







# Portfolio

2024

Eng Abdishakur Mohamed Ali

 [www.engineeralbani.com](http://www.engineeralbani.com)  
 [engabdishakur12@gmail.com](mailto:engabdishakur12@gmail.com)

 +25261 7072819  
 Mogadishu-Somali

## Architectural Design 3D



### What?

The project was a 3D architectural design of a G+3 mosque, integrating traditional Islamic elements like a minaret with modern functionality for prayer, education, and community activities.



### How?

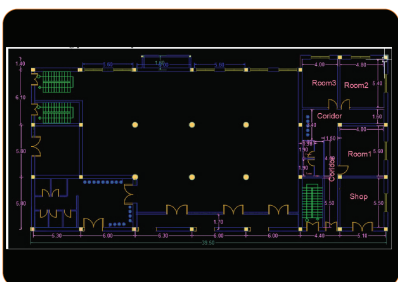
I researched traditional mosque designs, consulted with the client, and used 3D modeling software to create a balanced design that met structural, aesthetic, and functional requirements.



### Result

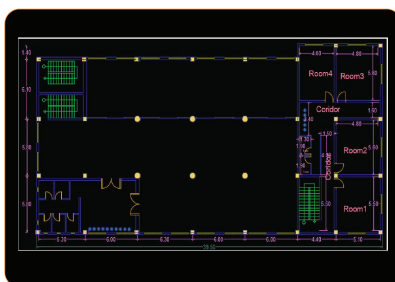
The final design successfully blended tradition with modern needs, receiving positive feedback from the client and serving as a potential model for future mosque projects.

## Architectural Design 2D



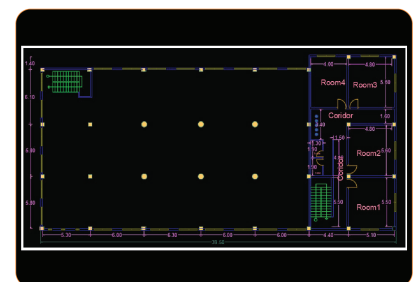
### What?

The project focused on creating 2D architectural plans for a G+3 mosque, incorporating Islamic design elements and ensuring the layout was functional for worship and community purposes.



### How?

I used AutoCAD to develop precise 2D layouts, working closely with the client to ensure effective space planning. The design included detailed floor plans, sections, and elevations, adhering to both aesthetic and structural requirements.



### Result

The AutoCAD drawings provided a solid and detailed foundation for construction, meeting the client's expectations and supporting the transition to the 3D design phase.



# ABDISHAKUR MOHAMED ALI

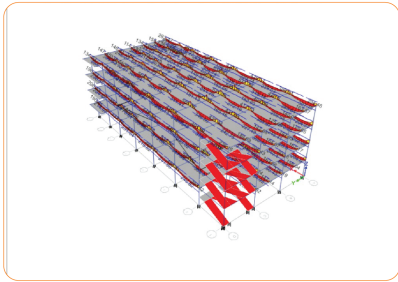
## CIVIL ENGINEER

+25261 7072819

engabdishakur12@gmail.com

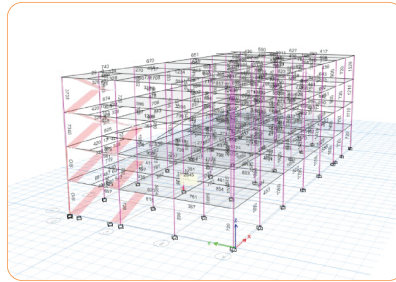
Mogadishu-Somali

## Structural analysis



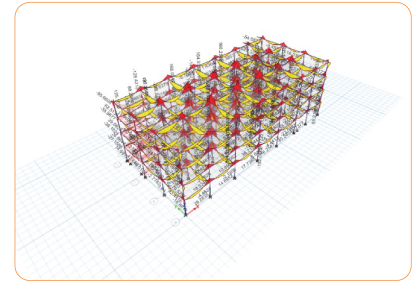
### What?

The project involved conducting a structural analysis for a G+3 mosque to ensure safety, stability, and compliance with engineering standards for load-bearing and seismic resistance.



### How?

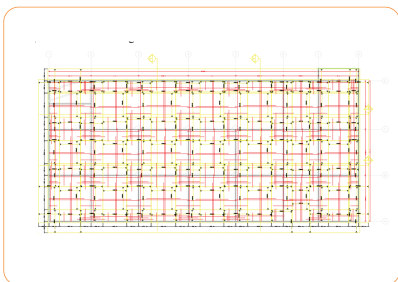
Using ETABS, I performed a detailed structural analysis by evaluating load distribution, material strength, and environmental impacts. Simulations were run to assess the building's integrity under



### Result

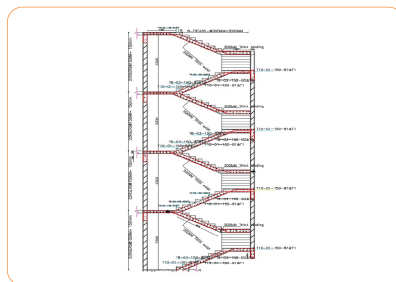
The ETABS analysis verified that the mosque design met all safety and stability standards. This analysis guided the construction phase and ensured compliance with local regulations, contributing to the long-term durability of the structure.

## Structural details



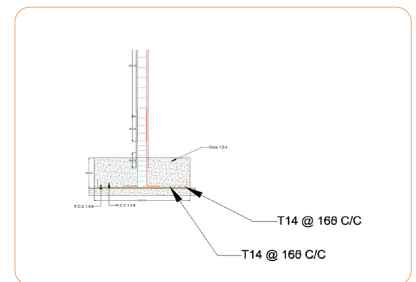
### What?

The project involved developing a comprehensive structural design for a G+3 mosque, ensuring the building's framework could support its architectural elements and withstand various loads.



### How?

I designed the mosque's structural framework, focusing on material selection and load distribution. The design process considered key factors like column and beam placement, foundation strength, and overall structural integrity, integrating analysis data from ETABS.



### Result

The structural design ensured that the mosque's framework was robust, efficiently distributing loads and meeting safety requirements. The design laid a solid foundation for the construction phase, ensuring long-term stability and durability.

# ABDISHAKUR MOHAMED ALI

## CIVIL ENGINEER

+25261 7072819

engabdishakur12@gmail.com

Mogadishu-Somali

## Architectural Design 3D



### What?

The project required creating 3D visualizations of the G+5 residential building to illustrate its design, including the parking area and apartments on each floor.



### How?

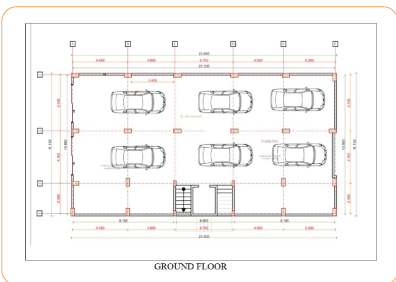
I used SketchUp to create detailed 3D models of the building's exterior and interior spaces, and Lumion for realistic rendering and visualization, enhancing the presentation of the design.



### Result

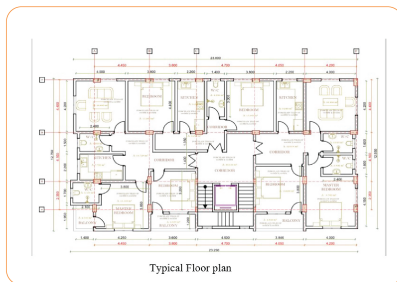
The 3D visualizations provided a comprehensive and realistic view of the building, aiding in design validation and client presentations by showcasing the finished appearance and layout.

## Architectural Design 2D



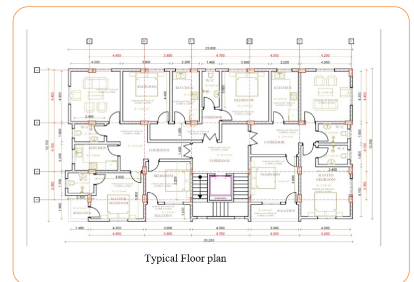
### What?

The project involved creating 2D architectural plans for a G+5 residential building, with a ground floor designated for parking and each upper floor containing three apartments.



### How?

I used AutoCAD to develop detailed floor plans, ensuring efficient use of space and compliance with building codes. The design included precise layouts for the parking area and apartment configurations.



### Result

The AutoCAD plans provided a clear, functional blueprint that facilitated the subsequent 3D modeling and structural design phases, meeting client requirements and regulatory standards.



# ABDISHAKUR MOHAMED ALI

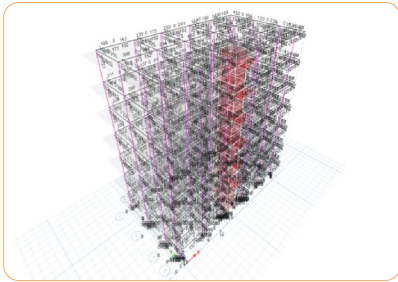
## CIVIL ENGINEER

+25261 7072819

engabdishakur12@gmail.com

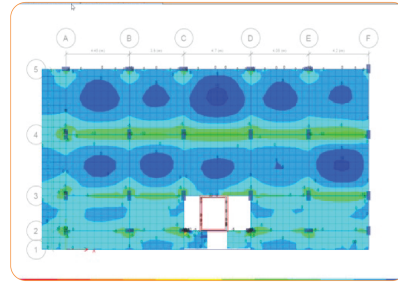
Mogadishu-Somali

## Structural analysis



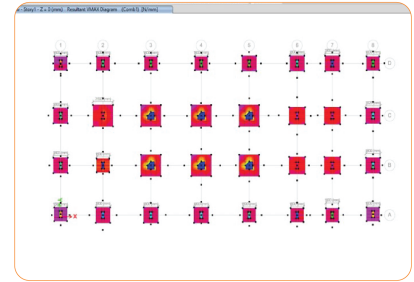
### What?

The project involved performing structural analysis for the G+5 residential building to ensure it could safely support the parking area and apartment loads.



### How?

I utilized ETABS for analyzing load distribution and structural stability and SAFE for foundation design, evaluating the building's ability to withstand various loads and environmental conditions.



### Result

The analysis confirmed that the structural design was sound, ensuring stability and safety for the building. The results guided the construction phase and ensured compliance with engineering standards.

## Architectural Design 3D



### What?

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt



### How?

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt



### Result

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt

# Bill of Quantity



Eng. Abdishakur Mohamed Ali

## COST ESTIMATIONS OF G+3

COVERED AREA = 72 SQM

GROUND FLOOR

DATE:10/07/2024

No	ITEM DESCRIPTION	UNIT	QTY	RATE (USD)	AMOUNT (USD)
<b>A GENERAL EXPENSES FOR THE PROJECT</b>					
1	Clear site off all vegetation including small trees and removal of any material dumped on site	M <sup>2</sup>	72	\$ 1.50	\$ 300.00
<b>B SUBSTRUCTURE</b>					
1	Foundation excavations for column footing	M <sup>3</sup>	64.00	\$ 7.00	\$ 448.00
2	Excavation for trench wall	M <sup>3</sup>	19.20	\$ 7.00	\$ 134.40
3	Selected hardcore filling to make up levels well compacted and well watered in layers Plain concrete 1:4:8	M <sup>3</sup>	43.50	\$ 20.00	\$ 870.00
4	100mm thick blinding: Under column base	M <sup>3</sup>	2.56	\$ 130.00	\$ 332.80
5	100mm thick blinding: For floor over the hardcore	M <sup>3</sup>	3.93	\$ 130.00	\$ 510.25
<b>Vibrated Reinforced Concrete of M20</b>					
6	Reinforced concrete column bases	M <sup>3</sup>	11.25	\$ 360.00	\$ 4,050.00
7	Reinforced concrete Column neck	M <sup>3</sup>	2.40	\$ 360.00	\$ 864.00
8	Reinforced concrete Ground floor tie beam	M <sup>3</sup>	4.80	\$ 360.00	\$ 1,728.00
<b>Total</b>					<b>\$ 8,937.45</b>
<b>C SUPERSTRUCTURE</b>					
<b>Vibrated reinforced concrete M20</b>					
1	Reinforced Concrete columns	M <sup>3</sup>	2.64	\$ 360.00	\$ 950.40
2	Reinforced concrete lintel beam on top of widows level	M <sup>3</sup>	1.36	\$ 360.00	\$ 489.60
3	Reinforced concrete floor beams	M <sup>3</sup>	4.44	\$ 360.00	\$ 1,598.40
4	Reinforced concrete slab	M <sup>3</sup>	11.76	\$ 360.00	\$ 4,235.22
5	Reinforced concrete for stairs	M <sup>3</sup>	2.20	\$ 360.00	\$ 792.00
<b>Total</b>					<b>\$ 8,065.62</b>
<b>D WALLING</b>					
1	Construction of stone wall foundation	M <sup>3</sup>	37.76	\$ 55.00	\$ 2,076.80
2	Construction of concrete block walls of 200mm thick	M <sup>2</sup>	194.70	\$ 18.00	\$ 3,504.60
<b>Total</b>					<b>\$ 5,581.40</b>

Table 1

<b>E FINISHES</b>					
<b>Floor &amp; Wall finishes and Fittings</b>					
1	40 * 40 cm ceramic Tiles for all floorings	M <sup>2</sup>	46.00	\$ 15.00	\$ 690.00
2	20 * 20 cm ceramic Tiles for toilet walls upto 1.8m height	M <sup>2</sup>	14.30	\$ 15.00	\$ 214.50
3	100 x 600 mm skirting: beveled on one edge	lm	75.00	\$ 5.00	\$ 375.00
4	Stair marble	Pcs	24.00	\$ 30.00	\$ 720.00
5	Handrail	LM	8.50	\$ 95.00	\$ 807.50
<b>PLASTERING WORK</b>					
Plastering 15mm thick mortar ratio 1:6					
6	200 mm Thick walls	M <sup>2</sup>	405.00	\$ 4.00	\$ 1,620.00
<b>Painting</b>					
Provide and apply to all internal and external walls with two coats of stucco filler and two coats of Emulsion Paint					
8	Provide and apply to all internal and external walls with two coats of stucco filler and two coats of Emulsion Paint	M <sup>2</sup>	405.00	\$ 3.50	\$ 1,417.50
<b>Total</b>					<b>\$ 5,844.50</b>
<b>F DOORS</b>					
Supplying and fixing of wooden doors with all accessories and hinges					
1	Size (1.2x 2.2) m	No.	2.00	\$ 260.00	\$ 520.00
	Size (0.9x 2.2) m	No.	4.00	\$ 160.00	\$ 640.00
	Size (0.8 x 2.2) m	No.	1.00	\$ 160.00	\$ 160.00
<b>Total</b>					<b>\$ 1,320.00</b>
<b>G WINDOWS AND CURTAIN WALL</b>					
Supplying and fix aluminum windows					
1		M <sup>2</sup>	15.00	\$ 95.00	\$ 1,425.00
<b>Total</b>					<b>\$ 1,425.00</b>
<b>H SANITARY INSTALLATIONS</b>					
Construction of septic tank including all sewage pipes and fittings and water tank					
1		No.	1.00	\$ 4,000.00	\$ 4,000.00
Supply and install complete set of sanitray unit including W.C,Wash basins,hand wash water piping,sewage pipes and all kinds of fittings					
2		Item	1.00	\$ 500.00	\$ 500.00
<b>Total</b>					<b>\$ 4,500.00</b>
<b>I MEP WORK</b>					
Electrical installation					
1		Ls	1.00	\$ 1,300.00	\$ 1,300.00
Plumbing and installation					
1		Ls	1.00	\$ 1,000.00	\$ 1,000.00
<b>Total</b>					<b>\$ 2,300.00</b>
<b>Grand Total</b>					<b>\$ 37,973.97</b>

Table 2

<b>COST ESTIMATIONS OF G+3</b>					
COVERED AREA = 72 SQM		FIRST FLOOR		DATE:10/07/2024	
No	ITEM DESCRIPTION	UNIT	QTY	RATE (USD)	AMOUNT
<b>A SUPERSTRUCTURE</b>					
<b>Vibrated reinforced concrete M 20</b>					
1	Reinforced Concrete columns	M <sup>3</sup>	2.64	360.00	950.40
2	Reinforced concrete lintel beam on top of widows level.	M <sup>3</sup>	1.50	360.00	540.00
3	Reinforced concrete Roof level beam	M <sup>3</sup>	4.44	360.00	1,598.40
4	Reinforced concrete slab	M <sup>3</sup>	11.76	360.00	4,235.22
5	Reinforced concrete for stairs	M <sup>3</sup>	4.80	360.00	1,728.00
<b>Total</b>					<b>9,052.02</b>
<b>B WALLING</b>					
1	Construction of concrete block walls of 200mm thick	M <sup>2</sup>	194.70	15.00	2,920.50
<b>Total</b>					<b>2,920.50</b>
<b>C FINISHES</b>					
<b>Floor &amp; Wall finishes and Fittings</b>					
1	40 * 40 cm ceramic Tiles for all floorings	M <sup>2</sup>	46.00	15.00	690.00
2	20 * 20 cm ceramic Tiles for toilet walls upto 1.8m height	M <sup>2</sup>	14.30	15.00	214.50
3	100 x 600 mm skirting: beveled on one edge	LM	75.00	6.00	450.00
4	Stair marble	Pcs	24.00	40.00	960.00
5	Handrail	Ls	8.50	150.00	1,275.00
<b>PLASTERING WORK</b>					
Plastering 15mm thick mortar ratio 1:6					
6	200 mm Thick walls	M <sup>2</sup>	405.00	4.00	1,620.00
<b>Painting</b>					
Provide and apply to all internal and external walls with two coats of stucco filler and two coats of Emulsion Paint					
7		M <sup>2</sup>	405.00	3.50	1,417.50
<b>Total</b>					<b>6,627.00</b>

Table 3

<b>D DOORS</b>					
Supplying and fixing of wooden doors with all accessories and hinges					
1	Size (0.8x 2.2) m	No.	1.00	170.00	170.00
	Size (0.9 x 2.12) m	No.	5.00	220.00	1,100.00
	Size (1.2x 2.2) m	No.	1.00	300.00	300.00
<b>Total</b>					<b>1,270.00</b>
<b>E WINDOWS AND</b>					
Supplying and fix aluminum windows					
1		M <sup>2</sup>	12.00	110.00	1,320.00
<b>Total</b>					<b>1,320.00</b>
<b>F SANITARY INSTALLATIONS</b>					
Supply and install complete set of sanitray unit including W.C,Wash basins,hand wash water piping,sewage pipes and all kinds of fittings					
1		Item	1.00	500.00	500.00
<b>Total</b>					<b>500.00</b>
<b>G MEP WORK</b>					
Plumbing and installation					
1		Ls	1.00	1,000.00	1,000.00
<b>Total</b>					<b>1,000.00</b>
<b>Grand Total</b>					<b>22,689.52</b>

Table 4

NO	FLOOR	AMOUNT
1	GROUND FLOOR	\$ 37,974
2	FIRST FLOOR	\$ 22,690
3	SECOND FLOOR	\$ 22,686
4	THIRD FLOOR	\$ 22,686
5	ROOF LOR	\$ 8,987
<b>GROUND TOTAL</b>		<b>\$ 115,022</b>

Result



# ABDISHAKUR MOHAMED ALI

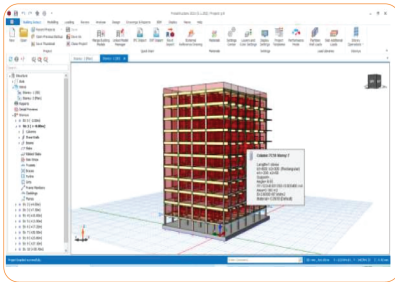
## CIVIL ENGINEER

+25261 7072819

engabdishakur12@gmail.com

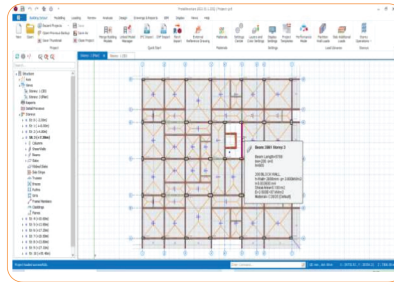
Mogadishu-Somali

## Structural analysis



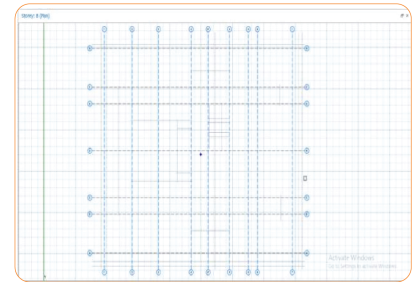
### What?

The project involved conducting a structural analysis for a G+5 residential building covering 750 sqm, with four apartments on each floor.



### How?

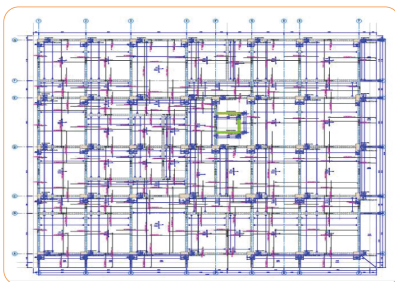
I used ProtaStructure to perform a comprehensive structural analysis, focusing on load distribution, material strength, and the building's ability to withstand various environmental factors.



### Result

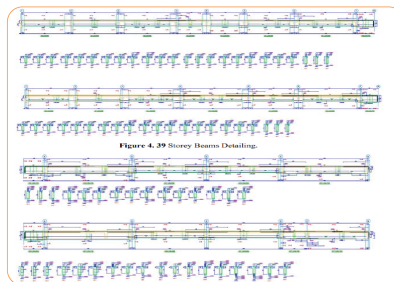
The analysis confirmed that the building design met all safety and stability requirements, ensuring that the structure could handle both vertical and lateral loads effectively.

## Structural details



### What?

The project involved designing the structural framework for a G+5 residential building with a 750 sqm area and four apartments per floor.



### How?

I used ProtaStructure to develop the building's structural design, focusing on creating a robust framework that effectively distributed loads across the foundation and upper floors.

Table 4.1 Column Schedule.

Column Name	G/F to 3rd floor	3rd-6th floor	6th-Roof	Column NO.	G/F to 3rd floor Reinfo re cement	3rd-6th floor Reinfo re cement	6th-Roof Reinfo re cement	Links
C1	300x600	200x600	200x600	13	22T18	12T18	8T18	T8-150 c/c
C2	300*700	200*700	200*700	8	15T16	8T16	8T16	T8-200 c/c
C3	400*700	300*700	200*700	8	23T18	14T18	8T16	T8-150 c/c
C4	400*800	300*700	300*700	6	25T18	12T18	8T16	T8-150 c/c
C5	450*900	400*700	200*700	2	26T18	14T16	12T16	T8-150 c/c

### Result

The structural design ensured a stable and durable building framework, supporting the architectural layout and meeting all engineering and safety standards for long-term use.

# ABDISHAKUR MOHAMED ALI

## CIVIL ENGINEER

📞 +25261 7072819

✉️ engabdishakur12@gmail.com

📍 Mogadishu-Somali

## Site Engineer



### What?

A site engineer is a professional who is responsible for ensuring that construction projects are executed according to plans, specifications, and quality standards.



### How?

A site engineer primarily works on-site, interacting daily with construction teams, supervisors, and contractors. They make quick decisions to resolve issues and keep the project on track.



### Result

A site engineer ensures projects are completed on time, within budget, and safely, while meeting quality standards and client expectations.

## Site Engineer



### What?

A site engineer is a professional who is responsible for ensuring that construction projects are executed according to plans, specifications, and quality standards.



### How?

A site engineer primarily works on-site, interacting daily with construction teams, supervisors, and contractors. They make quick decisions to resolve issues and keep the project on track.



### Result

A site engineer ensures projects are completed on time, within budget, and safely, while meeting quality standards and client expectations.



# ABDISHAKUR MOHAMED ALI

## CIVIL ENGINEER

+25261 7072819

engabdishakur12@gmail.com

Mogadishu-Somali

## Architectural Design 3D



### What?

The project required creating 3D visualizations of the G+2 residential building to illustrate its design, including the apartments on each floor.



### How?

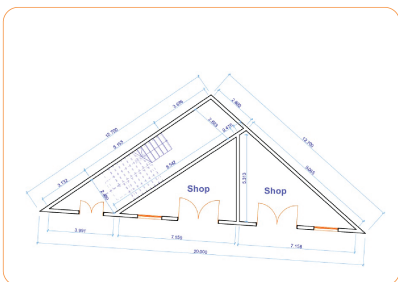
I used Archicad to create detailed 3D models of the building's exterior and interior spaces, and Lumion for realistic rendering and visualization, enhancing the presentation of the design.



### Result

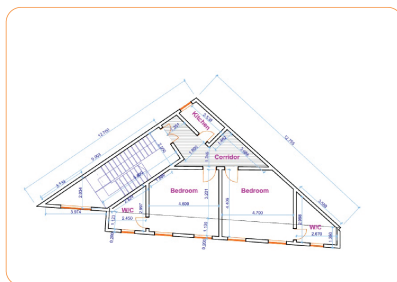
The 3D visualizations provided a comprehensive and realistic view of the building, aiding in design validation and client presentations by showcasing the finished appearance and layout.

## Architectural Design 2D



### What?

The project involved creating 2D architectural plans for a residential building and the last one is villa, with a first and second plans designated ground floor for Shops and each upper floor containing one apartments.



### How?

I used Archicad to develop detailed floor plans, ensuring efficient use of space and compliance with building codes. The design included precise layouts for the ground area and apartment configurations and the last one is villa.





### Result



The Archicad plans provided a clear, functional blueprint that facilitated the subsequent 3D modeling and structural design phases, meeting client requirements and regulatory standards.





Thank You

 [www.engineeralbani.com](http://www.engineeralbani.com)  
 [engabdishakur12@gmail.com](mailto:engabdishakur12@gmail.com)

 +25261 7072819  
 Mogadishu-Somali

