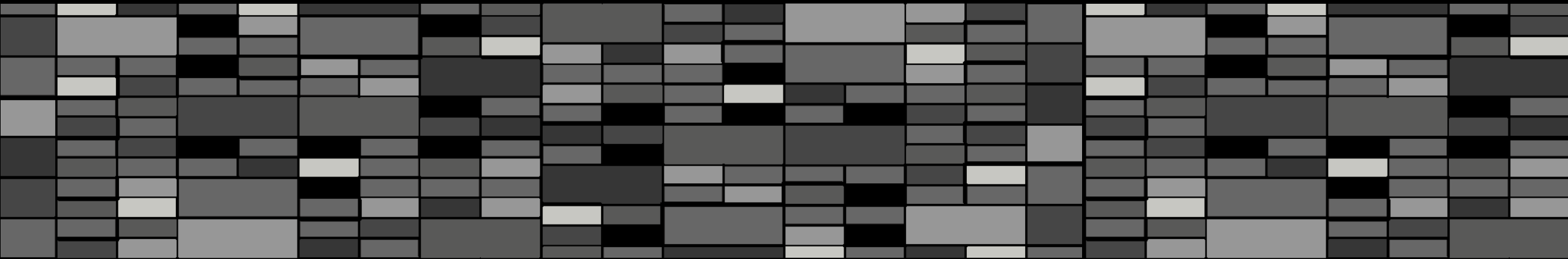


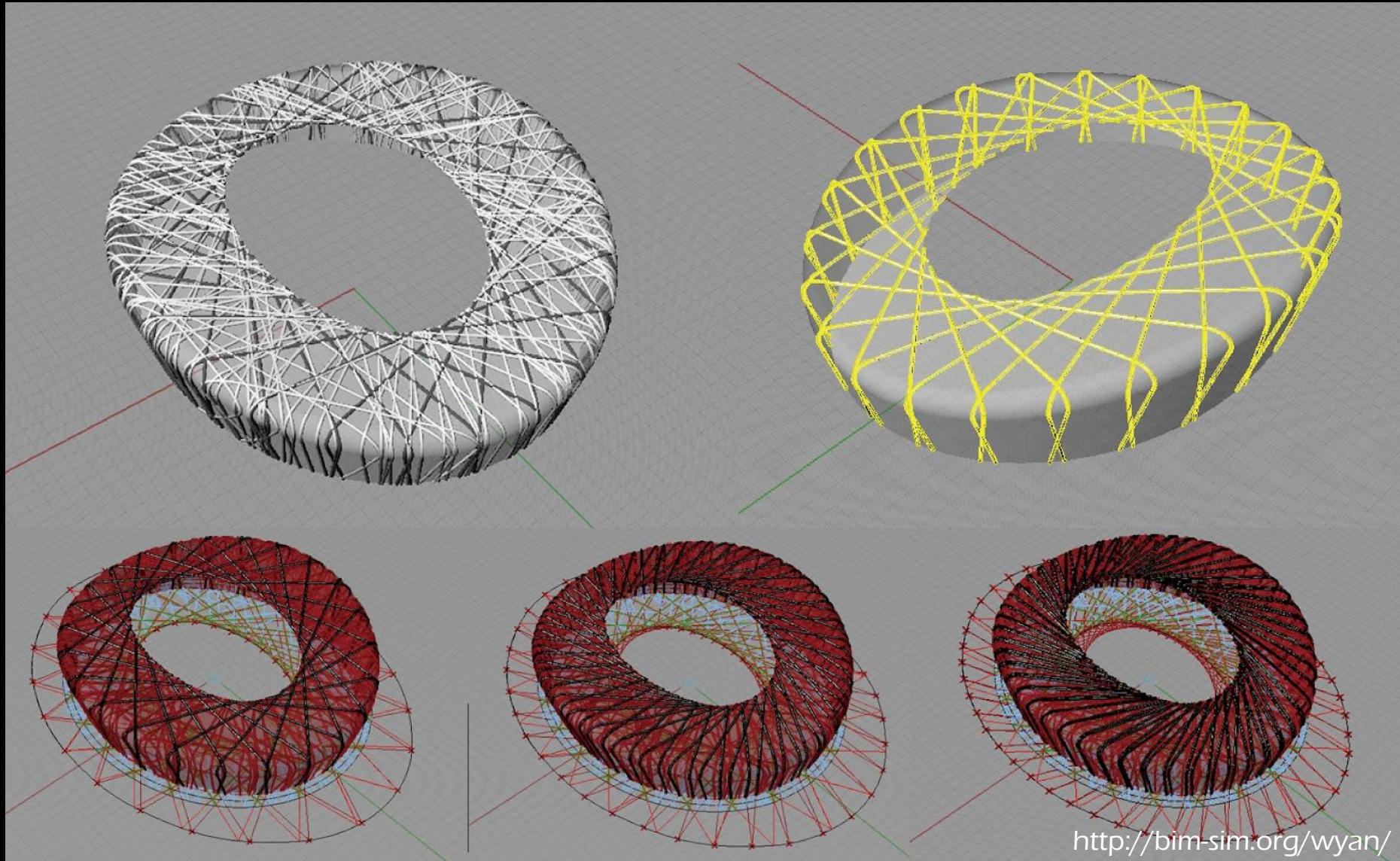
# Aplicação do Design Generativo nas Tecnologias BIM



# Computer-Aided Design (CAD)



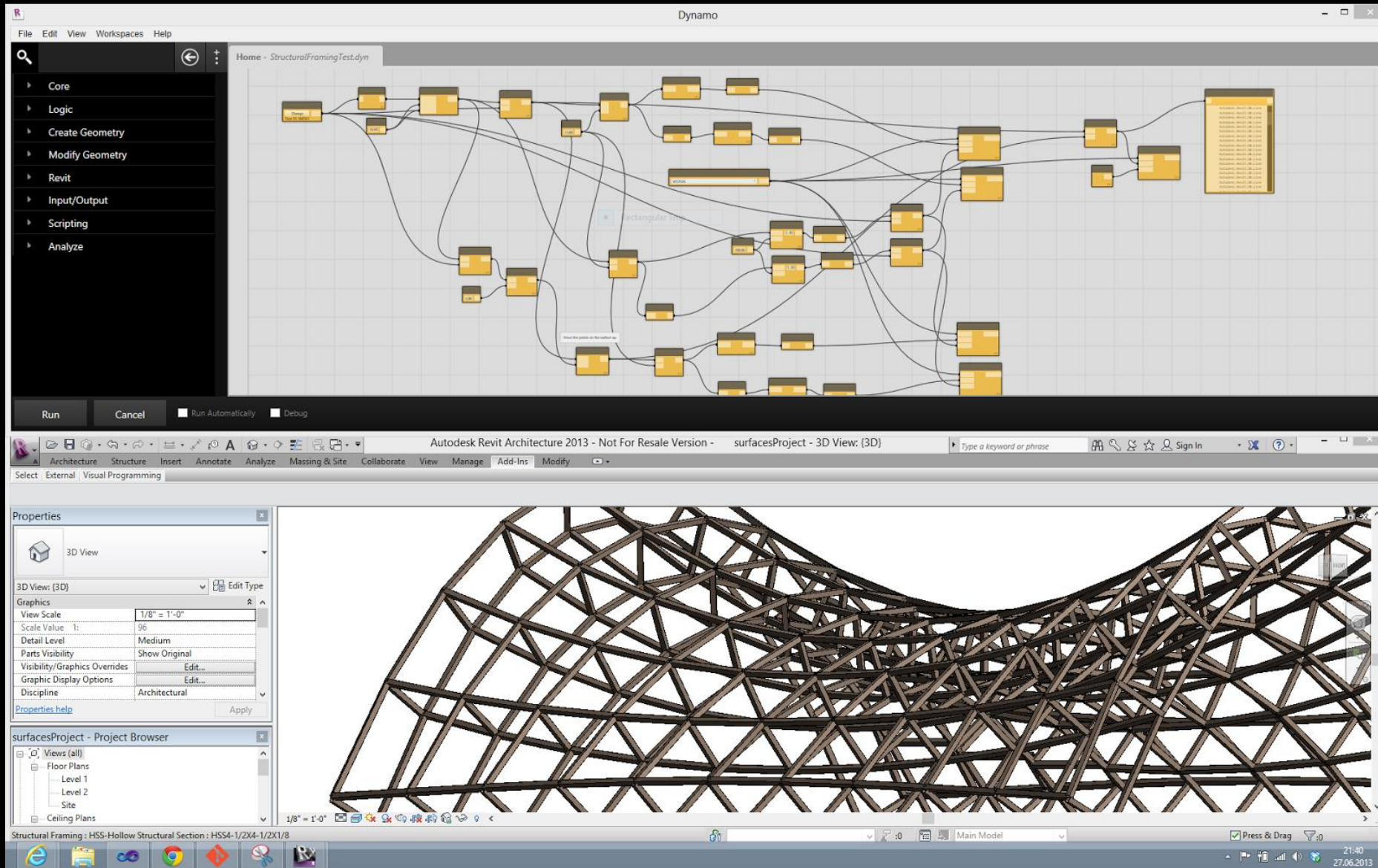
# Generative Design (GD)



# Building Information Modeling (BIM)



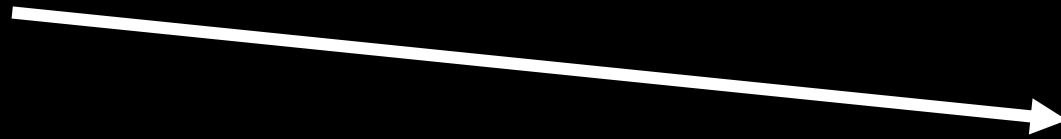
# Algorithmic-Based BIM (ABB)



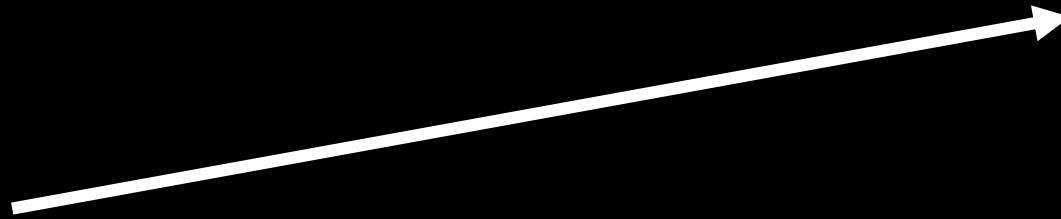
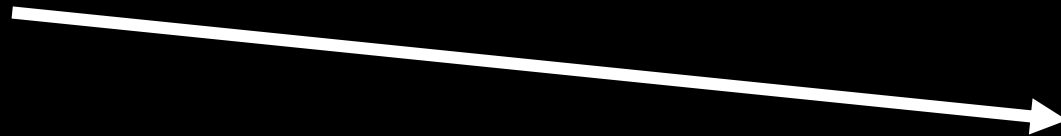
# Algorithmic-Based BIM (ABB)



# Algorithmic-Based BIM (ABB)

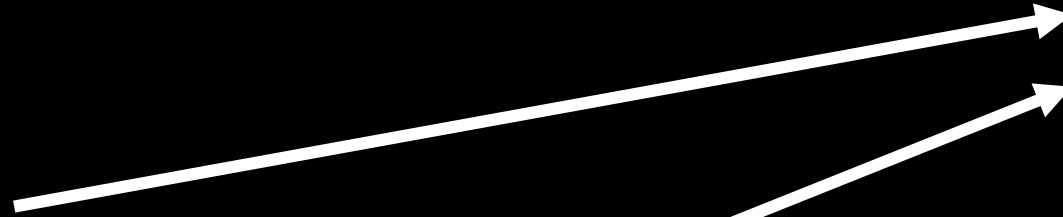
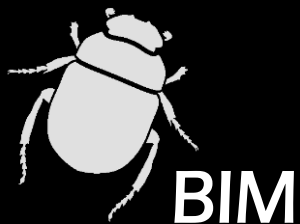


# Algorithmic-Based BIM (ABB)

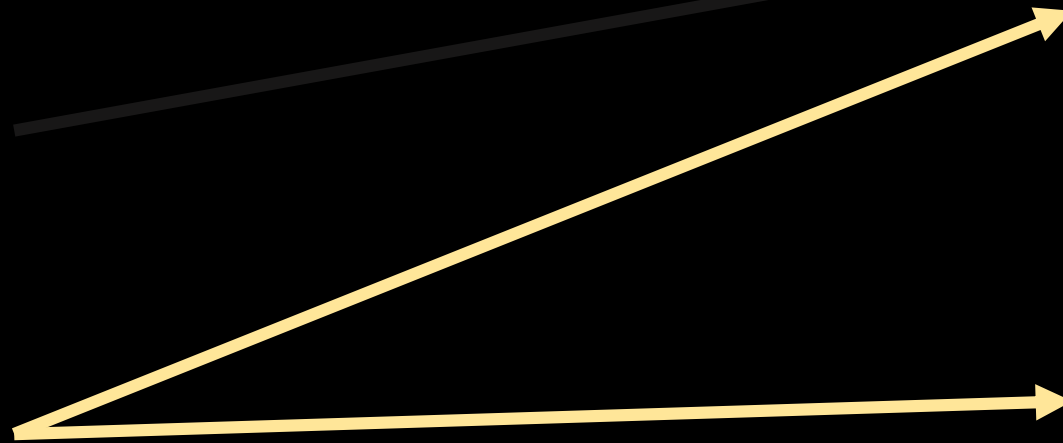
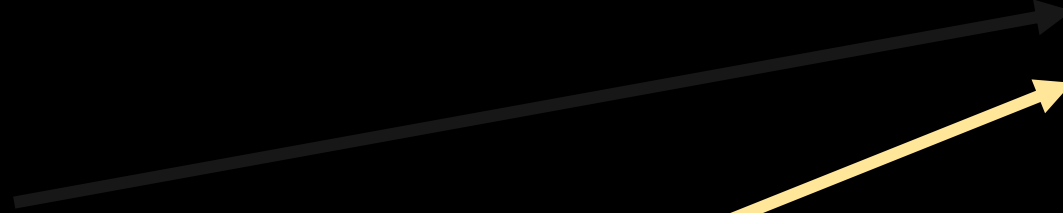
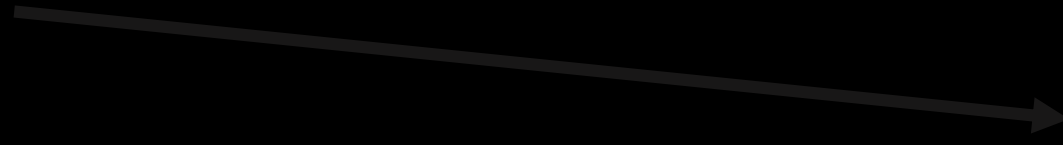
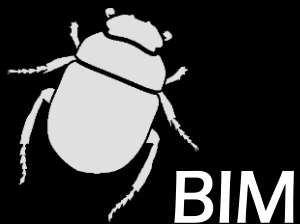




# Algorithmic-Based BIM (ABB)



# Algorithmic-Based BIM (ABB)



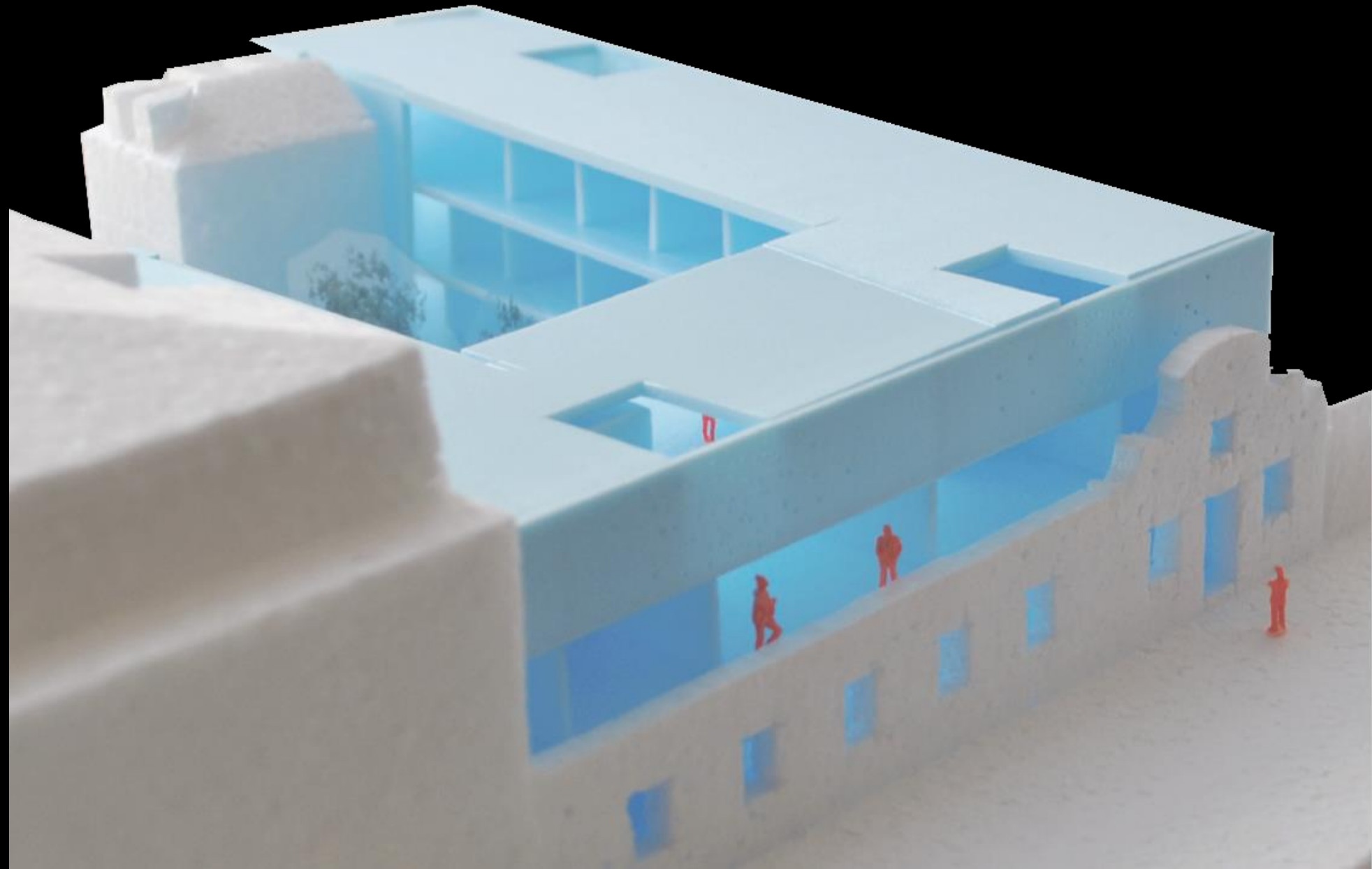


+ FORA

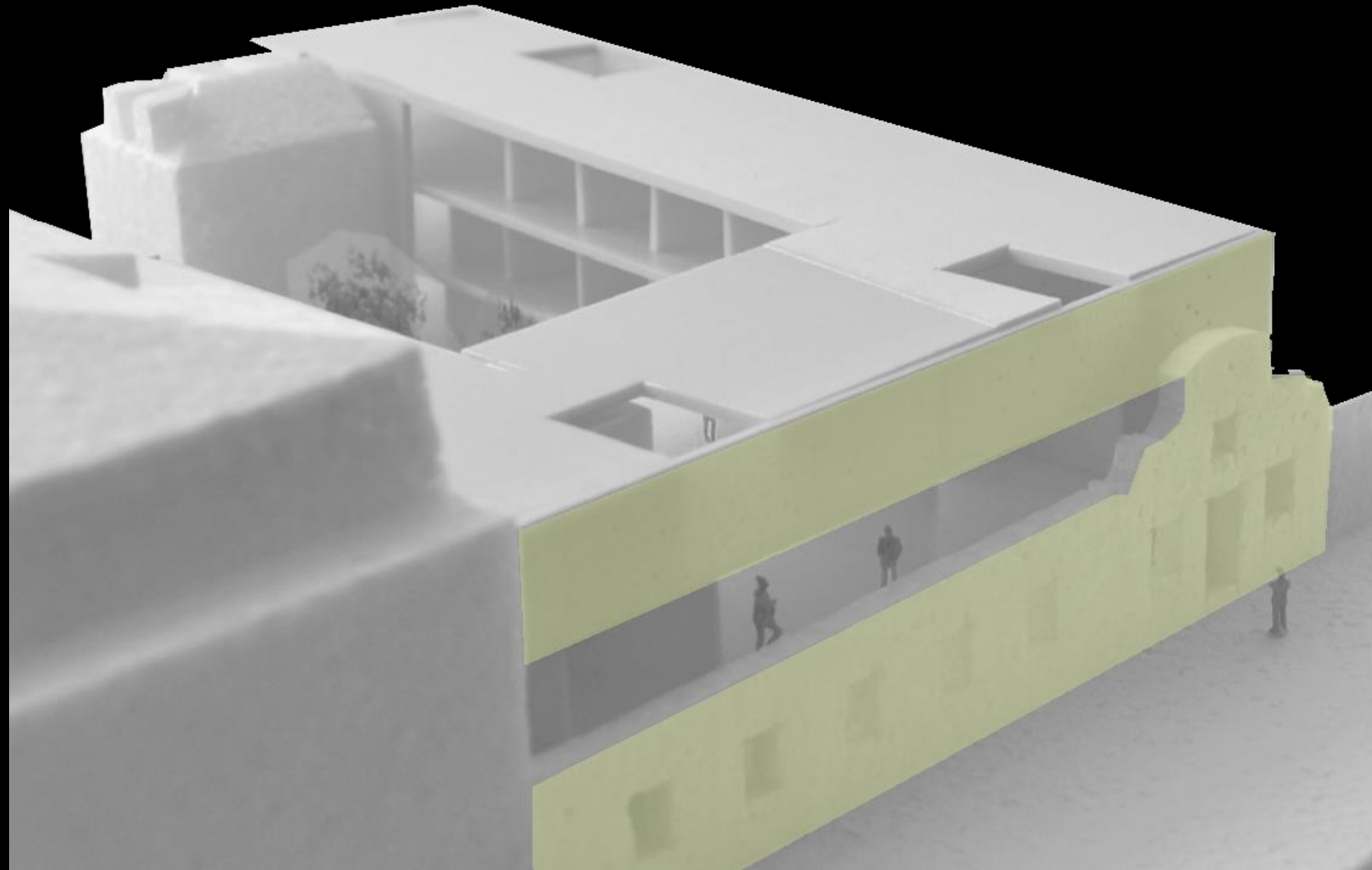
# Location



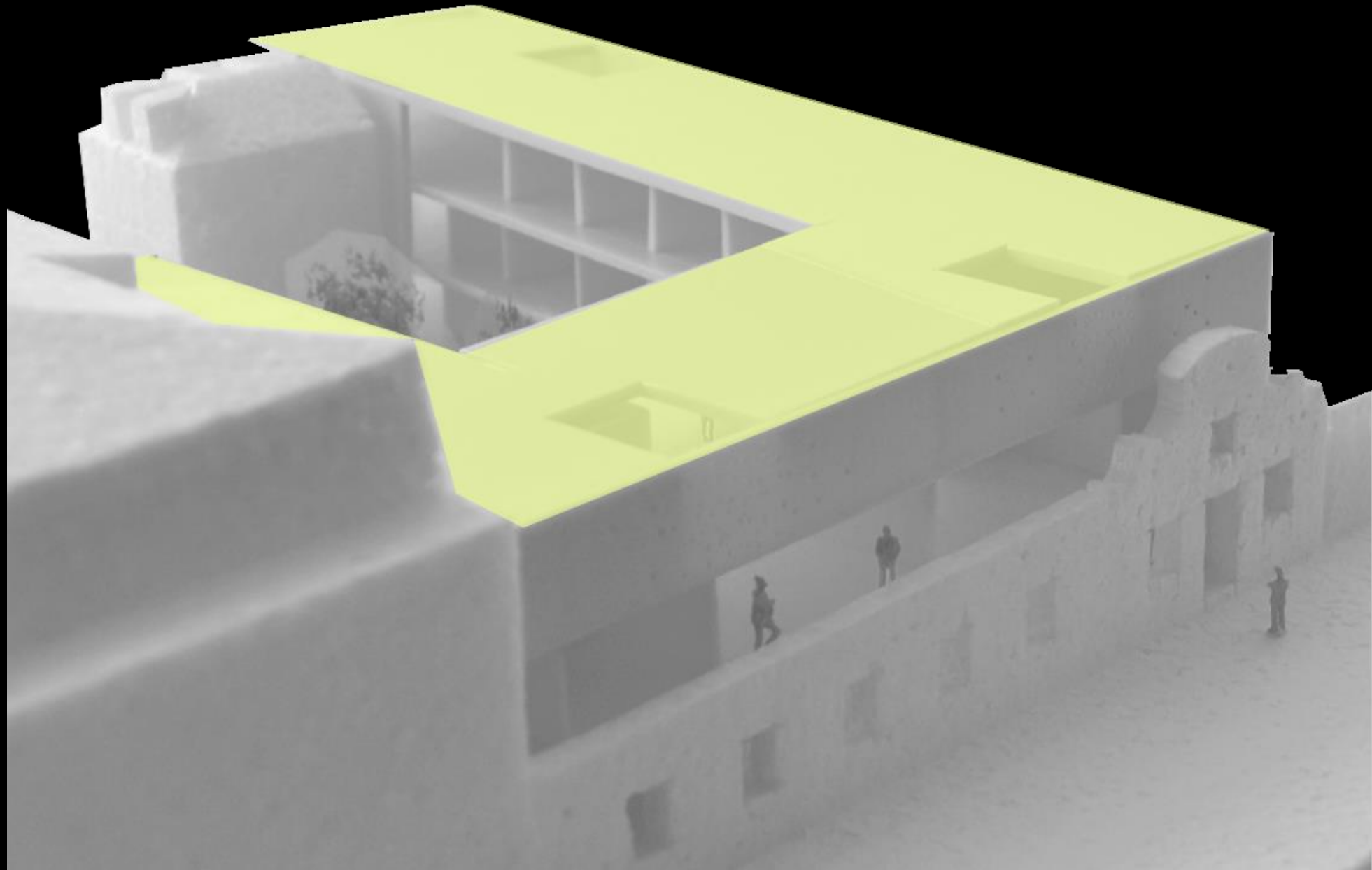
# Concept



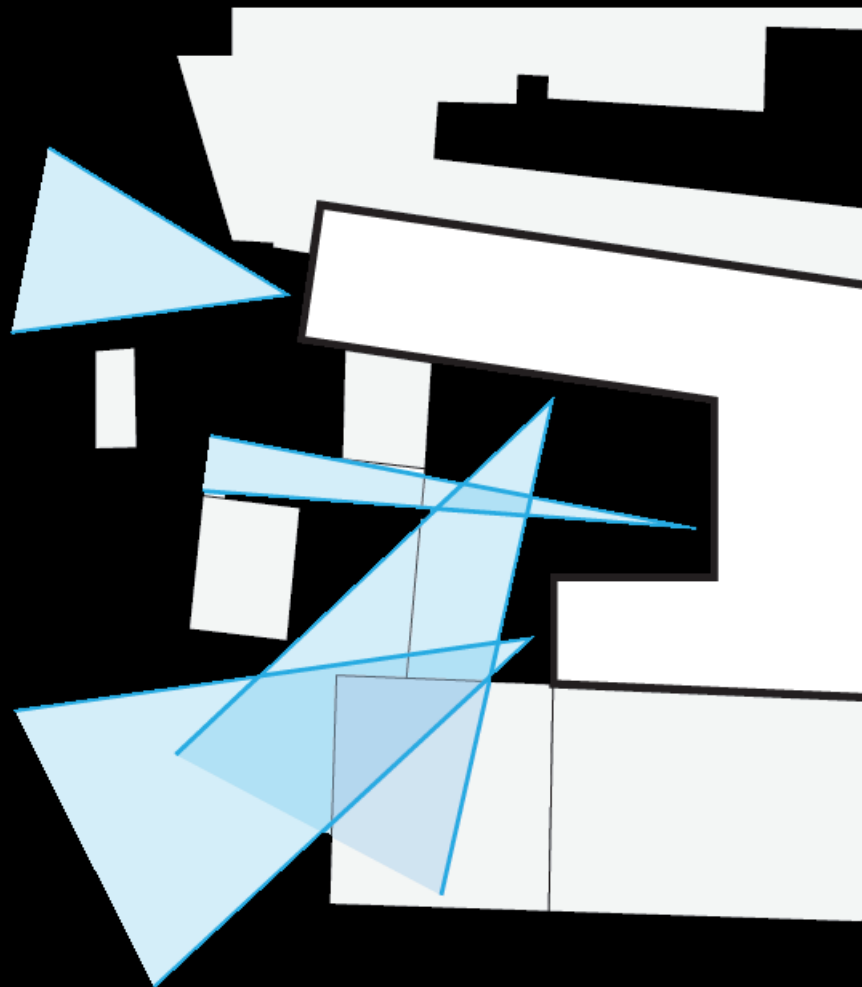
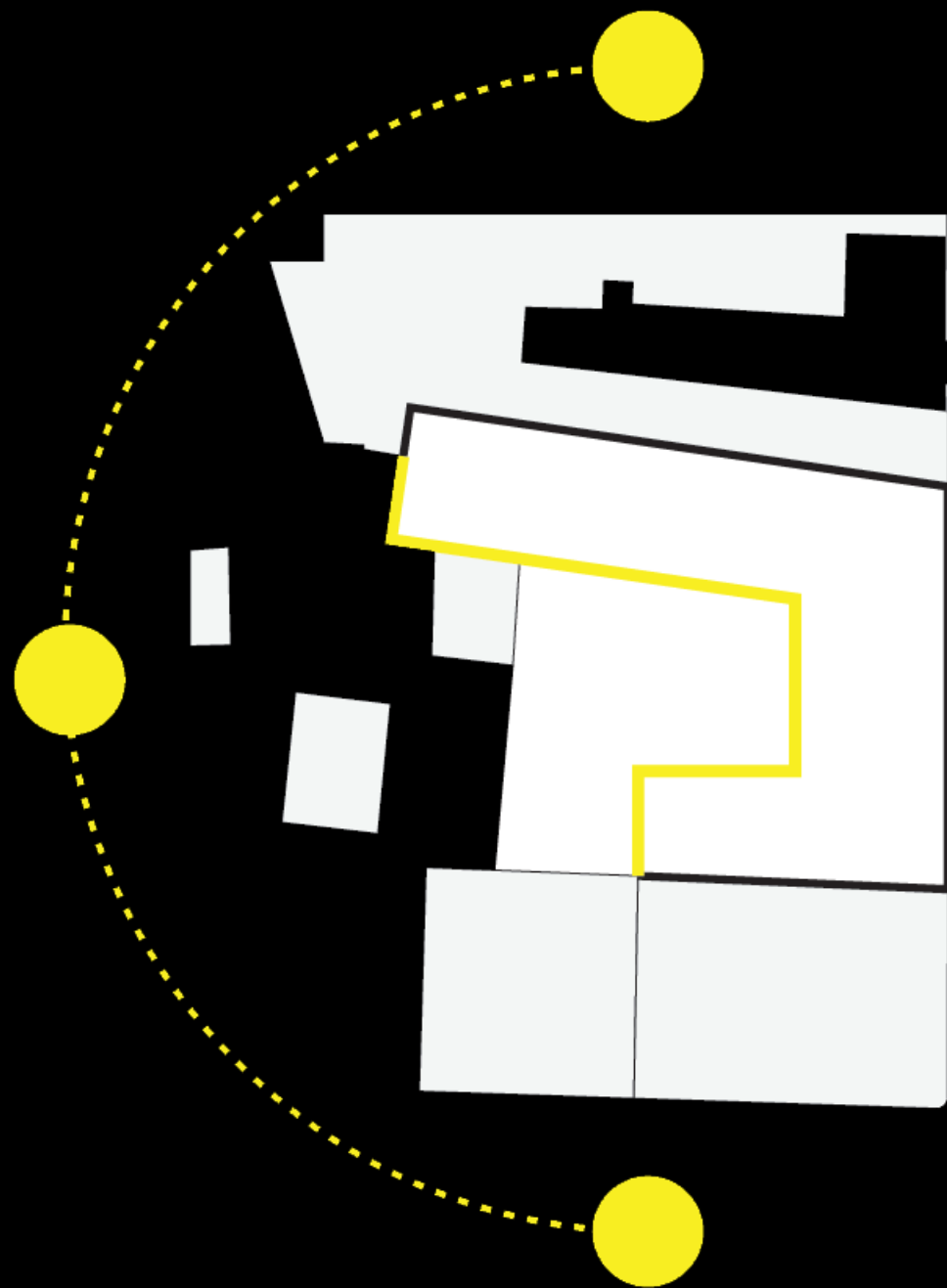
# Concept



# Concept

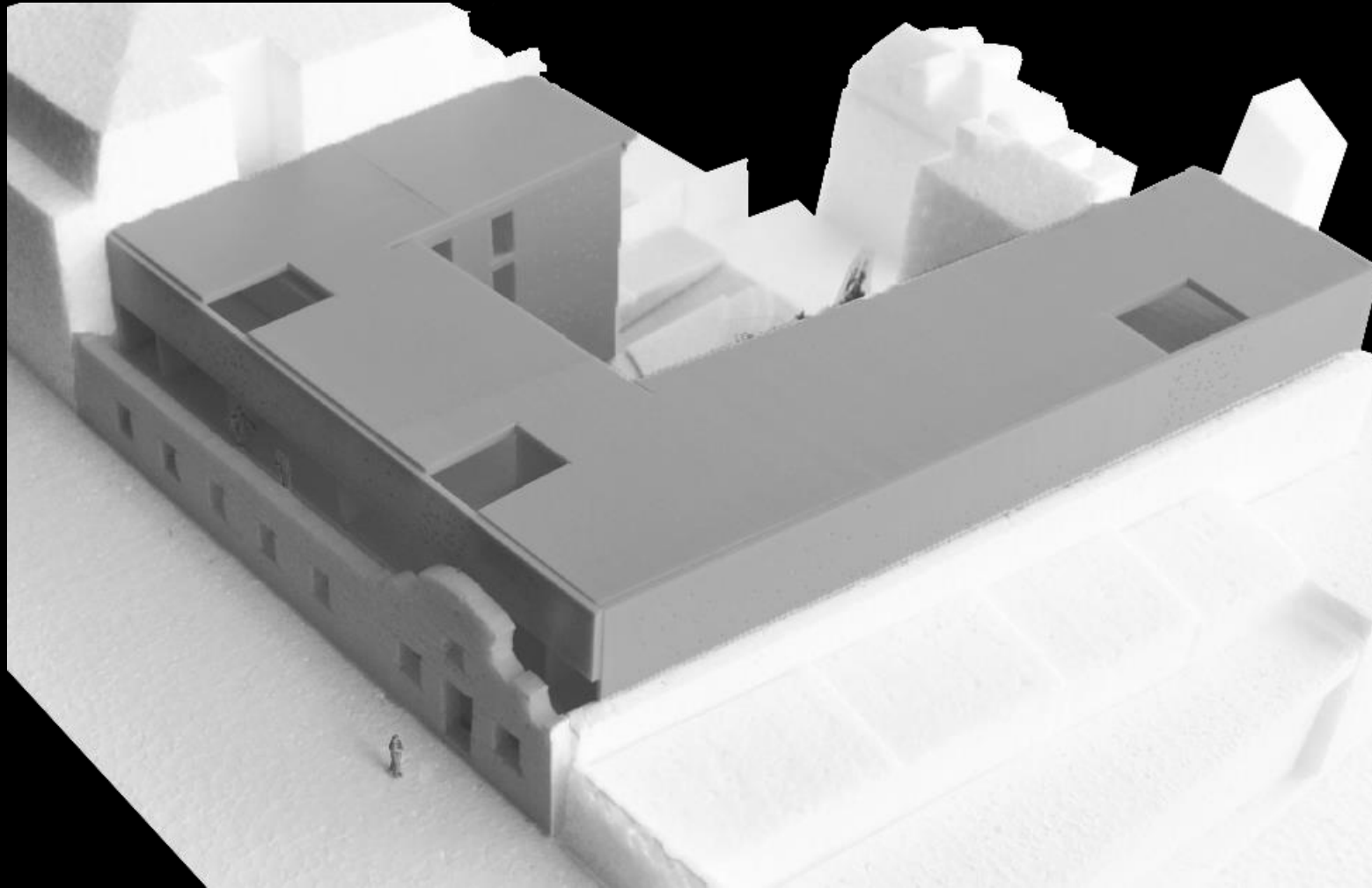


# Concept

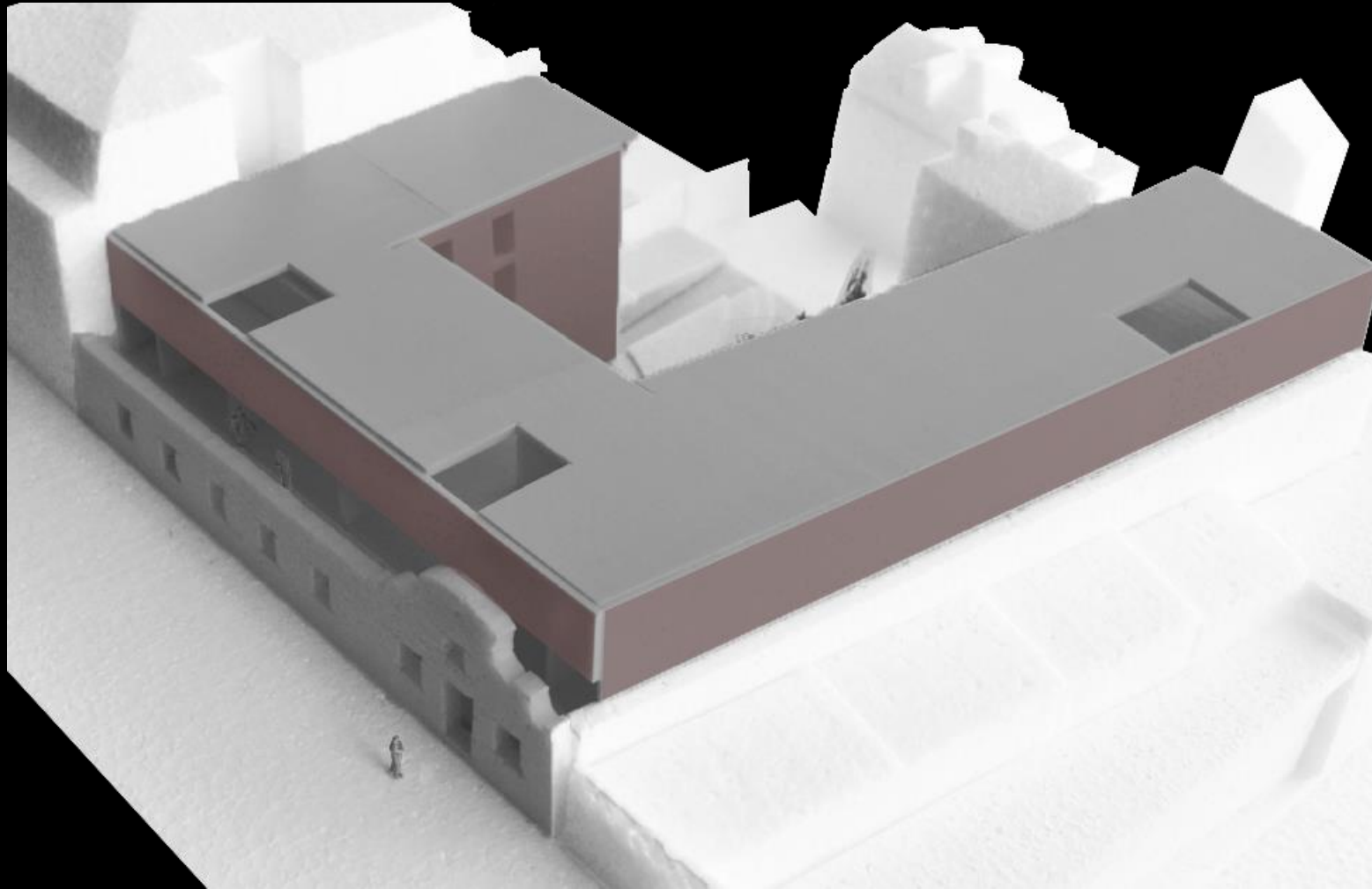




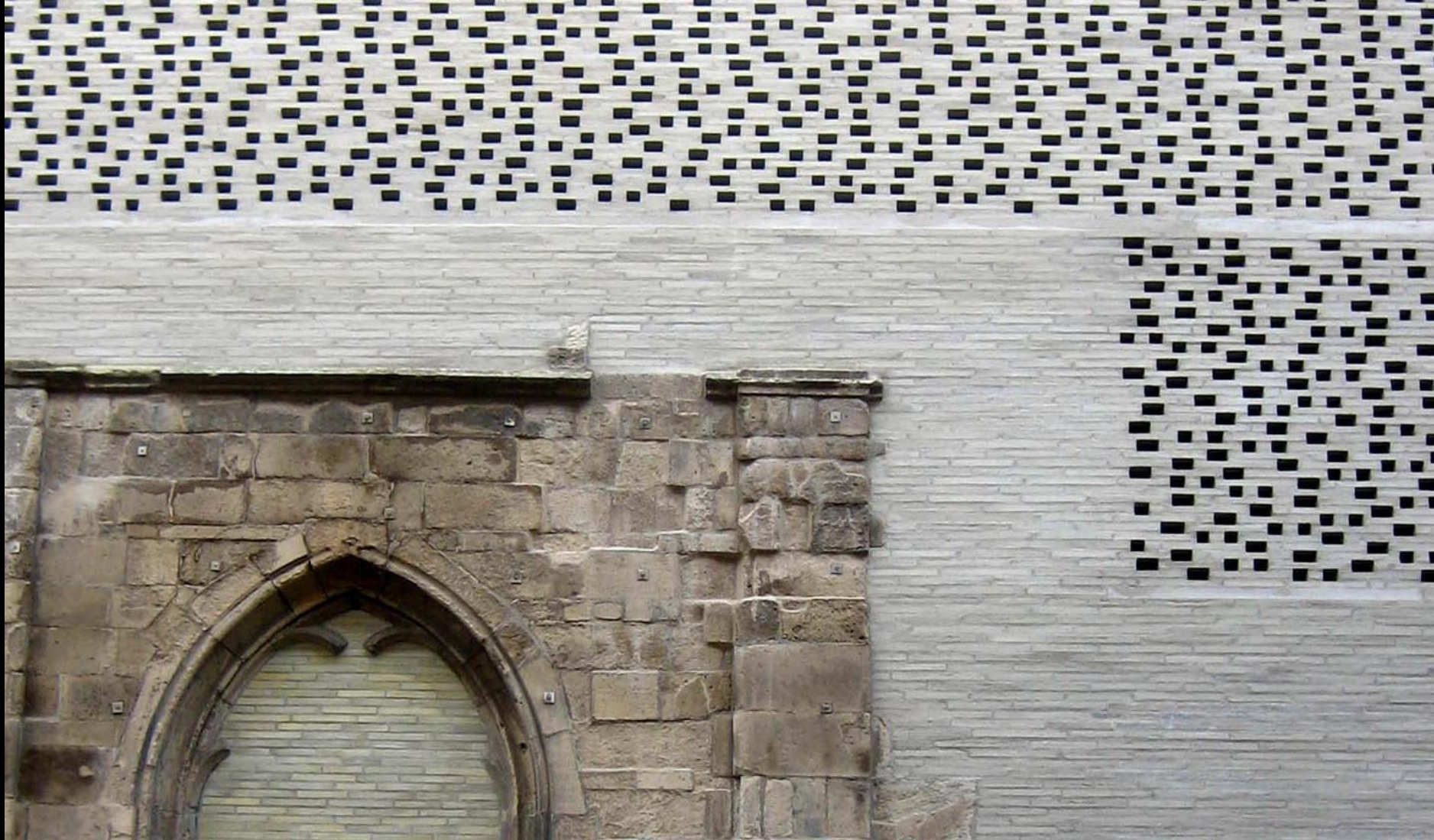
# Parametric Facades



# Parametric Facades

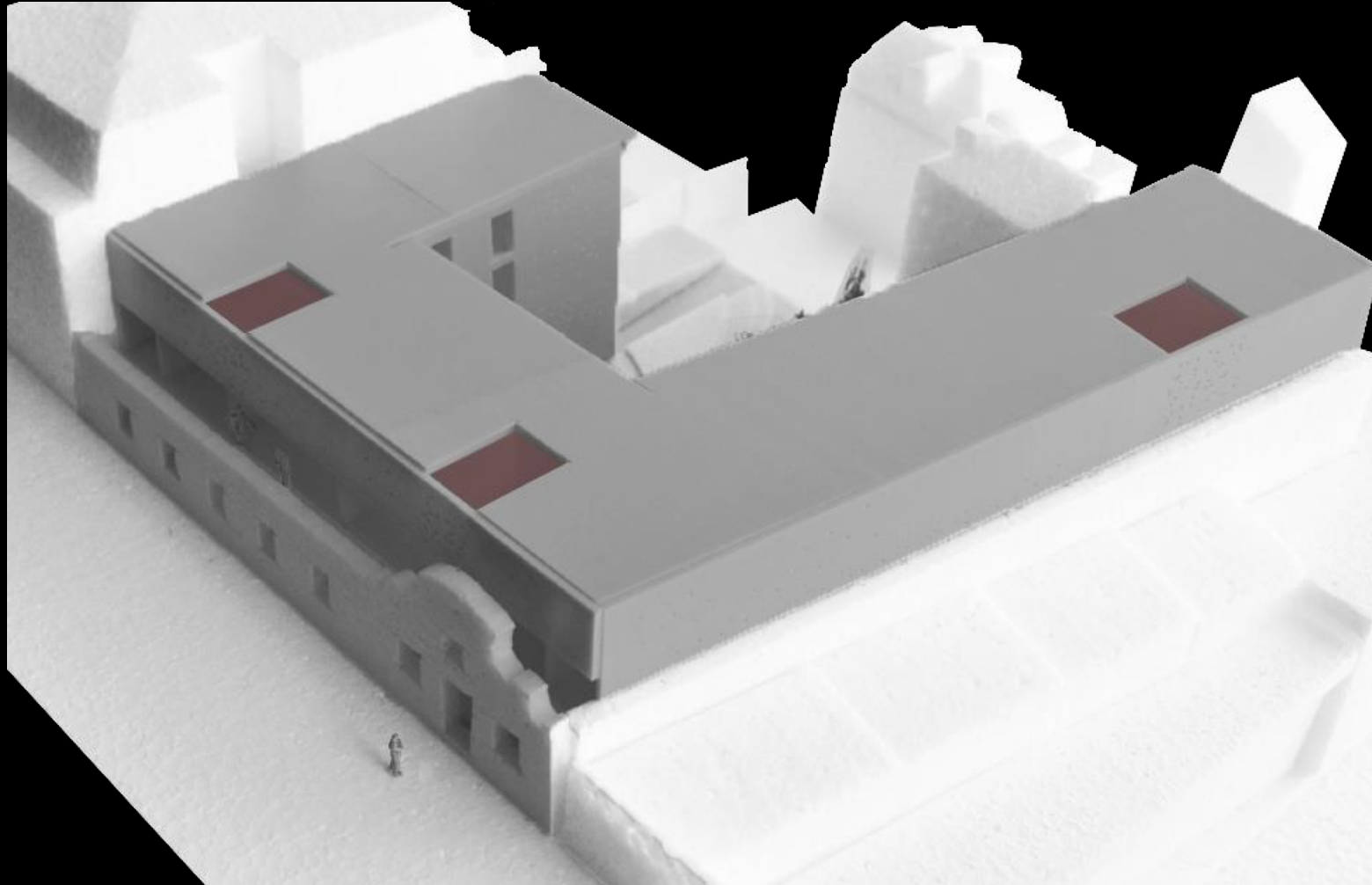


# Design Inspiration

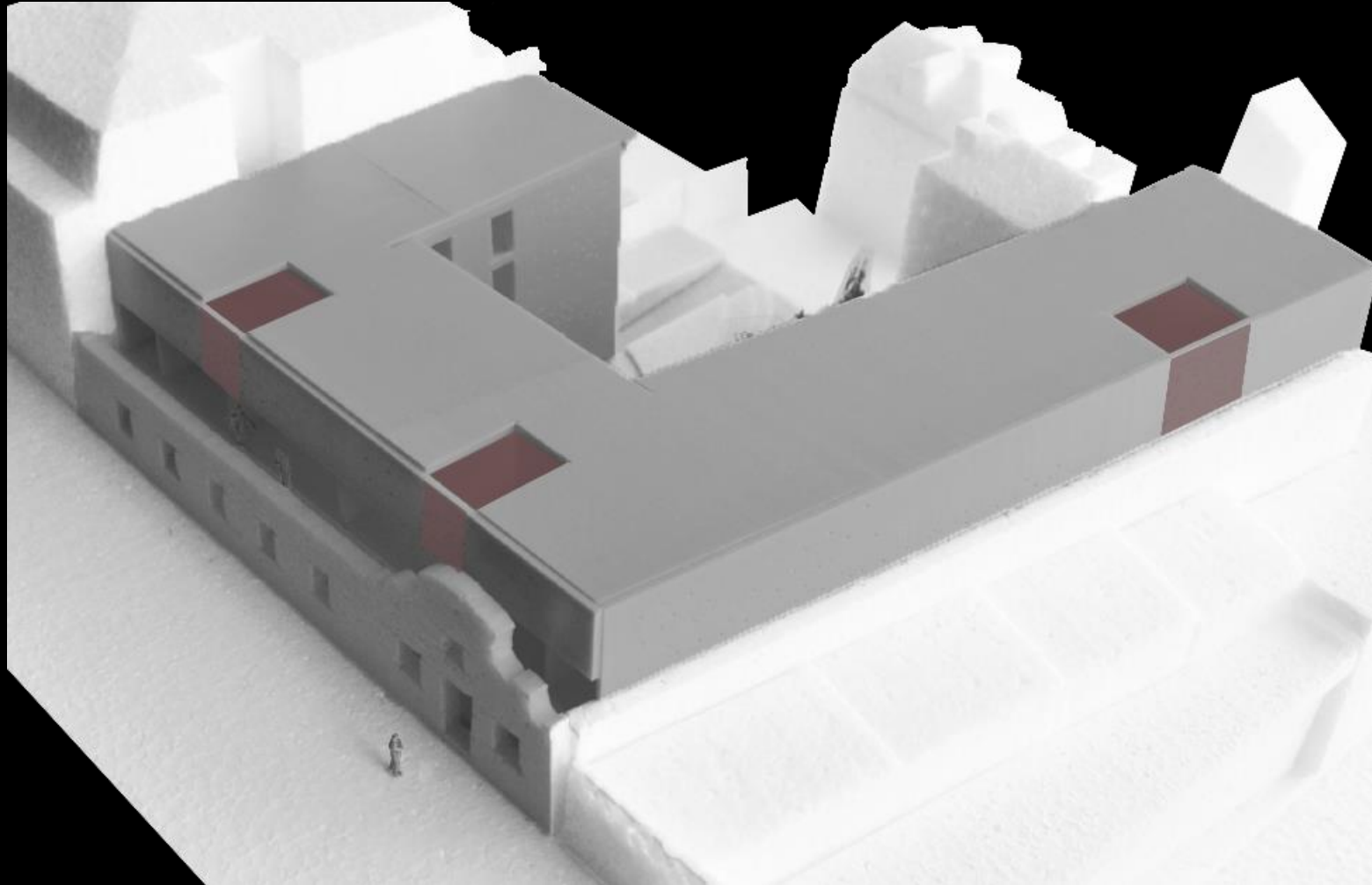


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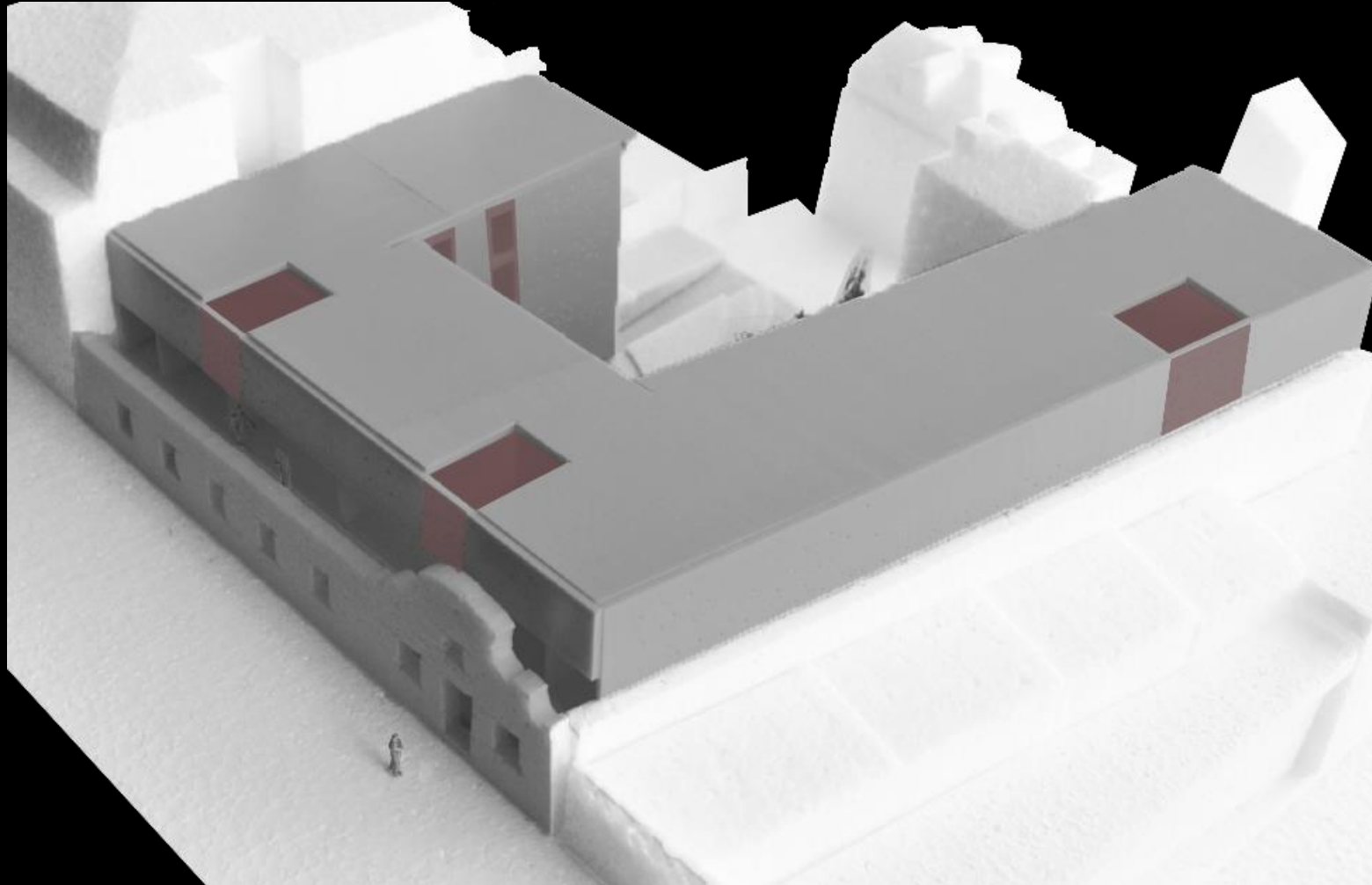
# Design Concept



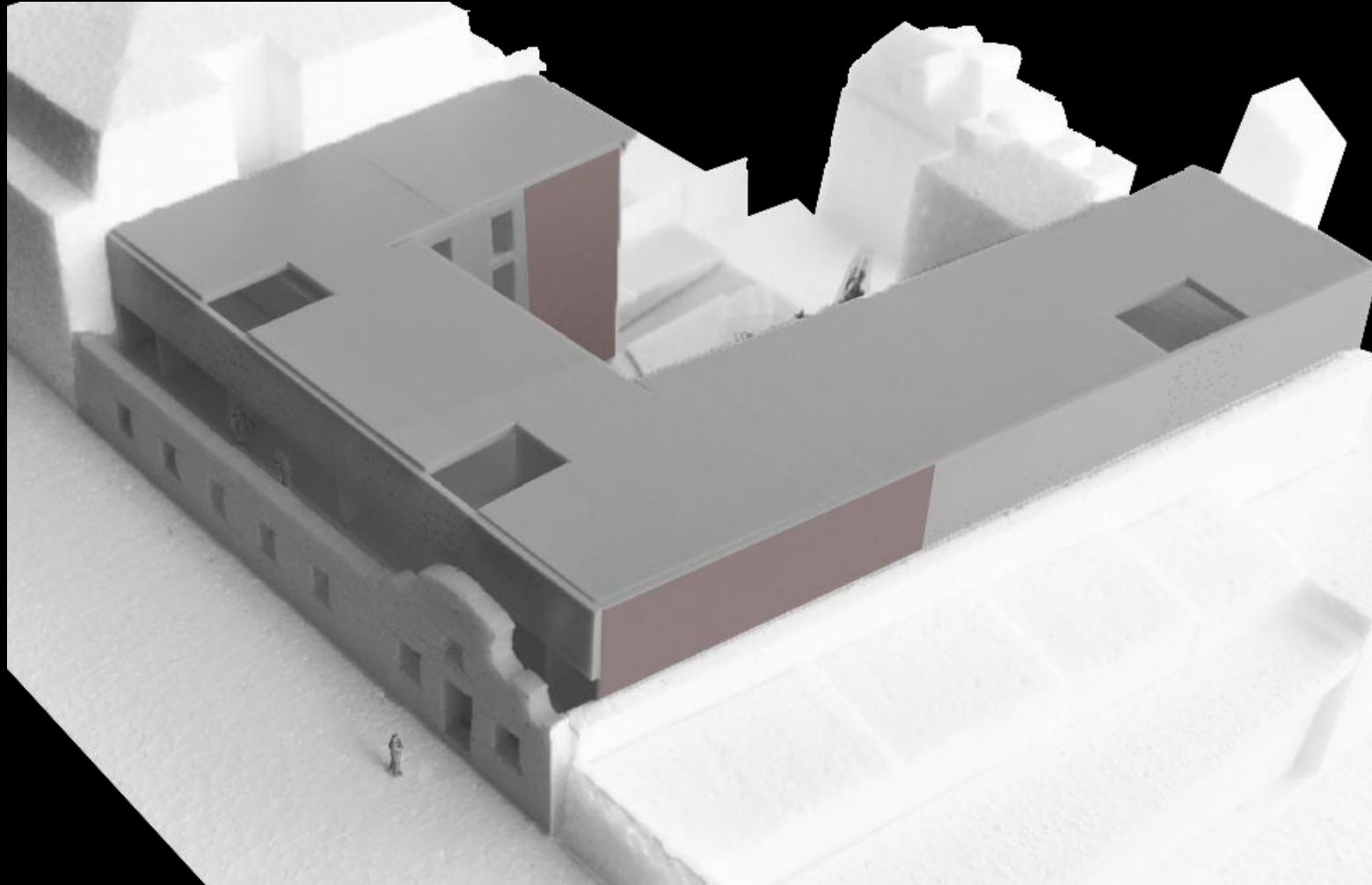
# Design Concept



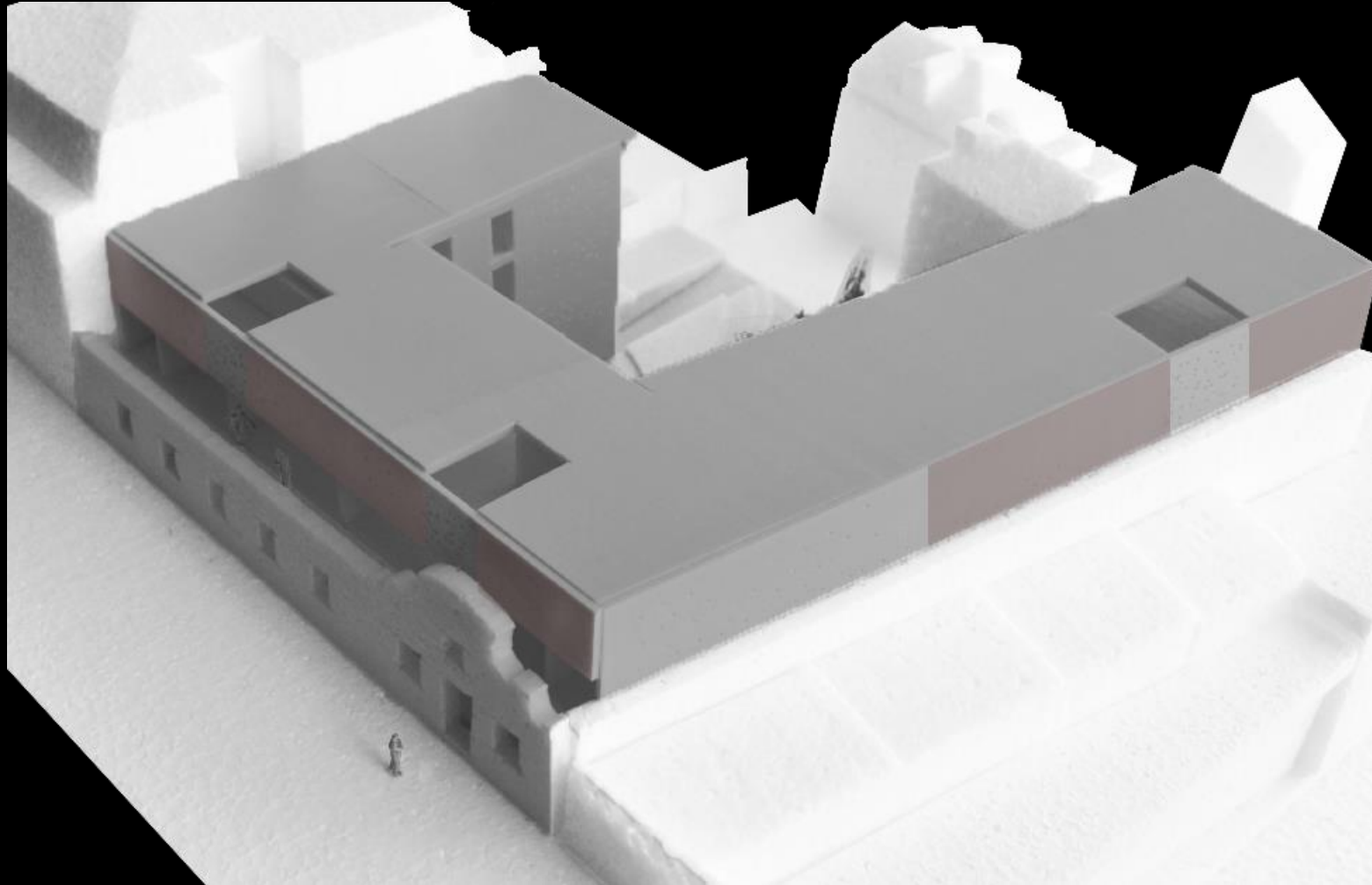
# Design Concept



# Design Concept

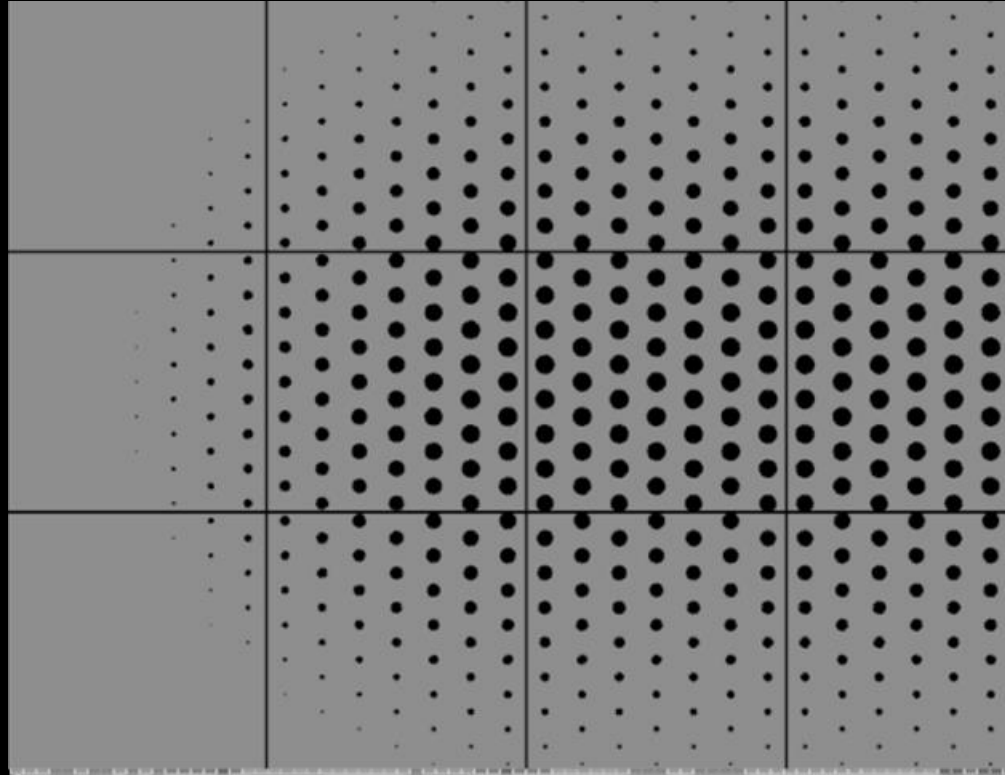


# Design Concept

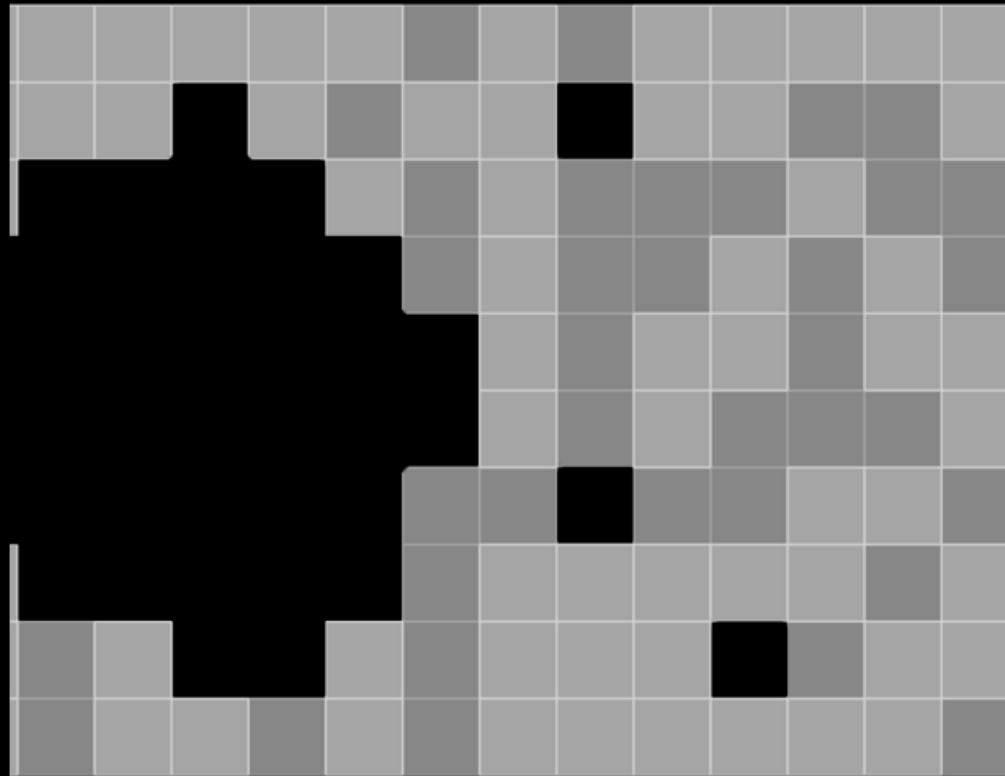




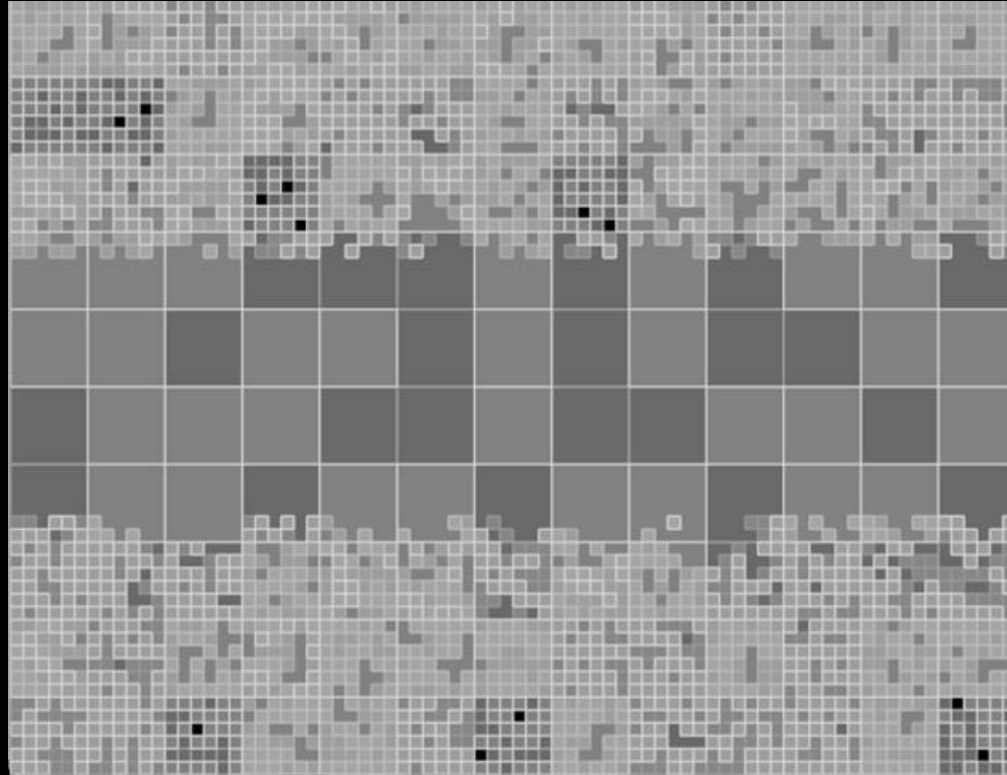
# Facade Patterns



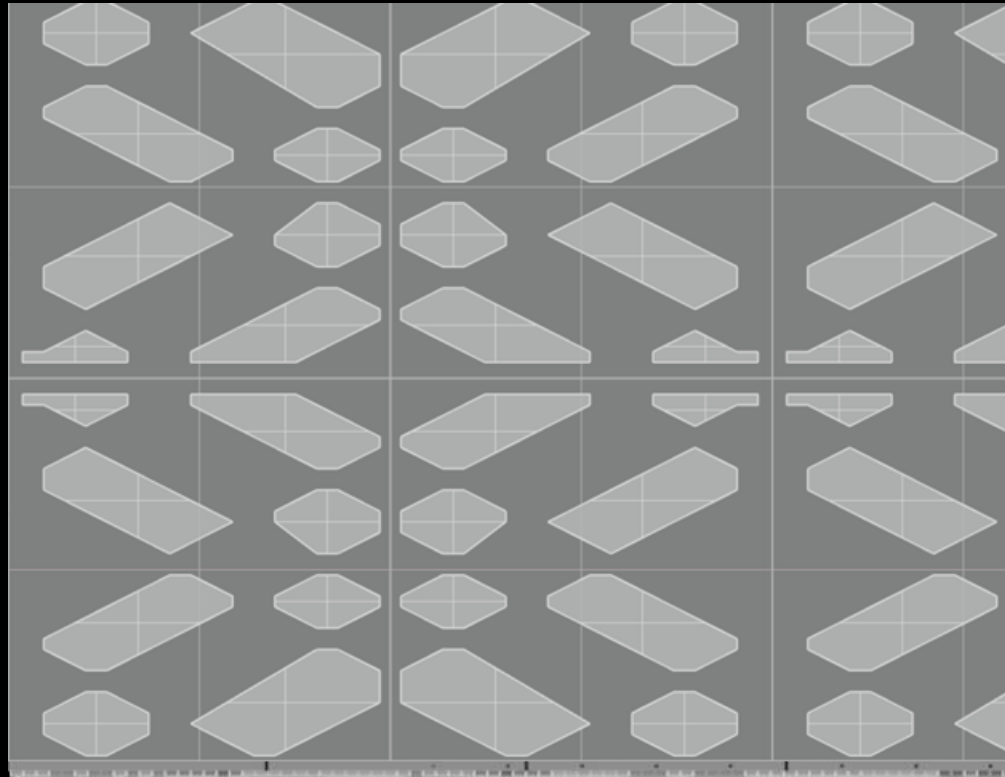
# Facade Patterns



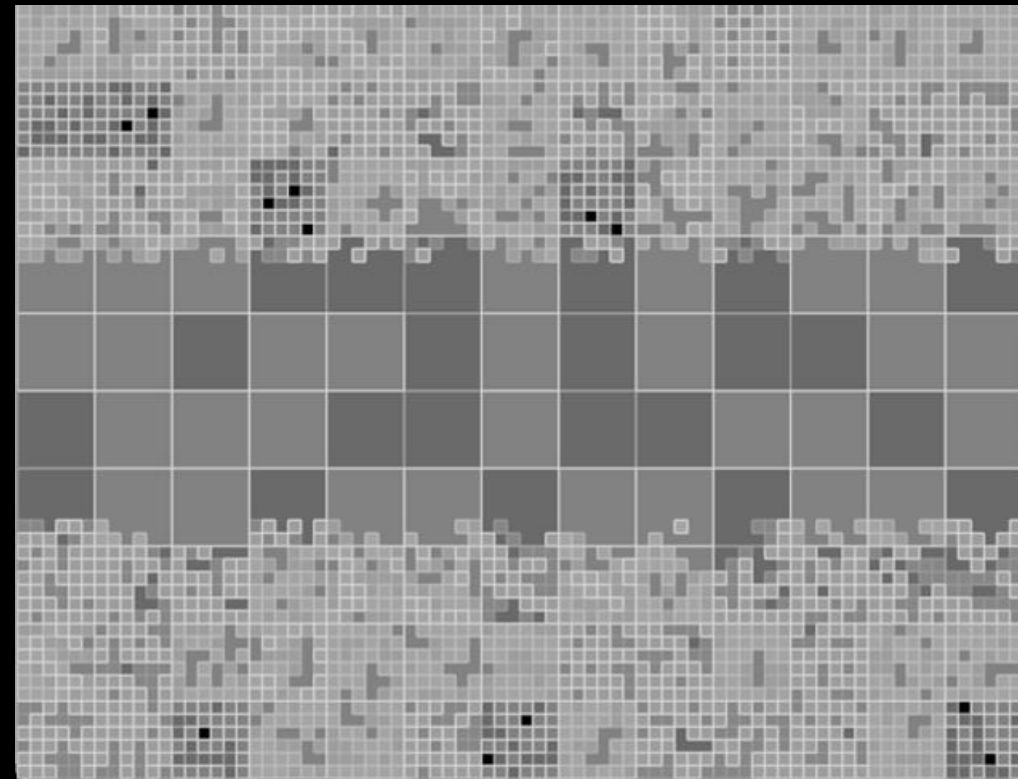
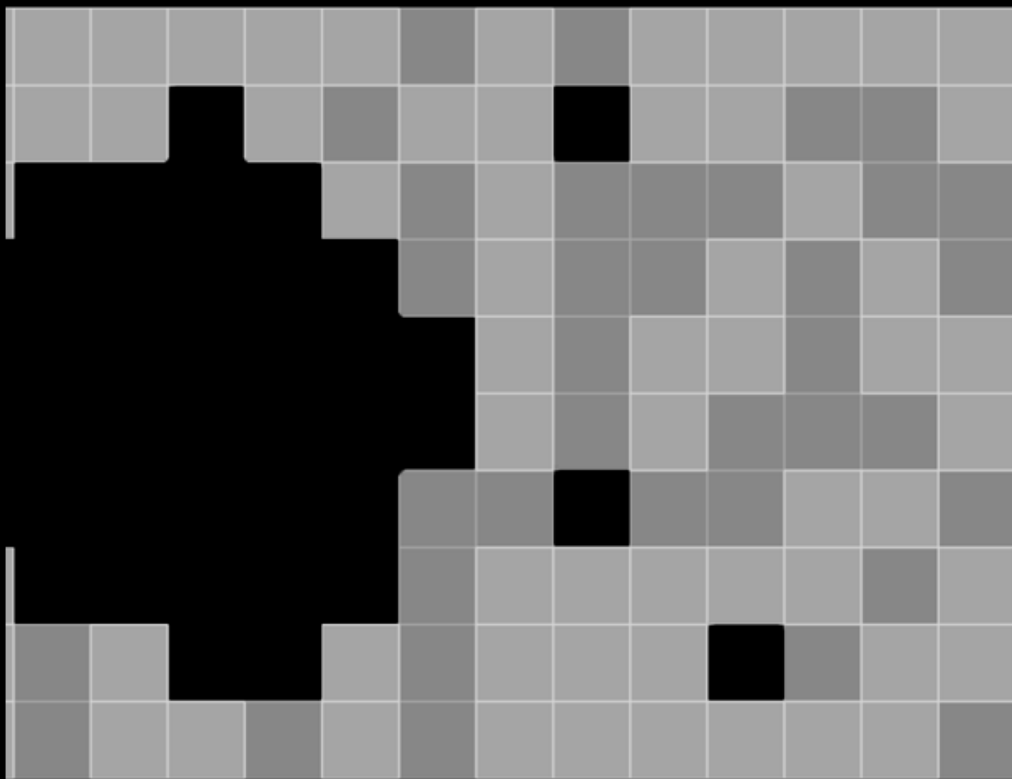
# Facade Patterns



# Facade Patterns

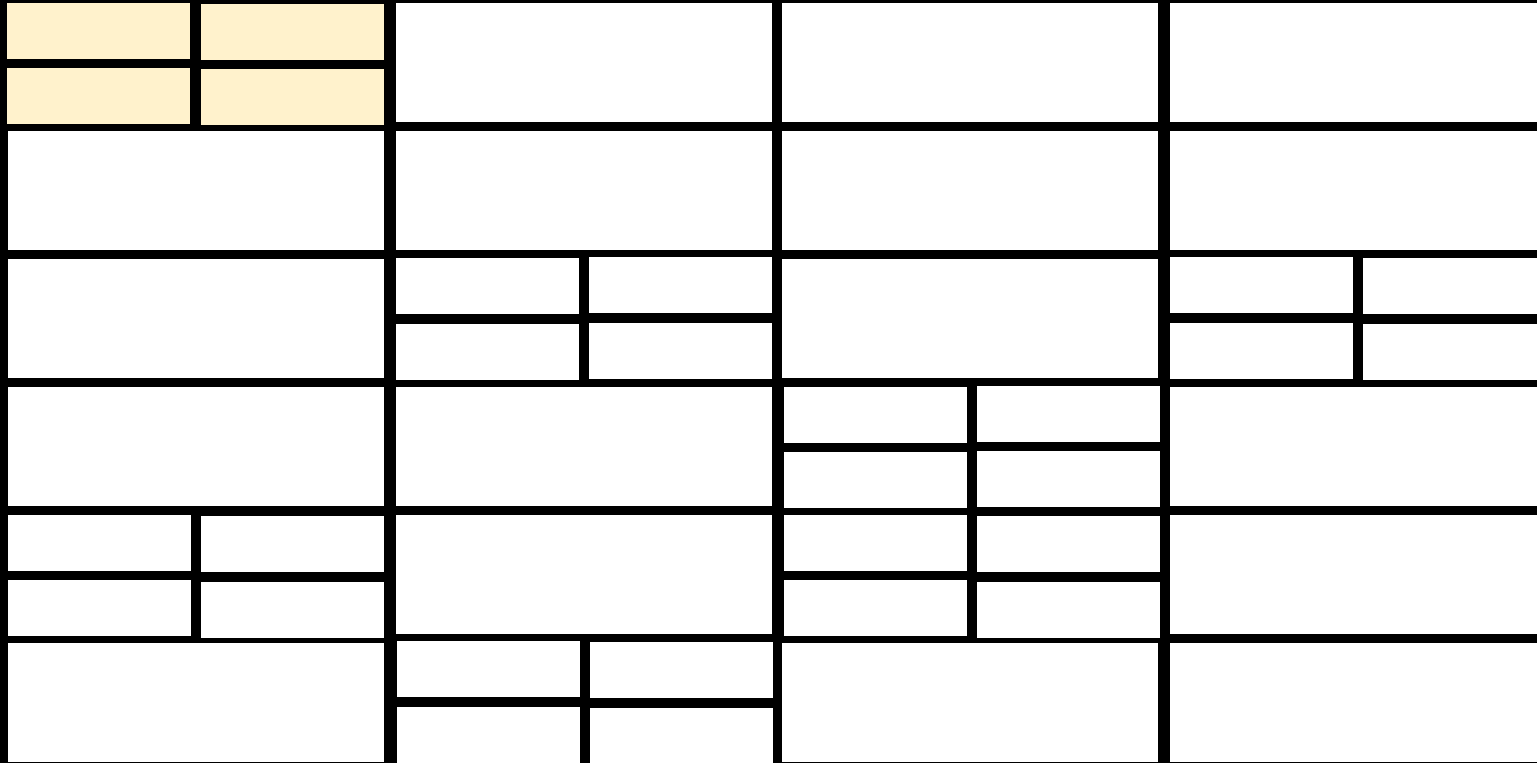


# Selected Pattern

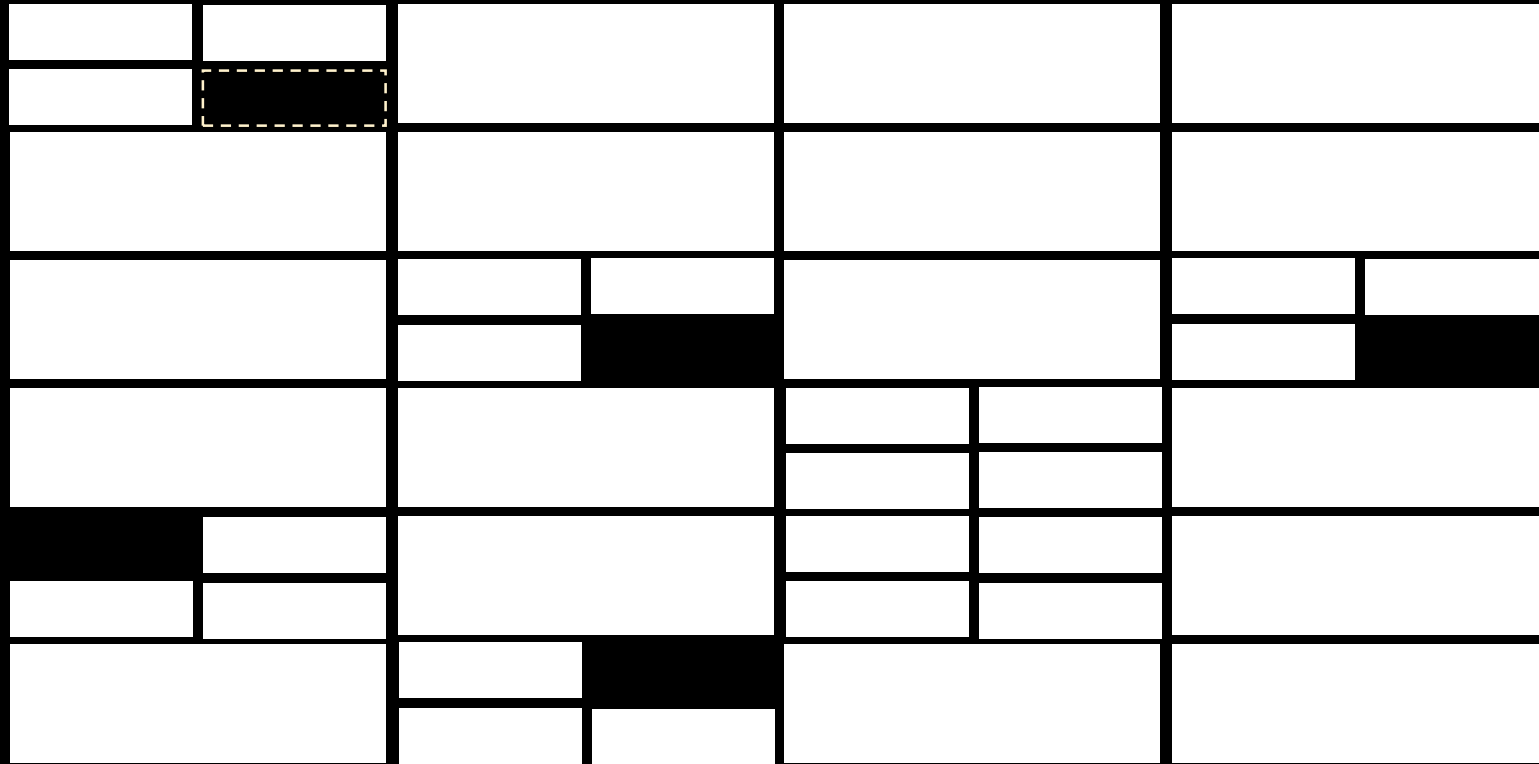




# Final Pattern



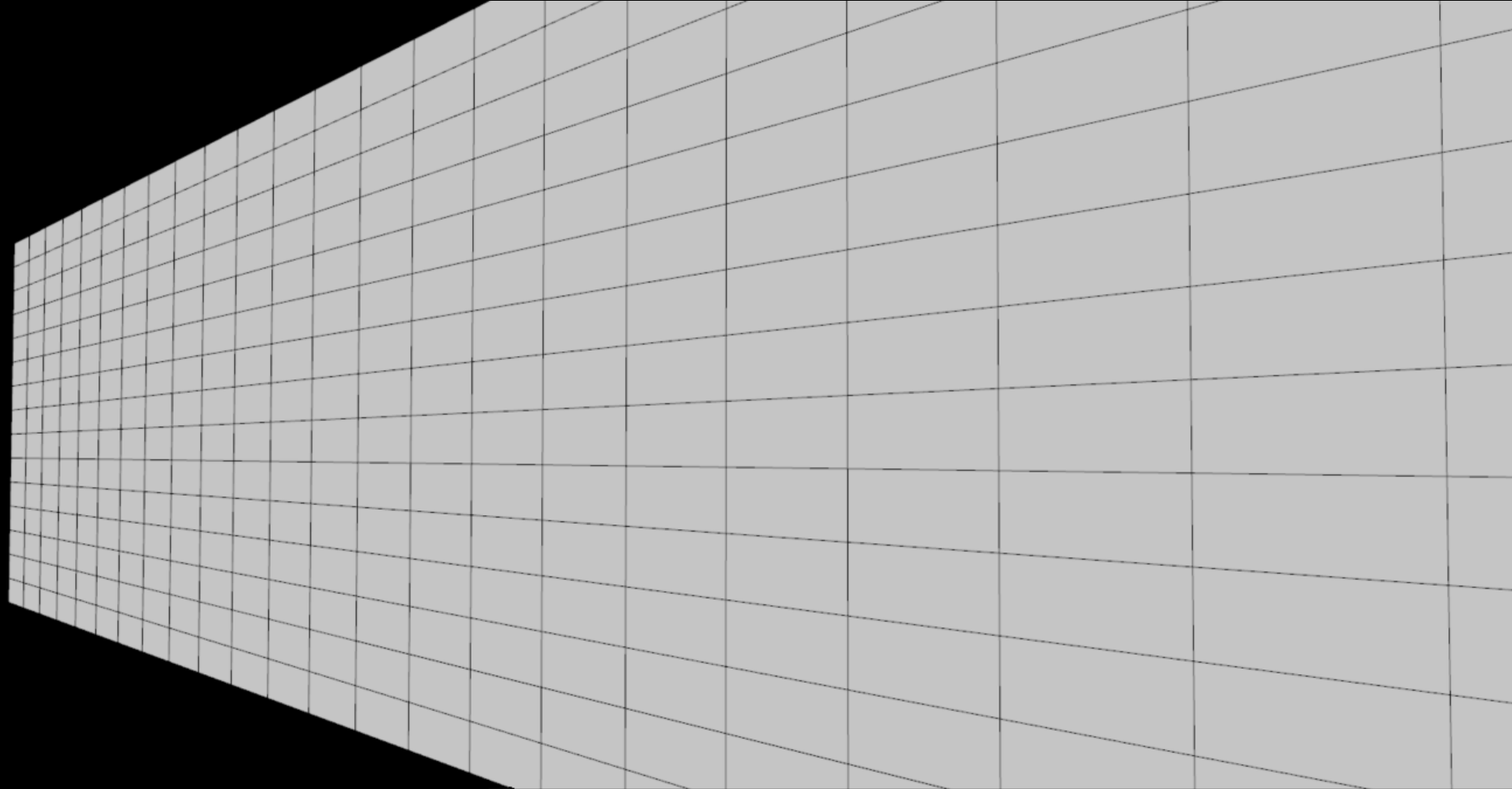
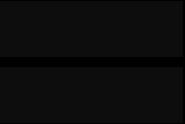
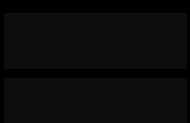
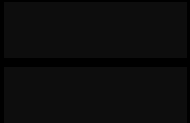
# Final Pattern



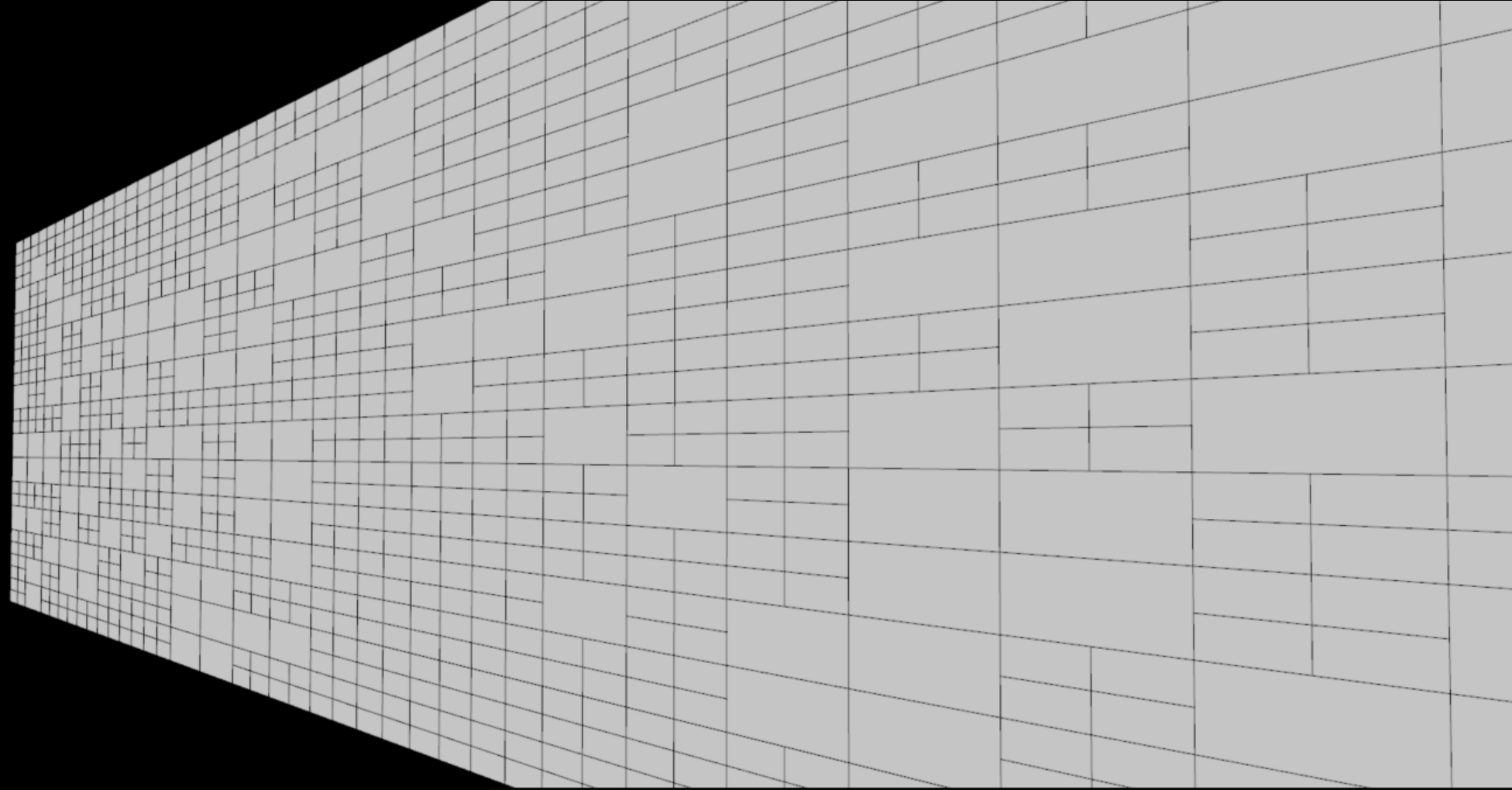
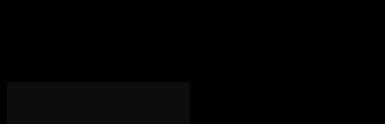
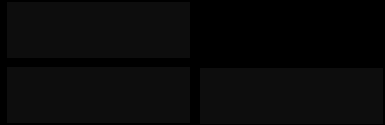
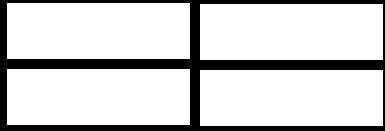




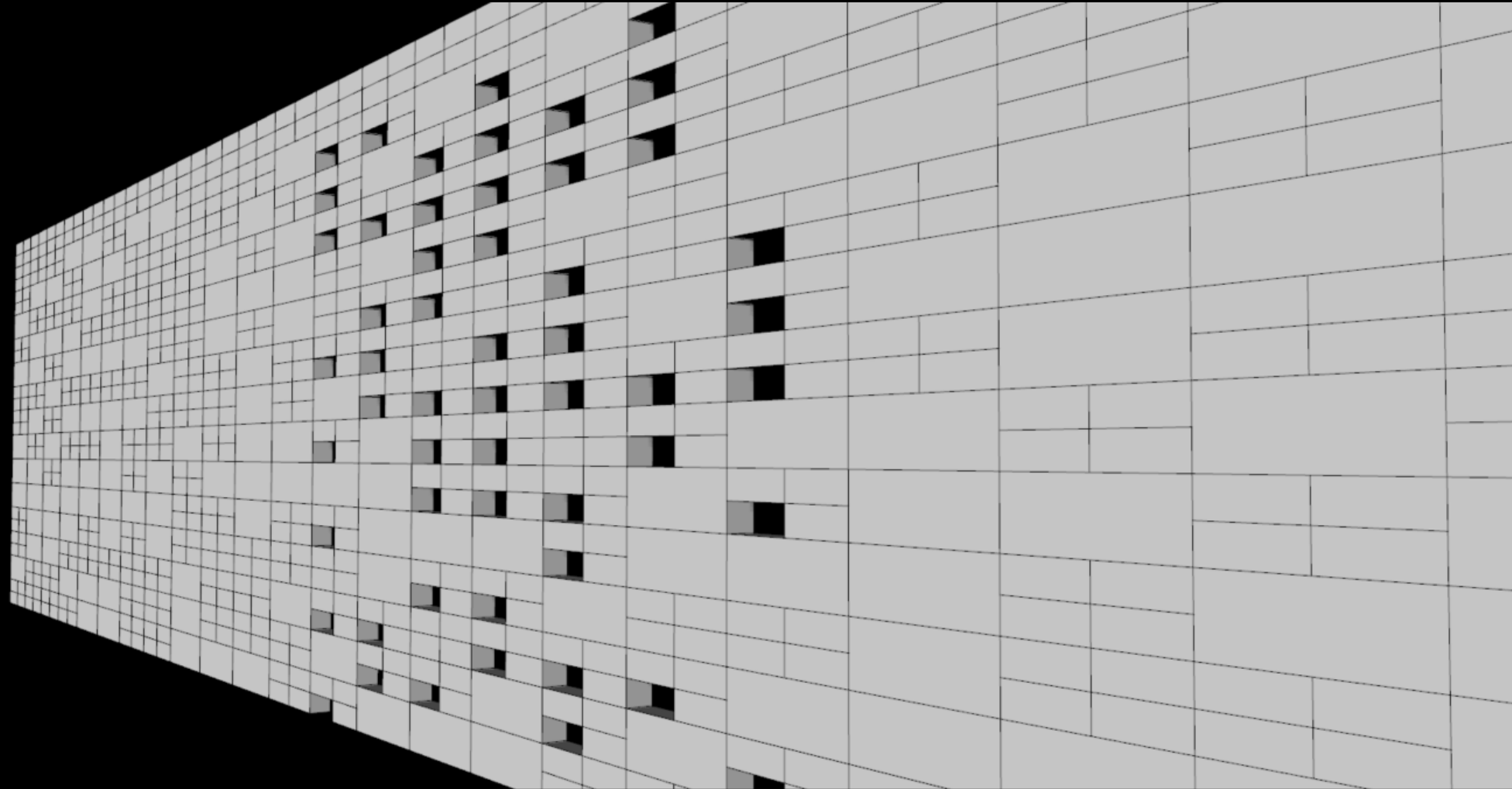
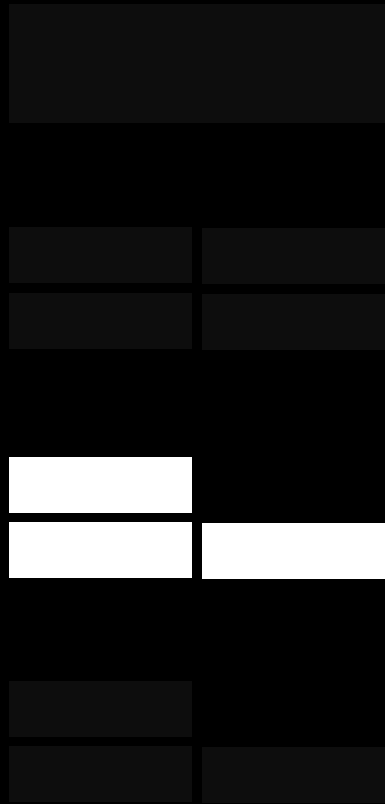
# Final Pattern



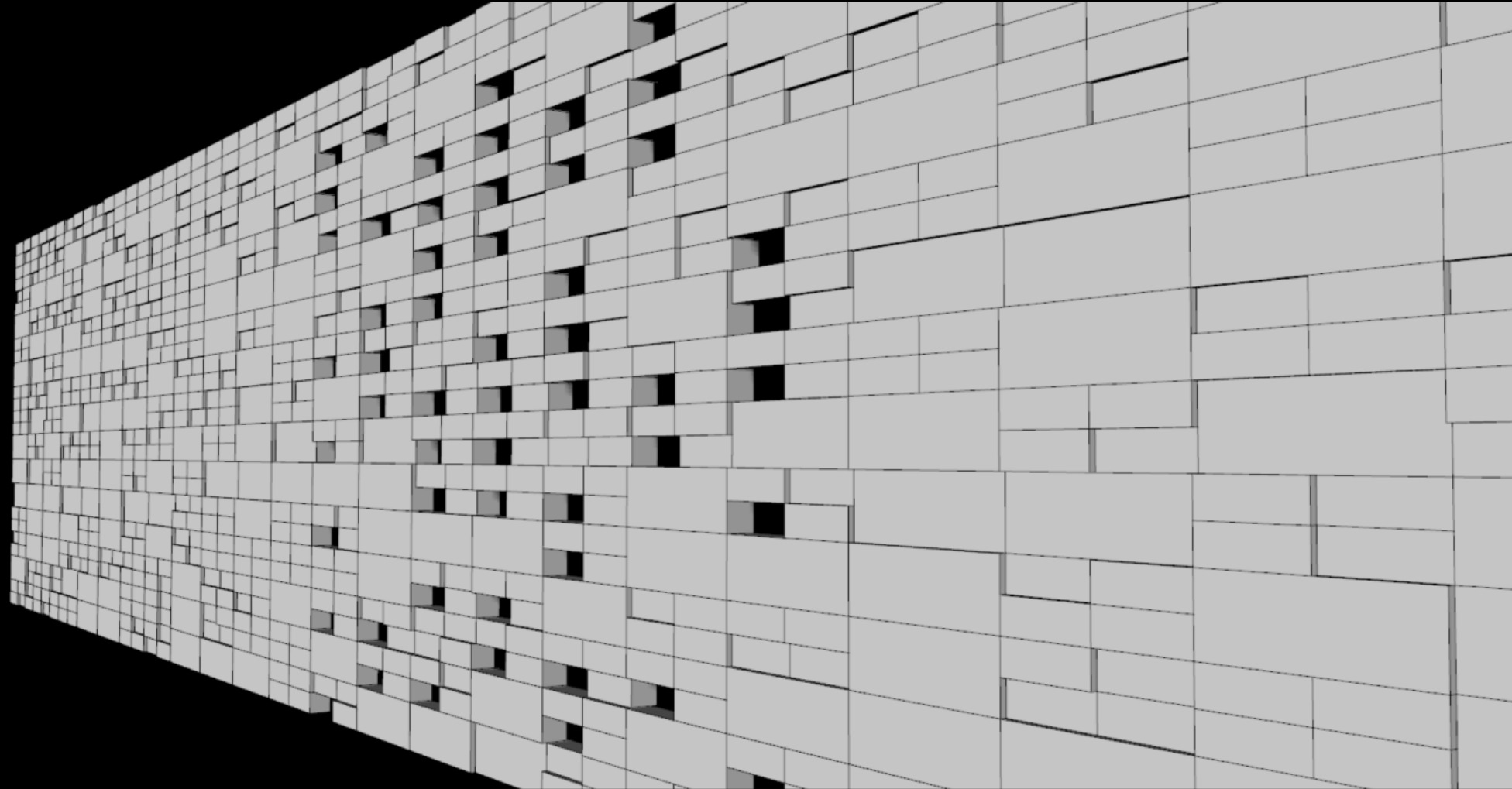
# Final Pattern



# Final Pattern



# Final Pattern



# Pattern Development

The image shows a software interface with two main panels. The left panel is a code editor displaying Racket code for generating a brick wall pattern. The right panel is a 3D perspective view of the resulting brick wall, showing a complex, non-uniform pattern of red and blue bricks.

```
#lang racket

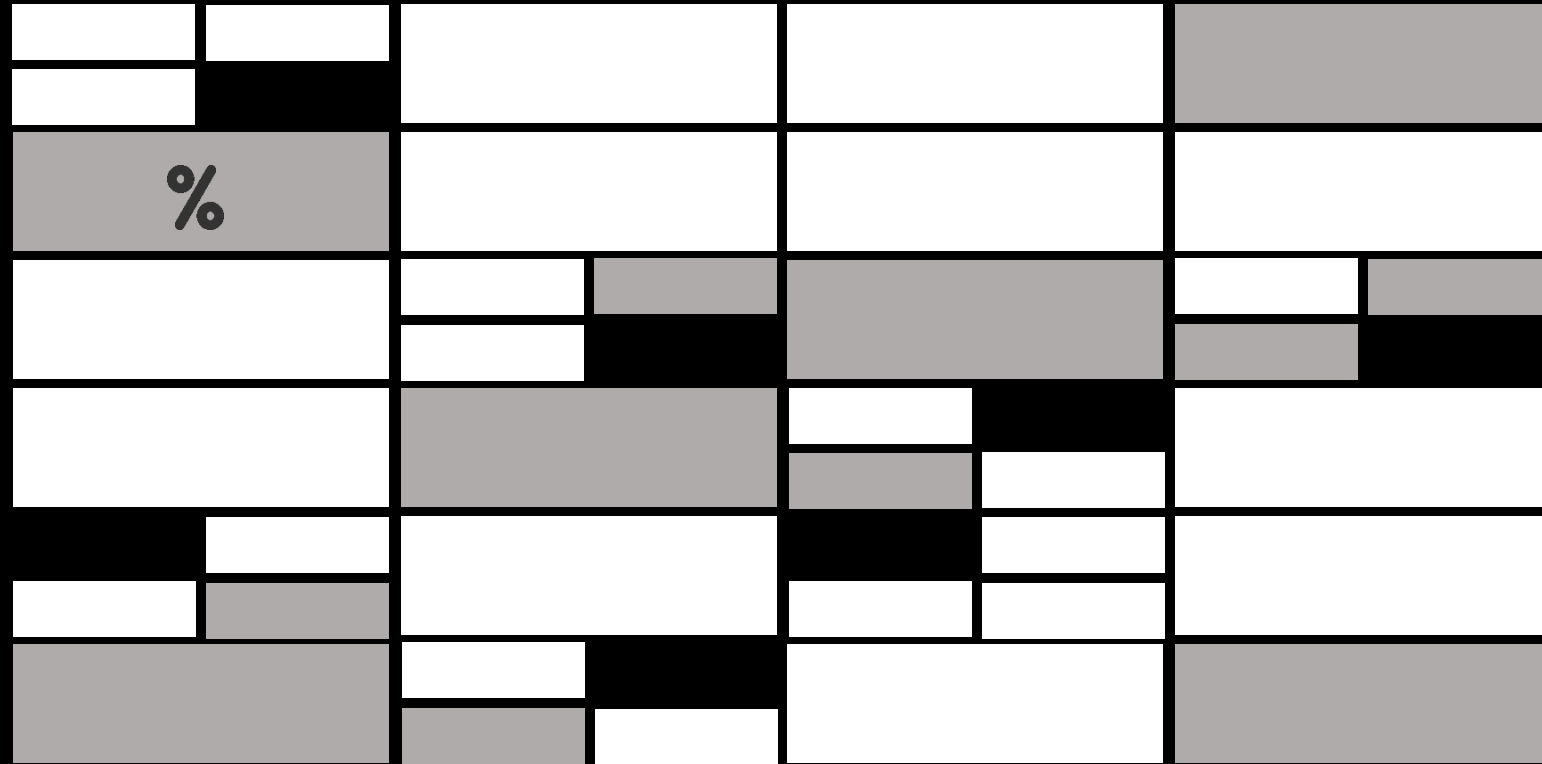
(define (brick-movement p)
  (if (= (random 4) 0) ; se o 4 aumentar as saliencias sao mais raras
      (+x p salienciaRevit #;0.02)
      p))

;FUNCAO QUE CRIA QUATRO TIJOLO PEQUENOS NO ESPAÇO DE 1 TIJOLO GRANDE (30x10cm)
(define (brick4 p lado alt e)
  (let* ((lado2 (/ (- lado j) 2))
         (alt2 (/ (- alt j) 2))
         (pp (+xy p (/ e 2) (+ (/ lado2 2) j)))
         (p1 (+y pp lado2))
         (p2 (+z pp alt2))
         (p3 (+yz pp lado2 alt2)))
    (union
     (right-cuboid pp e lado2 alt2)
     (right-cuboid p1 e lado2 alt2)
     (right-cuboid p2 e lado2 alt2)
     (right-cuboid p3 e lado2 alt2))))

;FUNCOES QUE CRIAM SO TRES TIJOLOS PEQUENOS NO ESPAÇO DE UM GRANDE
(define (brick3 p lado alt e)
  (let* ((lado2 (/ (- lado j) 2))
         (alt2 (/ (- alt j) 2))
         (pp (+xy p (/ e 2) (+ (/ lado2 2) j)))
         (p1 (+v pp lado2))
```

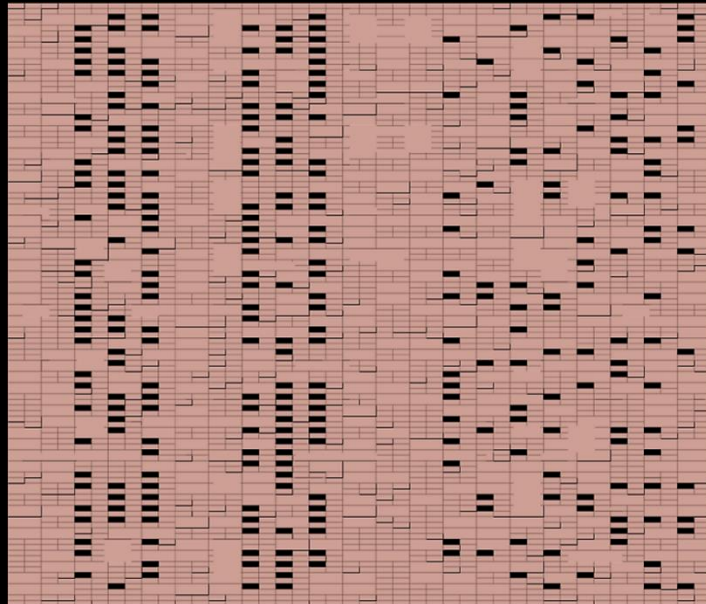


# Pattern Development



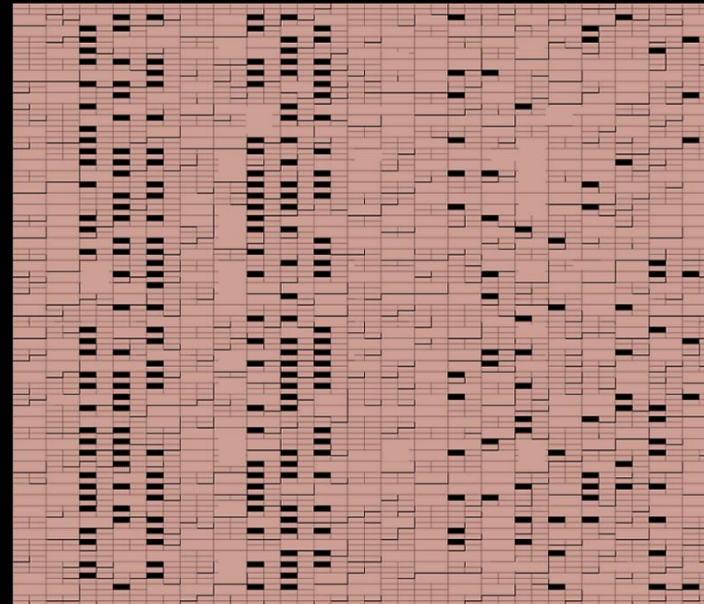


# Pattern Development

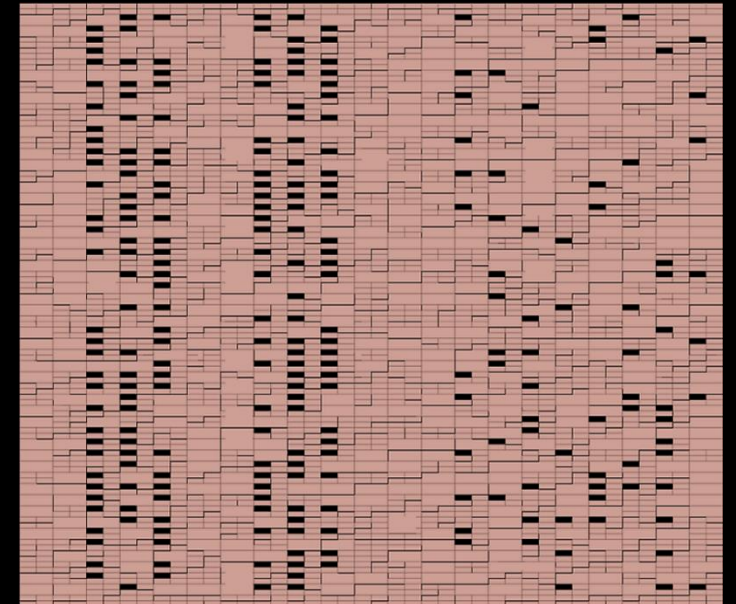


Percentagem de saliências

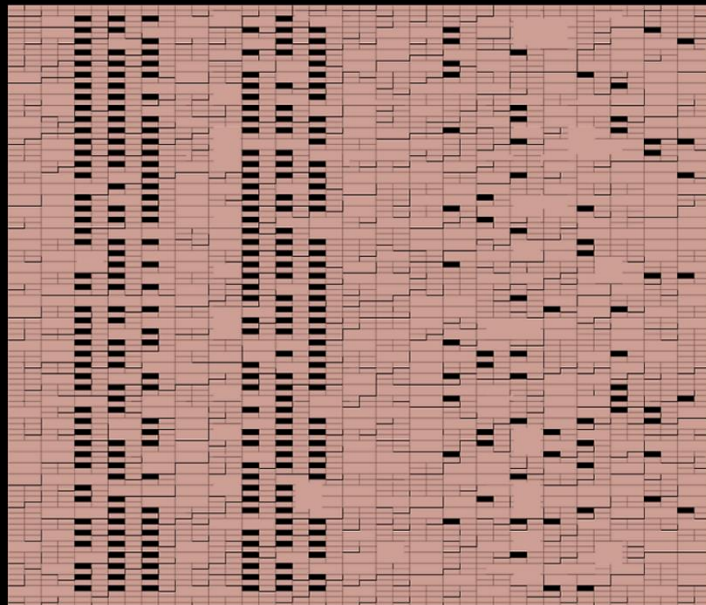
10%



25%

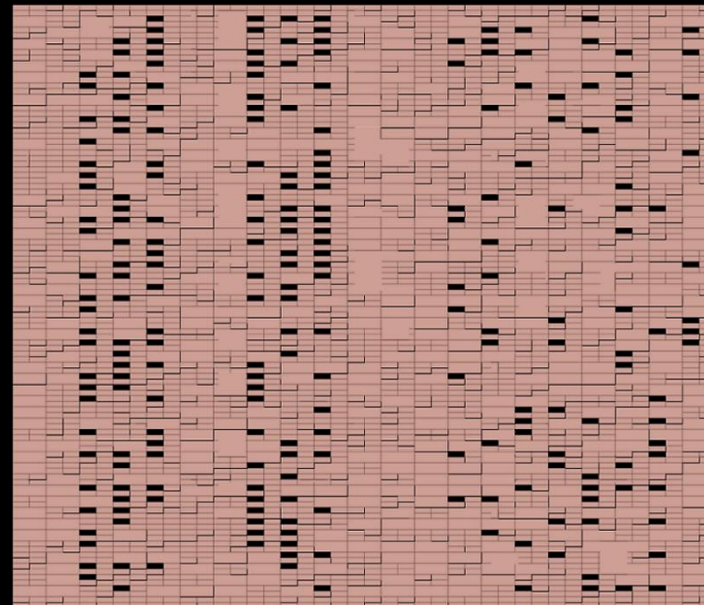


50%

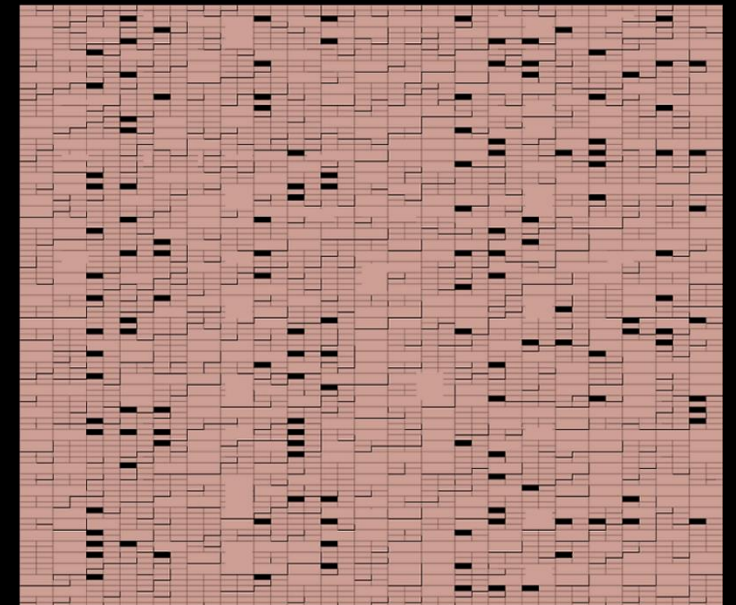


Percentagem de vazios

90%/40%

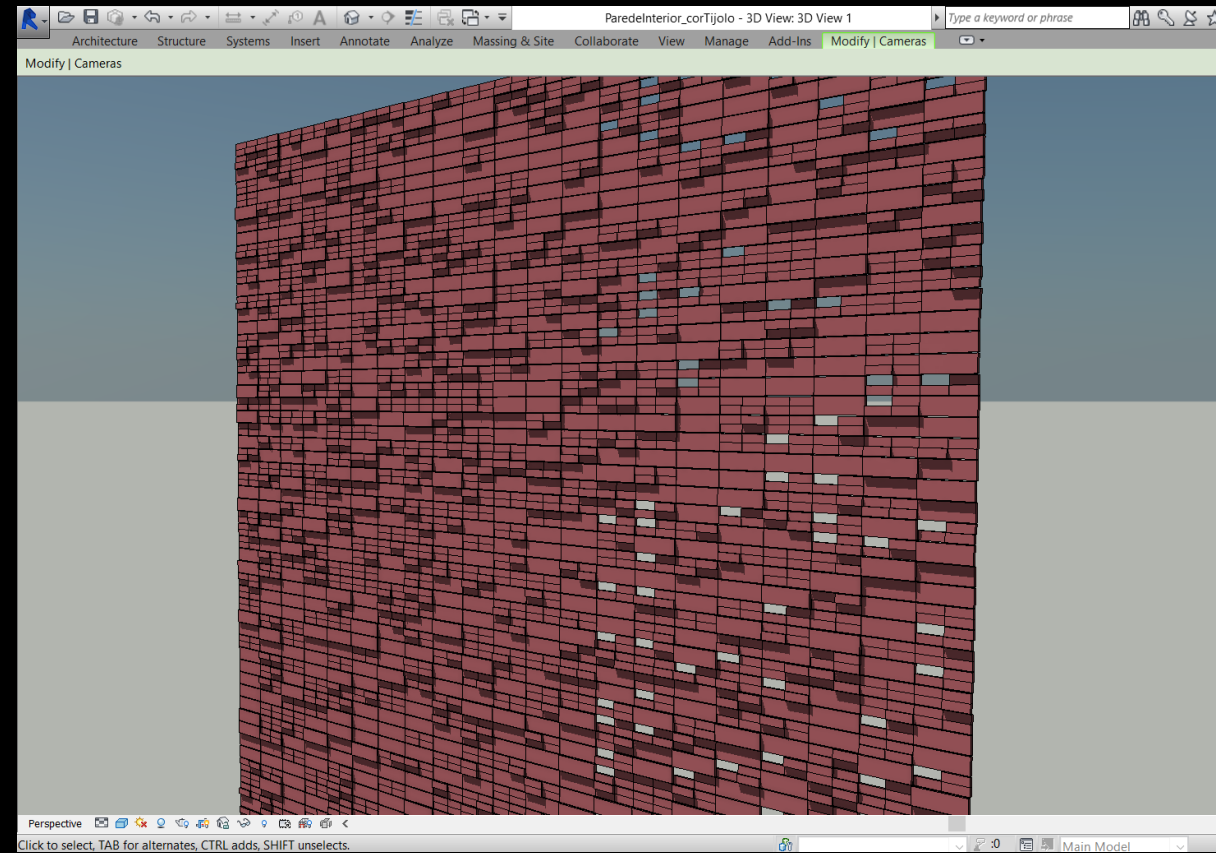
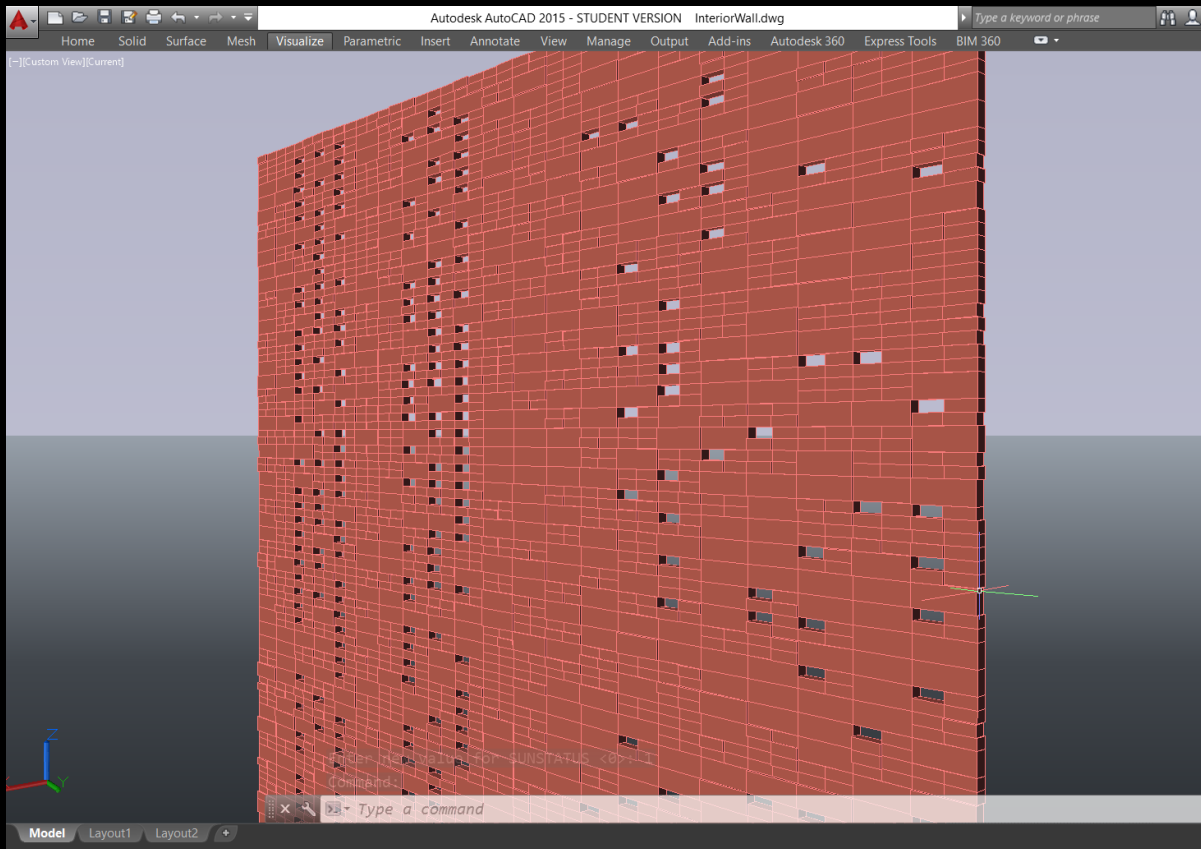


80%/50%



50%/50%

# Portability CAD BIM



# Final Model



# Final Model





Obrigada!

