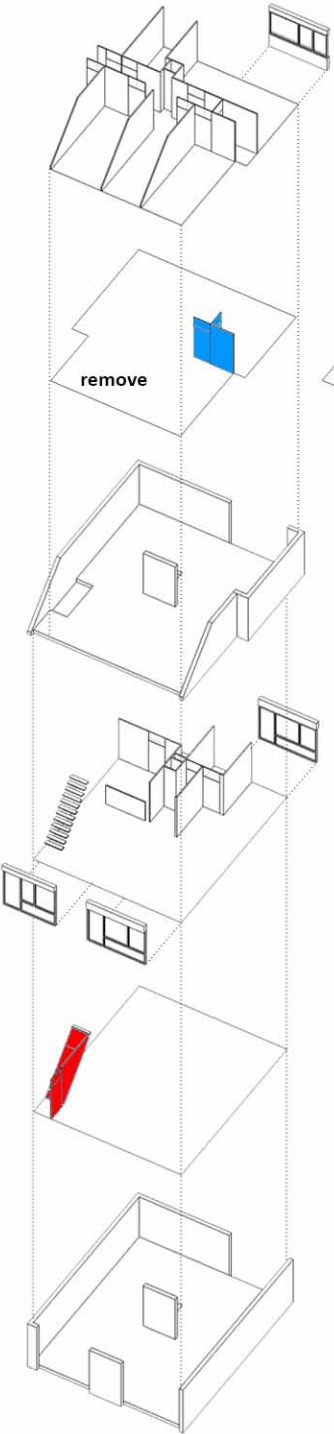
The interior staircase was shut off, so that the heating air will not completely go to the upper floor.

- 1. Storage
- 2. Bedroom
- 3. Bedroom
- 4. Bedroom
- 5. Bedroom
- 6. Kitchen
- 7. Entrance
- 8. Living

Current Living Situation



Location in the Community



**Infill (upper floor):** Colour and materials of the windows were selected by original users.

**Infill (upper floor):** partitions were designed according to the original user's demand.

**remove**

**add**

**Change (by current user):** two bedrooms were redivided.

**Support (upper floor):** by architect

**Infill (lower floor):** Colour and materials of the windows were selected by original users.

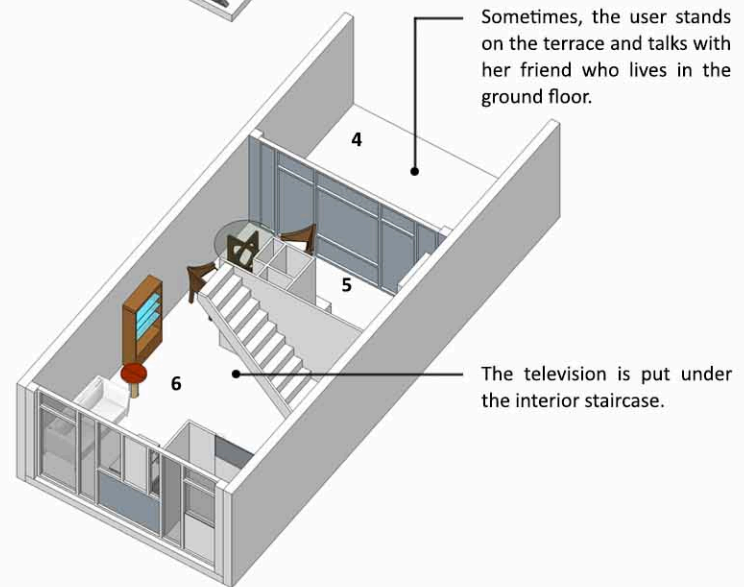
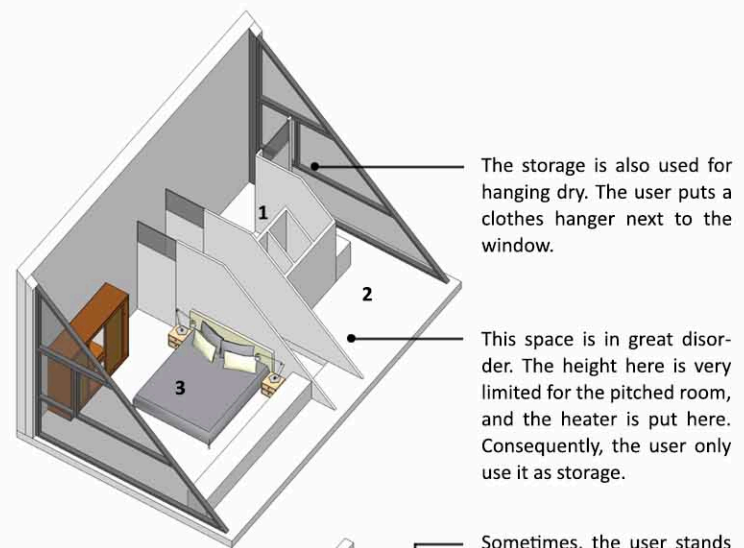
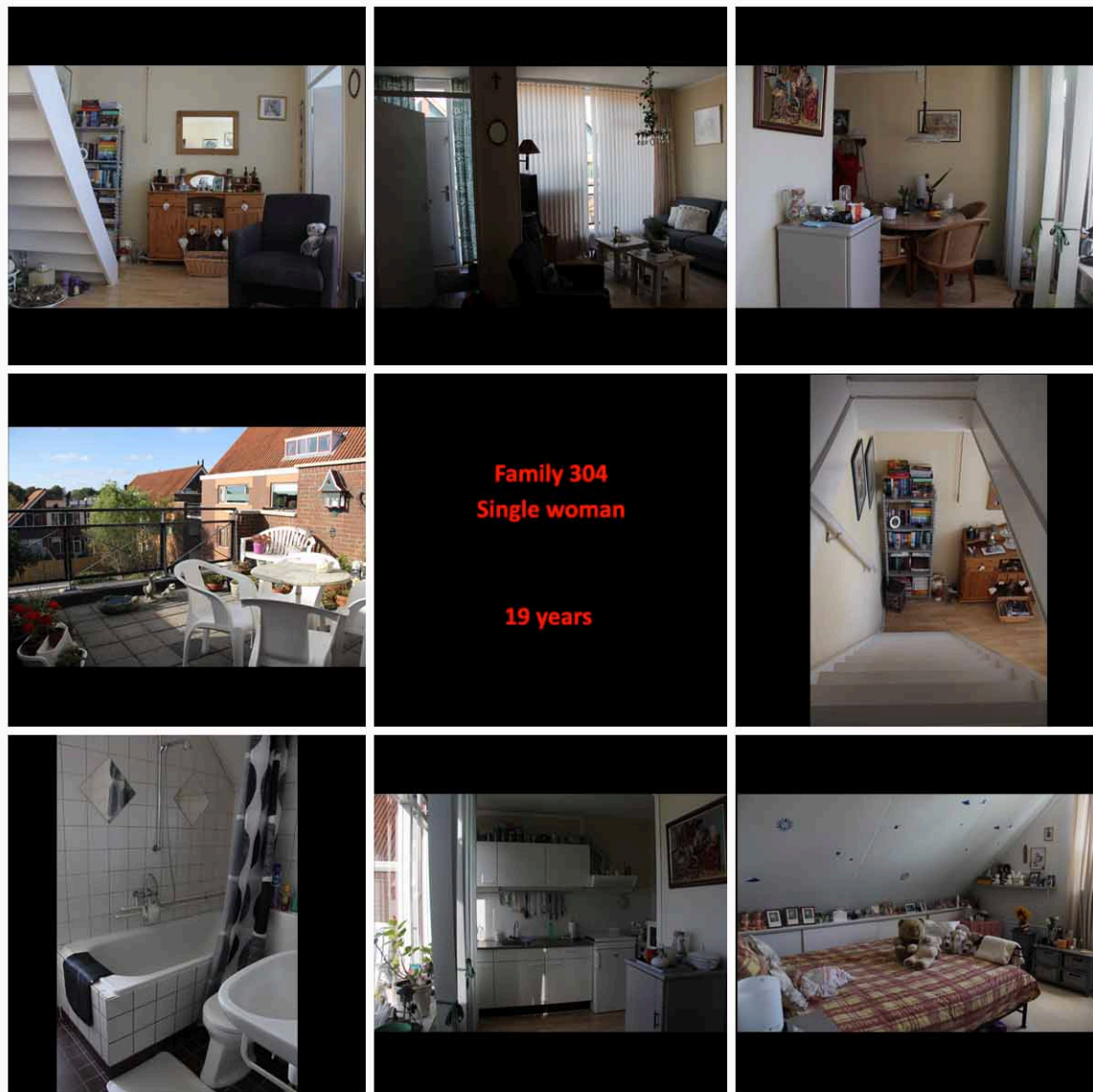
**Infill (lower floor):** Partitions were designed according to the original user's demand.

**Add (by current user):** The interior staircase was shut off.

**Support (lower floor):** by architect

Separation  
of Support from Infill

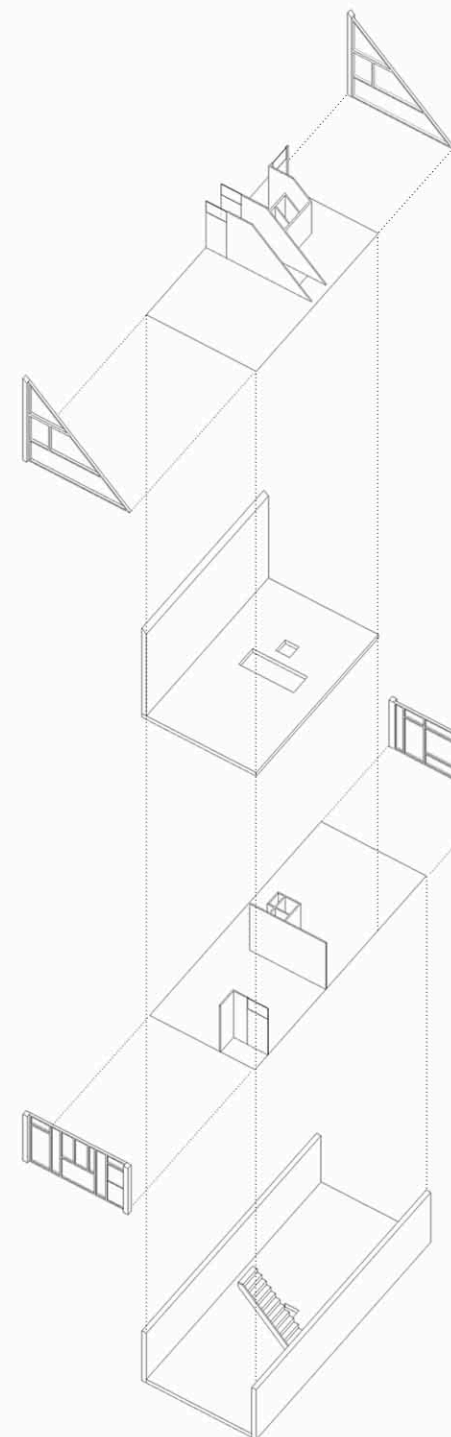
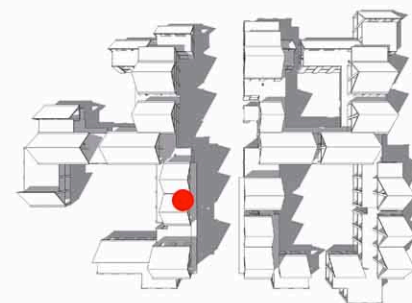




1. Bathroom
2. Storage room
3. Bedroom
4. Terrace
5. Kitchen & Dining room
6. Living room

**Current Living Situation**

**Location in the Community**



**Infill (upper floor):**  
partitions were determined by the original users.

**Infill (upper floor):**  
the material and colours of the windows were selected by the original users.

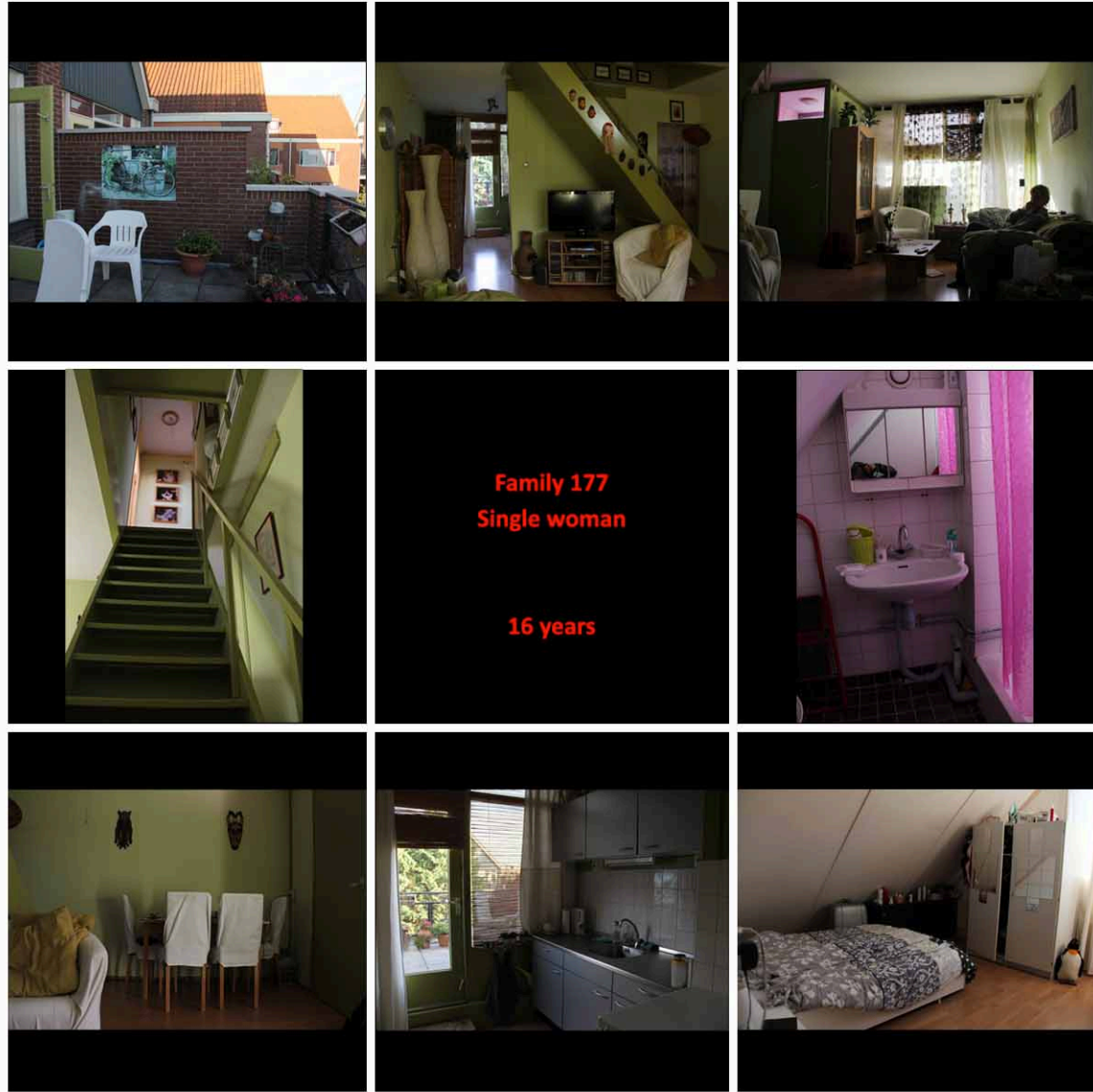
**Support (upper floor):**  
by the architect.

**Infill (lower floor):**  
partitions were determined by the original users.

**Infill (lower floor):**  
the material and colours of the windows were selected by the original users.

**Support (lower floor):**  
by the architect.

**Separation of Support from Infill**



Family 177  
Single woman

16 years

## Current Living Situation

### Upper floor

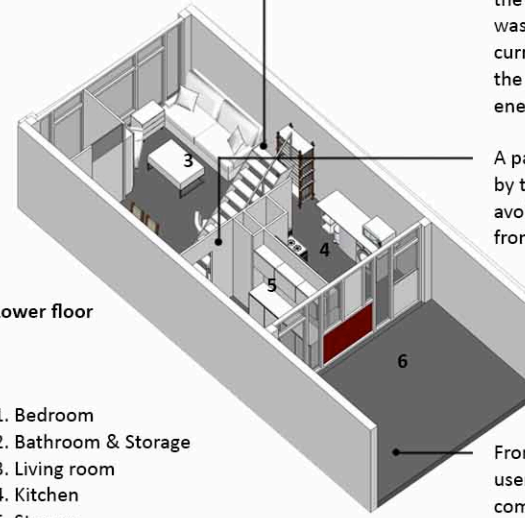


The bathroom is used as a storage in the meantime.

The original railing of the internal staircase was removed by the current user, since she the old one was "likened a jail".

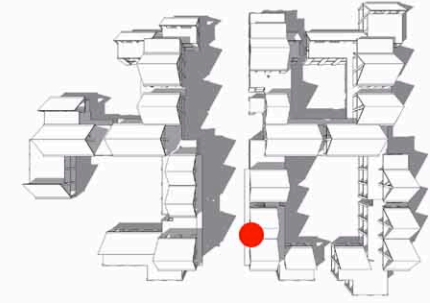
A partition was added by the current user to avoid seeing the storage from entrance.

### Lower floor



From this terrace, the user can look down the common courtyard.

1. Bedroom
2. Bathroom & Storage
3. Living room
4. Kitchen
5. Storage
6. Terrace



## Location in the Community

## Separation of Support From Infill

**Infill (upper floor):** partitions were designed according to original user's demand.

**Infill (upper floor):** Colour and materials of the windows were selected by original users.

**Support (upper floor):** by architect

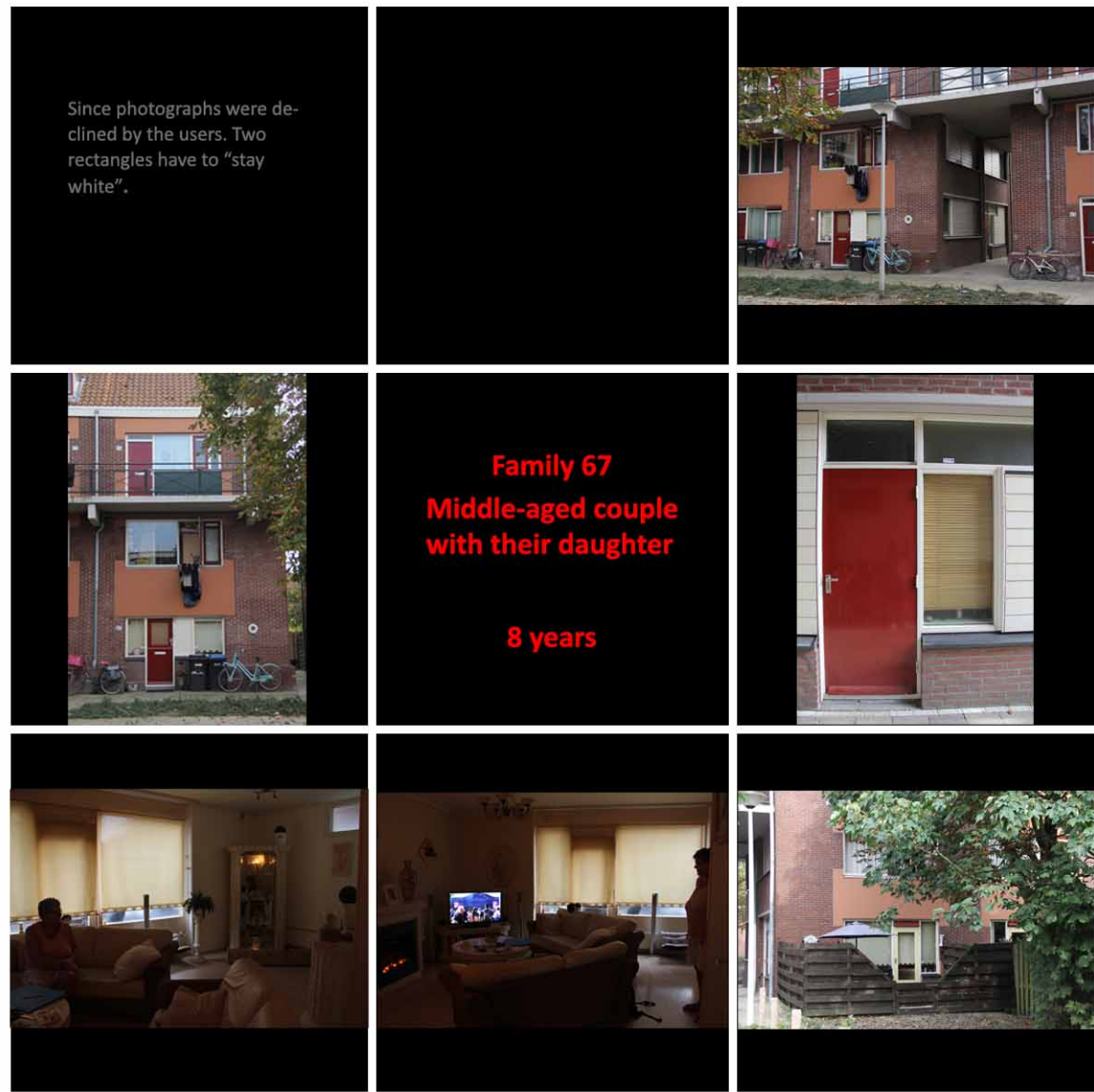
**Infill (lower floor):** partitions were designed according to original user's demand.

**Infill (lower floor):** Colour and materials of the windows were selected by original users.

**Add:** a partitions was added by the current user.

**Support (lower floor):** by architect





**Family 67**  
**Middle-aged couple**  
**with their daughter**  
**8 years**

### Current Living Situation

The users complaint about the visible pipelines just under the ceiling.

This family has an individual storage for bike. It is quite different from other families have to use the shared ones.

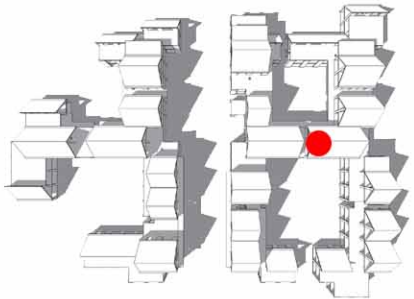
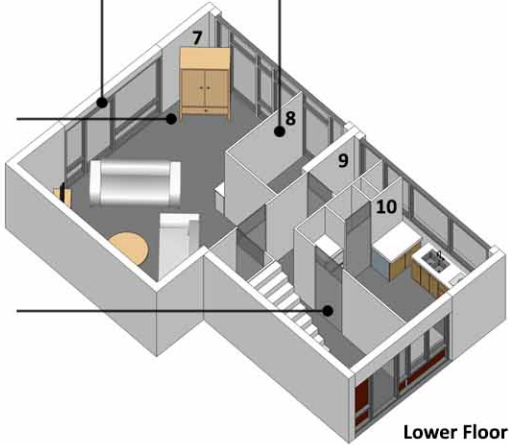
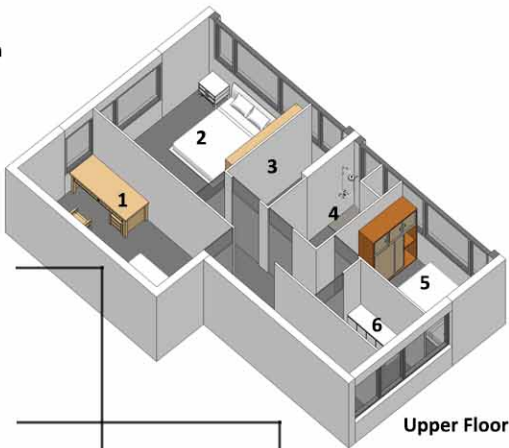
This family does not have special dining desk. Normally, they have meal on the tea table in living room.

The door of the kitchen was removed by the current user. This is the only changed maded by this family.

- |             |                |
|-------------|----------------|
| 1. Bedroom  | 6. Housework   |
| 2. Bedroom  | 7. Living room |
| 3. Storage  | 8. For bike    |
| 4. Bathroom | 9. Bathroom    |
| 5. Bedroom  | 10. Kitchen    |

This family is located on the ground and first floor, and "connects" two courtyards.

Fig. Location in the community



**Infill (upper floor):**  
 Colour and materials of the windows were selected by original users.

**Infill (upper floor):**  
 partitions were designed according to original user's demand.

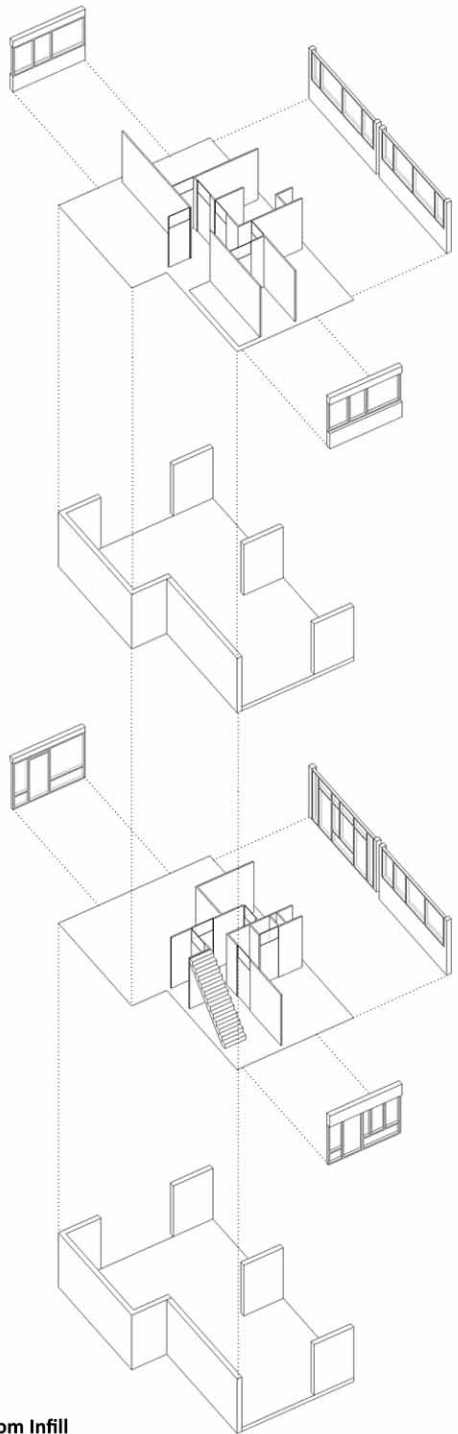
**Support (upper floor):**  
 by architect

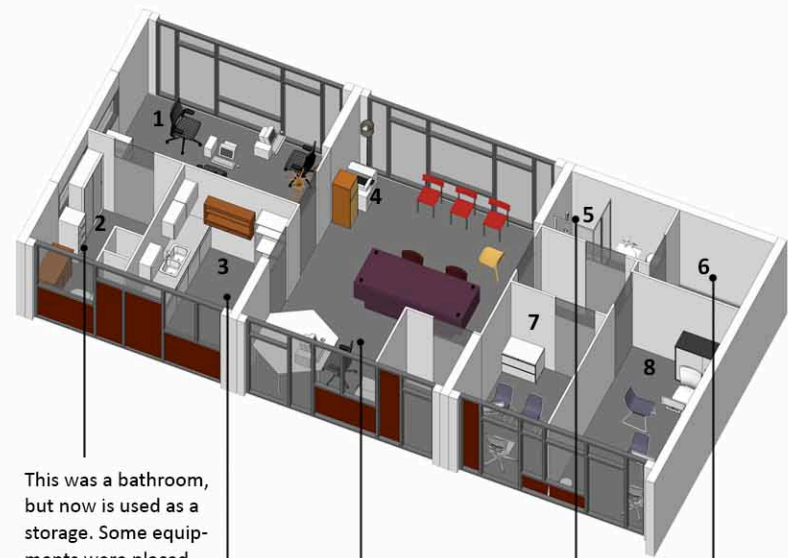
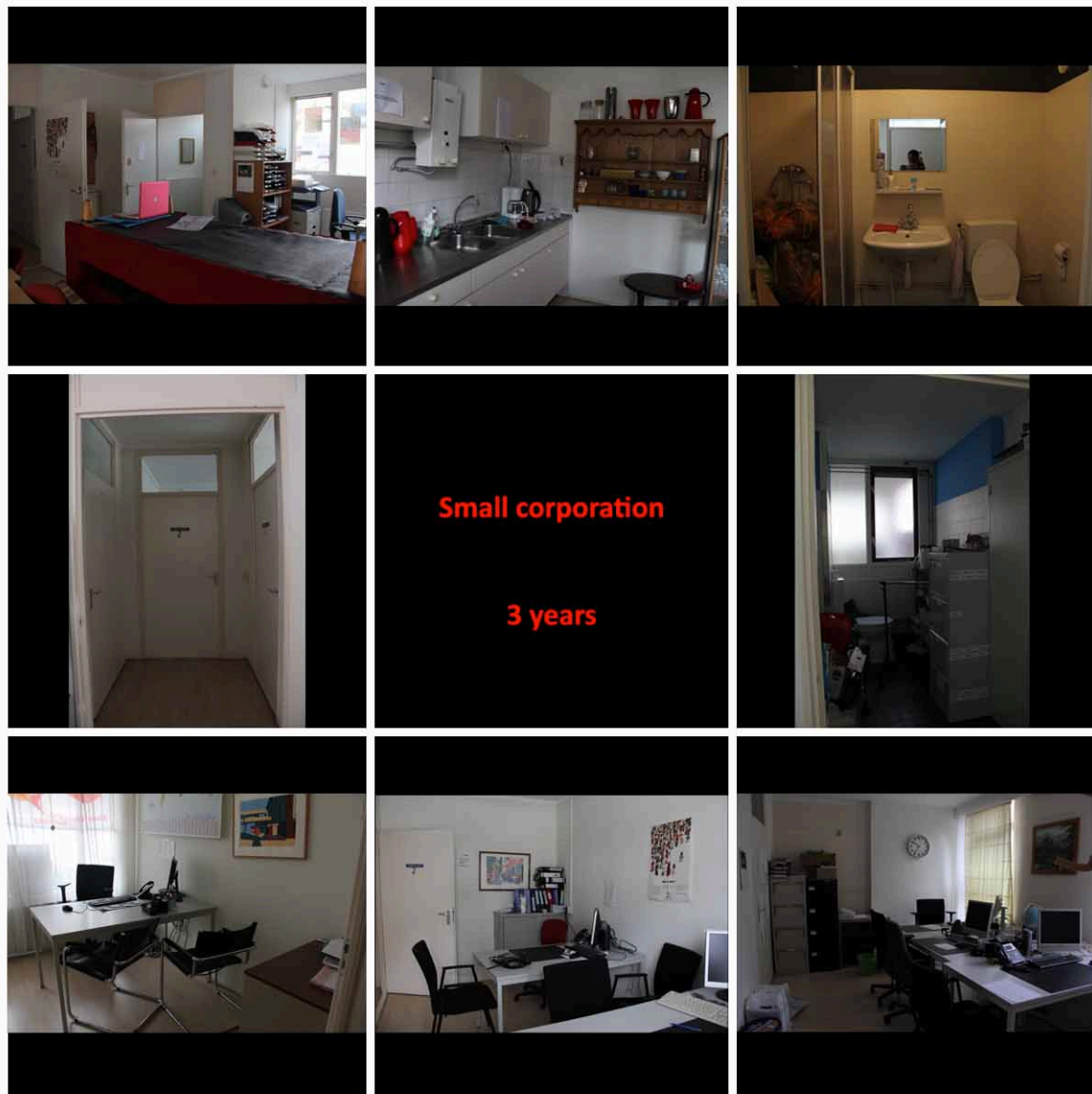
**Infill (lower floor):**  
 Colour and materials of the windows were selected by original users.

**Infill (upper floor):**  
 partitions were designed according to original user's demand.

**Support (lower floor):**  
 by architect

Separation of Support from Infill





This was a bathroom, but now is used as a storage. Some equipments were placed.

The kitchen was reserved, now the officers use it to make office and lunch.

The old living room together with dining room are now used as open office.

This was a bathroom. Now the place for bath is occupied with a few odds.

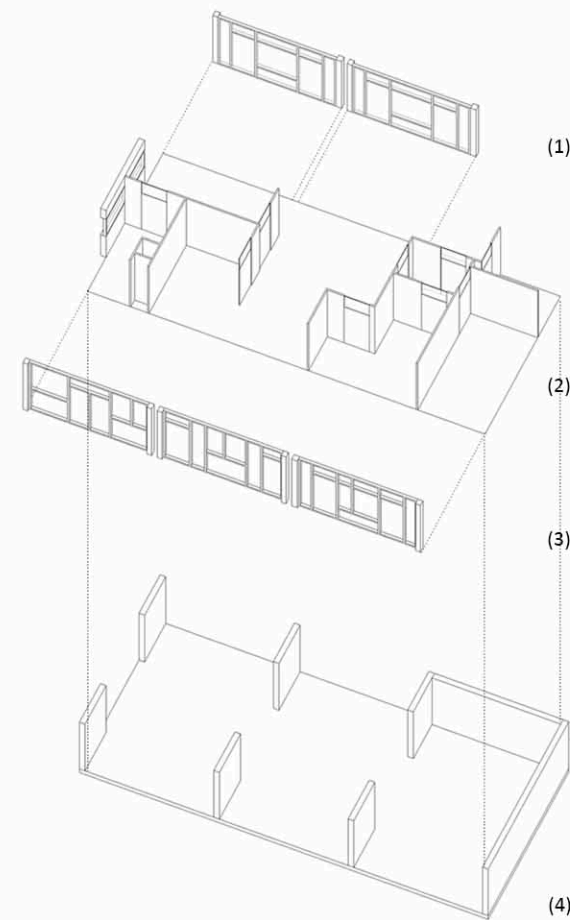
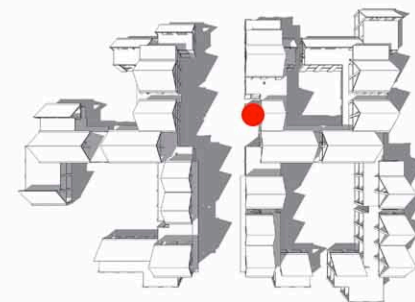
The old storage is now still used as storage, but for some valuable machines.

- |                |             |
|----------------|-------------|
| 1. Office      | 5. Bathroom |
| 2. Storage     | 6. Storage  |
| 3. Kitchen     | 7. Office   |
| 4. Open office | 8. Office   |

**Fig. Current Living situation**

This unit is located on the ground floor, and along the central parking street. The customers can enter the corporation without disturbing other inhabitants.

**Location in the Community**



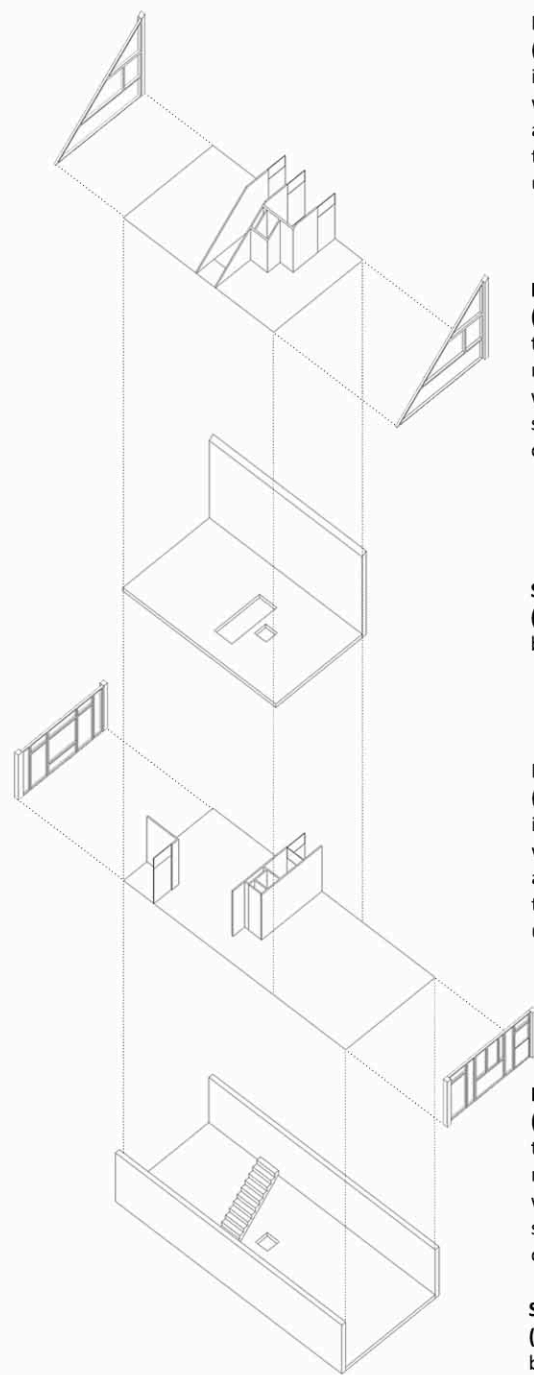
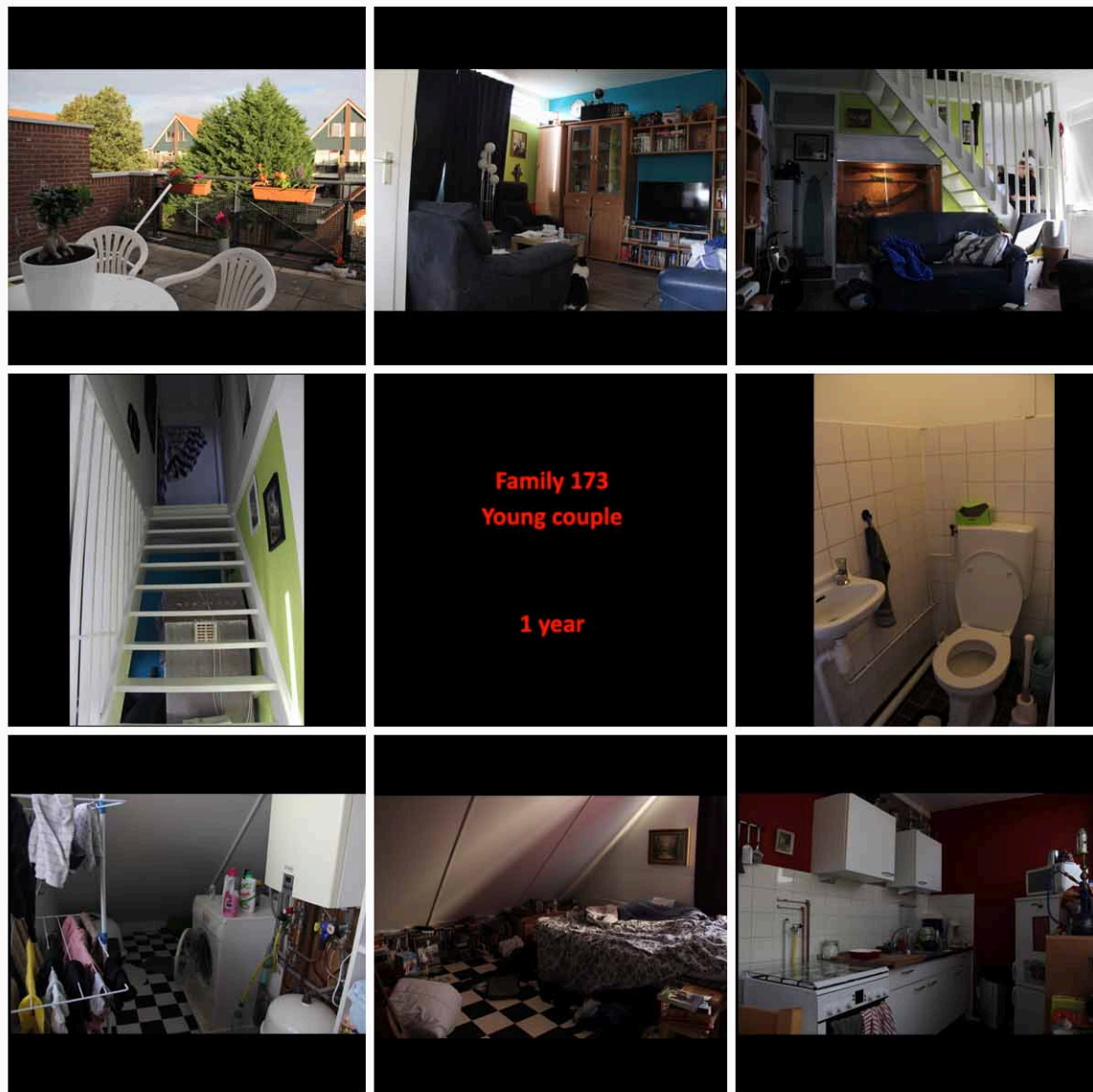
(1) (3): Infill: the colour and materials of the windows were determined by the users.

(2) Infill: partitions designed by the original users. According to the original drawing, they were not changed in the past years.

(4) Support: designed by the architect.

**Fig. The separation of Support from Infill**





**Infill  
(upper floor)**  
interior space  
was designed  
according to  
the original  
user's demand.

**Infill  
(upper floor)**  
the colour and  
material of  
window are  
selected by  
original users.

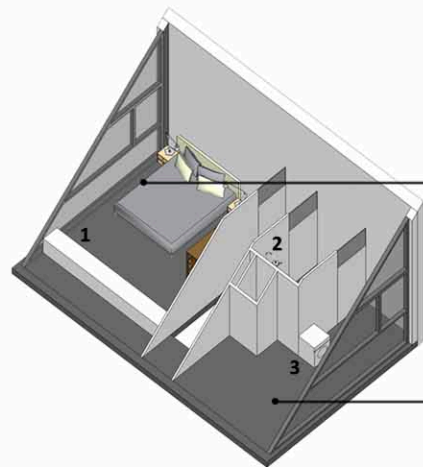
**Support  
(upper floor)**  
by the architect

**Infill  
(lower floor)**  
interior space  
was designed  
according to  
the original  
user's demand.

**Infill  
(lower floor)**  
the colour and  
material of  
window are  
selected by  
original users.

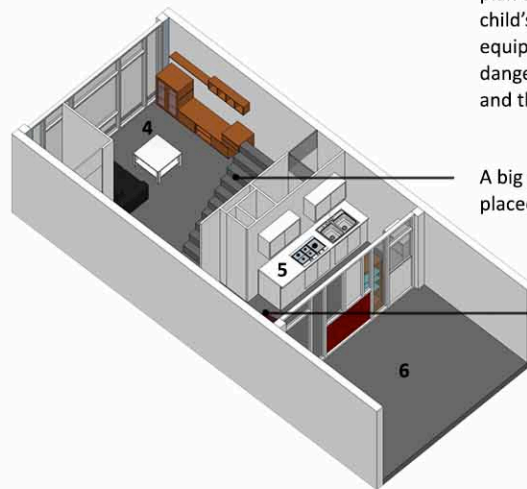
**Support  
(lower floor)**  
by the architect

## Current Living Situation



The young couple may divide the bedroom into two, when they have a baby in the future.

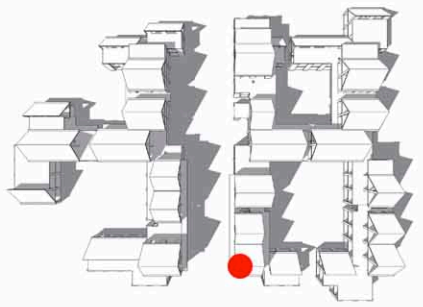
The small room can be used as a secondary bedroom. However, the young couple never plan to use it as their future child's bedroom, since the equipment inside seems to be dangerous. Now it is a storage and the cats' room.



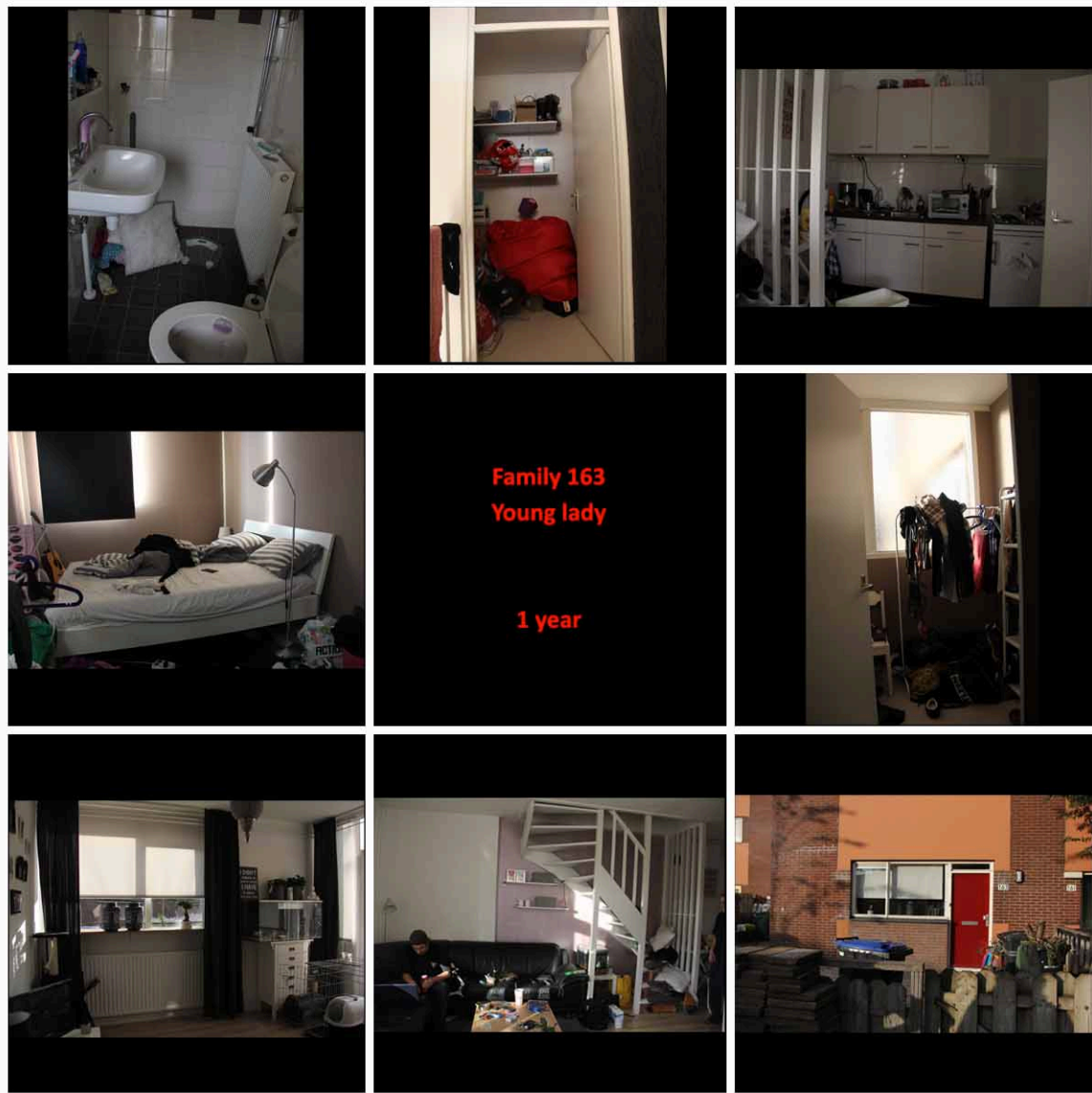
A big glass tank for a lizard is placed under the staircase.

The dining table is placed at the corner, and makes the kitchen somehow crowded.

1. Bedroom
2. Bathroom
3. Storage
4. Living room
5. Kitchen & Dining room
6. Terrace

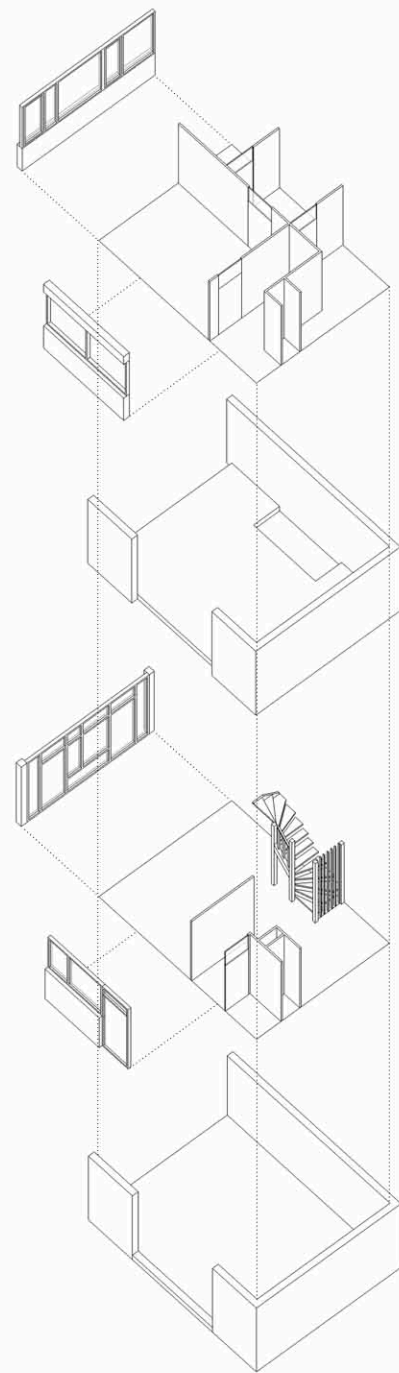


## Location in the Community



Family 163  
Young lady

1 year



**Infill (upper floor):**  
The colour and material of windows were selected by the original user.

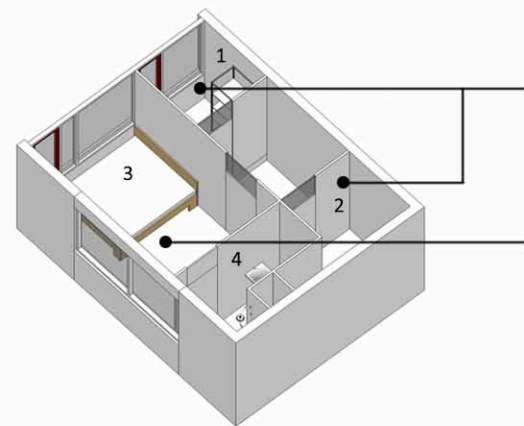
**Infill (upper floor):**  
interior space was divided according to the original user's demand.

**Support (upper floor):**  
by the architect

**Infill (lower floor):**  
interior space was divided according to the original user's demand.

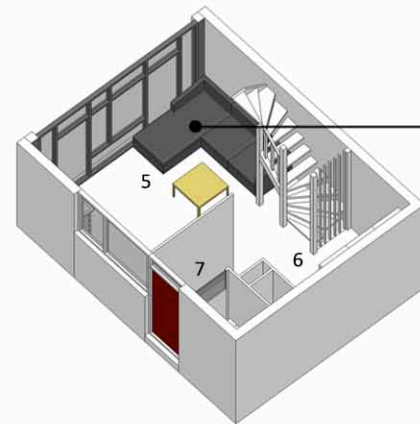
**Support (lower floor):**  
by the architect.

**Separation of Support from Infill**



Enough storage is welcomed.

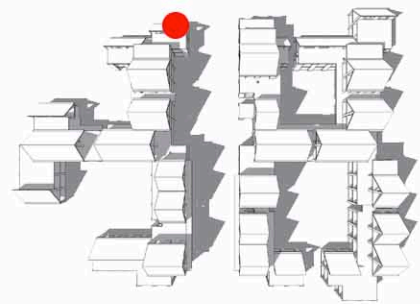
A curtain in the bedroom always keeps closed to prevent the strong sunshine.



In the sunny afternoon, the tenant and her boy friend would like to chat on the sofa.

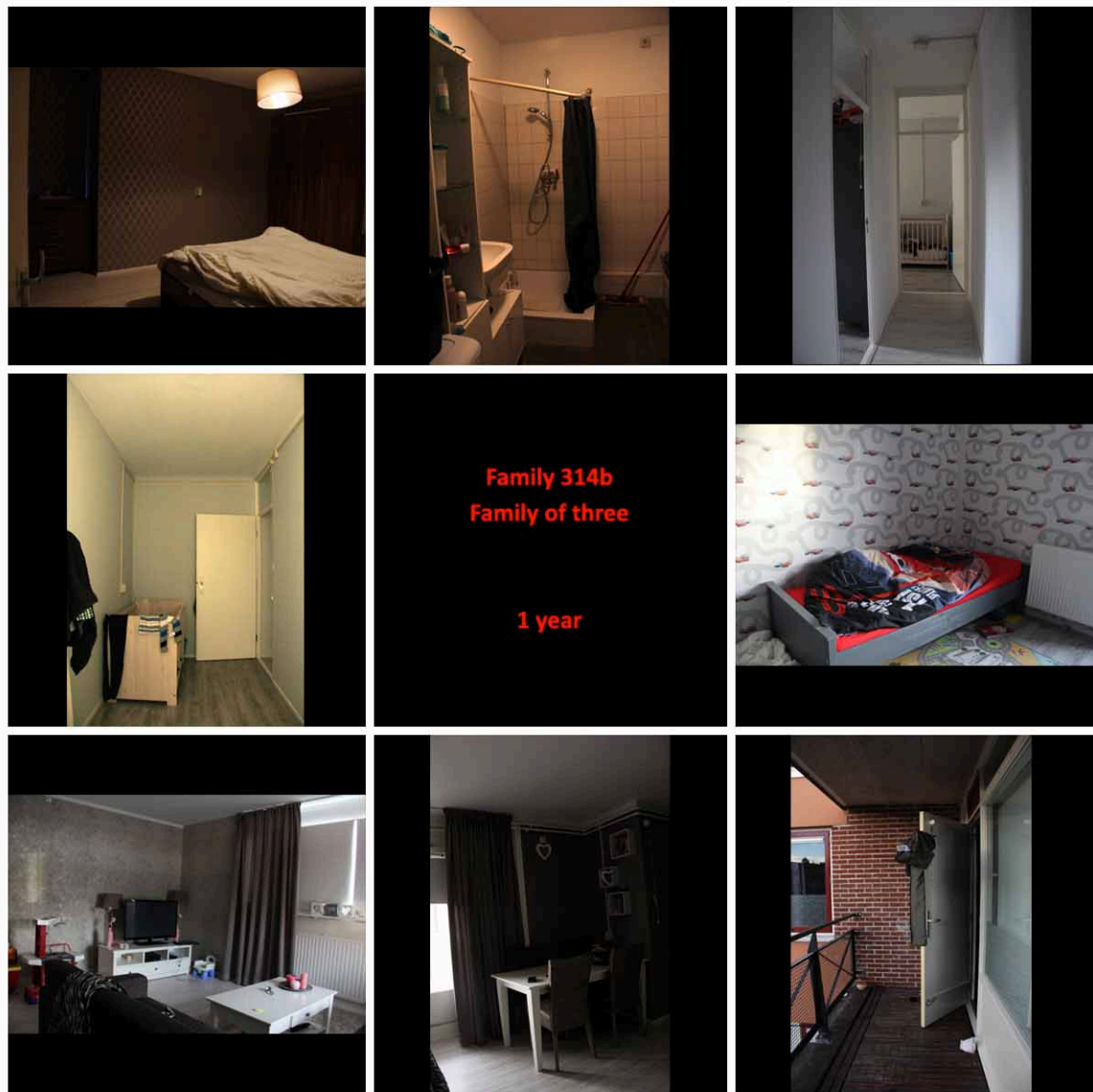
1. Storage
2. Storage
3. Bedroom
4. Bathroom
5. Living room
6. Kitchen
7. Entrance

**Current Living Situation**

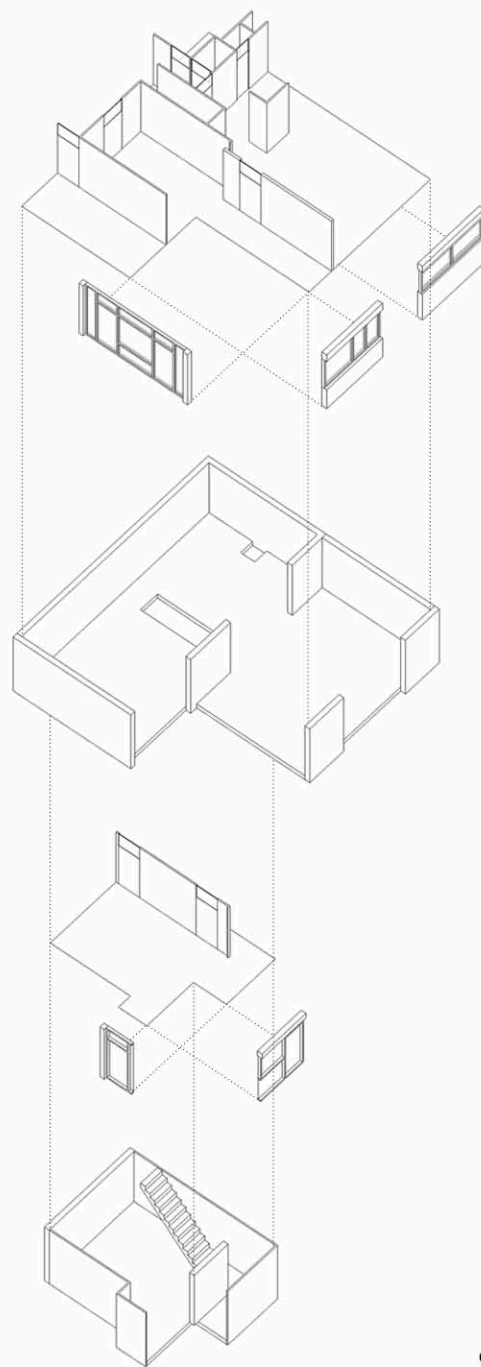


**Location in the Community**





**Family 314b**  
**Family of three**  
  
**1 year**



**Infill (upper floor):**  
interior space was divided according to the original user's demand.

**Infill (upper floor):**  
The colour and material of windows were selected by the original user.

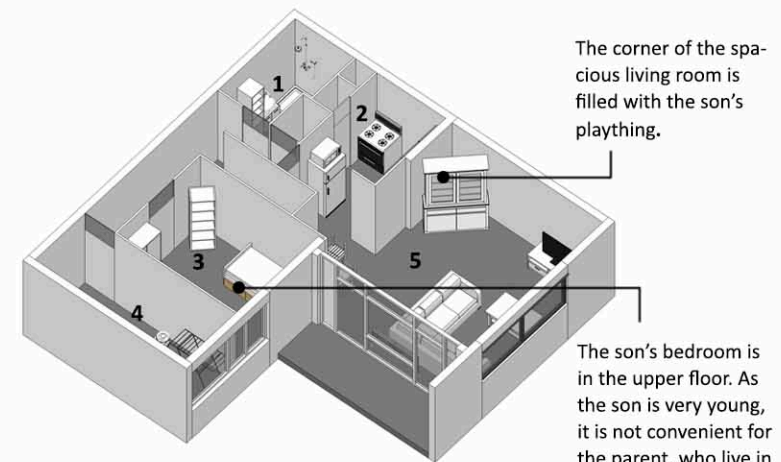
**Support (upper floor):**  
by the architect

**Infill (lower floor):**  
interior space was divided according to the original user's demand.

**Infill (lower floor):**  
The colour and material of windows were selected by original user.

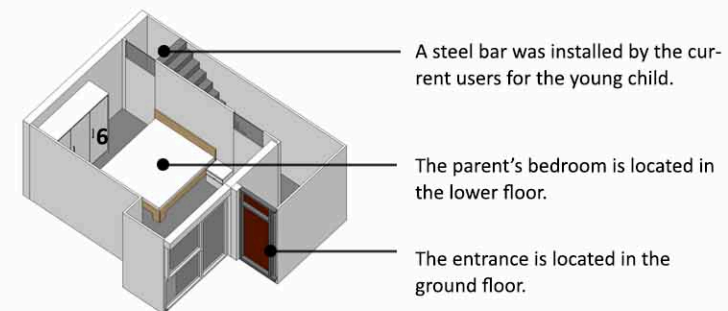
**Support (lower floor):**  
by the architect.

**Separation of Support from Infill**



The corner of the spacious living room is filled with the son's plaything.

The son's bedroom is in the upper floor. As the son is very young, it is not convenient for the parent, who live in the lower floor, to take care of him.



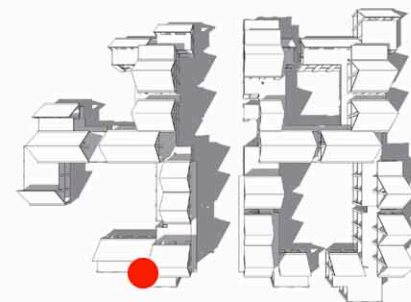
A steel bar was installed by the current users for the young child.

The parent's bedroom is located in the lower floor.

The entrance is located in the ground floor.

- 1. Bathroom
- 2. Kitchen
- 3. Second bedroom
- 4. Storage
- 5. Living room & Dining room
- 6. Main bedroom

**Current Living Situation**



**Location in the Community**