Università degli Studi di Napoli Federico II
Scuola Politecnica e delle Scienze di Base

INTERNATIONAL MASTER DEGREE COURSE IN
DESIGN FOR THE BUILT ENVIRONMENT

fundamentals dbe

#3_Reading architecture through shapes

dipartimento di architettura
università degli studi di napoli federico II
scuola politecnica e delle scienze di base

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Reading architecture through shapes

Designing with shapes influences **architecture** and its fruition. This can convey specific emotions assuming a unique and identifying value for each project. The choice of a geometric shape is part of the architectural compositional language and help to define the spaces' identity, readability and functions. In particular, architectural design is directly connected to **geometric shapes** such as rectangles, circles, trapezoids and squares: the history of architecture has always been based on these elementary shapes that imply the design itself. For this reason, designing with shapes is essential to convey a precise projectual message.

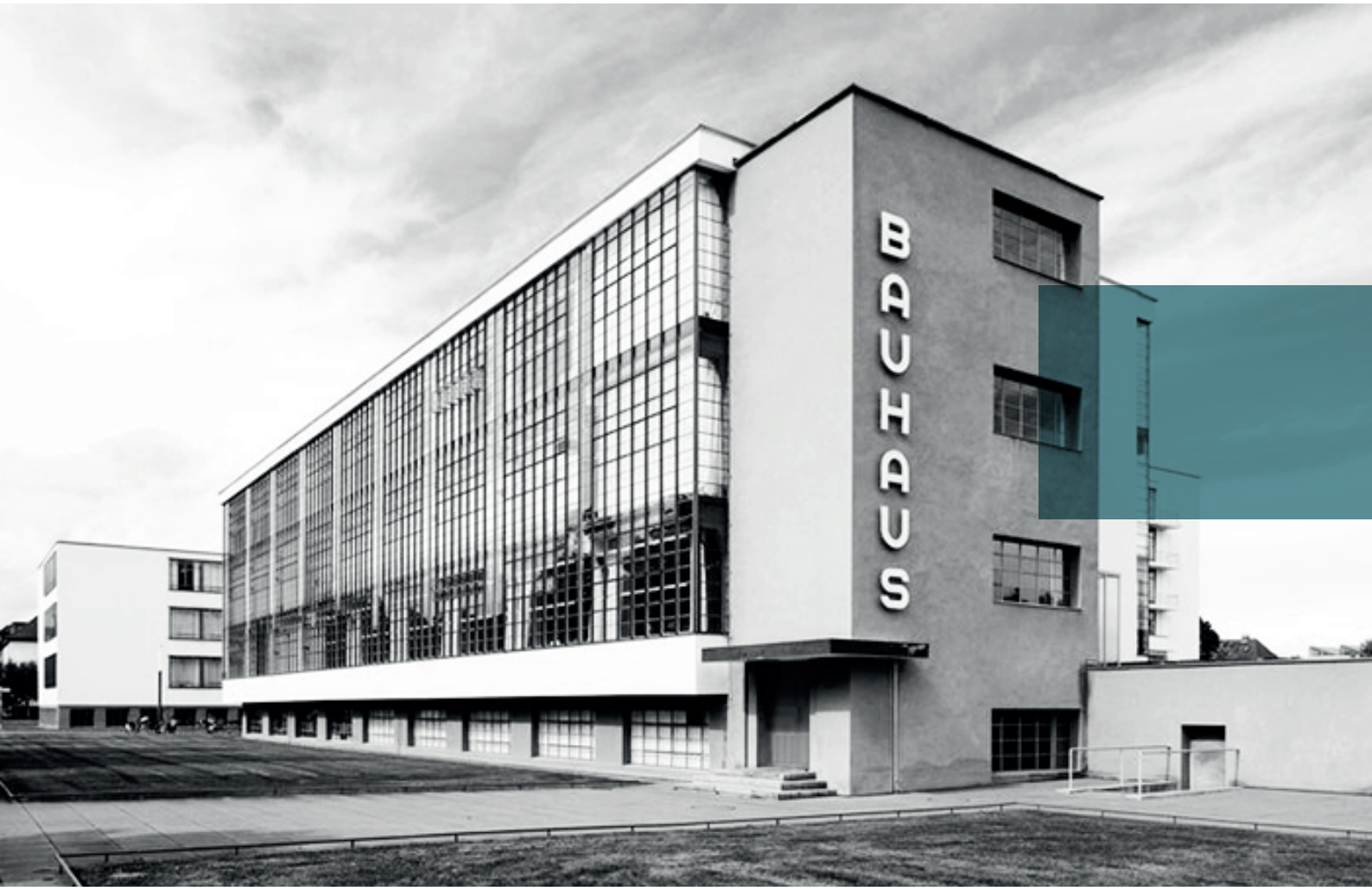
Short exercise

GENERAL PURPOSE
The goal of this exercise is to stimulate the ability to isolate and process, visually and geometrically, elementary shapes present in space, extracting them from a specific architecture. The final purpose is to show your cultural background through a modern architecture in your hometown. This presentation will be an opportunity to introduce yourself through your culture during the first lesson.

WORK STRUCTURE
Each student will choose a modern or contemporary architecture belonging to his hometown, of which the specific location coordinates must be provided. After the direct experience of the space chosen, through a visit and a photographic survey, the student will proceed to an unusual presentation of the space turning the architecture into visual patterns.

Focus on

Modern architecture often features bold, clean lines, and simple functionality, from mid-century modern to Scandinavian minimalism. You can trace all of these design trends back to a school of architecture that began in early twentieth-century Germany: the Bauhaus school. Bauhaus architecture's characteristics include functional shapes, abstract shapes used sparingly for décor, simple color schemes, holistic design, and basic industrial materials like concrete, steel, and glass.



Bauhaus building, Walter Gropius, Dessau, 1925

FIRST SLIDE
Insert a picture that shows the architecture in its totality.

SECOND SLIDE
Write a short description about the architecture through a synthetic text of 500/600 characters (better if the description is about your own experience, your own impression)

THIRD SLIDE
Proceed to select 36 images, distributed in 6 rows and 6 columns, in black and white contrast. The images will refer to 3 geometric themes:
TRIANGLE, SQUARE, CIRCLE (12 for each theme).

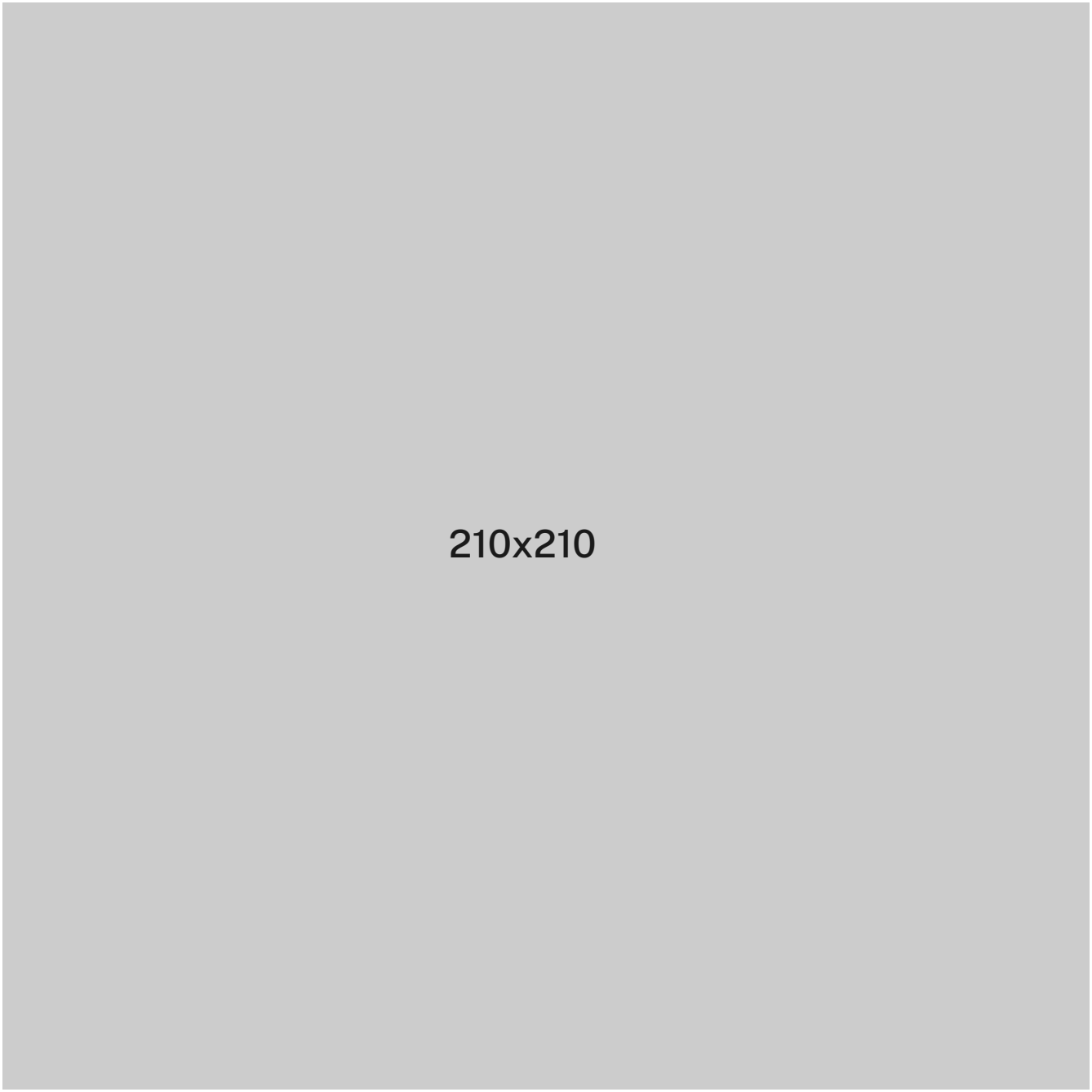
FOURTH SLIDE
Through a first selection process, 9 images of the 36 must be positioned in this slide, 3 for each theme.

FIFTH SLIDE / CHOICE OF COLORS
Select 1 image for each theme.
THEN, for each following slide, you must:
1. Identify the image you want to work on.
2. Outline every single shape detected in the picture.
3. Turn the geometric shape outlines in full colored shapes.
4. Redraw the outline of the isolated part of the architecture.
5. Trace the contour of the architectural parts coinciding with the geometric shapes identified, with the black line redraw the part of architecture isolated on white background.
6. Do the hatching of the architectural parts with the chosen primary color of the shape.
7. Do the hatching of the architectural volume isolated with full-colored geometric shapes.
8. Switch from the perspective view to the two-dimensional visualization and through geometrization, alignment and repetition of the extracted geometric elements, create a pattern.

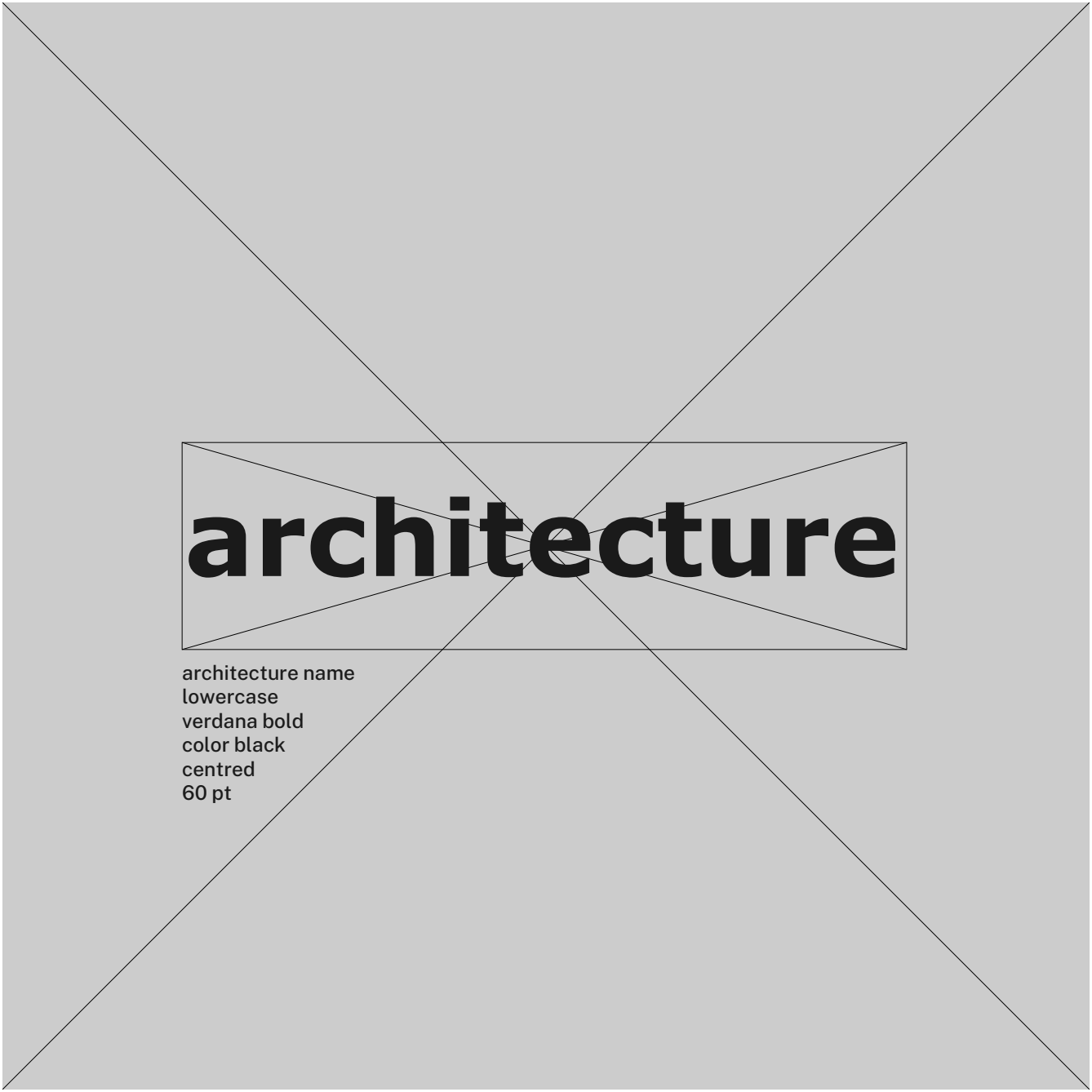
_Do the same exercise for the other two shapes, depending on what you chose to extract first between triangle, circle and square.

STEPS

_The first slide must include a photograph showing the architecture in its entirety.
_A brief description of the architecture will then be paginated through a concise text of between 500 and 600 characters. This description must have a personal, narrative and original character.
_Through an initial selection process, only 9 images will be chosen for each of the three geometric subjects, followed by the selection of only one image for each theme.
_Once the geometric shapes have been identified and extracted (following the instructions), a composition of the three vector shapes extracted through operations such as INTERSECTION SUBTRACTION DECOMPOSITION ROTATION REDUCTION OVERLAPPING will be elaborated.


210x210

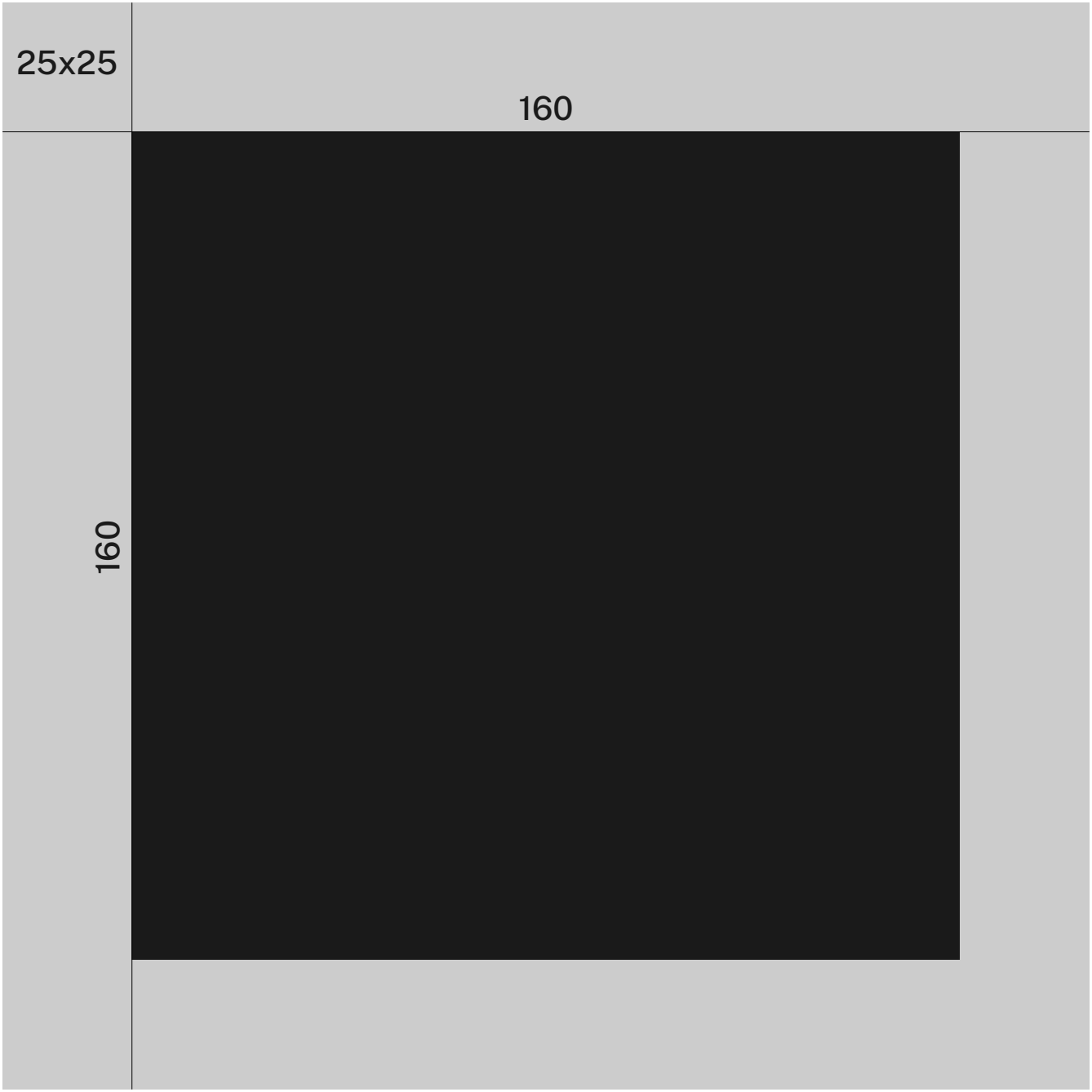
25x25	



architecture name
lowercase
verdana bold
color black
centred
60 pt

SLIDE 1

Insert a picture that shows the architecture in its totality


25x25
160
160

SLIDE 2

Write a short description about the architecture through a synthetic text of 500/600 characters.
(better if the description is about your own experience, your own impression)

60x60

90

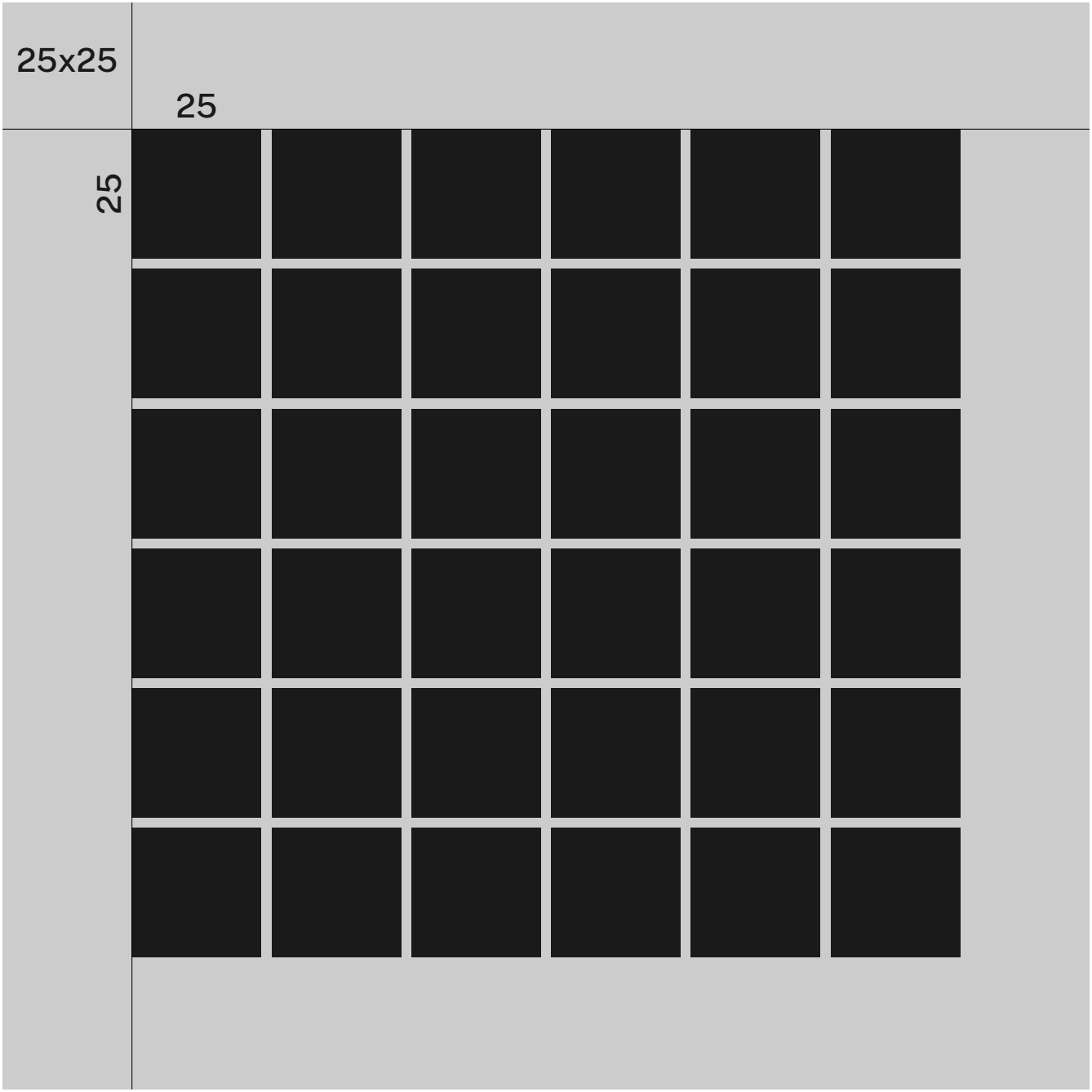
90

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Lorem ipsum dolor sit amet, cons ectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation

verdana bold
10 pt
500/600 characters
spaces included
justified on the left
white background

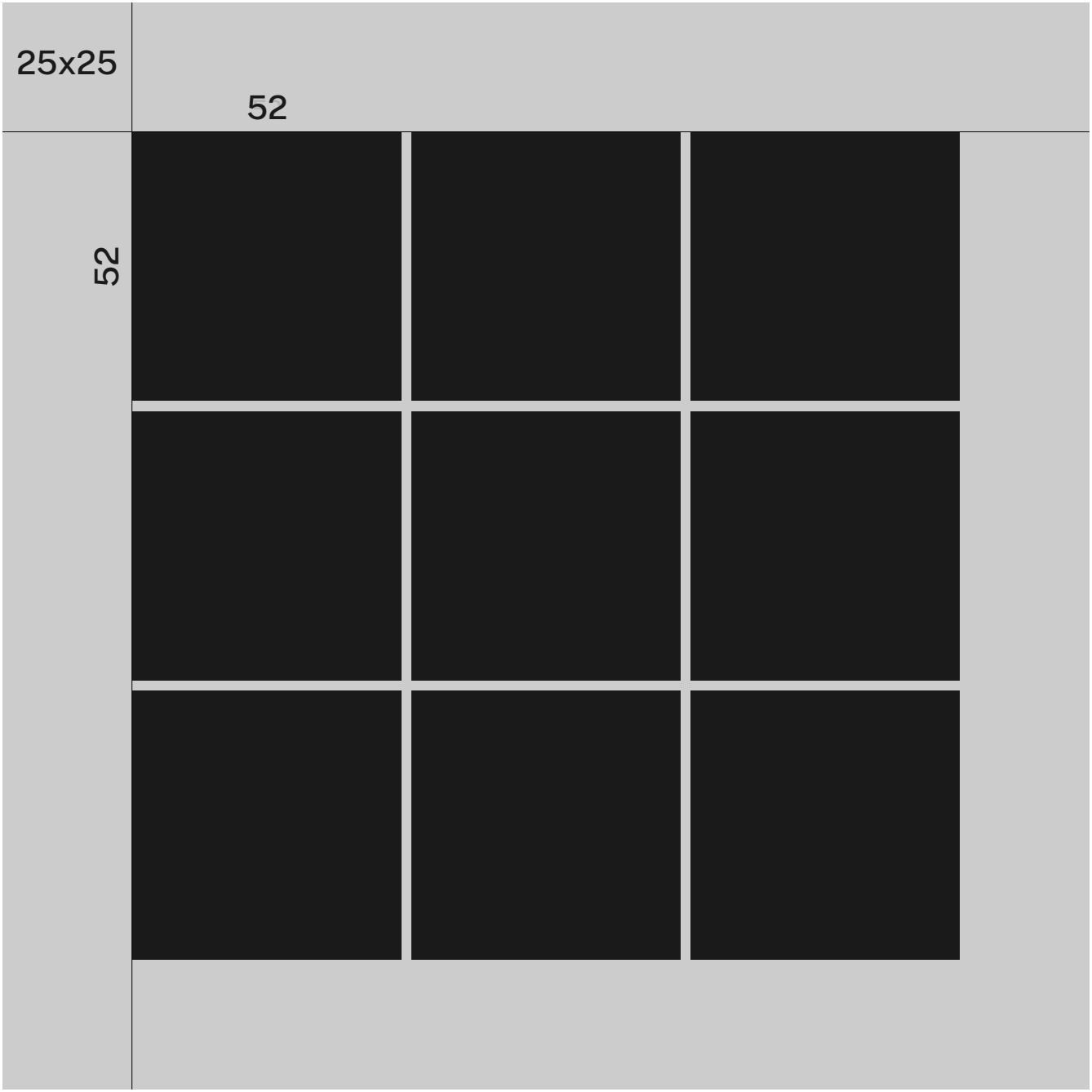
SLIDE 3

Proceed to select 36 images, distributed in 6 rows and 6 columns, in black and white contrast.
The images will refer to 3 geometric themes:
TRIANGLE, SQUARE, CIRCLE (12 for each theme).


25x25
25
25

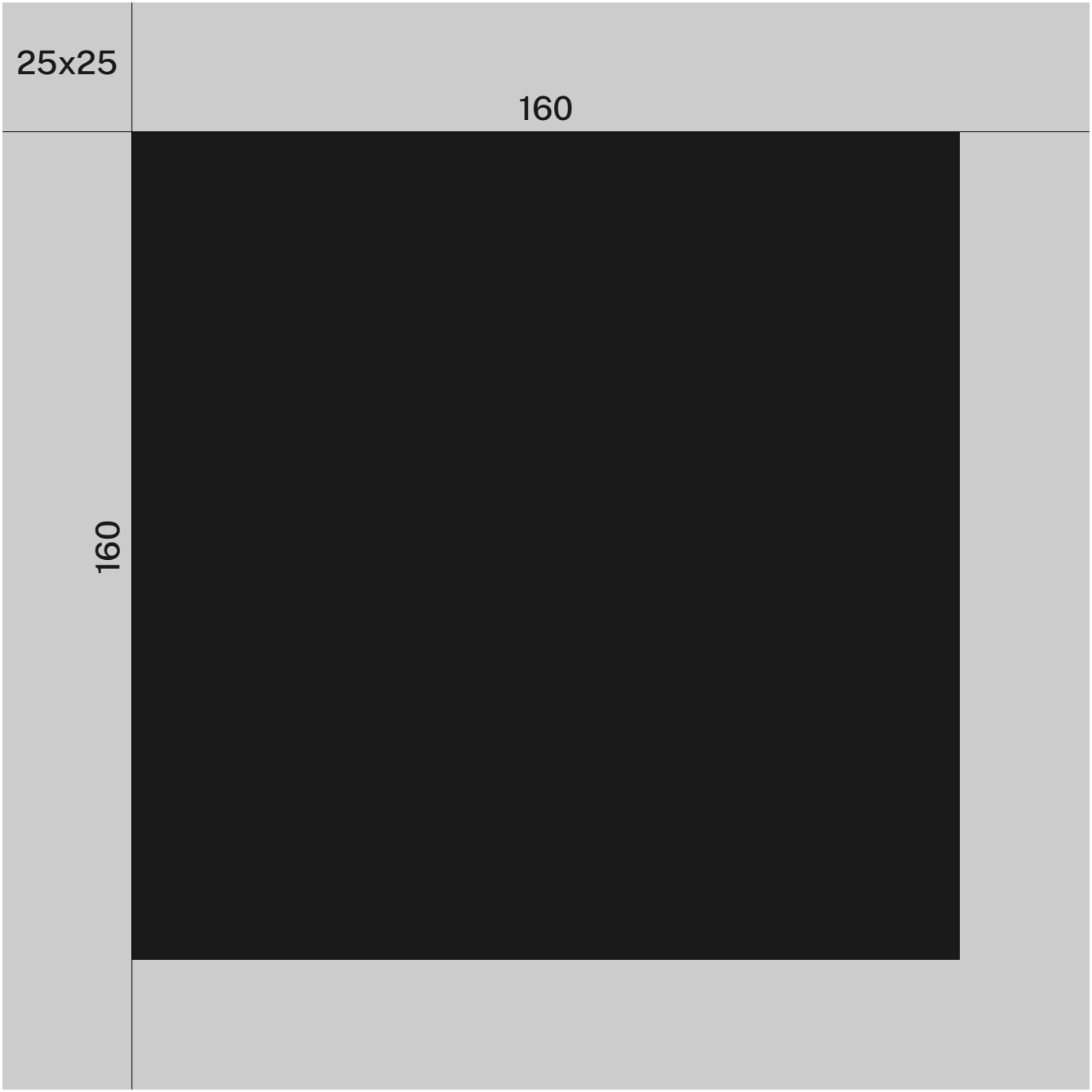
SLIDE 4

Through a first selection process, 9 images of the 36 must be positioned in this slide, 3 for each theme.

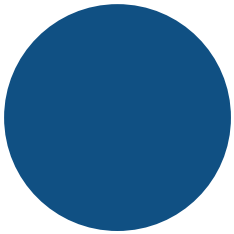

25x25
52
52

SLIDE 5

Select 1 image for each theme.


25x25
160
160

COLORS FOR
THE GEOMETRIC SHAPES



r 17
g 79
b 130

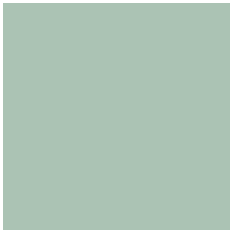
r 255
g 0
b 0

r 254
g 221
b 0

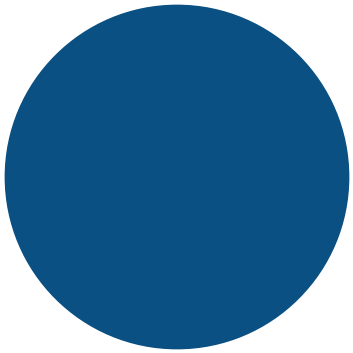
COLORS FOR THE BACKGROUND

r 241
g 231
b 228

r 201
g 201
b 201



r 171
g 195
b 181



1. Identify the image on which you want to work on.


R E G I E P O S T E

2. outlines of every single shape detected in the picture.


R E G I E P O S T E

**3. conversion of the geometric shape outlines
in full colored shapes.**

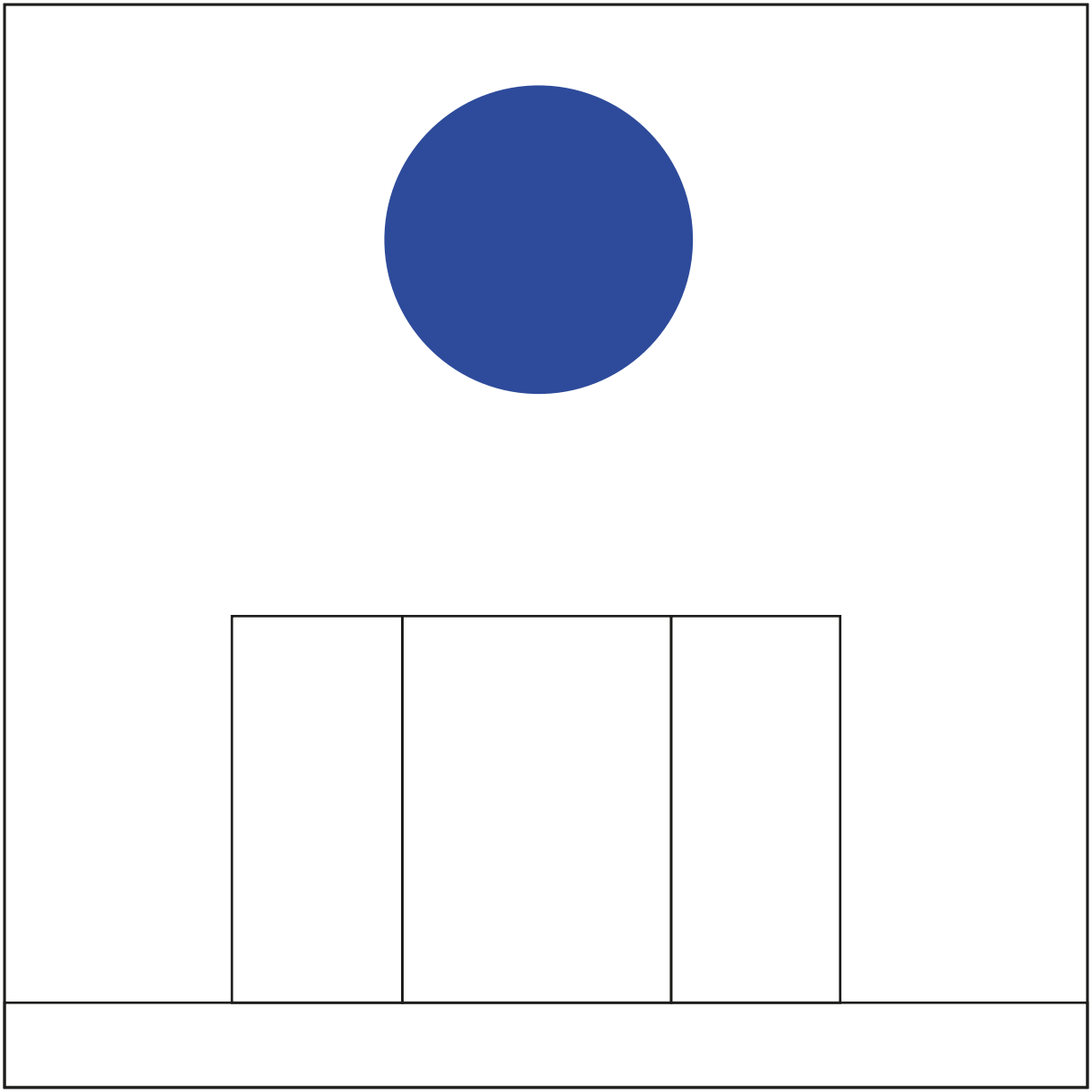

R E G I E P O S T E

4. redraw the outline of the isolated part of the architecture.

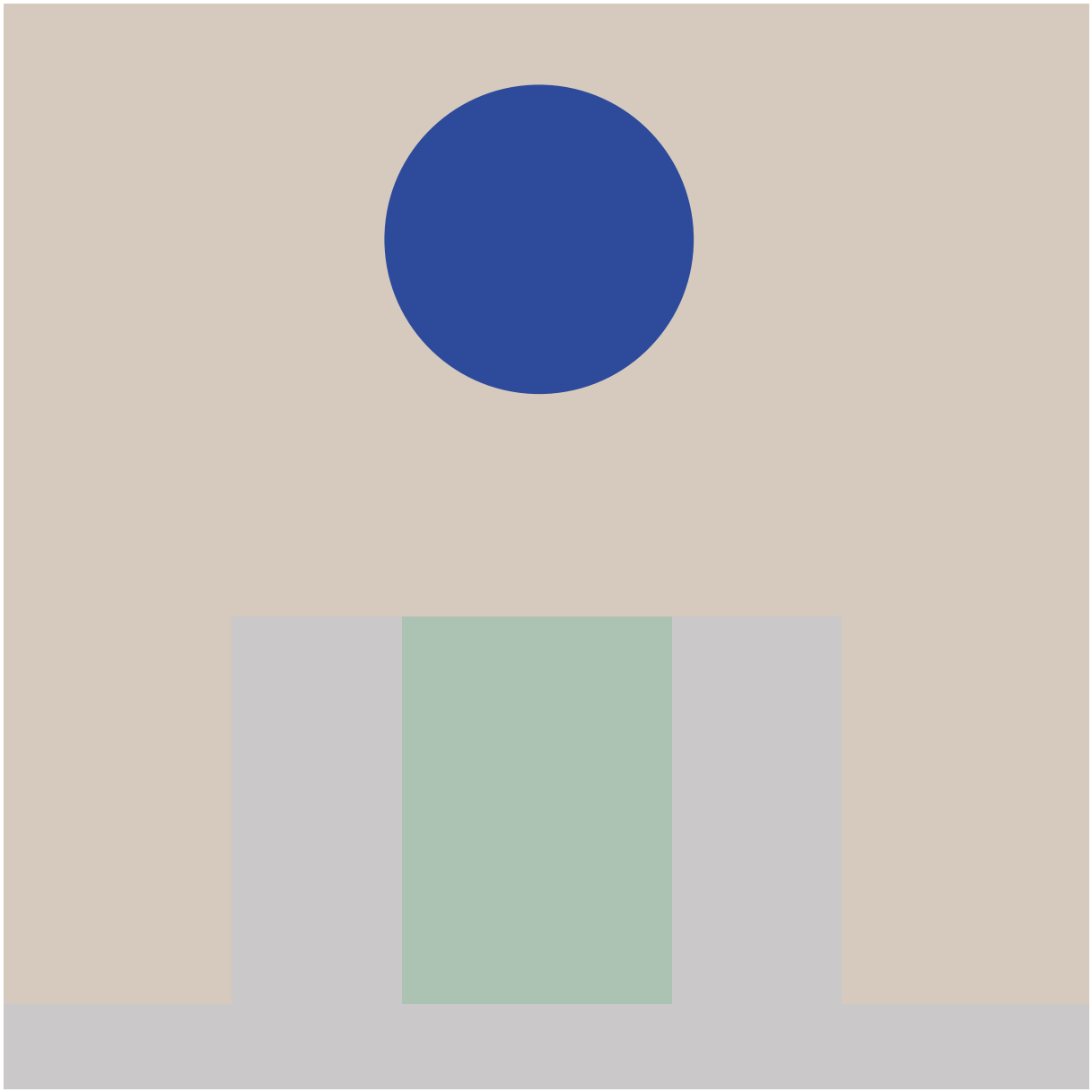

R E G I E P O S T E

5. contour of the architectural parts coinciding with the geometric shapes identified, with the black line redraw of the part of architecture isolated on white background

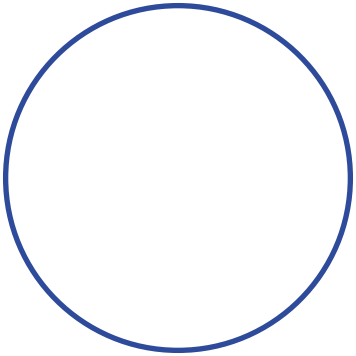
6. hatching of the architectural parts with the chosen primary color of the shape.

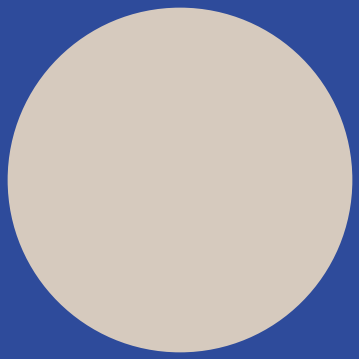


7. hatching of the architectural volume isolated with full-colored geometric shapes.



8. switch from the perspective view to the two-dimensional visualization, geometrization and alignment of the extracted geometric elements.



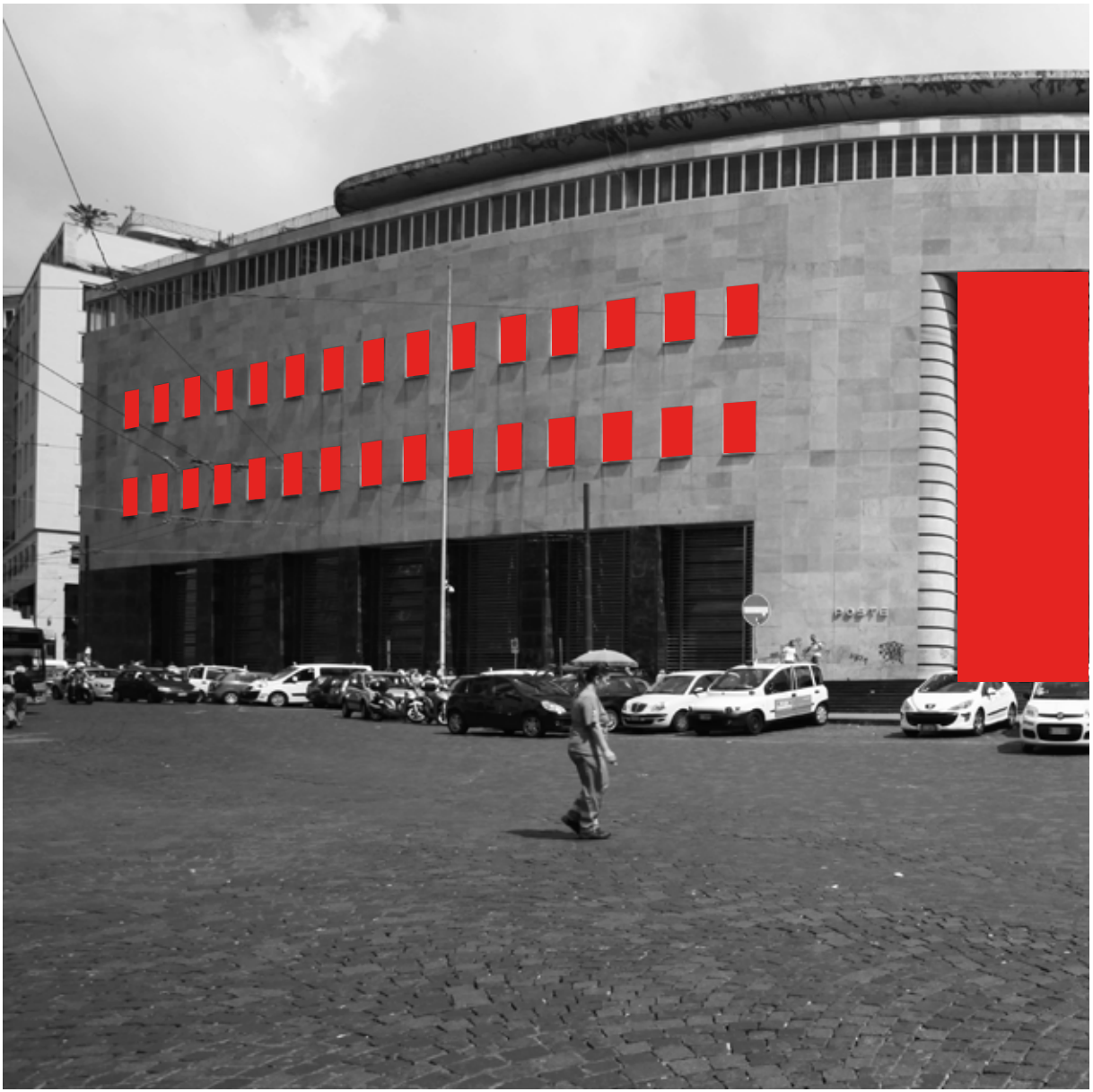


change
of shape
let’s do
this again

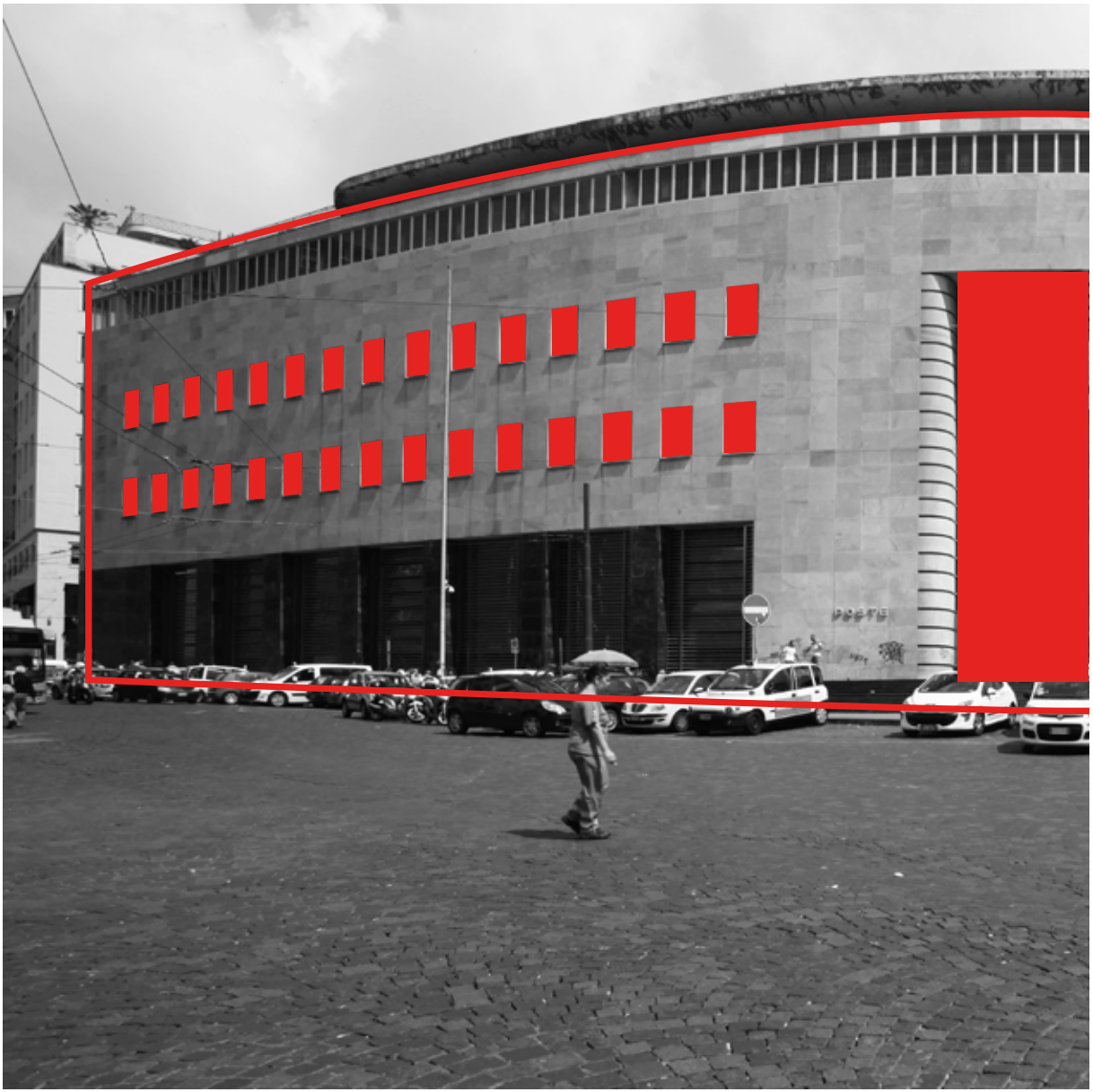
1. Identify the image on which you want to work on.

2. outlines of every single shape detected in the picture.

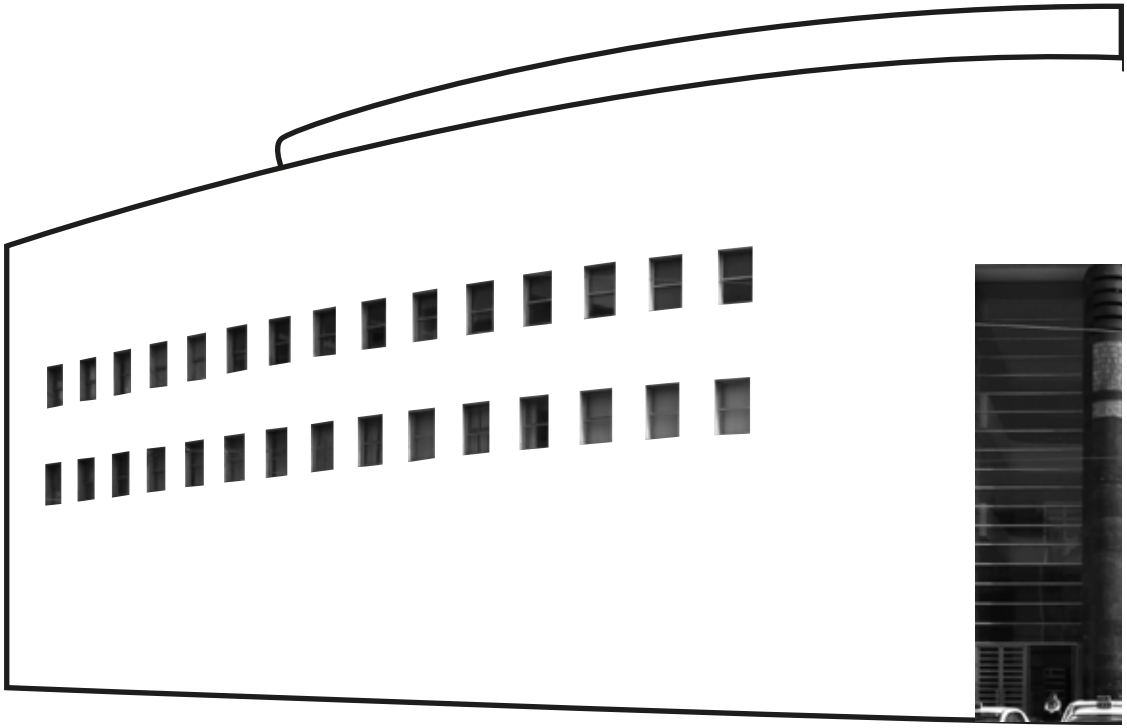
**3. conversion of the geometric shape outlines
in full colored shapes.**



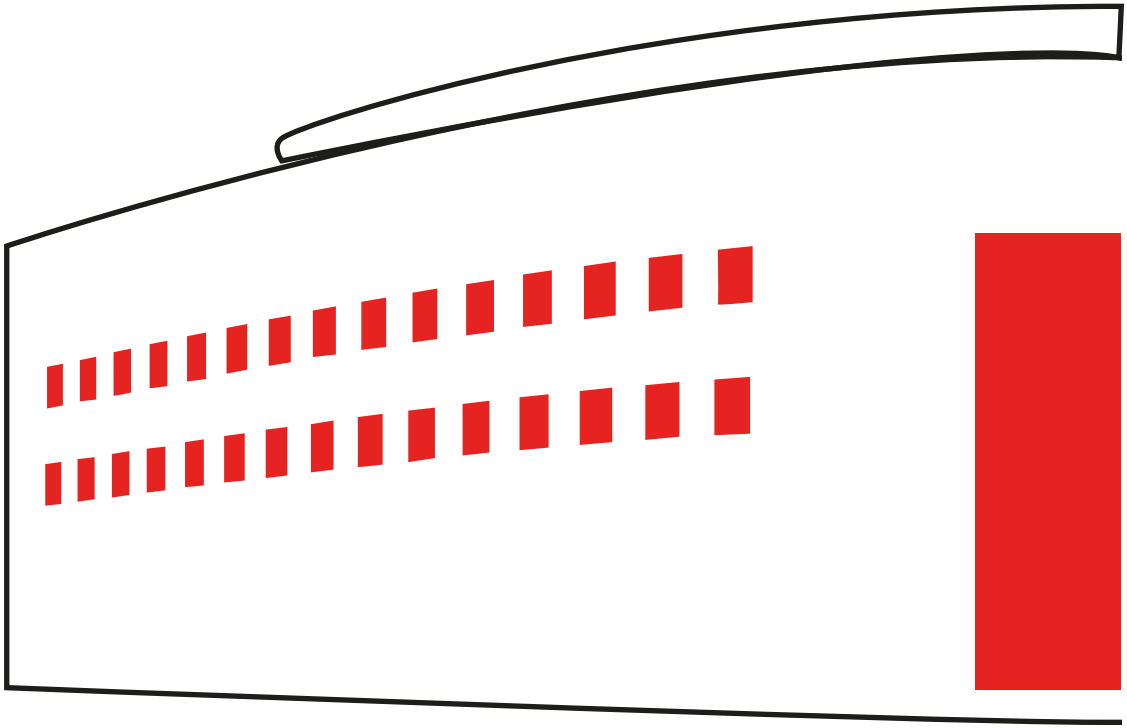
4. redraw the outline of the isolated part of the architecture.



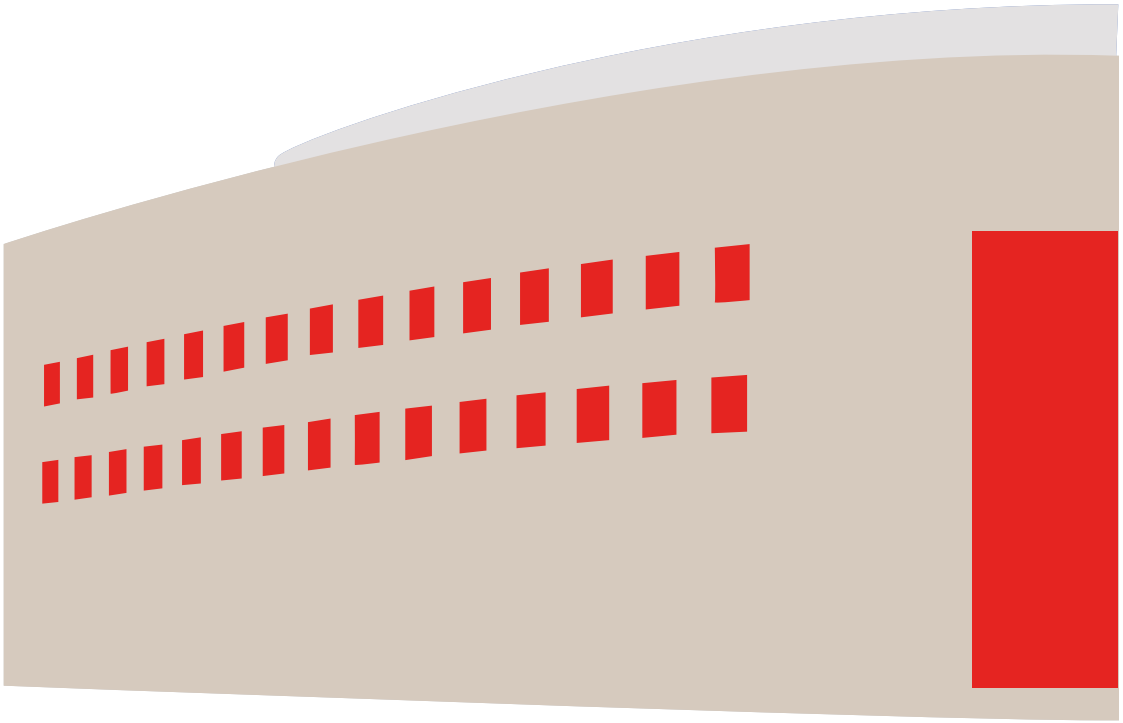
5. contour of the architectural parts coinciding with the geometric shapes identified, with the black line redraw of the part of architecture isolated on white background



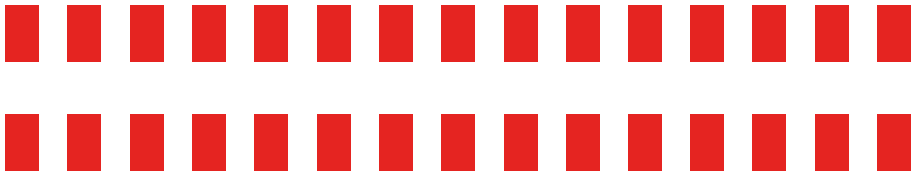
6. hatching of the architectural parts with the chosen primary color of the shape.

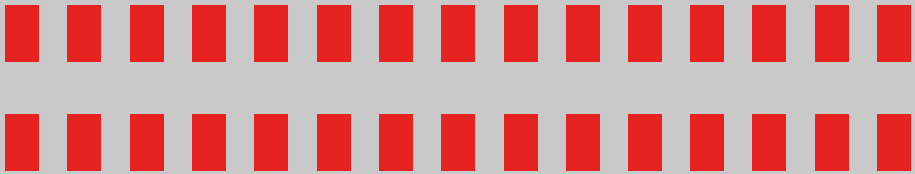


7. hatching of the architectural volume isolated with full-colored geometric shapes.



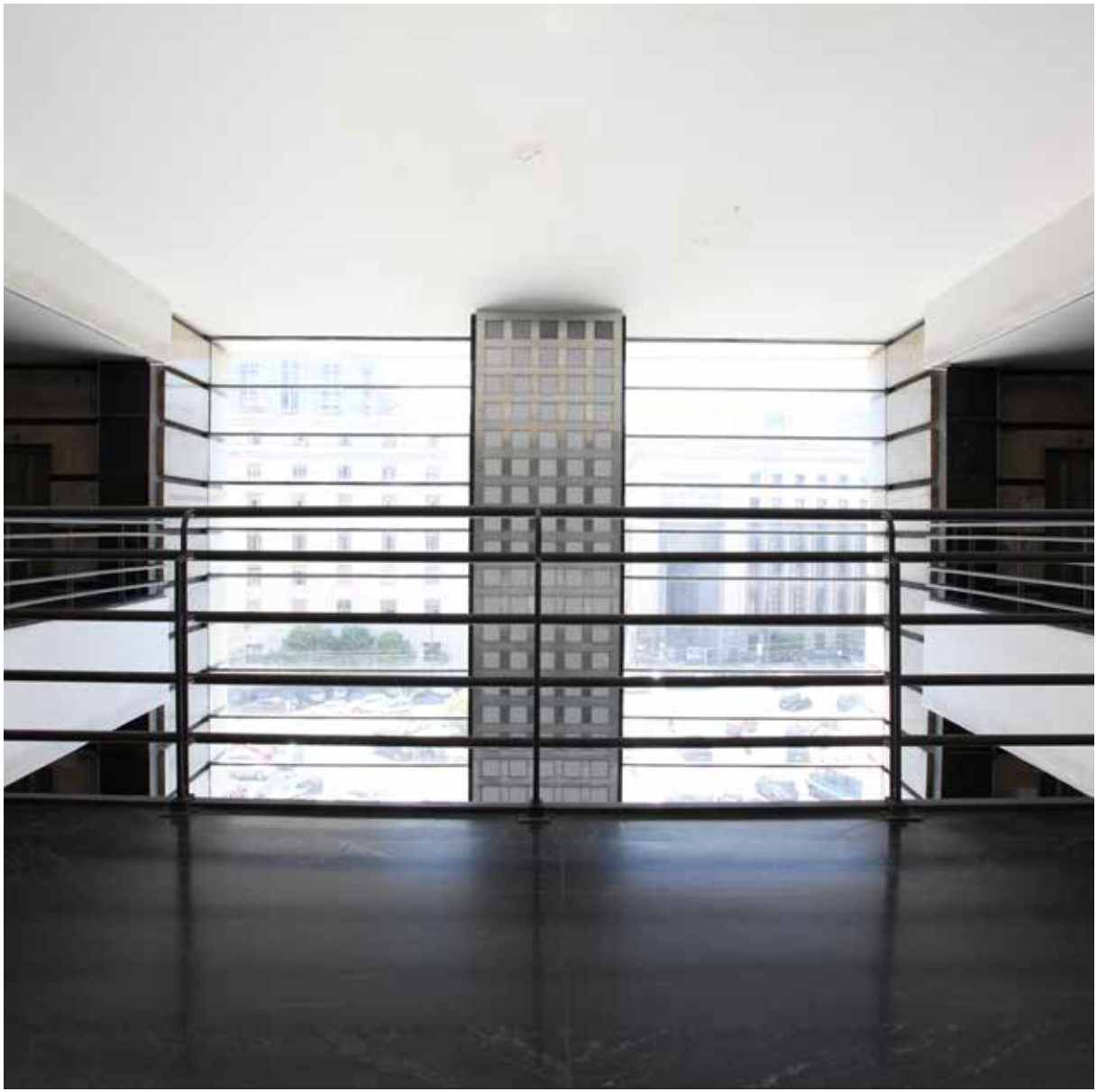
8. switch from the perspective view to the two-dimensional visualization, geometrization and alignment of the extracted geometric elements.



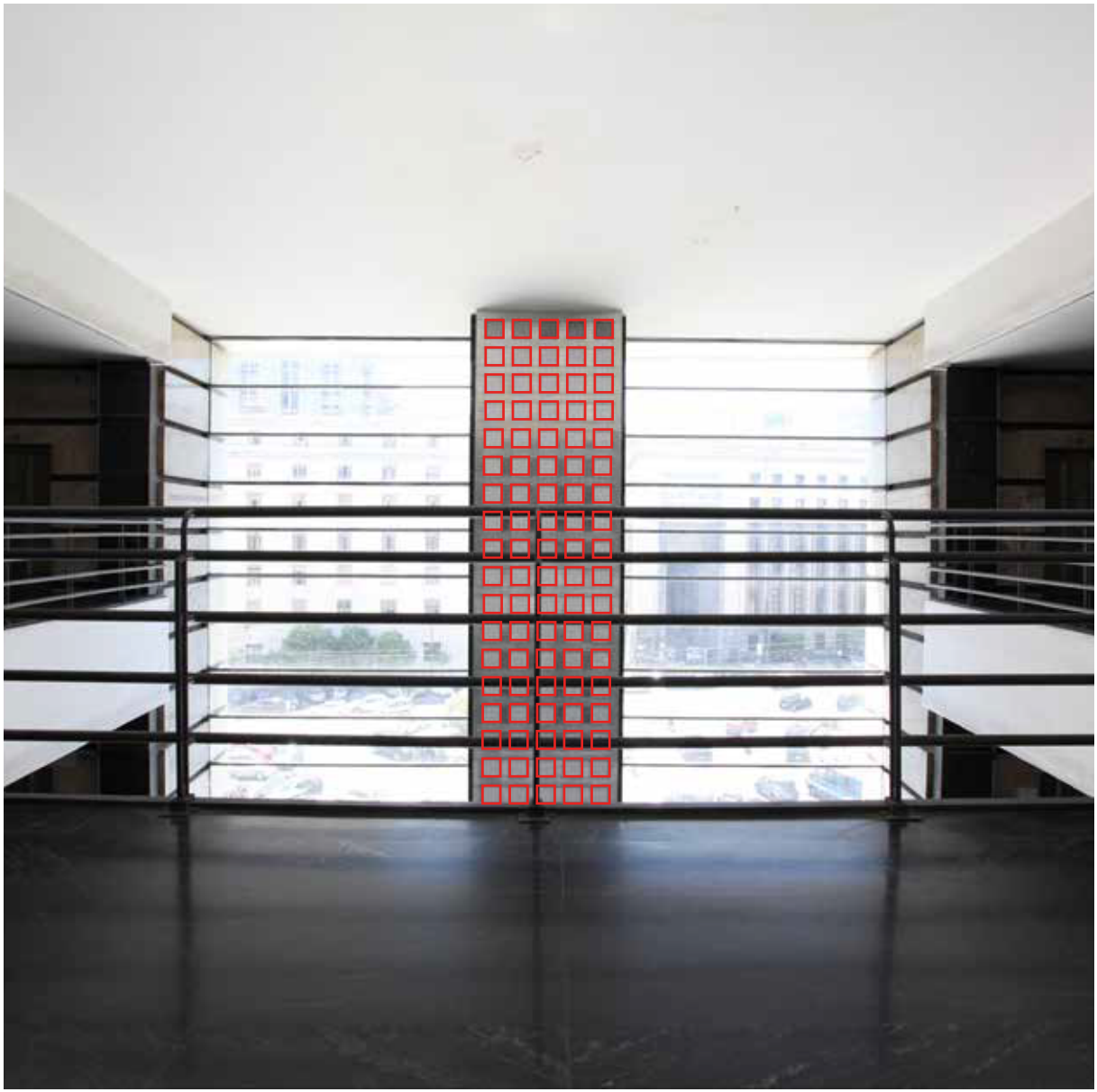


...and again

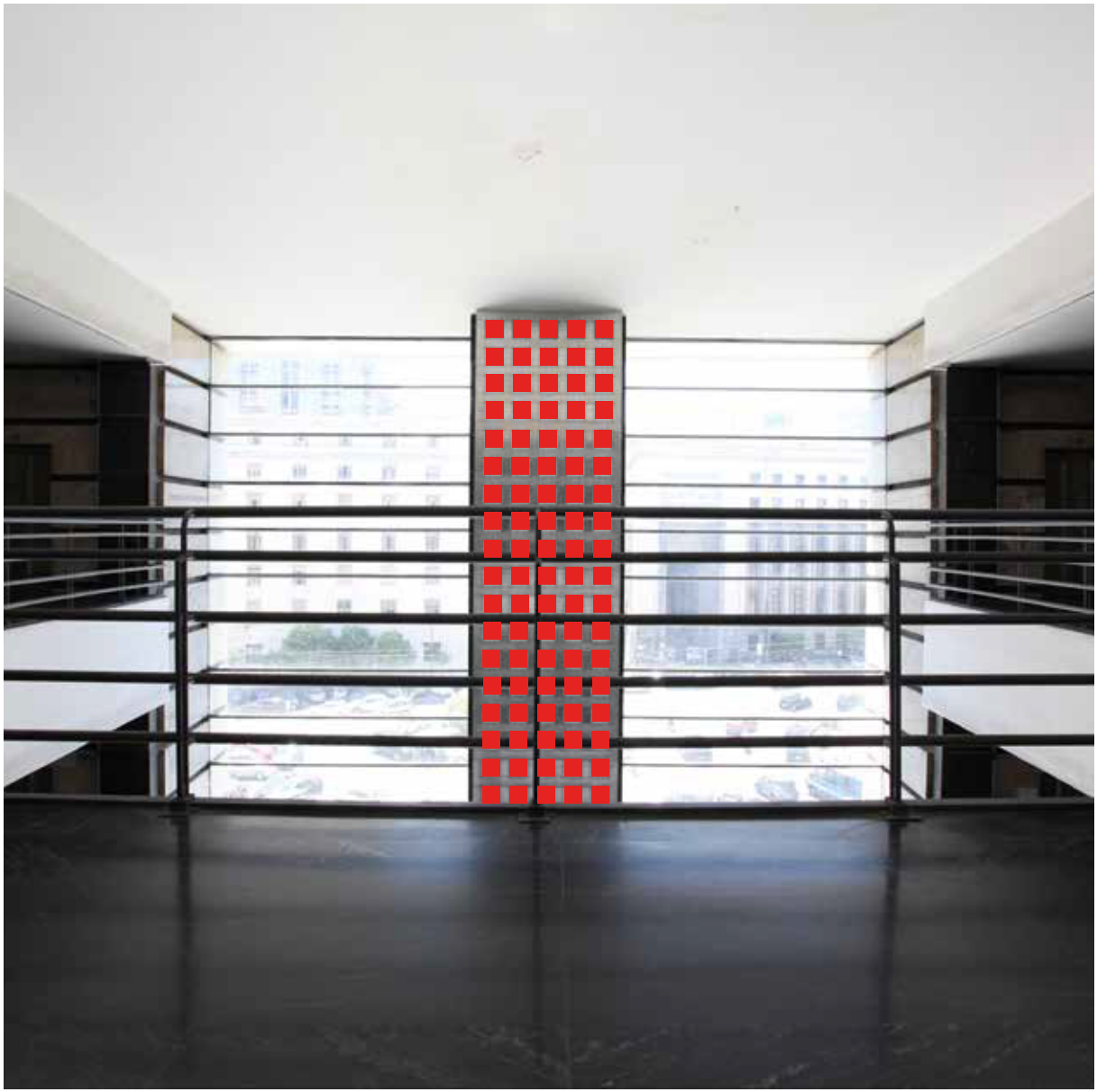
1. Identify the image on which you want to work on.



2. outlines of every single shape detected in the picture.

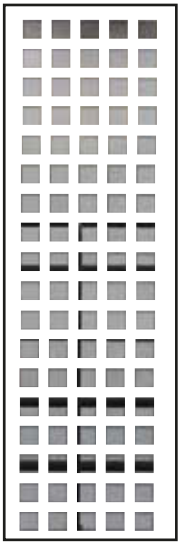


**3. conversion of the geometric shape outlines
in full colored shapes.**

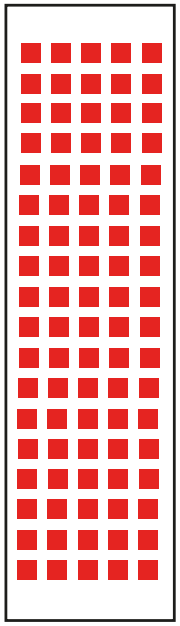


4. redraw the outline of the isolated part of the architecture.

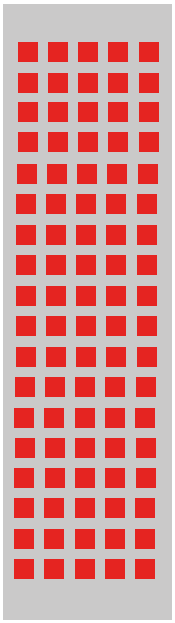
5. contour of the architectural parts coinciding with the geometric shapes identified, with the black line redraw of the part of architecture isolated on white background



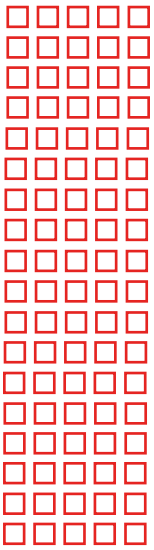
6. hatching of the architectural parts with the chosen primary color of the shape.

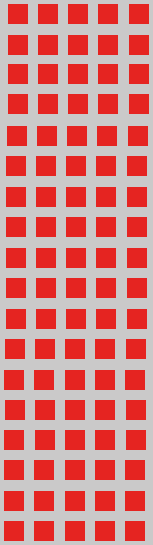


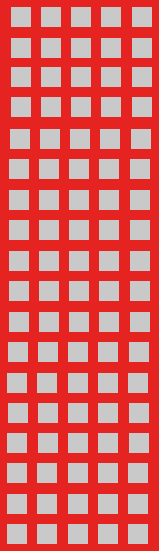
7. hatching of the architectural volume isolated with full-colored geometric shapes.

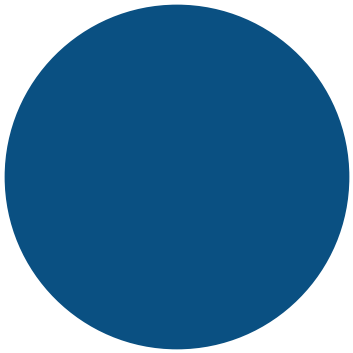


8. switch from the perspective view to the two-dimensional visualization, geometrization and alignment of the extracted geometric elements.









...and again

1. Identify the image on which you want to work on.

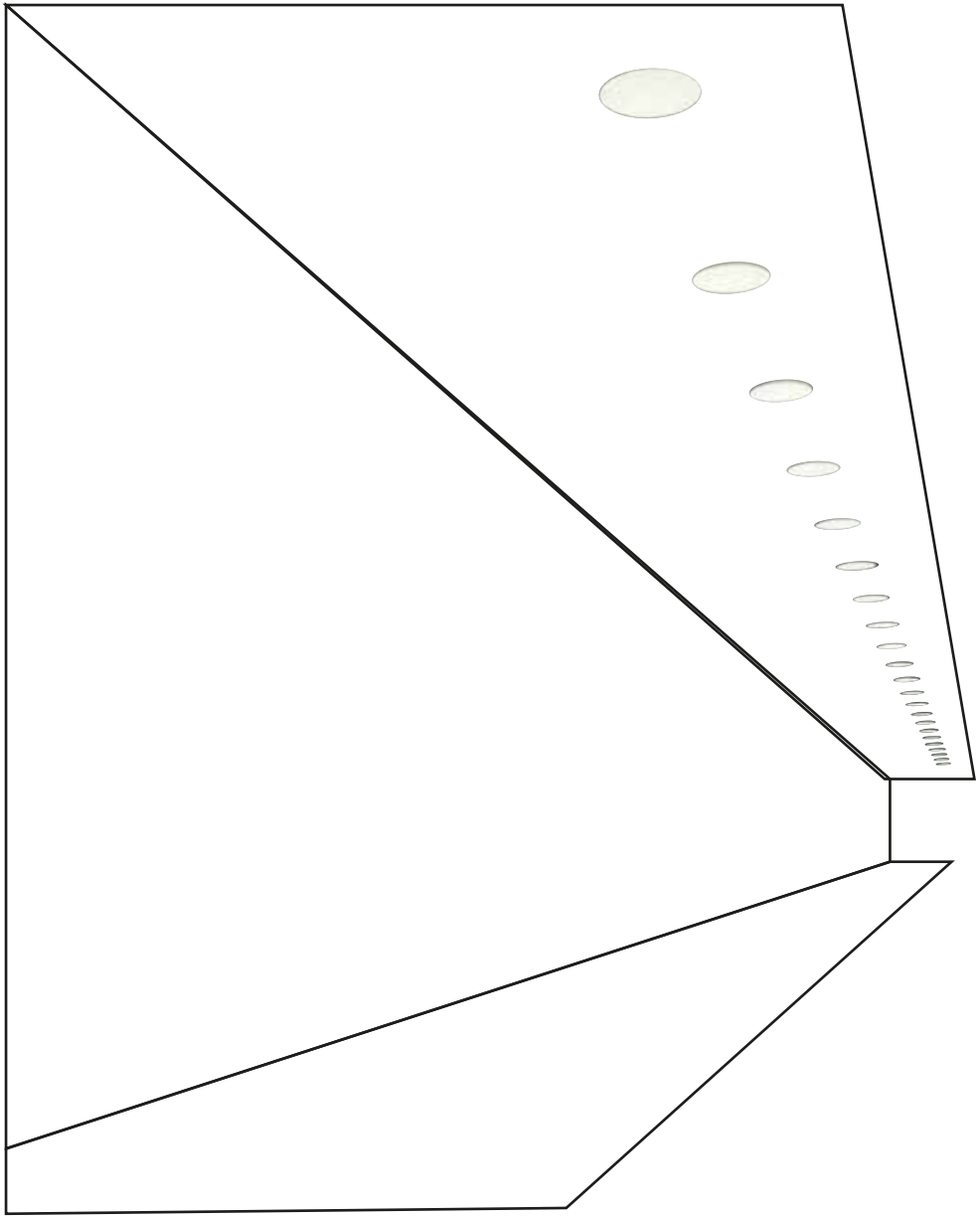
2. outlines of every single shape detected in the picture.

!"#

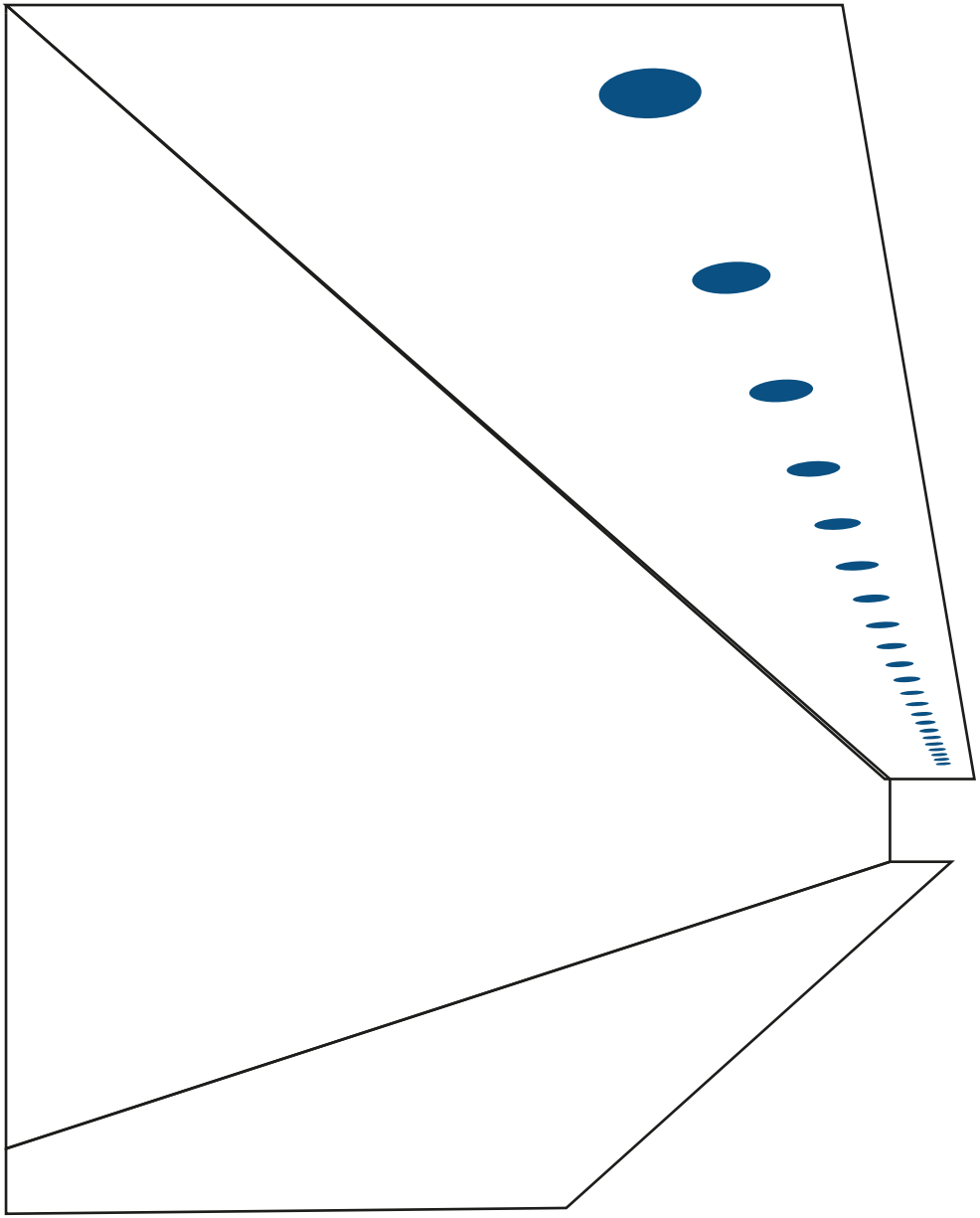
**3. conversion of the geometric shape outlines
in full colored shapes.**

4. redraw the outline of the isolated part of the architecture.

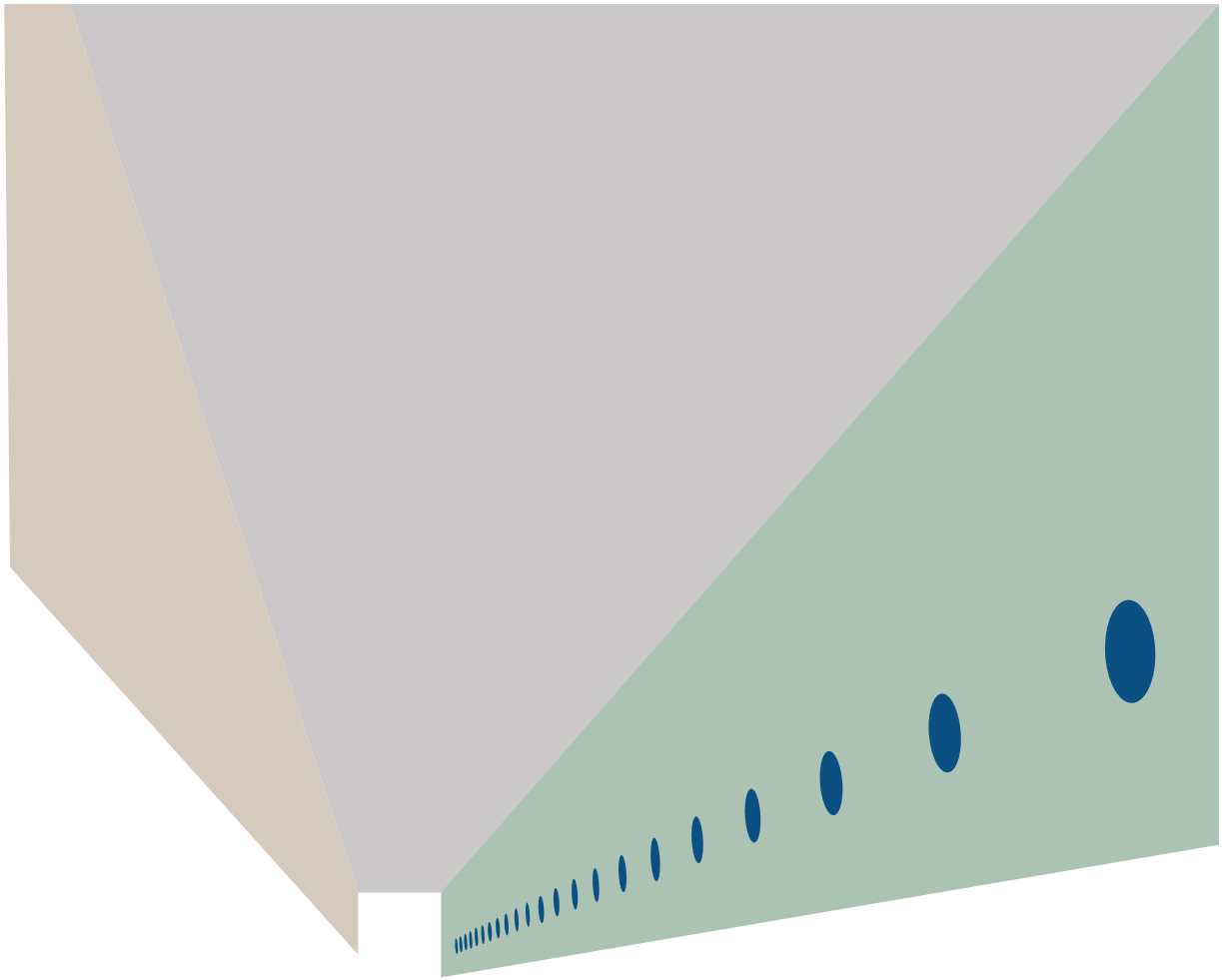
5. contour of the architectural parts coinciding with the geometric shapes identified, with the black line redraw of the part of architecture isolated on white background



6. hatching of the architectural parts with the chosen primary color of the shape.



7. hatching of the architectural volume isolated with full-colored geometric shapes.



8. switch from the perspective view to the two-dimensional visualization, geometrization and alignment of the extracted geometric elements.