

Regen Project

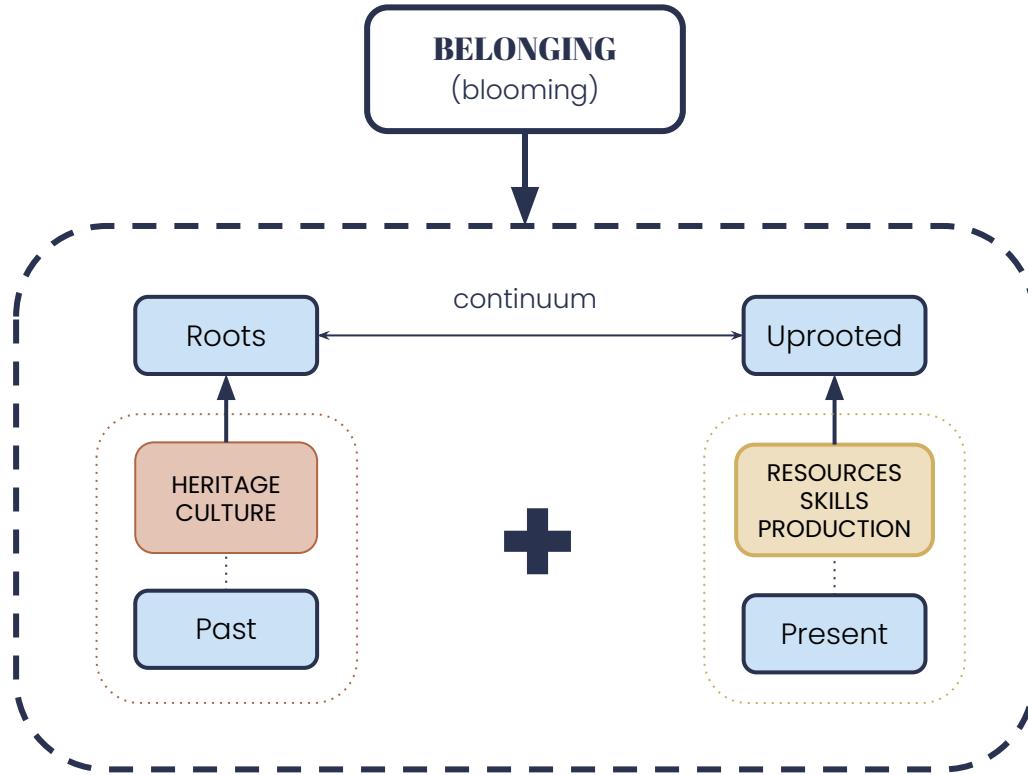
"I belong **here**, at least for a short while."

Group 1

Namrata Baruah
Sofia Kouvela
Isidora Matskidou
Solkyu Park
Stella Pavlidou

00 | Introduction

SOCIAL PROBLEM



DESIGN PROBLEMS

Living related...

- Lack of urban design and informal growth of the camp over the years
- Unevenly developed districts
- Inexistent architectural identity that would refer to the syrian heritage
- Poor living conditions that don't cover basic needs
- Overcrowding households without privacy
- Lack of communal spaces
- No feel of a community

Economically related...

- Lack of sufficient employment
- Lack of skills development
- Lack of local production
- Loss of traditional syrian craftsmanship due to movement
- Unbalanced distribution of the camp's commercial activity

DESIGN PROPOSAL

Sense of Community

Merge families to live together sharing communal facilities.

Aliveness / Production

Develop Decentralised Production Hubs combined with housing units.

Adaptive / Modular

Spaces that can be extended or repurposed organically.

Meaningful Architecture

Design Modular Housing Units with references to familiar architecture.

Production Hubs + Housing

= Neighbourhoods

DESIGN GOALS

Provide a design to improve **living conditions** by creating a **co-housing system**.

Make **use** of their **existing skills** and **develop new** ones.

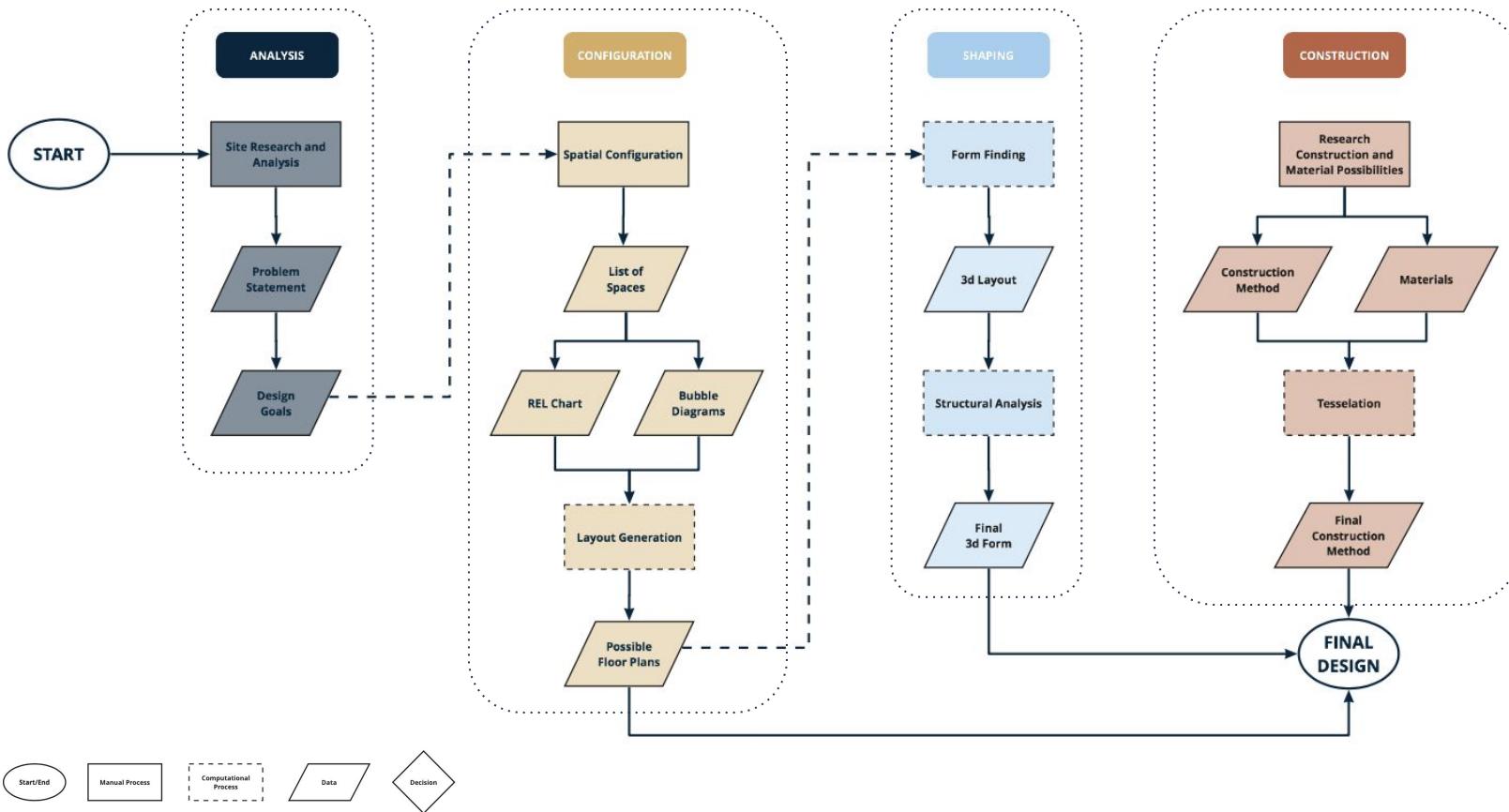
Enhance the **communal bonds** by collective **creative processes**.

Provide potentials for **economic development and growth**.

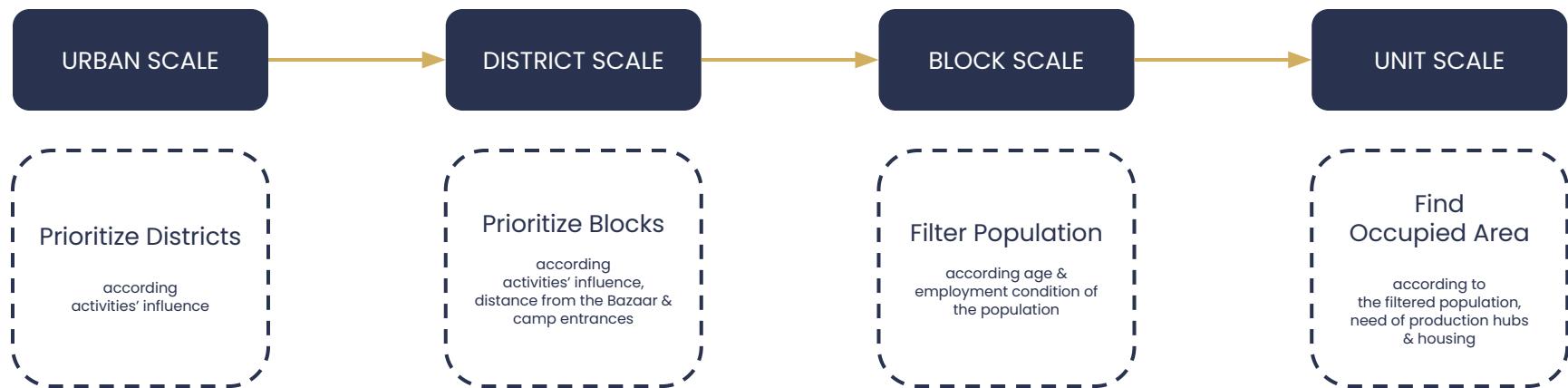


01 | Configuration

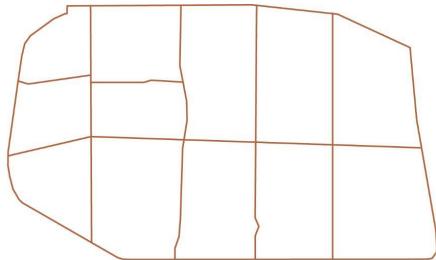
OVERALL FLOWCHART



CONFIGURING SITES



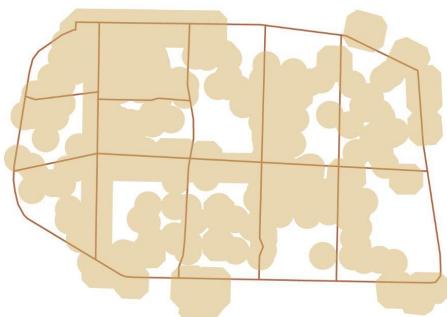
URBAN SCALE | Analysis



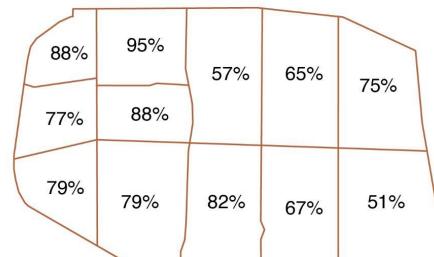
Districts



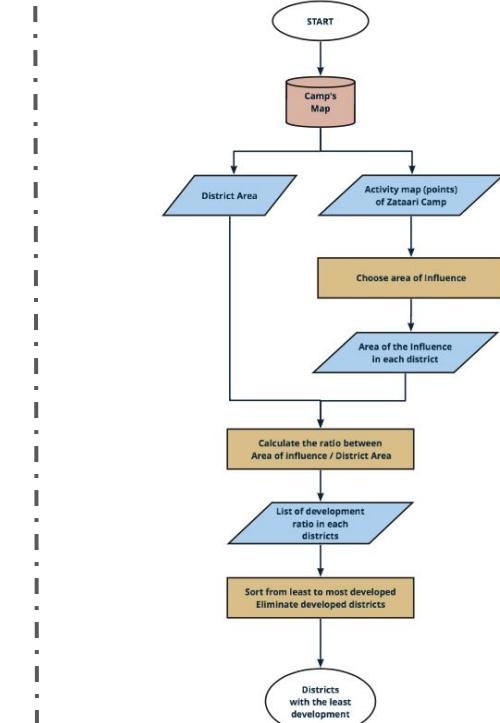
Activity spots



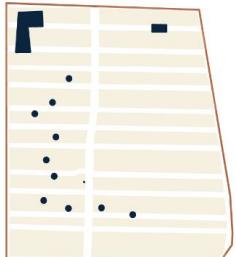
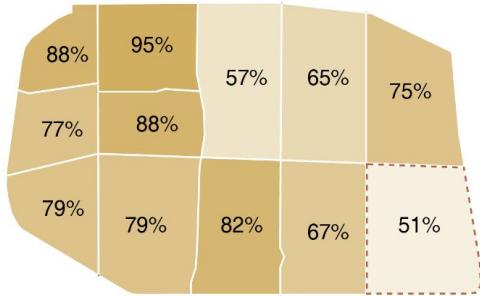
Influence area



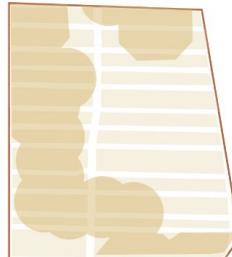
Area of influence / District Area



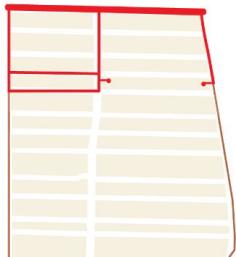
DISTRICT SCALE | Analysis



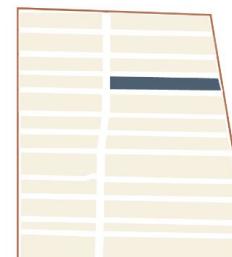
1. ACTIVITIES



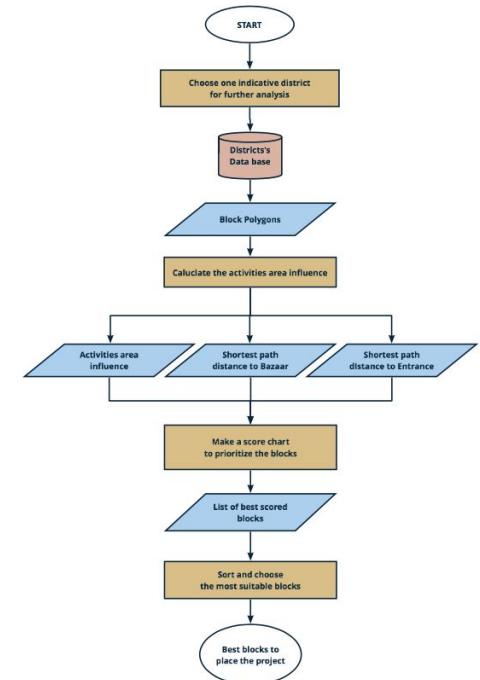
2. INFLUENCE OF ACTIVITIES



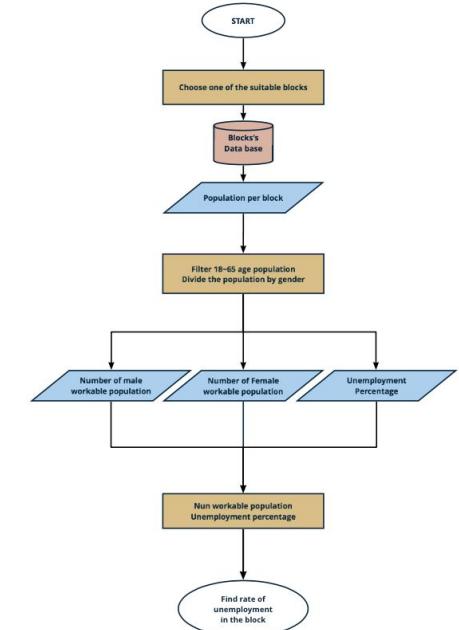
3. SHORTEST PATH TO
BAZAAR AND ENTRANCE



4. SELECTION OF THE BLOCK



BLOCK SCALE | Analysis



UNIT SCALE | Analysis

1. Count **needed covered area**



2. Count **hub area needed**



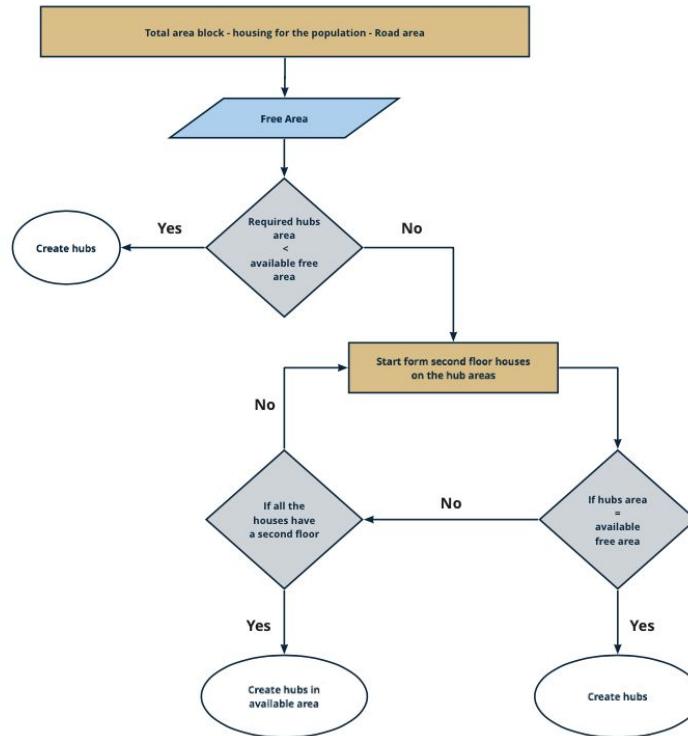
3. Start building **second floors for houses**



4. Place the hubs. If all the second floors are covered



5. If all the second floors are filled, place **hubs in remaining area**

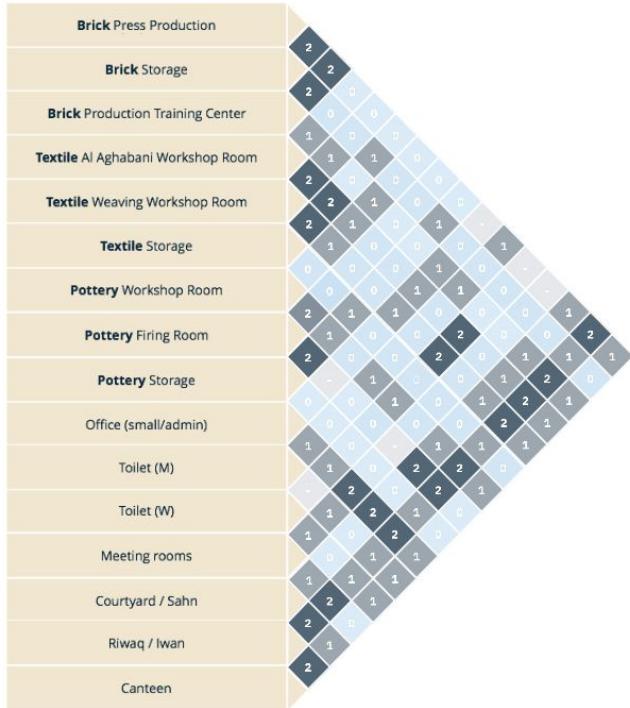


PROGRAM | Table of Functions & Requirements

#	Grid size=2,5 *2,5m	Area per person (m2)	Min num Occupants	Max Number of Occupants	Area minimum	Area Maximum	Height (m)	Connectivity	Open hours	Gender Separation	Noise / Smell generation	Accessibility	Open space to sky	
		6.25												
Commercial	1 Shops						3	Passage , Housings	day, night	N	Y	Public	N	
	2						2.7				N	Public	Y	
HUBS	3 Brick Press production	5	30	100	150	500	4	Brick Storage, Passage,	day	Y	Y	Public	Y	
	4 Brick Storage	3	30	80	90	240	4	Brick Factory	day	Y	Y	Public	Y	
	5 Training center	2	30	100	60	200	3	Brick Factory, Brick Storage, Passage	day	Y	Y	Public	N	
	6 Textile- Al Aghabani Workshop Room	4	30	100	120	400	3	Handicraft Storage	day, night	Y	N	Public	N	
	7 Textile- Weaving Workshop Room	4	30	100	120	400								
	8 Textile- Storage	n/a	-	-	25	25	3							
	9 Pottery- Workshop Room	4	30	100	120	400	3							
	10 Pottery- Firing Room	1	30	100	30	100	3							
	11 Pottery- Storage	n/a	-	-	25	25	3							
	12 Office (small/admin)	12	5	10	60	120	3							
	13 Toilet (M)	2.5	15	50	37.5	62.5								
	14 Toilet (W)	3	15	50	45	150	3							
	15 Meeting rooms	2	30	40	60	80	3	Handicrafts Workshops, canteen, courtyard	day, night	Y	Y	Public	N	
	16 Courtyard / Sahn	5	30	100	150	500	-	Canteen, Handicraft Workshops, Training center, Brick press production	day, night	N	Y	Public	Y	
	17 Riwaaq / Iwan	5	30	100	150	500								
	18 Canteen	2	30	100	60	200	3	Courtyard, Training center, Brick press production, Handicrafts workshops	day, night	Y	Y	Public	Y	
	sum		365	1130	1302.5	3902.5								
HOUSING	#	Grid size=2,5 *2,5m	Area per person (m2)	Min num Occupants	Max Number of Occupants	Area minimum	Area Maximum	Height (m)	Connectivity	Open hours	Gender Separation	Noise / Smell generation	Accessibility	Open space to sky
	19 Bedrooms	4.5	4	12	18	54	3	Foyer, Courtyard, Toilet	day, night		N	Private	N	
	20 Living rooms	3.5	4	12	14	42	3							
	22 Toilets	1.5	4	12	6	18	3							
	23 Bathrooms	2.35	4	12	9.4	28.2	3							
	24 Kitchen	3	4	12	12	36	3							
	25 Dining Area	2.5	4	12	10	30	3							
	27 Inner Courtyard	4	4	12	16	48	3	Courtyard, foyer	day, night		N	Private	N	
	28 Riwaaq	1.25	4	12	5	15	3	Stairs, Foyer, Rooms	day, night		N	Semi	Y	
	29 Stairs	1.25	4	12	5	15	3	Rooms	day, night		Y	Private	N	

PROGRAM | REL Chart

REL Chart Production Areas

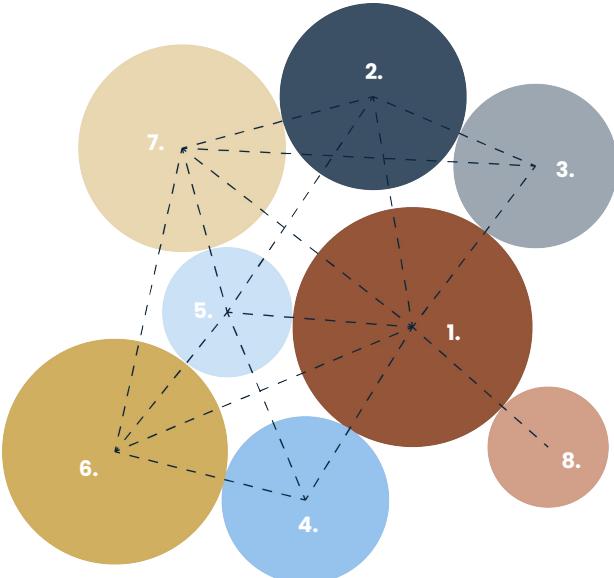
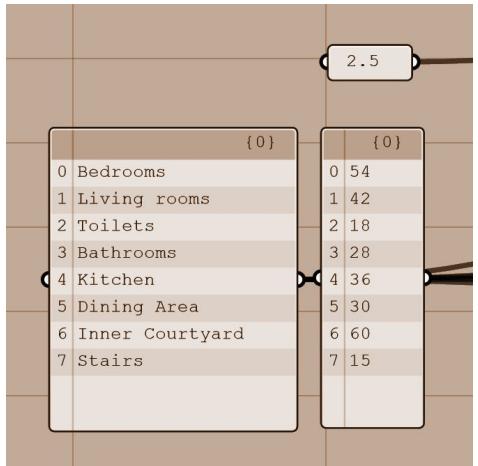


REL Chart Houses

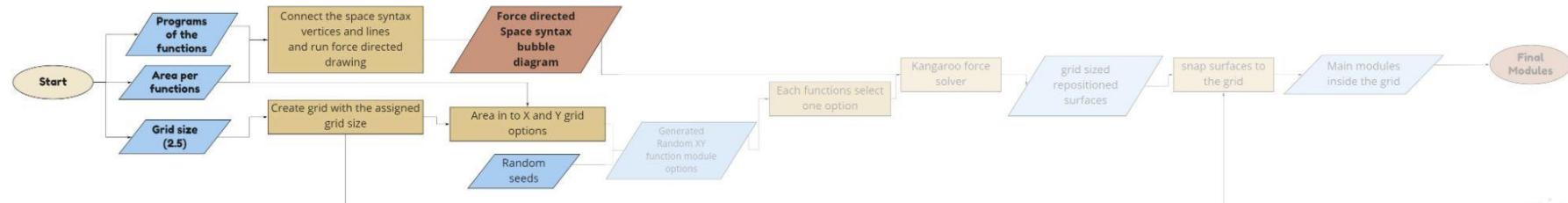


- 2 Adjacent
- 1 Nearby
- 0 Neutral
- Negative

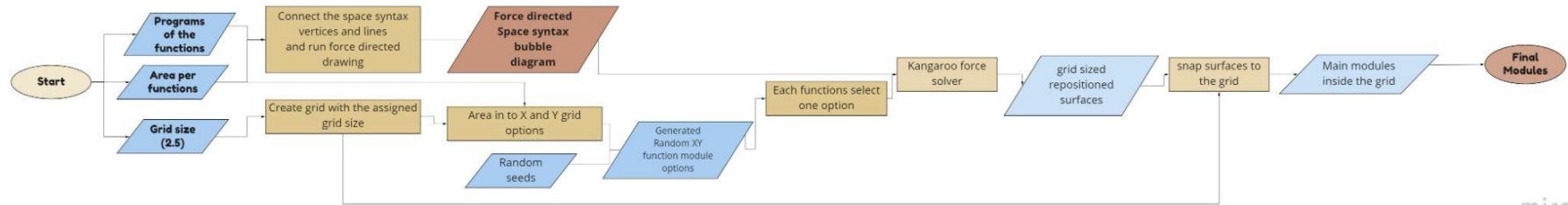
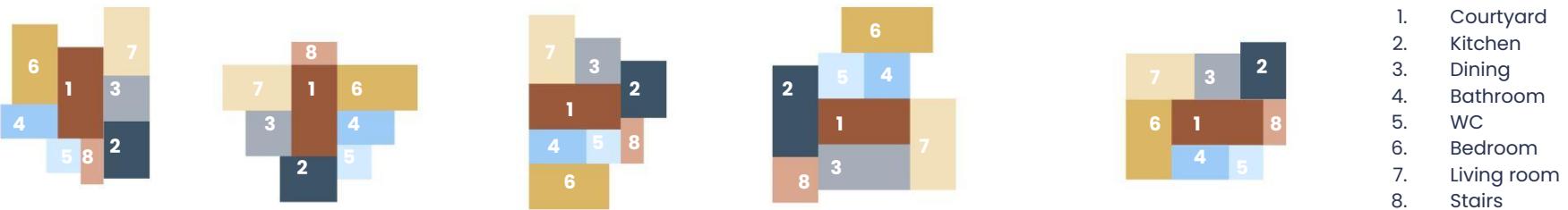
PROGRAM | Housing



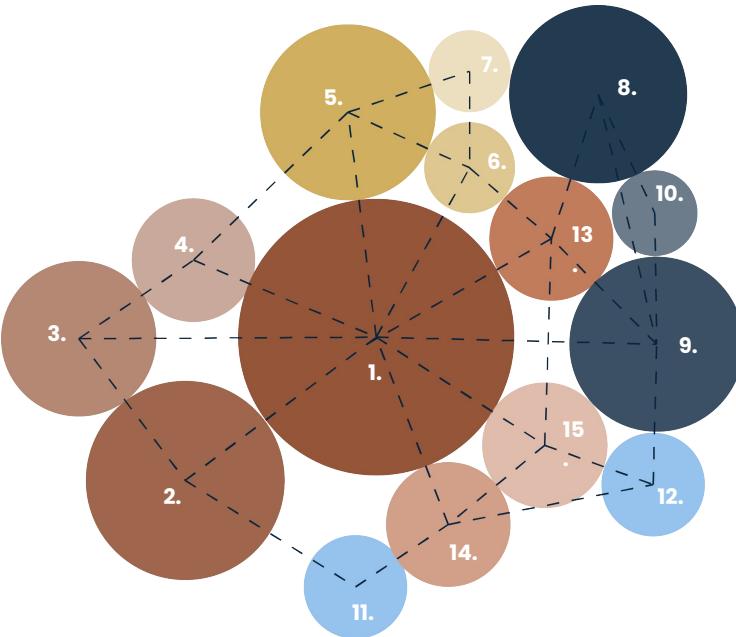
1. Courtyard
2. Kitchen
3. Dining
4. Bathroom
5. WC
6. Bedroom
7. Living room
8. Entrance /stairs



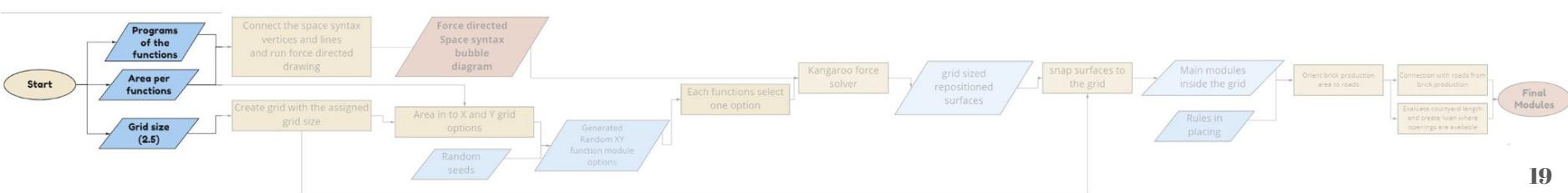
PROGRAM | Housing



PROGRAM | Bubble Diagram_hub

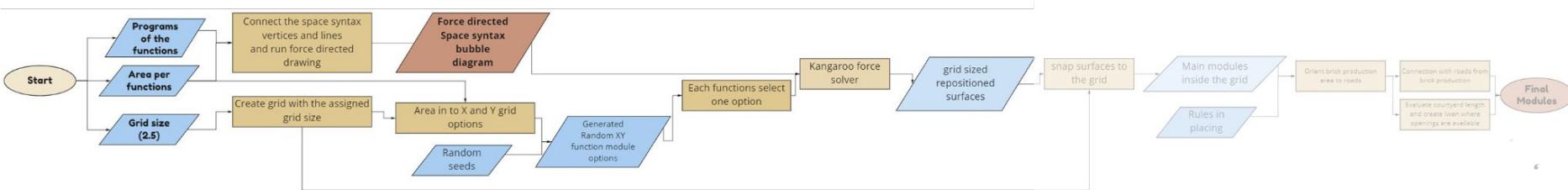
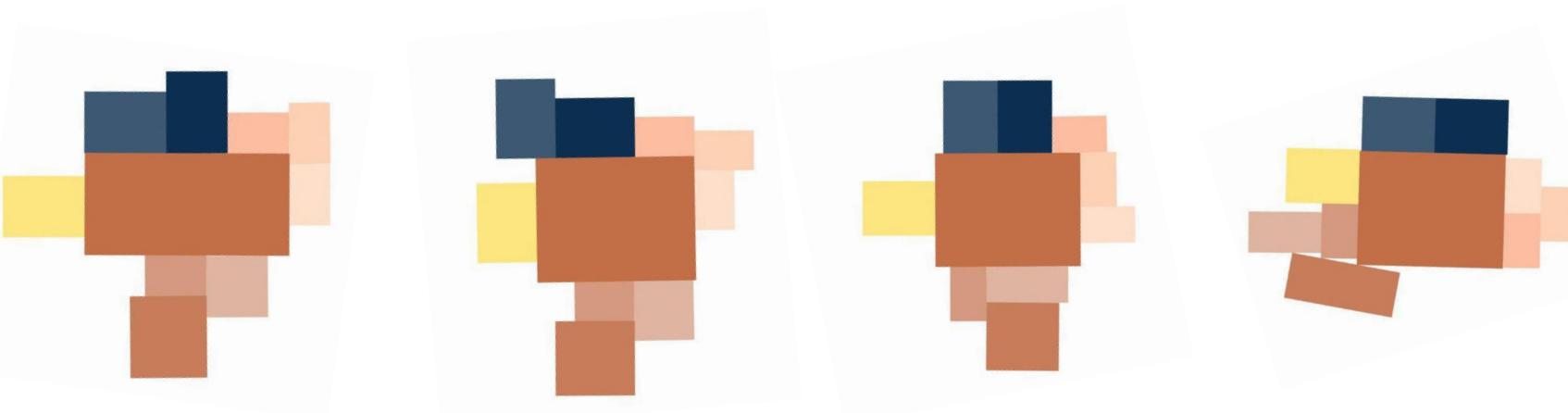


1. Riwaq
2. Brick Production
3. Brick Storage
4. Brick Training area
5. Pottery Workshop
6. Pottery Firing room
7. Pottery Storage
8. Textile Workshop
9. Textile Weaving
10. Textile Storage
11. Toilets (men)
12. Toilets (women)
13. Canteen
14. Meeting Point
15. Office

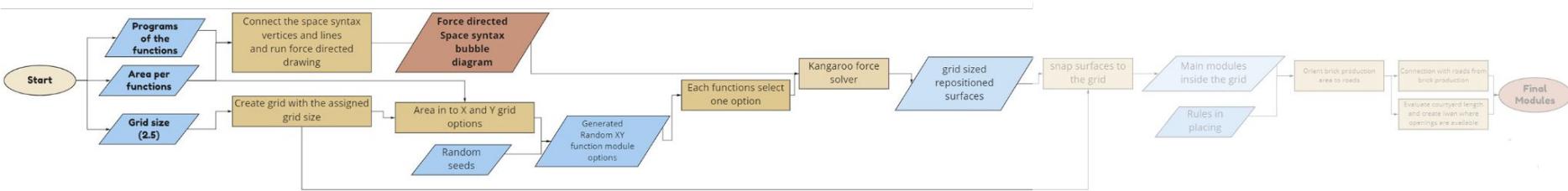
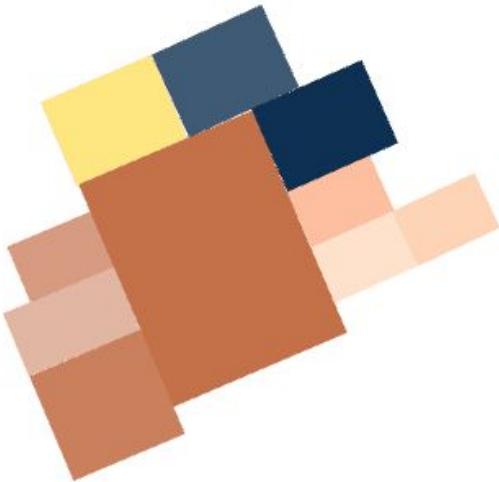


PROGRAM | Hub

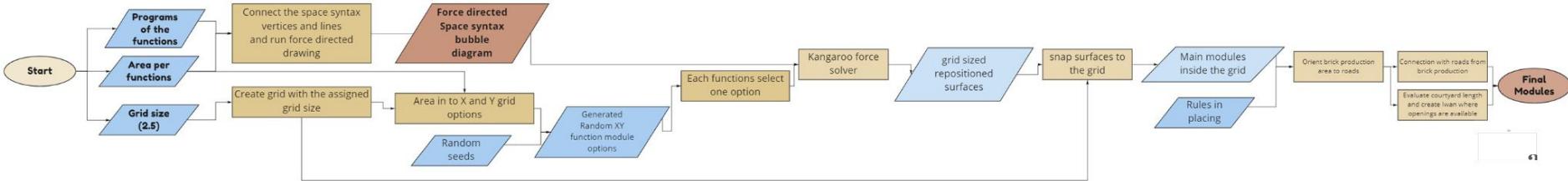
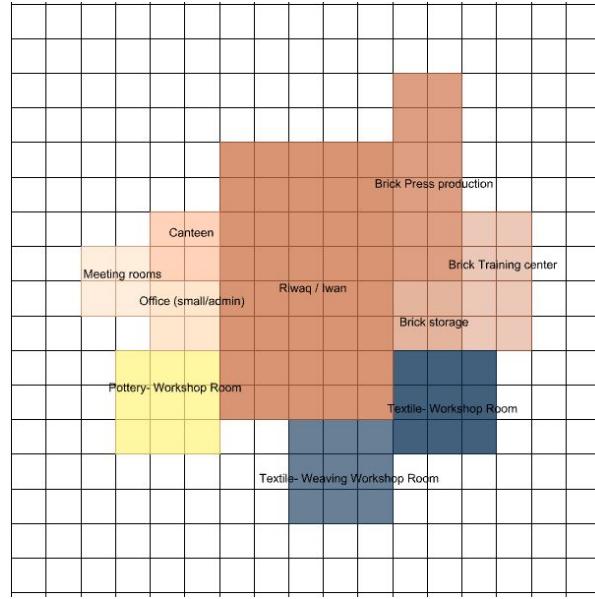
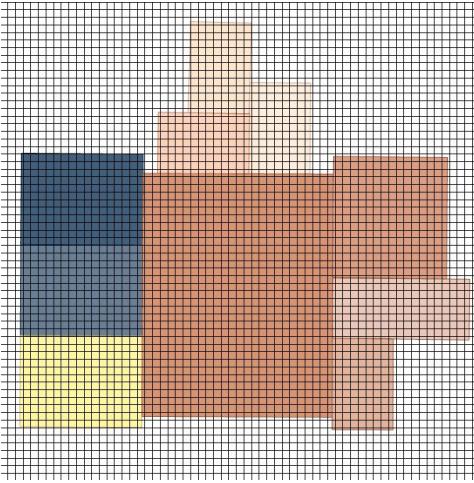
* different iterations of X and Y length based from the same bubble diagrams



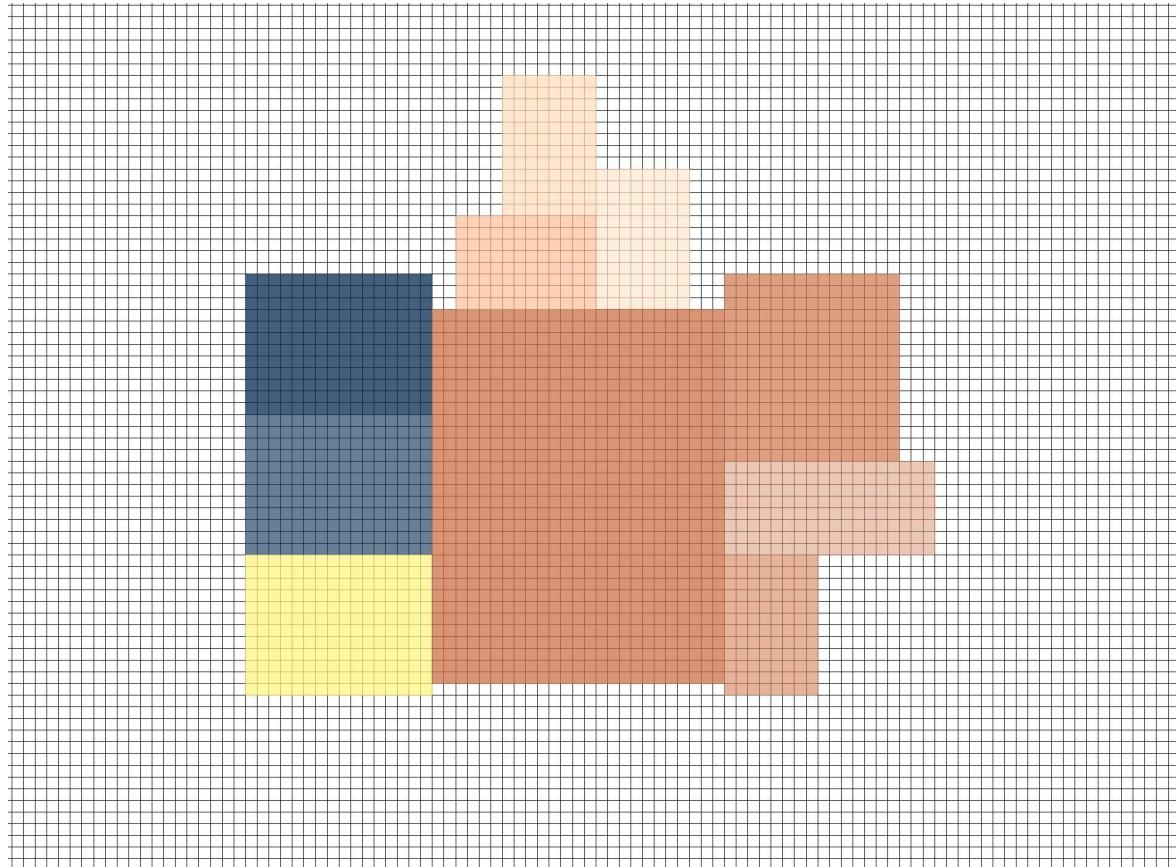
PROGRAM | Hub



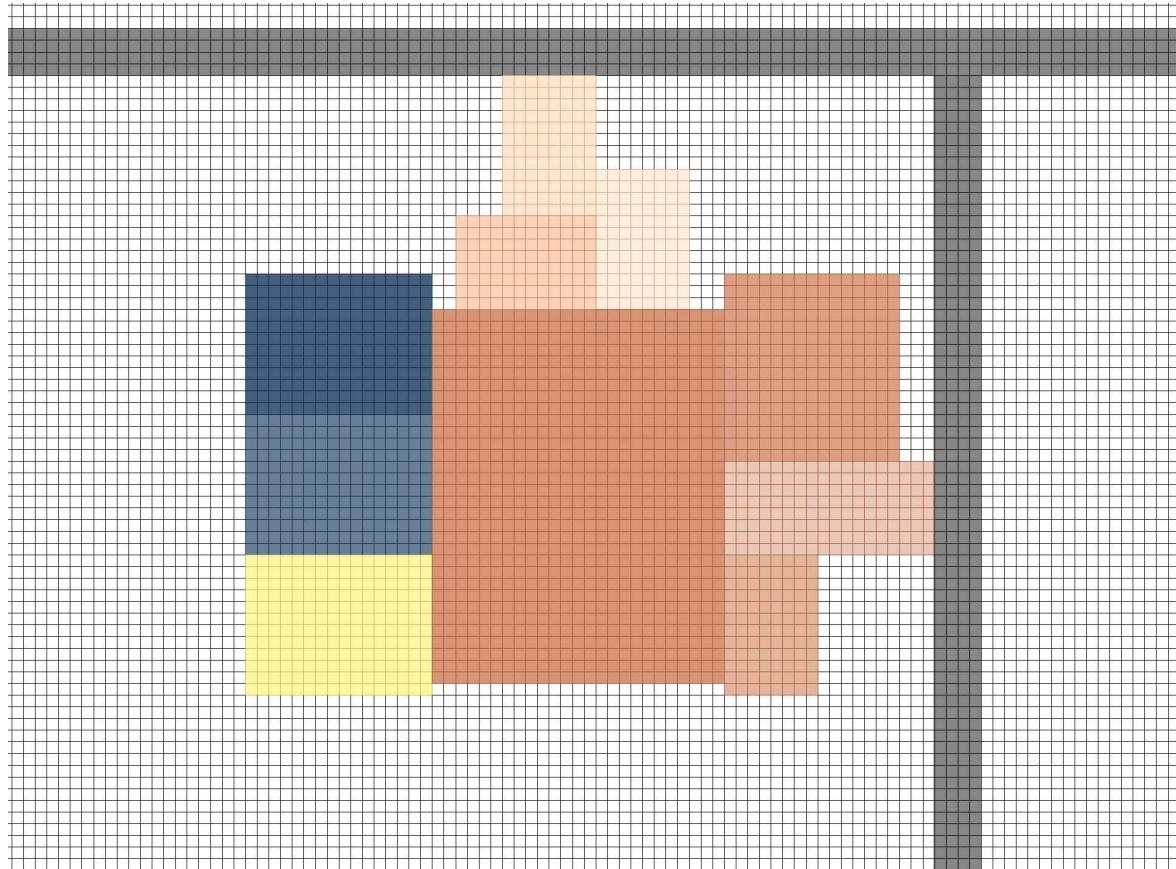
PROGRAM | Hub



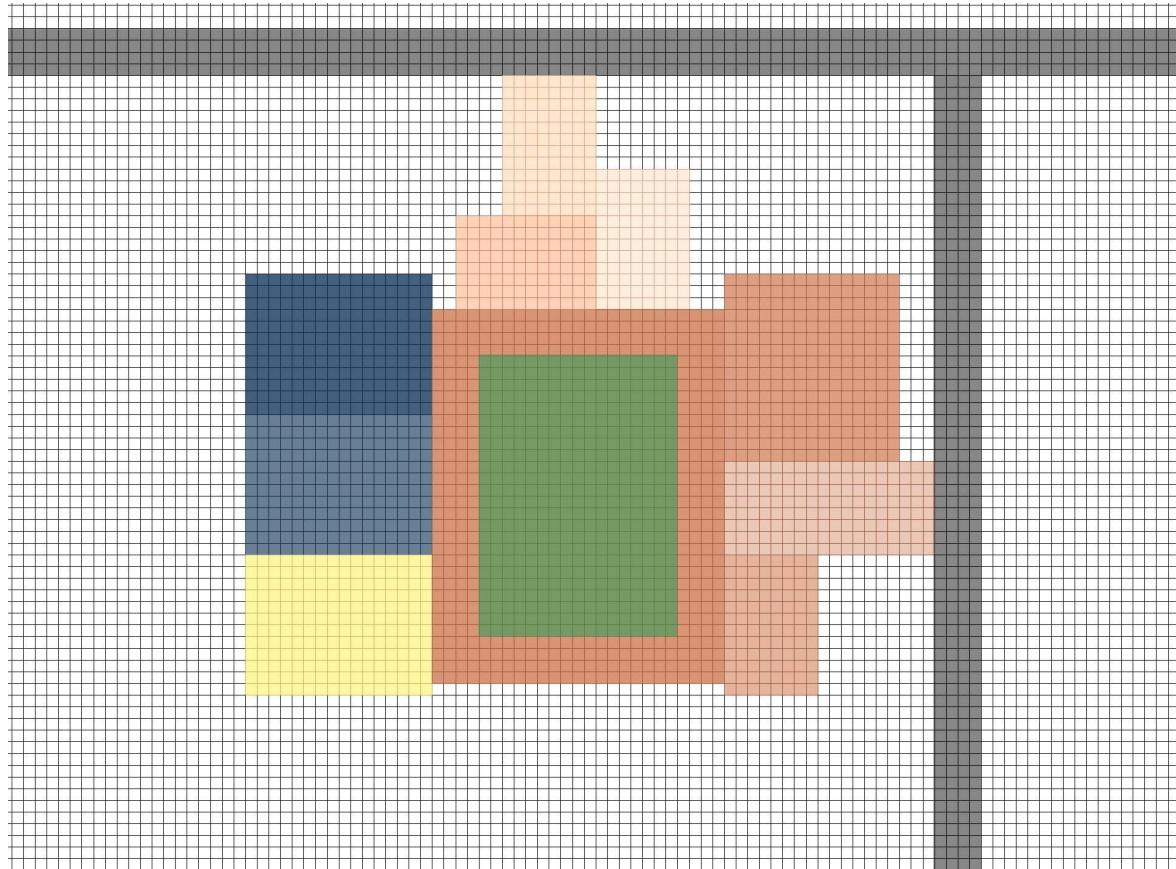
PROGRAM | Logic animation



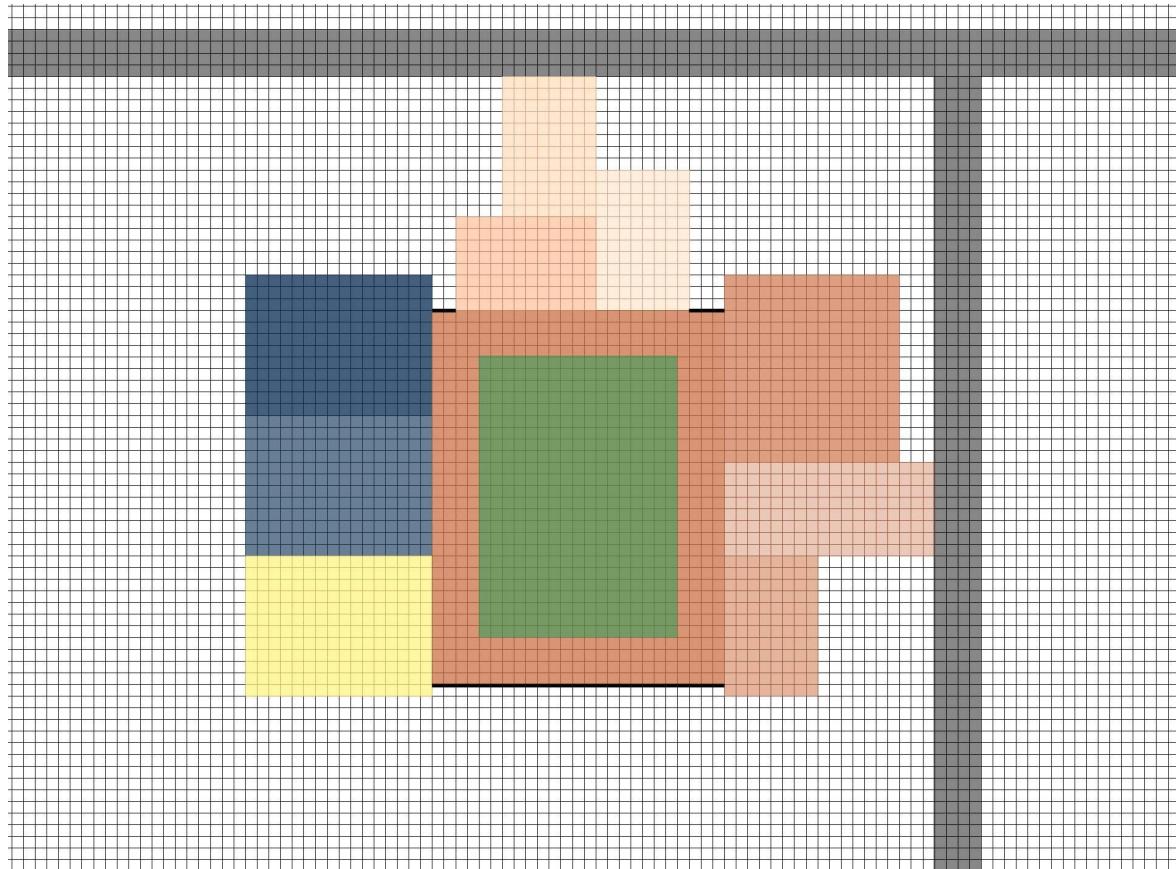
PROGRAM | Logic animation



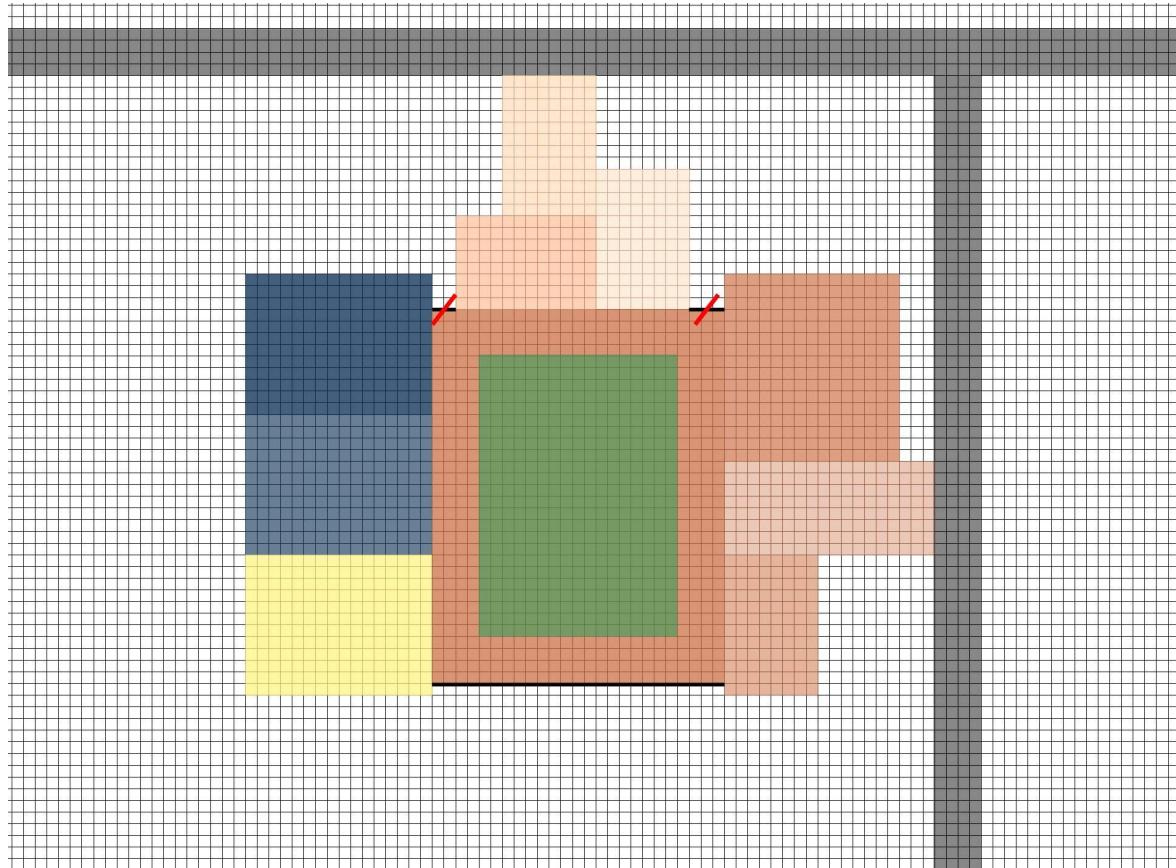
PROGRAM | Logic animation



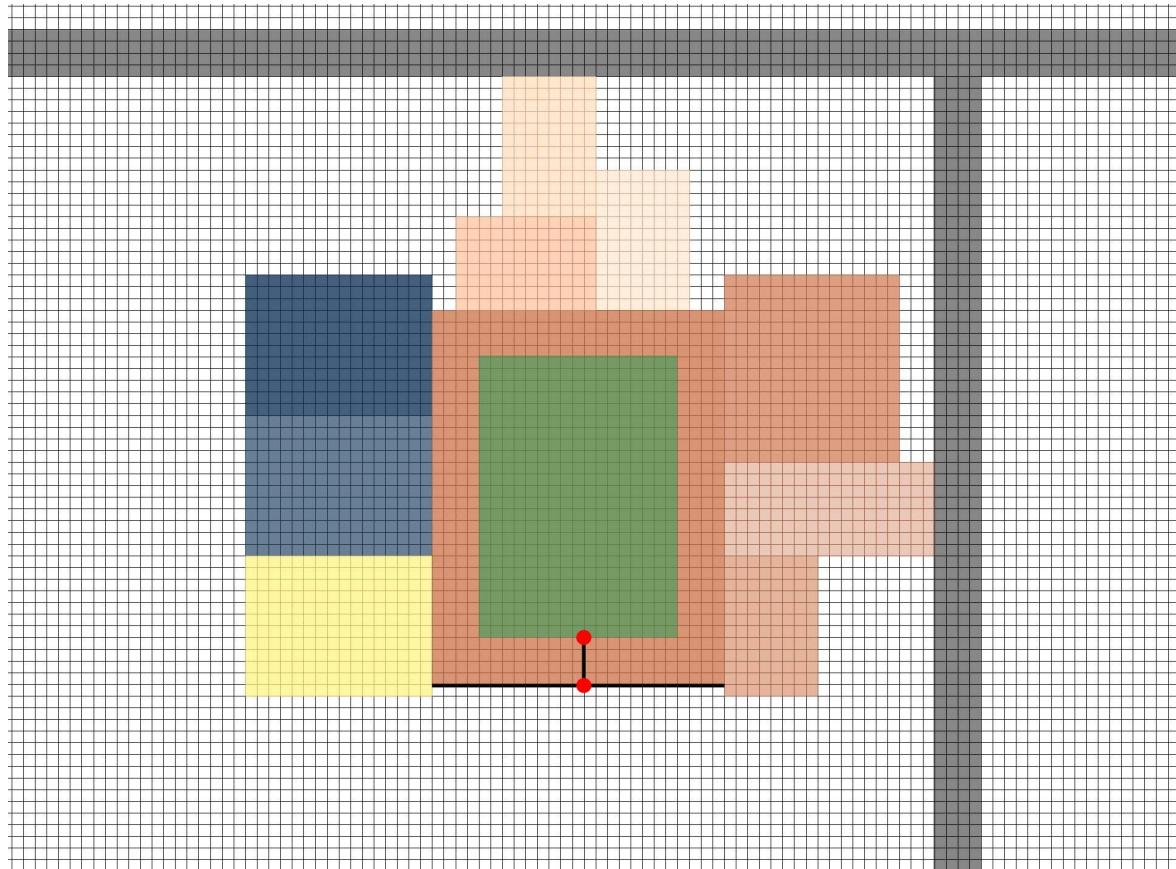
PROGRAM | Logic animation



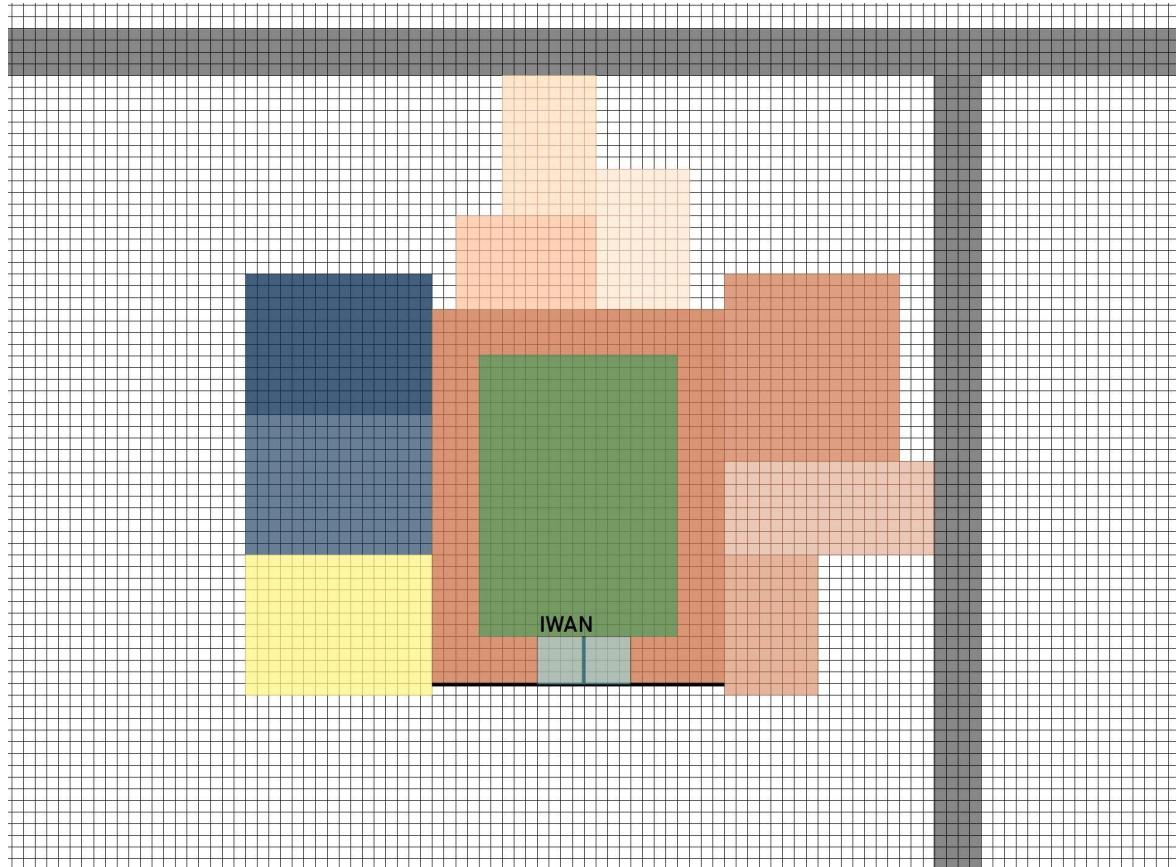
PROGRAM | Logic animation



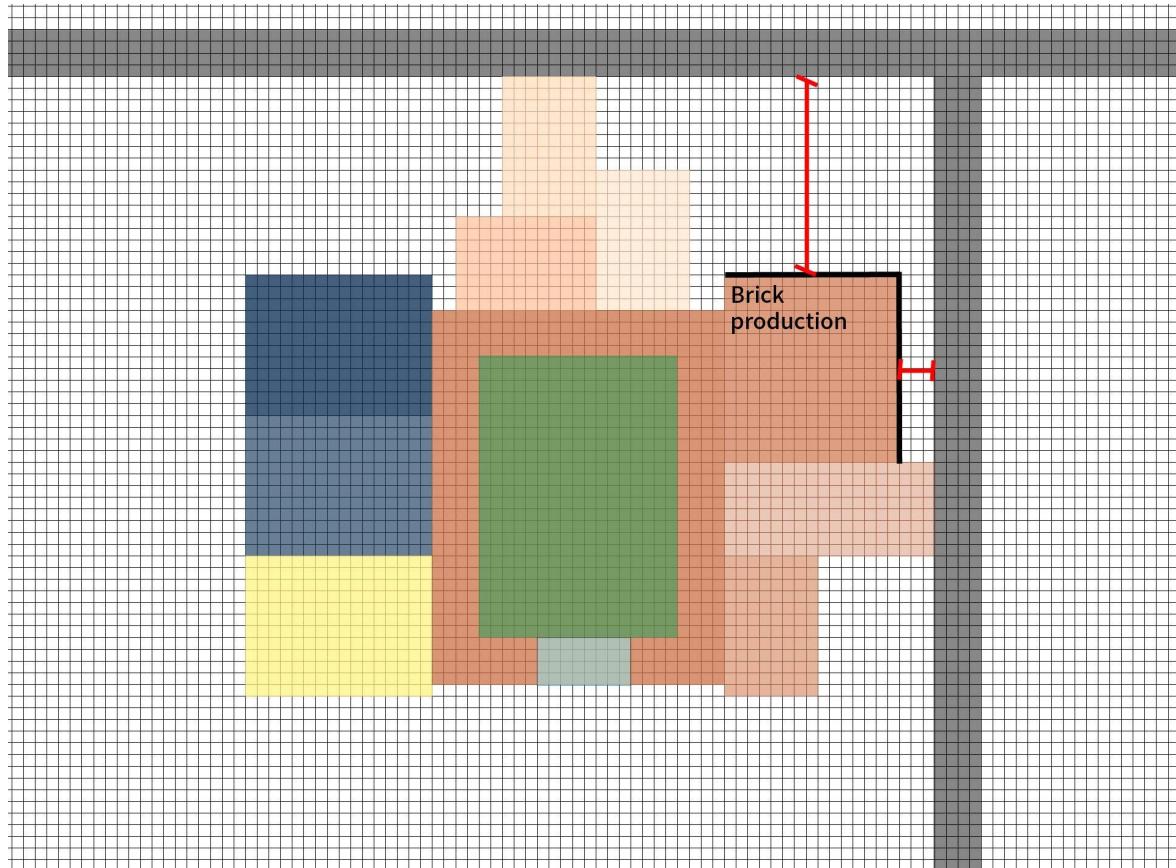
PROGRAM | Logic animation



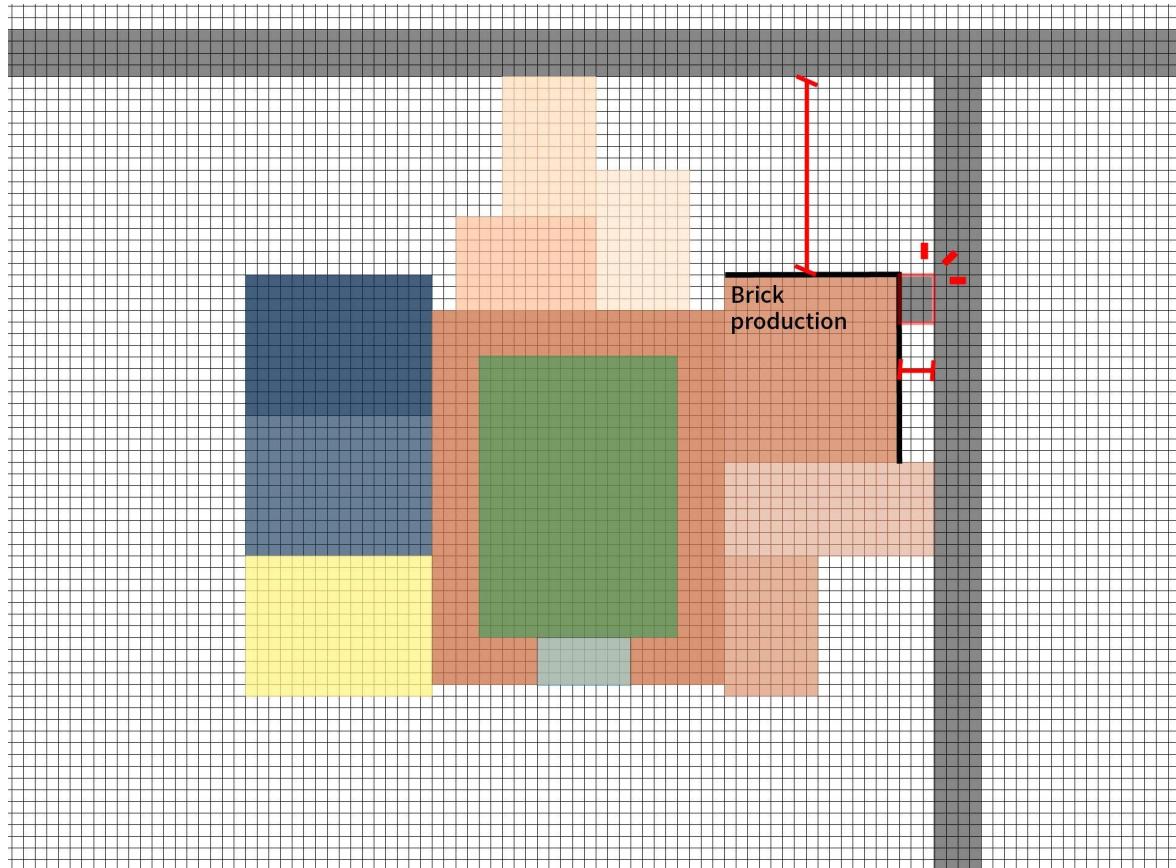
PROGRAM | Logic animation



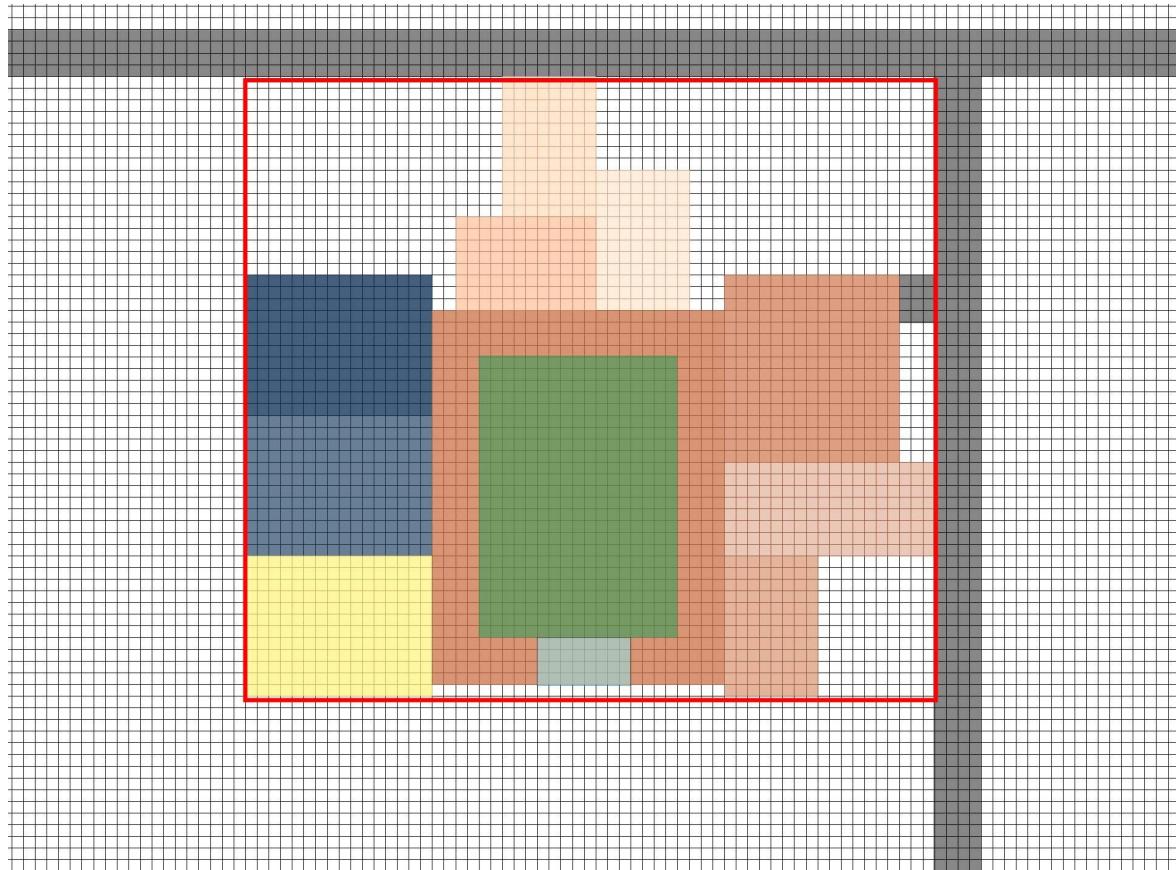
PROGRAM | Logic animation



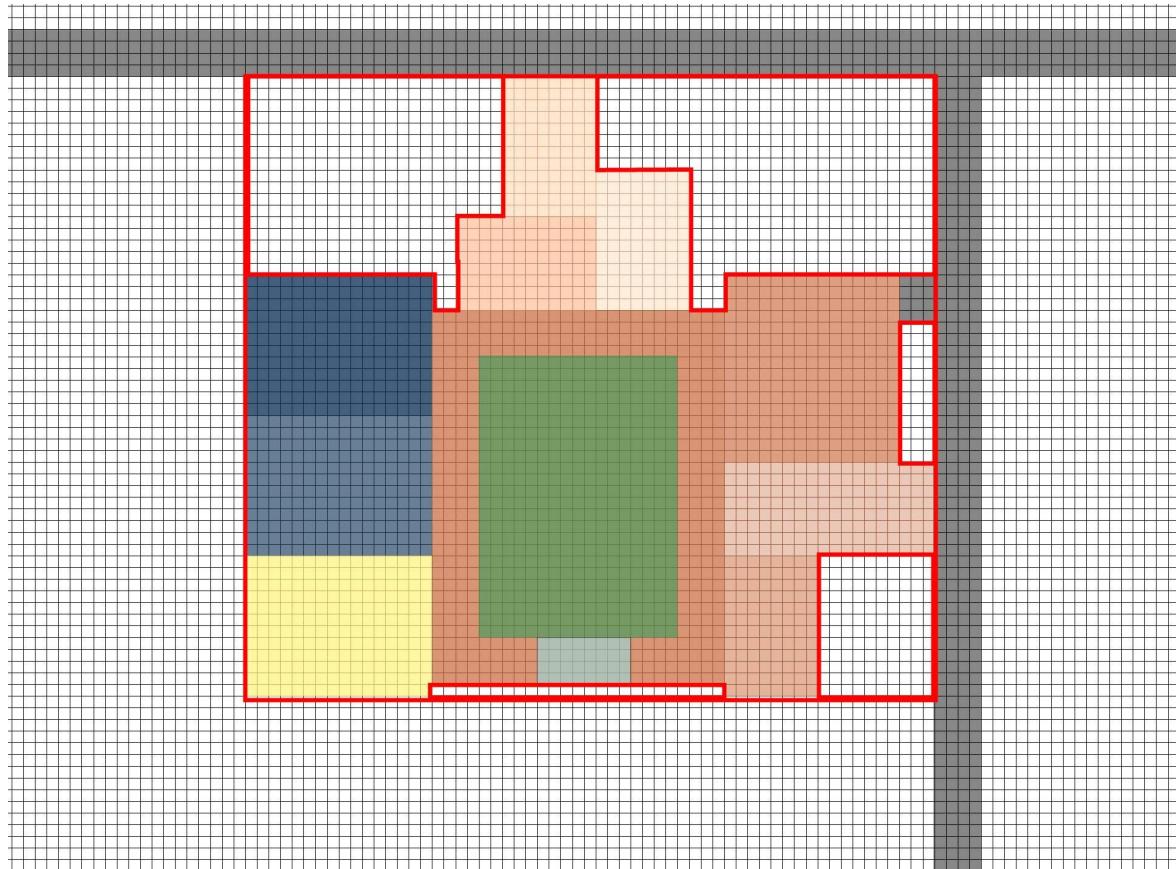
PROGRAM | Logic animation



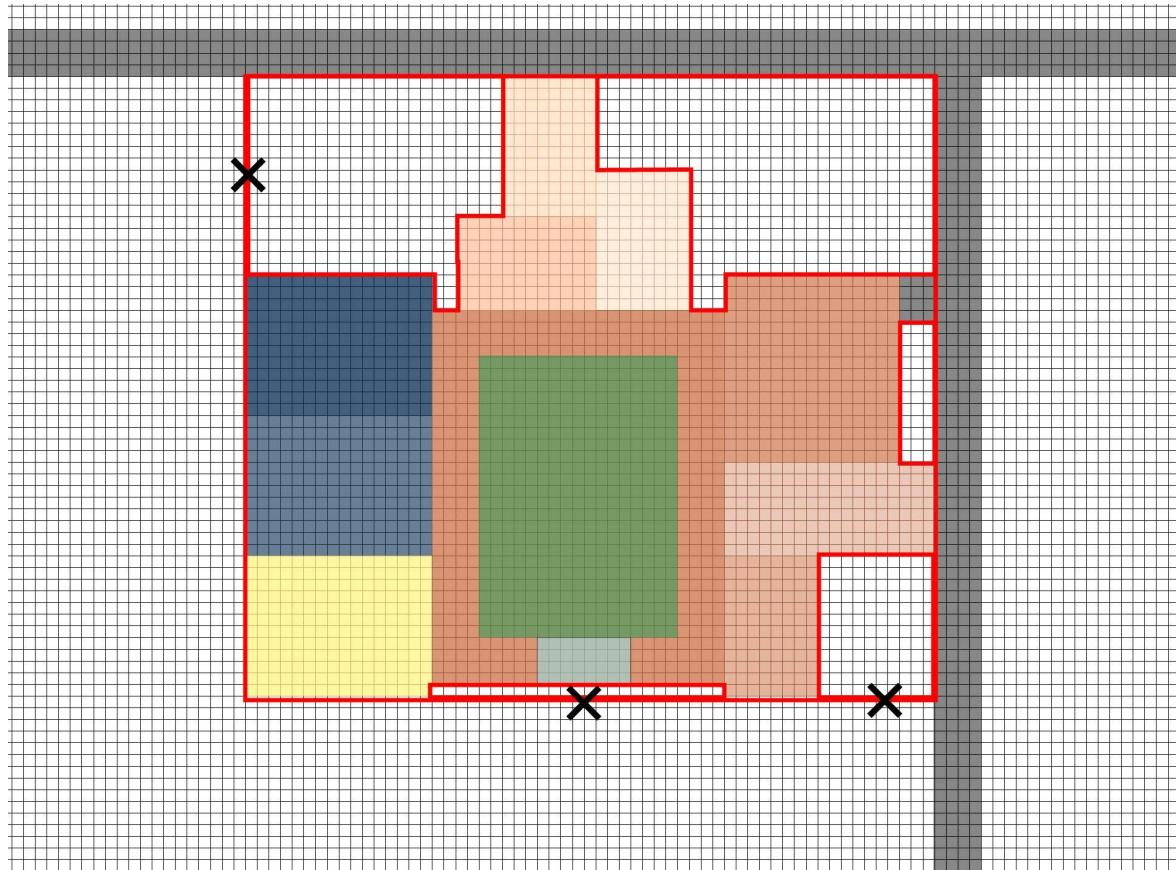
PROGRAM | Logic animation



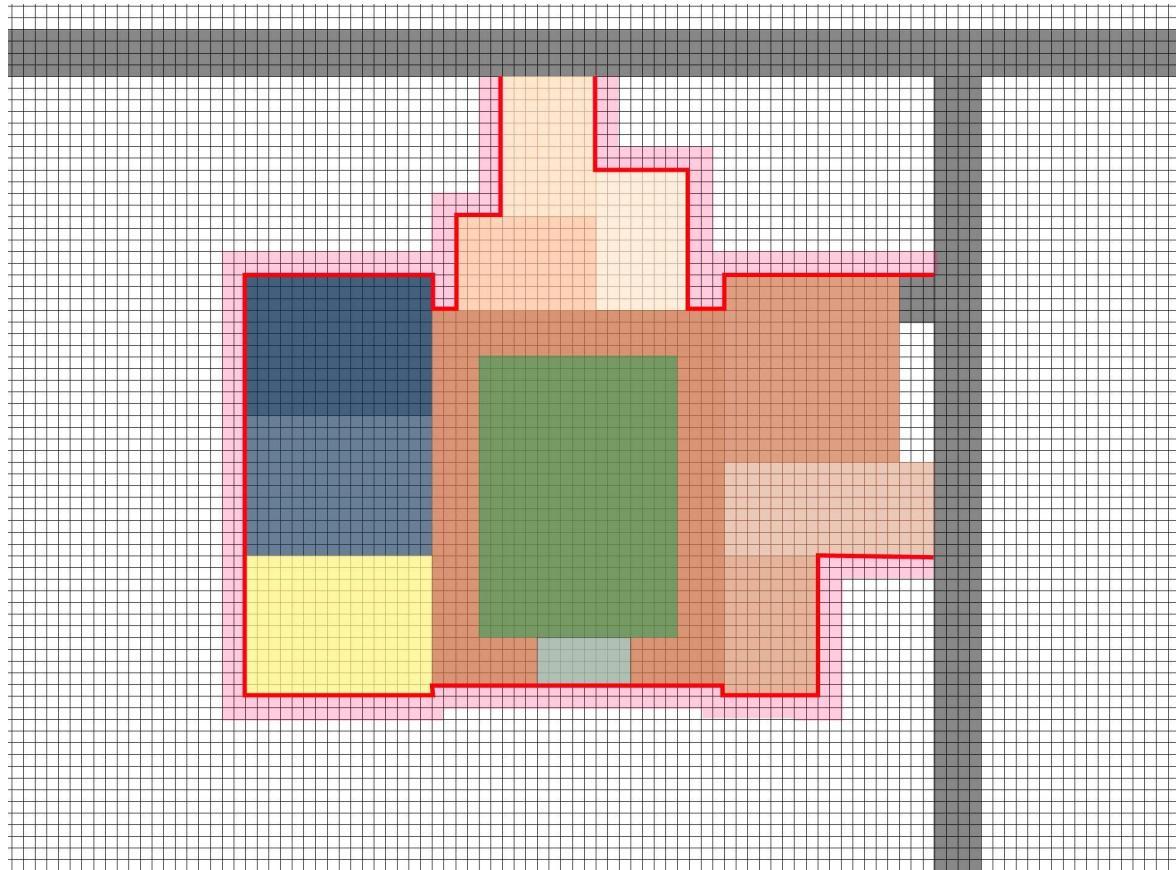
PROGRAM | Logic animation



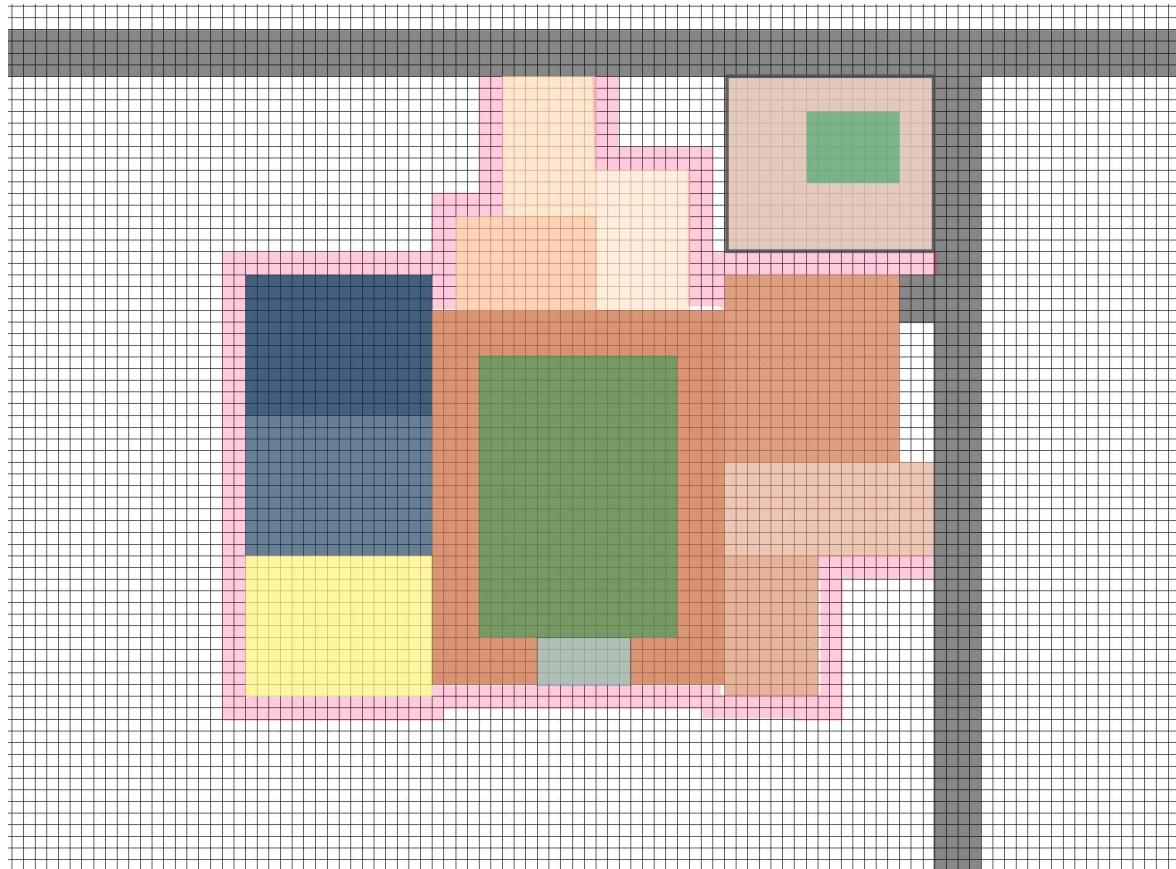
PROGRAM | Logic animation



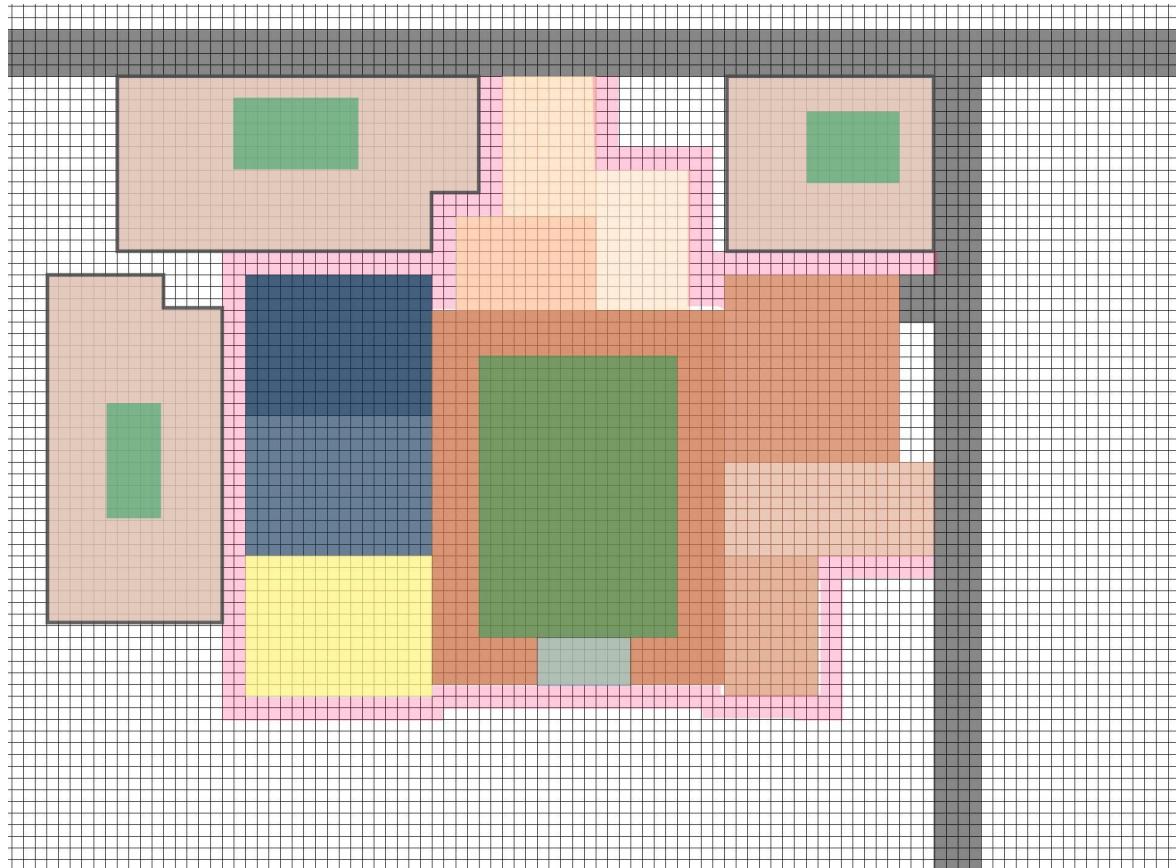
PROGRAM | Logic animation



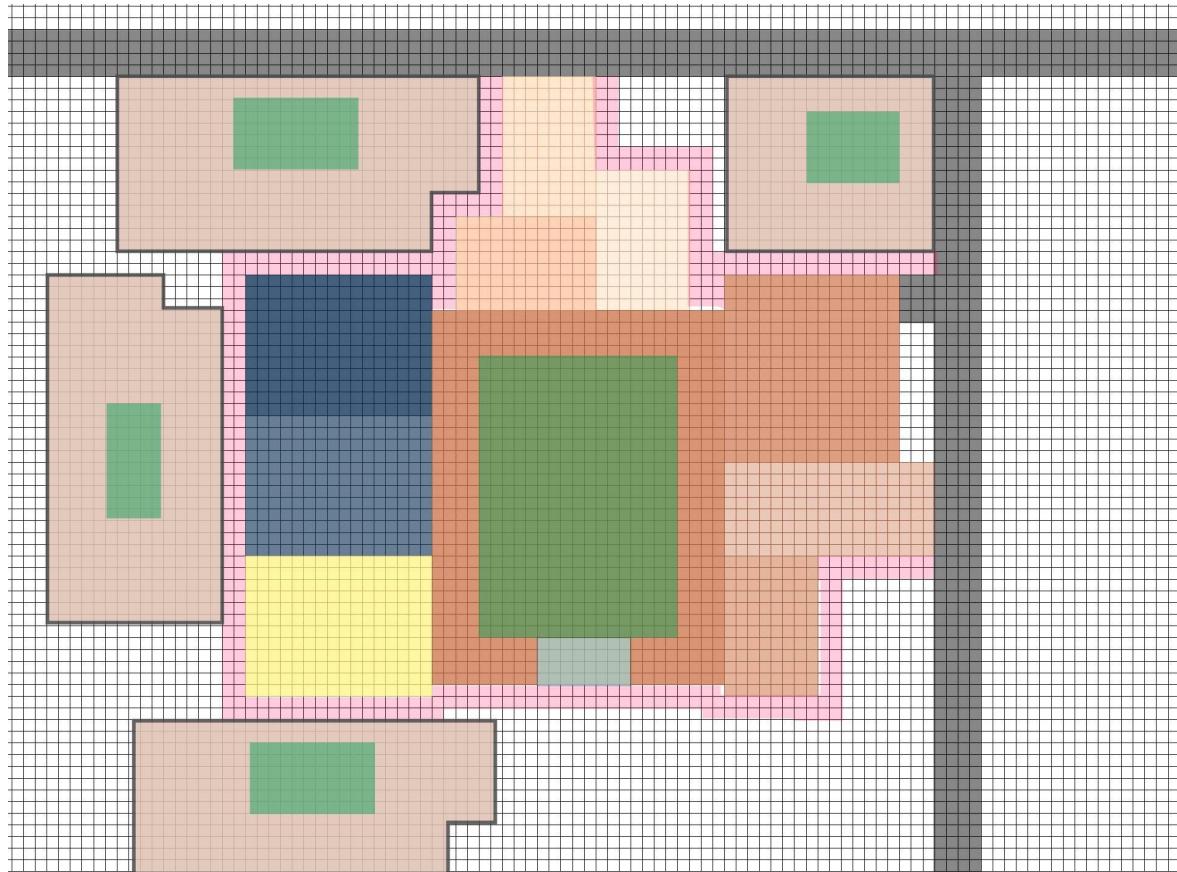
PROGRAM | Logic animation



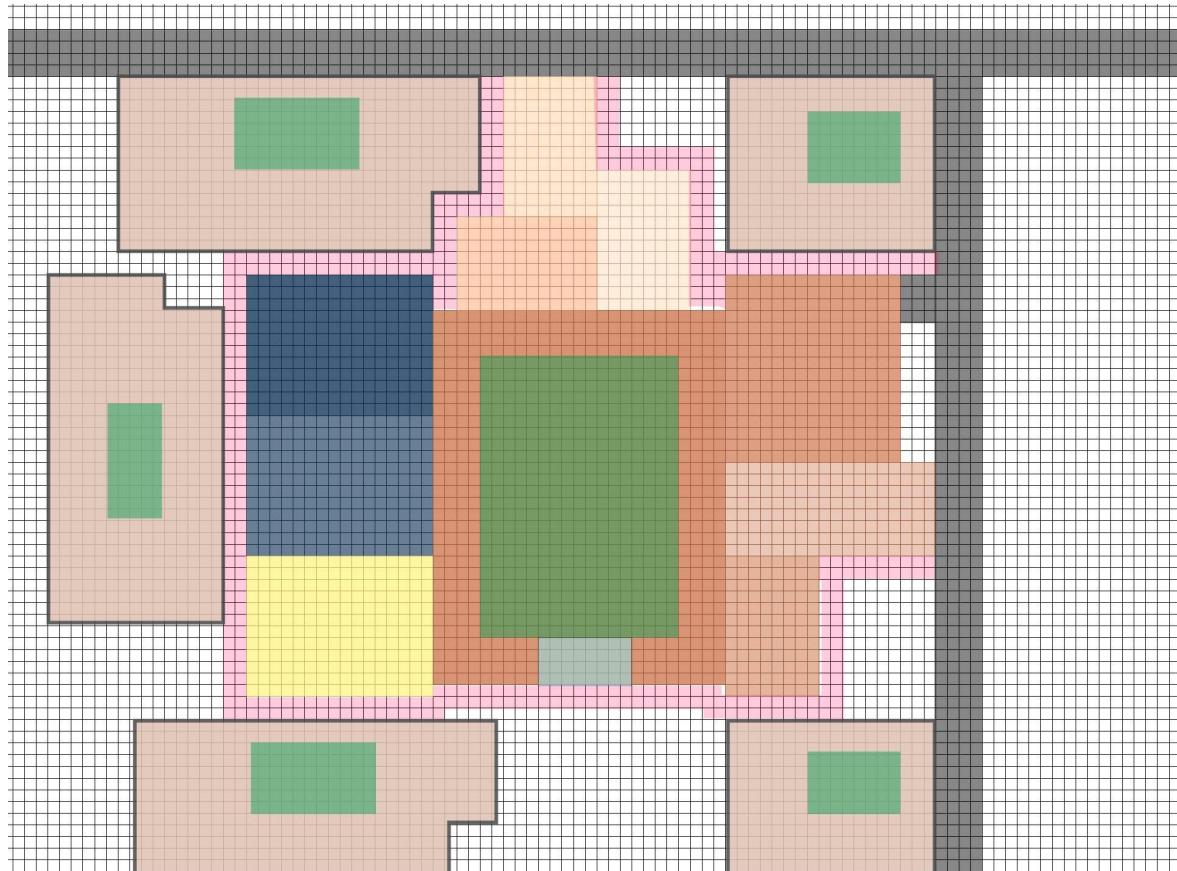
PROGRAM | Logic animation



PROGRAM | Logic animation

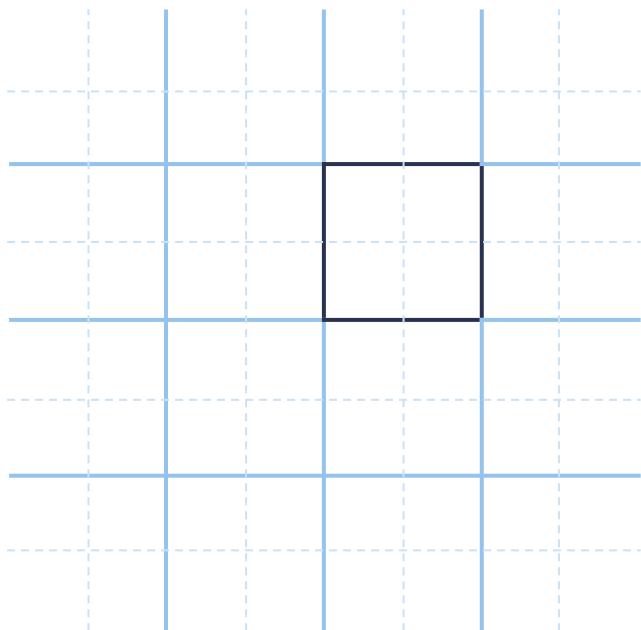


PROGRAM | Logic animation

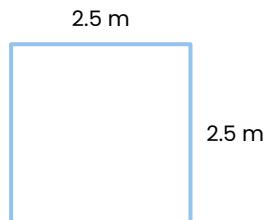


02 | Shaping

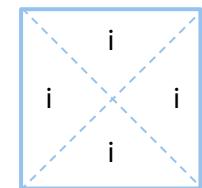
SHAPING | Grid & Module



MESH

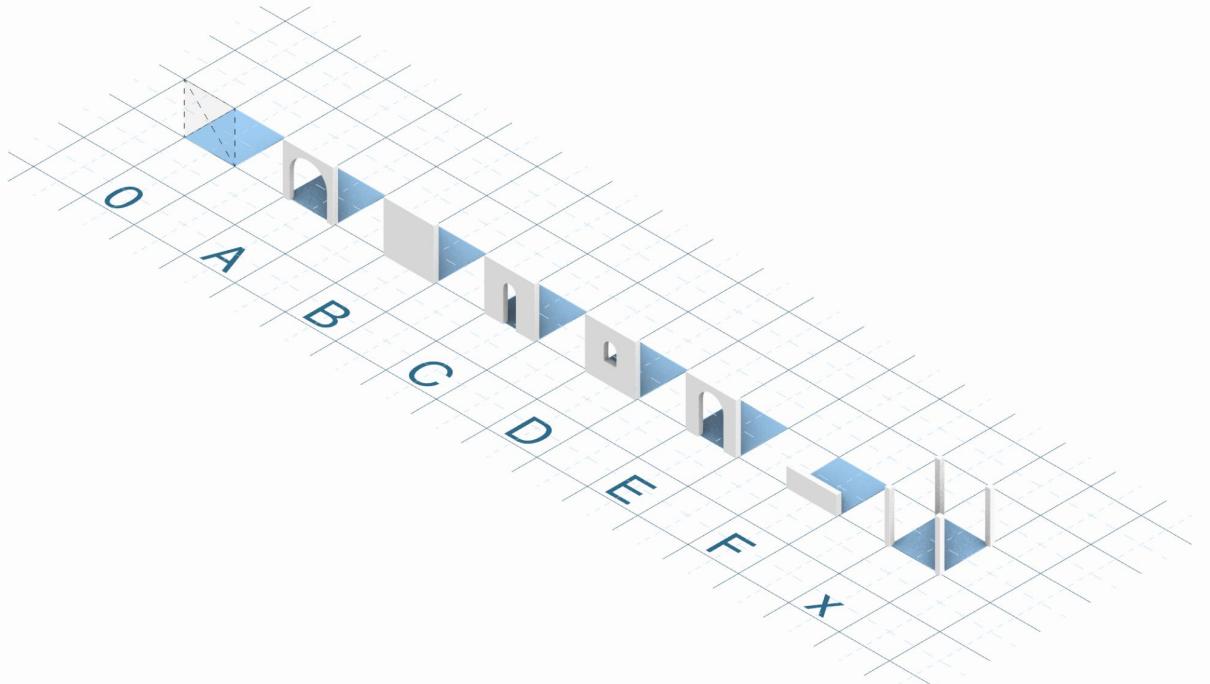


MODULE



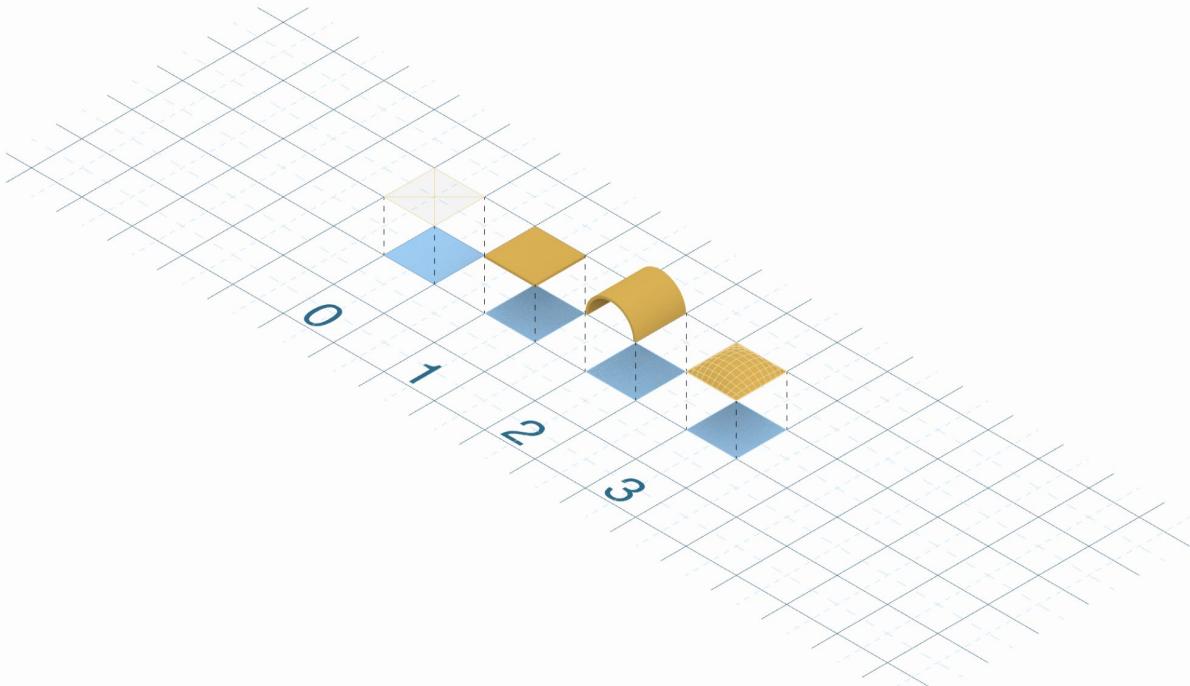
TRANSLATION

SHAPING | 2D Connecting Elements



- O** connection of modules without barriers
- A** open connection
connection to same modules
- B** closed connection
connection wall between modules
- C** internal connection
connection door between modules
- D** visual connection
connection window with the outer space
- E** entrance connection
connection door between indoor-outdoor
- F** balustrade connection
connection to empty space
- X** column connection
connection for storey extension

SHAPING | 3D Connecting Elements



0 no connection

1 flat roof

2 vault structure

3 dome structure

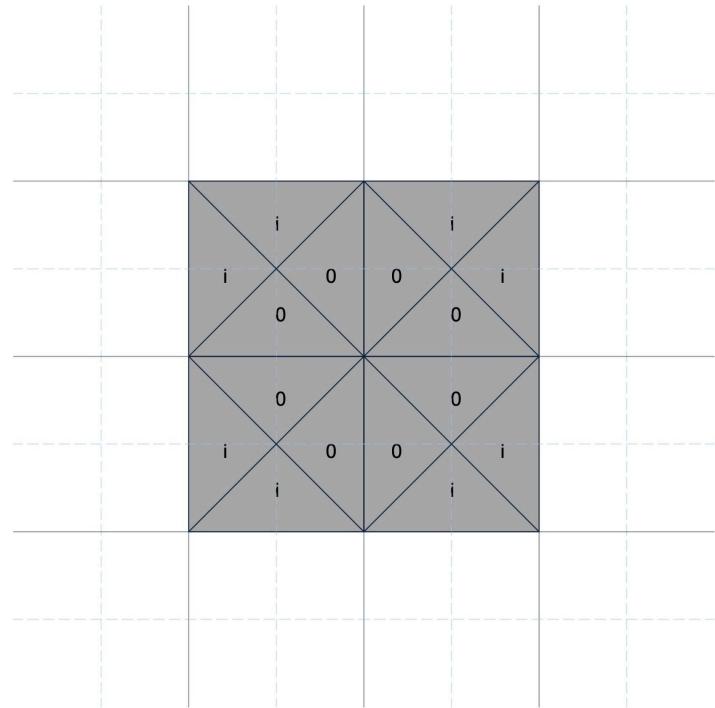
+ walk on top

able to built

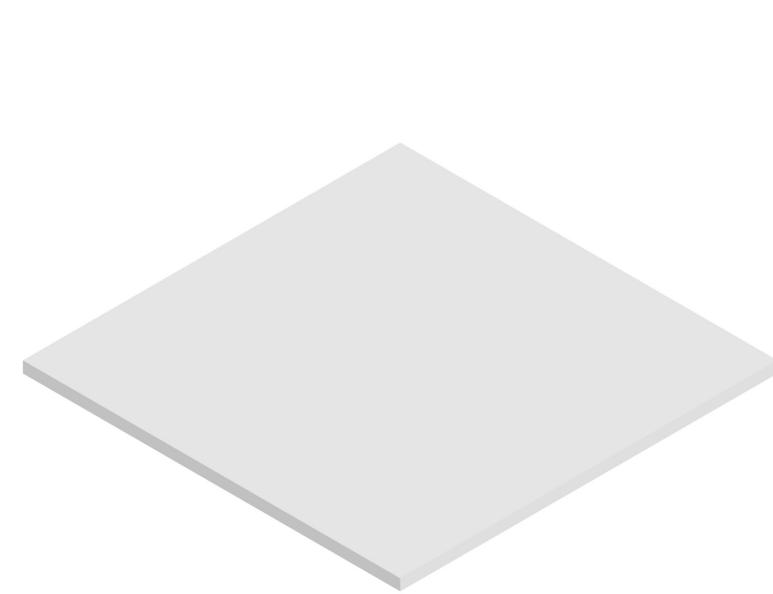
- walk on top only

not able to built

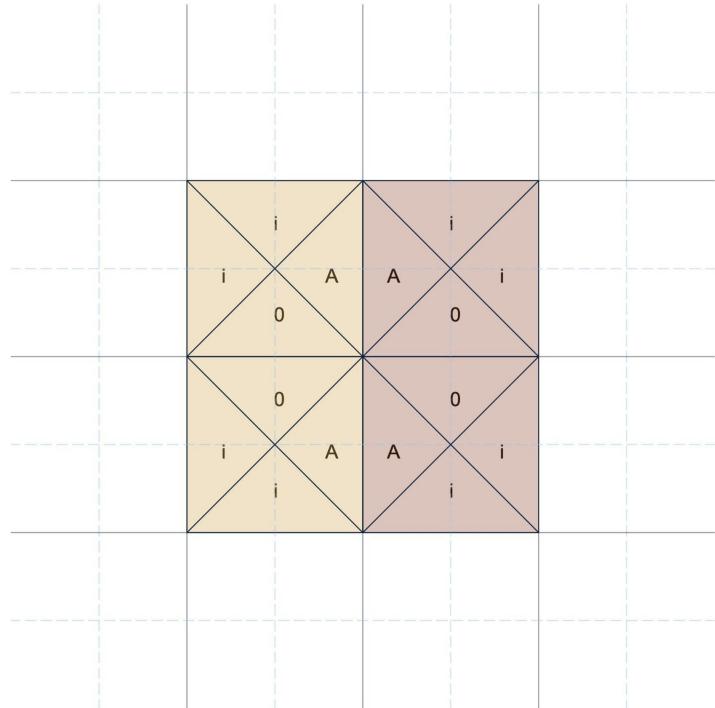
SHAPING | Manual 2D Combination Approach



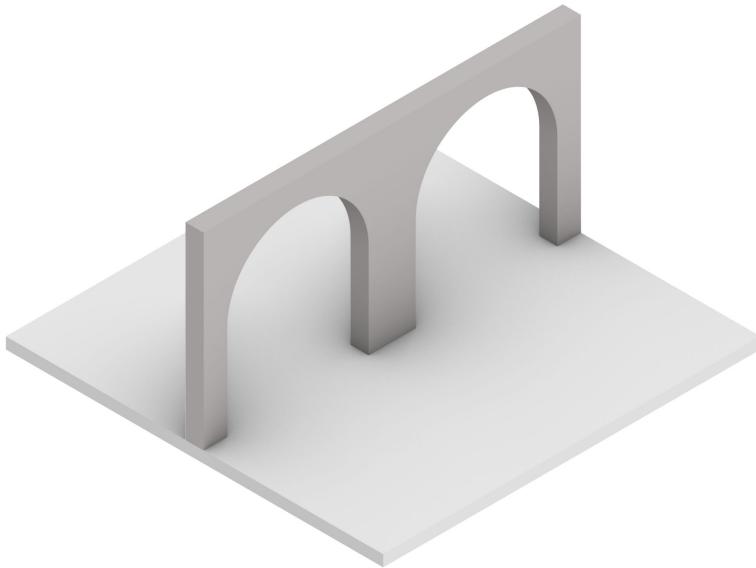
Connection of Open Space Modules



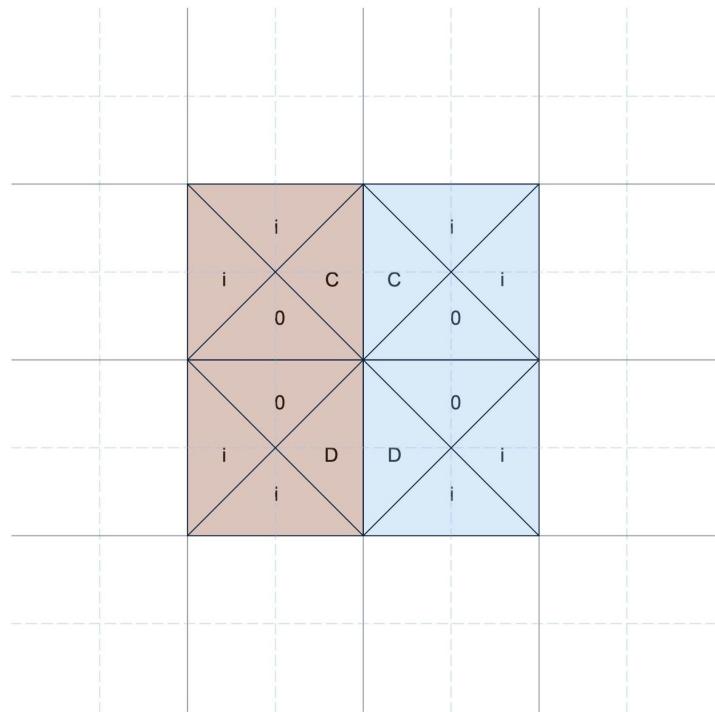
SHAPING | Manual 2D Combination Approach



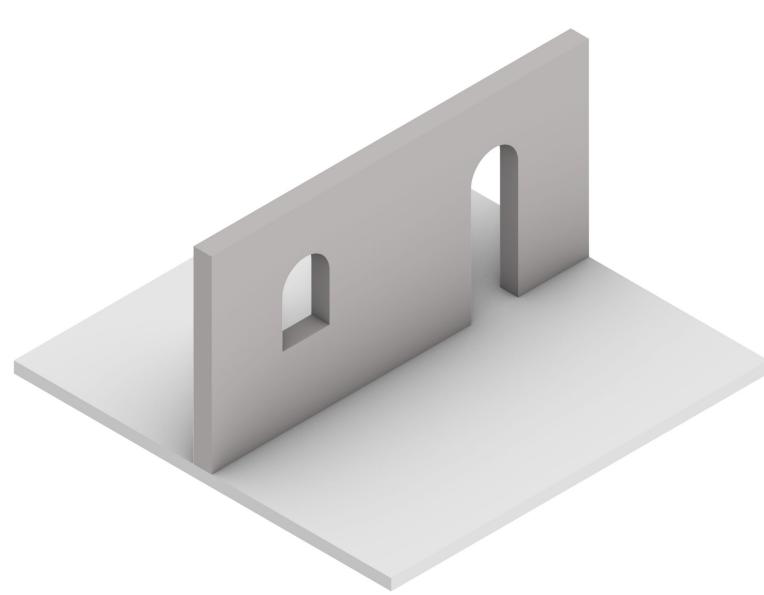
Connection of Open Space
with Transition Space Modules



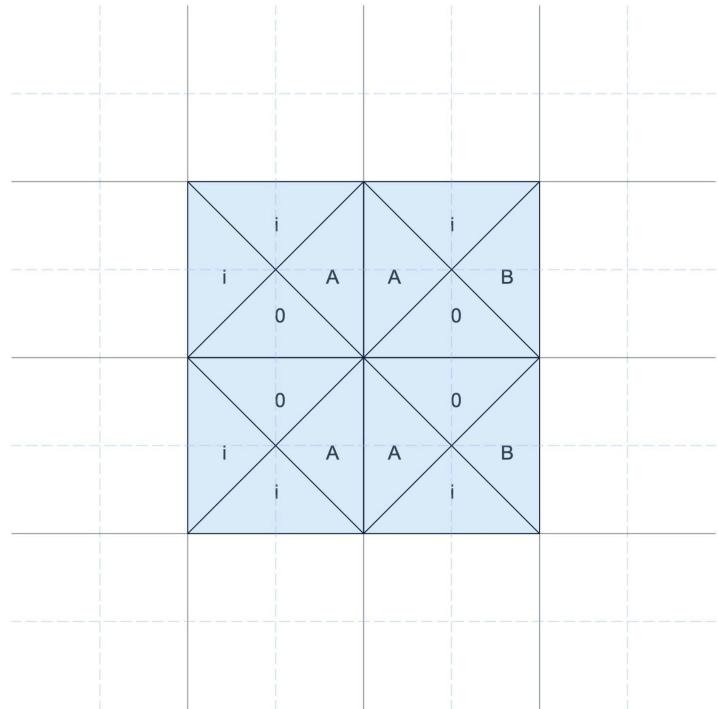
SHAPING | Manual 2D Combination Approach



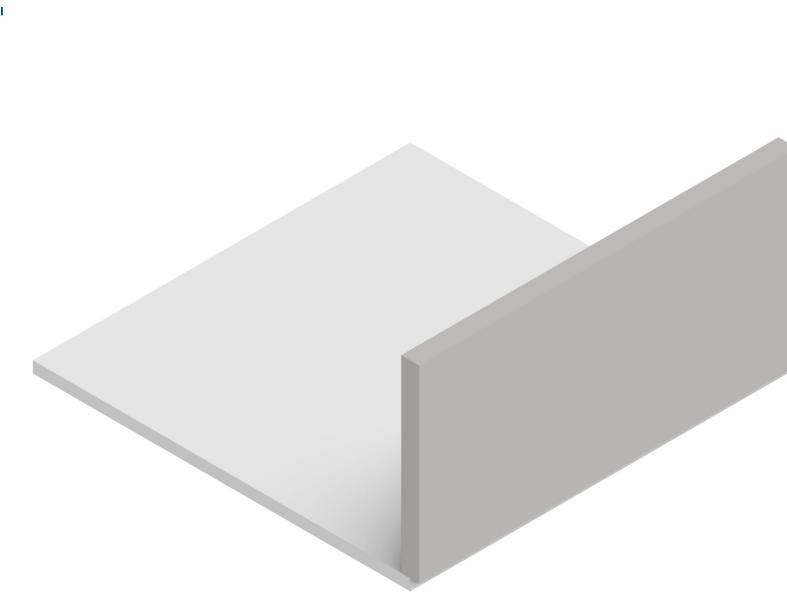
Connection of Transition Space Modules
with Indoor Space Modules with Doors and Windows



SHAPING | Manual 2D Combination Approach



Connection of Indoor Space Modules
with Outdoor Space with Walls



SHAPING | Synthesis Rules



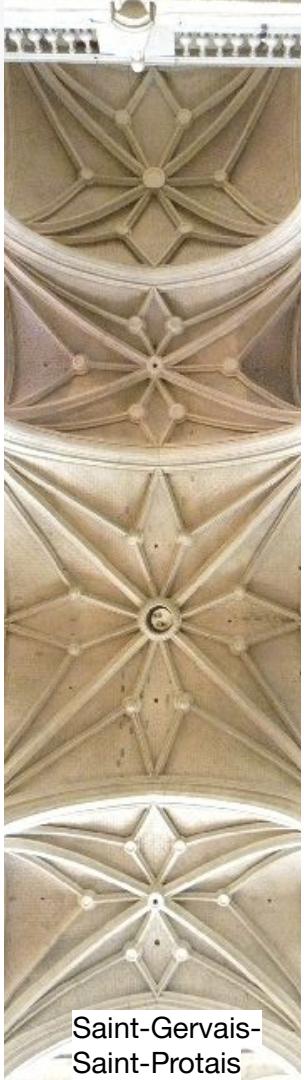
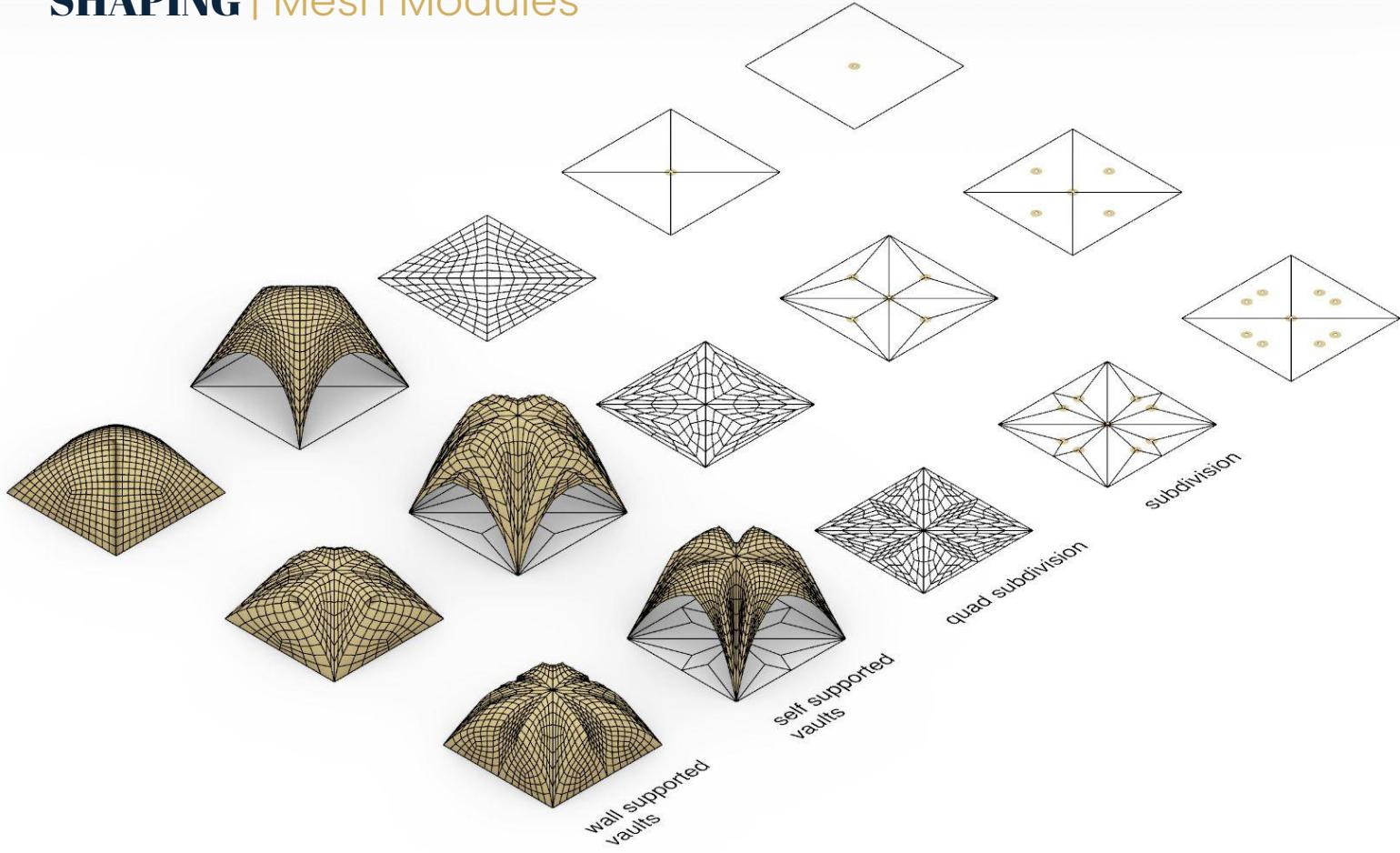
*

hubs always placed only on the ground floor

**

housing placed on the ground floor or/and on storeys in more levels

SHAPING | Mesh Modules



Saint-Gervais-Saint-Protais

03 | Reflection

CURRENT PHASE IMPROVEMENTS

- Improve the spatial configuration analysis steps and interaction between the service areas
- Develop the housing synthesis on the height level
- Finalize the expansion into the block area of the layout tool
- Add more detailed connections elements in the 2D & 3D level
- Integrate the tessellation logic into the catalog of the elements
- Create more tessellation modules that cover all the need of service areas integrated in our program

LATER STAGES

- Material research and analysis
- Structural analysis of its single element
- Structural analysis of the whole module in the various designs
- Redefining tesselation modules to have the maximum control over the shapes
- Tesselated floor plan systems design
- Construction sequence
- Testing of the efficiency of our methodology and system design

Thank you!

...the end of midterm presentation.