

## **I. Company Background**

**A. Company Name:** Fred Tech

**B. Headquarters:** Baguio City, Benguet

**C. Year Founded:** 2010

### **D. Company Profile**

- Fred Tech is a small, dynamic company that creates innovative and efficient solutions for businesses and individuals. Founded in 2010, we are a team of 11 passionate individuals with expertise in floor plan design, network planning, and interior design. We are committed to providing our clients with the highest quality services and exceeding their expectations.

### **E. Mission**

- To empower clients to achieve their goals by creating functional, aesthetically pleasing, and technologically advanced spaces.

### **F. Vision**

- To become the leading provider of integrated design solutions, recognized for our creativity, innovation, and commitment to client satisfaction.

### **G. Company Goal**

- To achieve sustainable growth by exceeding client expectations, building strong relationships, and attracting and retaining top talent.

### **H. Services Provided**

- Floor Plan Design:
  - Space Analysis and User Needs Assessment
  - Functional and Efficient Layout Design
  - 3D Renderings and Visualizations
  - Construction Documentation and Specifications
  - Accessibility and User Experience Optimization
  - Building Code and Regulation Compliance
- Network Planning and IT Design:
  - Network Infrastructure Design and Implementation
  - Hardware and Software Selection and Configuration
  - Network Security and Data Protection
  - Ongoing Network Maintenance and Support
  - Troubleshooting and Problem-solving
  - Cloud Computing Solutions
- Interior Design:
  - Conceptual Design and Development
  - Material and Finish Selection
  - Furniture and Equipment Procurement
  - Project Management and Execution
  - Installation and Finishing Touches
  - Custom Design Solutions

## **I. Why Choose Fred Tech?**

- Experienced and passionate team with a proven track record.
- Unique combination of design expertise and technological know-how.
- Strong focus on client satisfaction and exceeding expectations.
- Growing market with increasing demand for integrated design solutions.
- Commitment to innovation and developing cutting-edge solutions.
- Scalable business model with potential for rapid expansion.
- Strong financial performance and positive outlook for the future.

## **J. Testimonials**

- “Fred Tech transformed my restaurant into a vibrant and welcoming space. Their innovative design solutions attracted new customers and boosted our business significantly.” - Chef Margarita Forés, Award-winning restaurateur
- “Working with Fred Tech was a truly collaborative and enriching experience. They brought my vision for a sustainable and aesthetically pleasing office space to life. Their commitment to detail and quality is unmatched.” - Mr. Jaime Augusto Zobel de Ayala, Chairman and CEO of Ayala Corporation
- “Fred Tech’s dedication to accessibility is commendable. They designed my home to be functional and stylish, allowing me to live independently and comfortably.” - Ms. Lea Salonga, International singing superstar
- “Fred Tech exceeded my expectations when designing my new home. They listened carefully to my needs and created a beautiful and functional space. I highly recommend them to anyone looking for a reliable and talented design team.” - Ms. Maria Clara Garcia, Business owner
- “The Fred Tech team was a pleasure to work with. They were responsive, creative, and delivered the project on time and within budget. I am thrilled with the results.” - Mr. Juan Cruz, Entrepreneur
- “I am so grateful to Fred Tech for helping me create the perfect workspace for my small business. They are professional, knowledgeable, and always willing to go the extra mile.” - Ms. Ana Santos, Small business owner

## K. Past Projects

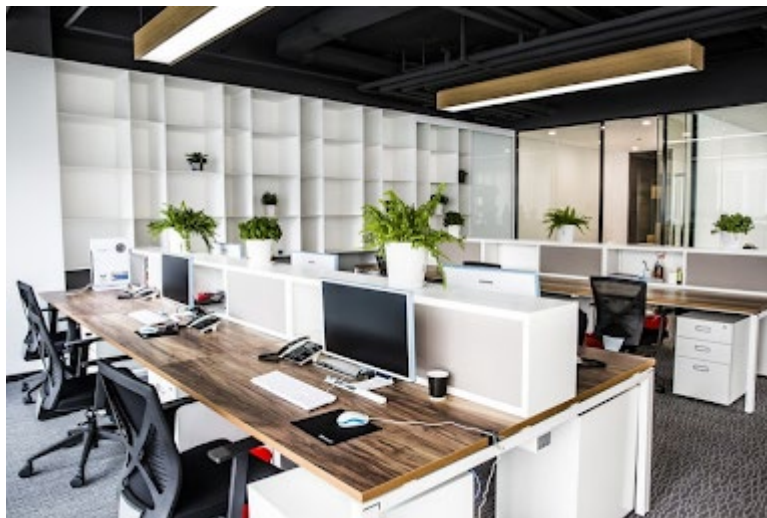
- Ritinlink Youtube Office



- SM Appliance Store



- Redbone Film Office



II. Layout and Floor Plan  
A. Overall Floor Plan View

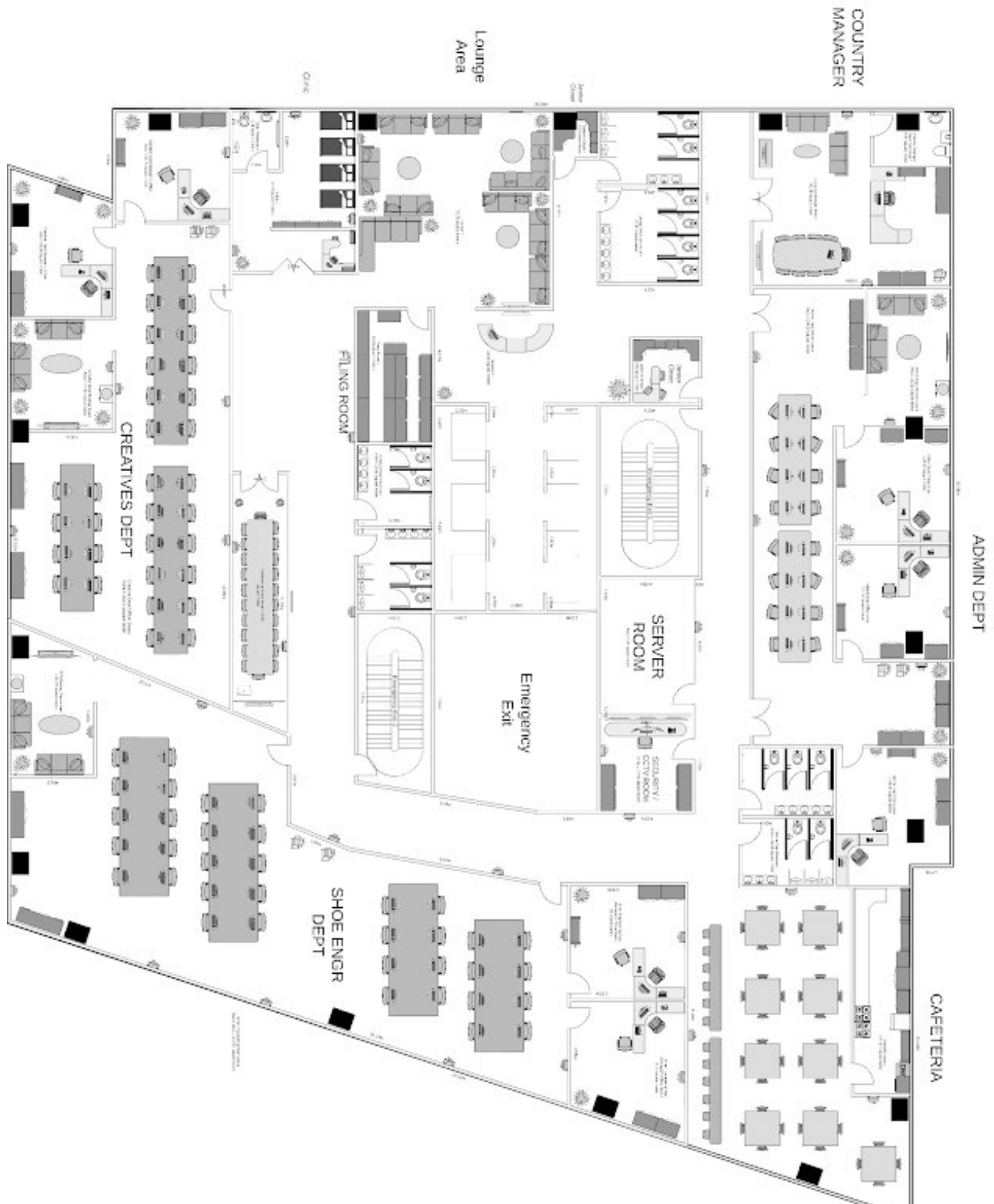


Figure 1: Overall Floor Plan

Presenting the Office Layout through a floor plan highlights the strength of the office space by showing the different departments and their respective locations. The layout also shows the different amenities available in the office space, such as the cafeteria, conference rooms, and lounge area. The layout is also detailed in showing the different furniture and equipment present in the office space. The layout is also helpful in understanding the flow of the office space and how the different departments are connected.

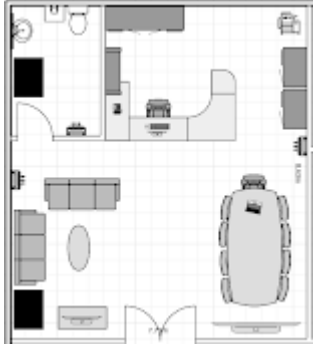
One of the main strengths of this floor plan layout is its efficiency and flexibility. It allows for easy employee movement and communication and optimal use of space and resources. The layout has appropriate room sizes and proportions, minimized corridors, adequate storage space, and provides universal accessibility. Another strength of this floor plan layout is its versatility and adaptability due to the openness concept it adopted. It can accommodate various needs and preferences of employees, as well as future changes or expansions.

In conclusion, this floor plan layout highlights its strength by showing how it meets various criteria for an efficient and modern office space design. It is efficient, flexible, versatile, adaptable, functional, and aesthetic. It provides a great working experience for employees and a positive impression for visitors.

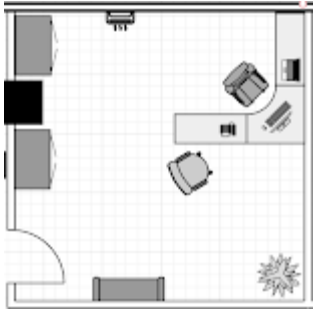
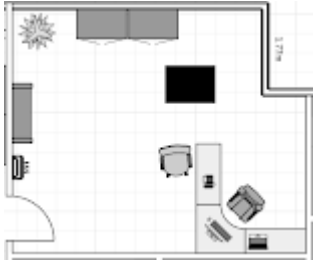
## B. Size and Dimensions

### 1. Room Dimensions

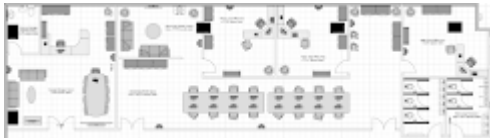
#### a) Country Manager

Room	Description	Dimension
	Room for the general manager who manages a subsidiary of a company/	Length = 8.63m Width = 7.75m <b>Area = 66.88m<sup>2</sup></b>

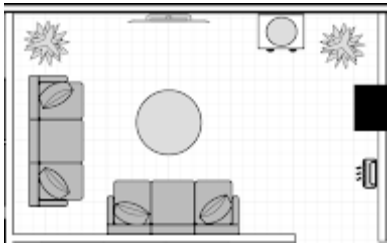
b) Admin Department Manager Office

Room	Description	Dimension
	Office of the Admin Department manager	Length = 5.27m Width = 5.25m <b>Area = 27.67m<sup>2</sup></b>
<p>Another admin department manager office with different size:</p> 		<p>Length = 1.77m Width = 5.24m Area = 9.27m<sup>2</sup></p> <p>Length = 3.5m Width = 6m Area = 21m<sup>2</sup></p> <p><b>Total Area = 30.27m<sup>2</sup></b></p>

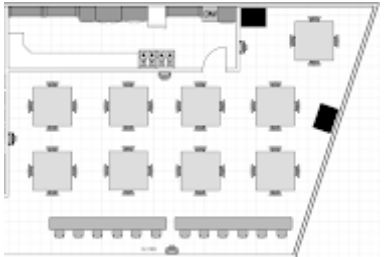
c) Admin Department Office Space

Room	Description	Dimension
	Space for the Admin Department employees	<p>Length = 8.63m Width = 20.15m Area = 173.89<sup>2</sup></p> <p><b>Total Area = 204.26m<sup>2</sup></b></p>

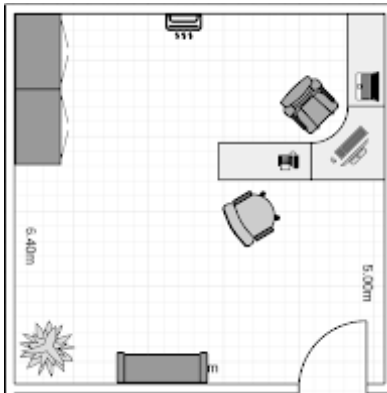
d) Admin Department Rest Area


Room	Description	Dimension
	An area for the admin department employees to rest	Length = 3.72m Width = 6m <b>Area = 22.32m<sup>2</sup></b>

e) Cafeteria

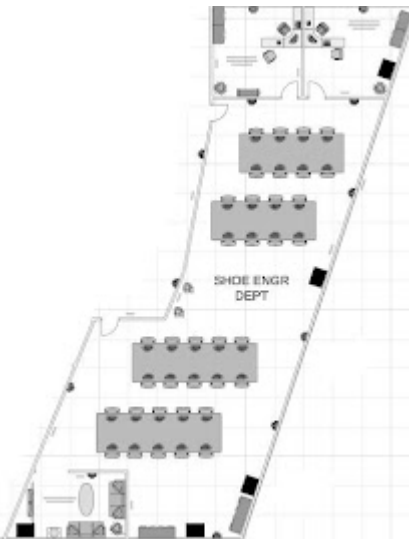
Room	Description	Dimension
	An area where the employees of the company can eat	Triangle Height = 9.91m Base = 3.91m Area = 19.37m <sup>2</sup>  Length = 9.91m Width = 11.63m Area = 115.25  <b>Total = 134.62m<sup>2</sup></b>

f) Shoe Engineering Department Manager Office

Room	Description	Dimension
	Office of the shoe engineering's manager	Side = 5m <b>Area = 25m<sup>2</sup></b>

	<p>Triangle Base = 1.78m Height = 5m Area = 4.45m<sup>2</sup></p> <p>Length = 5m Width = 4.55m Area = 22.75m<sup>2</sup></p> <p><b>Total = 27.2m<sup>2</sup></b></p>
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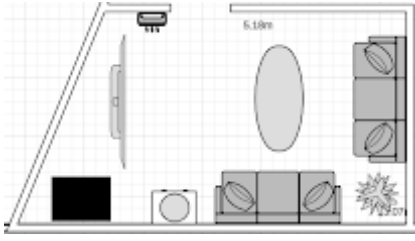
g) Shoe Engineering Department Office Area

Room	Description	Dimension
	<p>A working space for the employees in the shoe engineering department</p>	<p>Upper R Triangle Base = 0.41m Height = 1.45 Area = 0.3m<sup>2</sup></p> <p>Upper Rectangle Length = 1.45m Width = 9.20m Area = 13.34m<sup>2</sup></p> <p>Right R Triangle Base = 2.67m Height = 8.41m Area = 11.23m<sup>2</sup></p> <p>Left R Triangle Base = 1.37m Height = 8.41m Area = 5.76m<sup>2</sup></p> <p>Rectangle Length = 8.41 Width = 6.46m Area = 54.33m<sup>2</sup></p> <p>Middle parallelogram Base = 7.98m Height = 2.73m Area = 21.79m<sup>2</sup></p> <p>Lower</p>

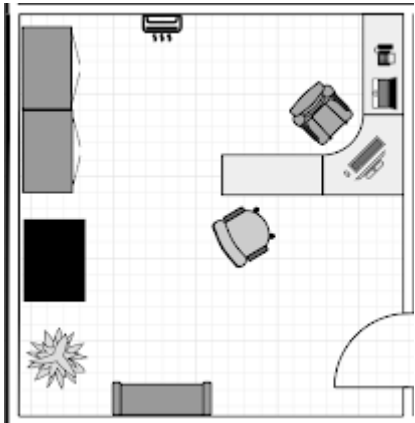


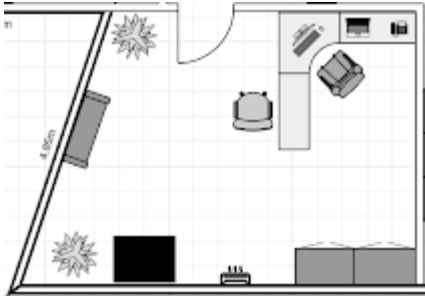
		Parallelogram Base = 13.39m Height = 12.38m Area = 165.77m <sup>2</sup>  <b>Total Area:</b> <b>272.57m<sup>2</sup></b>
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h) Rest Area for SED

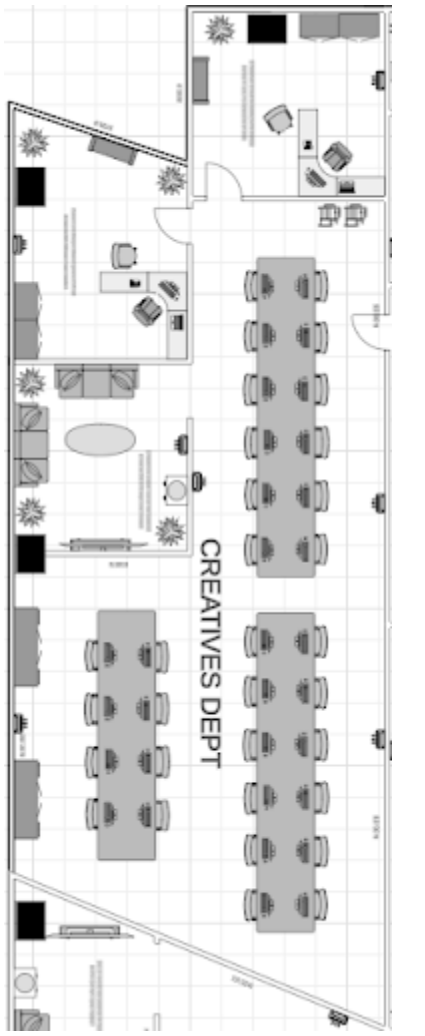
Room	Description	Dimension
	A space for the shoe engineering department's employees to rest	Triangle Base = 1.58m Height = 3.76m Area = 2.97m <sup>2</sup>  Length = 3.76m Width = 5.16m Area = 19.4m <sup>2</sup>  <b>Total = 22.37m<sup>2</sup></b>

i) Creative Department Manager Office

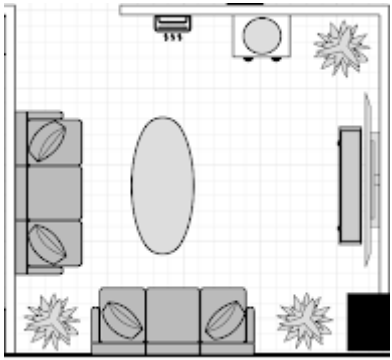
Room	Description	Dimension
	Office of the manager in the creative department's office	Length = 5m Width = 4.75m <b>Area = 23.75m<sup>2</sup></b>

	<p>Triangle Base = 1.69m Height = 4.75m Area = 4.01m<sup>2</sup></p> <p>Length = 4.75 Width = 5.23m Area = 24.84m<sup>2</sup></p> <p><b>Total = 28.85m<sup>2</sup></b></p>
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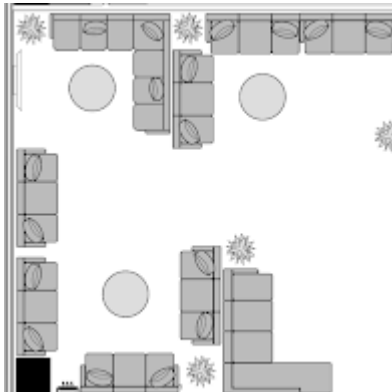
j) Creative Department Office Space

Room	Description	Dimension
	<p>Working space for the creative department</p>	<p>Upper Half: Triangle: b = 1.95m h = 5m a = 4.88m<sup>2</sup></p> <p>Length = 5m Width = 19.24m Area = 96.2m<sup>2</sup></p> <p>Sum for Upper = 101.08m<sup>2</sup></p> <p>Lower Half: Triangle b = 1.88m h = 3.68m a = 3.46m<sup>2</sup></p> <p>Length = 3.68m Width = 8.20m Area = 30.18m<sup>2</sup> Total for Lower = 33.64m<sup>2</sup></p> <p>Upper and Lower = 134.72m<sup>2</sup></p> <p><b>Total Area = 211.4m<sup>2</sup></b></p>

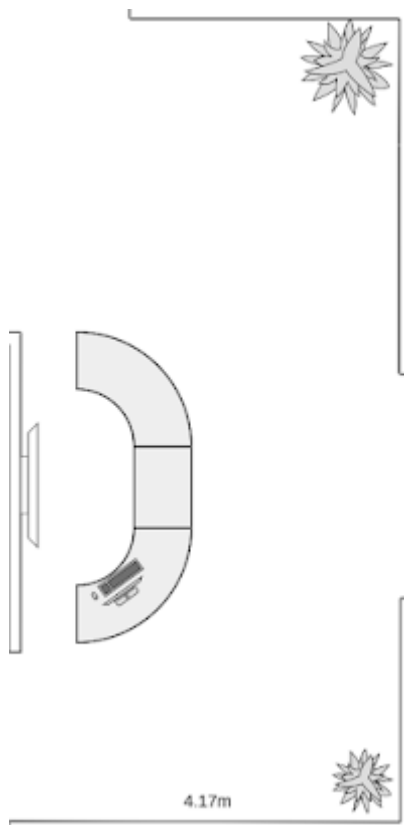
k) Rest Area for Creatives Department

Room	Description	Dimension
	An area for the creative's department employees to rest	Length = 4.75m Width = 5.07m <b>Area = 24.08m<sup>2</sup></b>


l) Lounge Area

Room	Description	Dimension
	An area that serves as the waiting area of the company's clients	Length = 8.66m Width = 8.86m <b>Area = 76.73m<sup>2</sup></b>

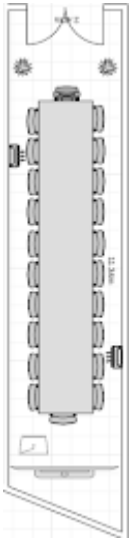
m) Reception

Room	Description	Dimension
	<p>The area where the company's clients and visitors are accommodated and welcomed</p>	<p>Length = 8.8m Width = 4.17m <b>Area = 36.7m<sup>2</sup></b></p>

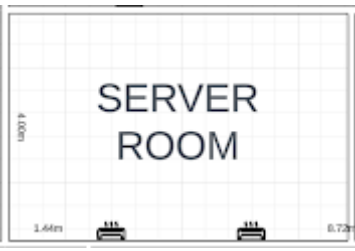
n) Filing Room

Room	Description	Dimension
	<p>A secure data-bank for storing all of the company's confidential files</p>	<p>Length = 3.50m Width = 6.03m <b>Area = 21.11m<sup>2</sup></b></p>


o) Conference Room

Room	Description	Dimension
	<p>A room for conference calls, board meetings, management, discussion, and other decision-making situations.</p>	<p>Area of a Right Triangle = <math>\frac{bh}{2}</math>  Base = 0.88m  Height = 2.14  Area = 1.056m<sup>2</sup></p> <p>Area of Rectangle = lw  Length = 2.4m  Width = 10.36m  Area = 24.864m<sup>2</sup></p> <p><b>Total Area = 25.92m<sup>2</sup></b></p>

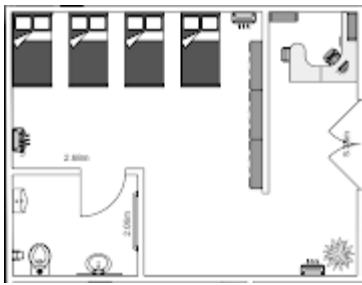
p) Server Room

Room	Description	Dimension
	<p>A room where enterprise servers are kept. It is outfitted with peripheral subsystems for cooling, ventilation, and fire suppression</p>	<p>Length = 4m  Width = 6m  <b>Area = 24m<sup>2</sup></b></p>


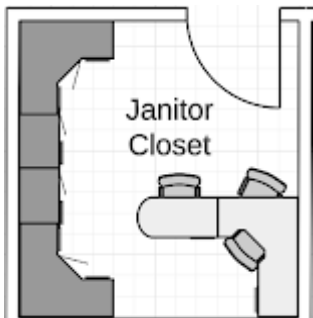
q) Security Room

Room	Description	Dimension
	<p>A central space where a large physical facility can be monitored.</p>	<p>Length = 4.29m  Width = 4.19m  <b>Area = 17.98m<sup>2</sup></b></p>

r) Clinic

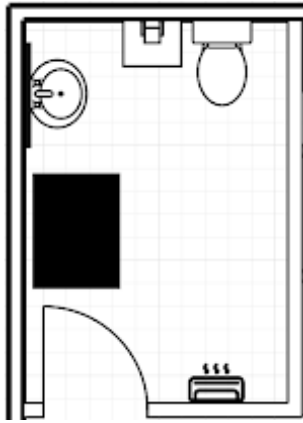
Room	Description	Dimension
	An employee healthcare facility equipped for providing medical treatment	Length = 5.63m Width = 7.67m <b>Area = 43.18m<sup>2</sup></b>

s) Janitor Closet

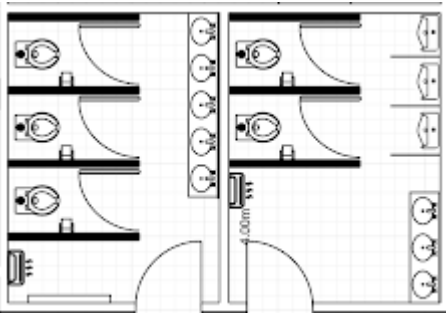
Room	Description	Dimension
	The Janitor's closet holds all of the tools and supplies needed to clean the building.	Side = 2.19m <b>Area = 4.8m<sup>2</sup></b>
		Length = 3.15m Width = 2.99m <b>Area = 9.42m<sup>2</sup></b>

t) Bathroom Sizes

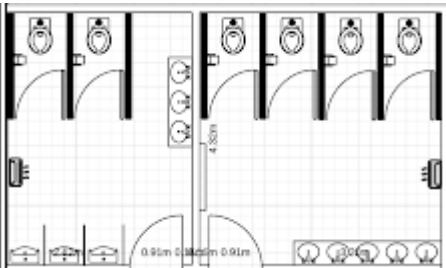
(1) Country Manager

Restroom	Dimension
	<p>Length = 3.63m Width = 2.58m <b>Area = 9.37m<sup>2</sup></b></p>

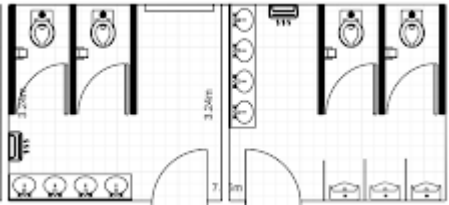
(2) Admin Department

Restroom	Dimension
	<p>Length = 4.25m Width = 6.25m <b>Area = 26.56m<sup>2</sup></b></p>

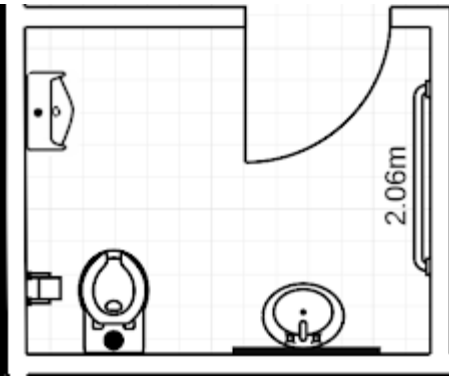
(3) Lounge

Restroom	Dimension
	<p>Length = 4.57m Width = 7.62m <b>Area = 34.82m<sup>2</sup></b></p>


(4) Creative Department

Room	Dimension
	Length = 3.25m Width = 7.52m <b>Area = 24.44m<sup>2</sup></b>

(5) Clinic Restroom

Restroom	Dimension
	Length = 2.06m Width = 2.68m <b>Area = 5.36m<sup>2</sup></b>

**TOTAL AREA**

Whole Area	Dimension
	<b>Total Area = 1, 550.90 m<sup>2</sup></b>

2. Furniture Dimensions
  - a) Admin Department:



Picture	Description	Dimension
	Collaborative table for employees provide open communication between them	5.73m length 1.42 width
	Executive desk for managers provides a variety of storage solutions	0.16m length 0.80m width
	Ergonomic office chair made with strong nylon frame	1.11m length 0.64m width
	Executive chair for manager made with leather	1.11m length 0.58m width
	Sofa with wide armrests and adjustable cushions	2.55m length 0.55m width

	Round coffee table made with bamboo	0.7m diameter 0.3m height
	Butterfly Palm	0.91m Height 0.25m Width
	Oak drawer unit with material of fiberboard, particleboard, and paper foil	0.70m length 0.36m width
	2-door wall cabinet with shelves	0.60m length 0.80m width

 <p>A black Fujidenzo water dispenser with two dispensing buttons, one red for hot water and one blue for normal (cold) water. The brand name 'FUJIDENZO' is visible at the top.</p>	<p>Water dispenser for hot and cold water</p>	<p>0.38m length 0.27m width</p>
 <p>A Samsung Neo QLED 4K Smart TV displaying a vibrant purple and blue abstract pattern. The text 'Neo QLED' is visible at the bottom of the screen.</p>	<p>50" NEO QLED 4K QN90C Smart TV</p>	<p>1.11m length 0.705m width</p>
 <p>A white Carrier Alpha Aircon indoor unit, a split-type air conditioning system.</p>	<p>Carrier Alpha Aircon for cooling the place</p>	<p>0.25m length 0.74m width</p>
 <p>A view through a modern office space featuring large, frameless glass doors and partitions, made of aluminum alloy and thick glass, separating different work areas.</p>	<p>Strong office frameless glass door that is made from aluminum alloy and thick glass</p>	<p>2.1m length 1.8m width</p>

Table 1: Admin Department Equipment

b) Shoe Engineering Department:

Picture	Description	Dimension
	<p>Collaborative table for employees provide open communication between them</p>	<p>6.96m length 2.17m width</p>
	<p>Executive desk for managers provides a variety of storage solutions</p>	<p>0.16m length 0.80m width</p>
	<p>Ergonomic office chair made with strong nylon frame</p>	<p>1.11m length 0.64m width</p>
	<p>Executive chair for manager made with leather</p>	<p>1.11m length 0.58m width</p>
	<p>Sofa with wide armrests and adjustable cushions</p>	<p>2.55m length 0.55m width</p>

	<p>Oval coffee table made with walnut veneer, fiberboard, clear acrylic lacquer, and paper foil</p>	<p>1.80m length 0.59m width</p>
	<p>Oak drawer unit with material of fiberboard, particleboard, and paper foil</p>	<p>0.70m length 0.36m width</p>
	<p>Water dispenser for hot and cold water</p>	<p>0.38m length 0.27m width</p>
	<p>50" NEO QLED 4K QN90C Smart TV</p>	<p>1.11m length 0.705m width</p>



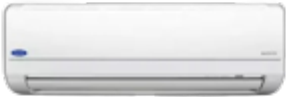





	Manager's door made with wood and glass	1.34m length 0.67 width
	Strong office frameless glass door that is made from aluminum alloy and thick glass	2.1m length 1.8m width
	Carrier Alpha Aircon for cooling the place	0.25m length 0.74m width
	Butterfly Palm	0.91m Height 0.25m Width

Table 2: Shoe Engineering Department Equipment

c) Creatives Department

Picture	Description	Dimension
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	Collaborative table for employees provide open communication between them	8.25m length 1.49m width  6.45m length 1.49m width
	Executive desk for managers provides a variety of storage solutions	0.16m length 0.80m width
	Ergonomic office chair made with strong nylon frame	1.11m length 0.64m width
	Executive chair for manager made with leather	1.11m length 0.58m width
	Sofa with wide armrests and adjustable cushions	2.55m length 0.55m width

	Oval coffee table made with walnut veneer, fiberboard, clear acrylic lacquer, and paper foil	1.80m length 0.59m width`
	Oak drawer unit with material of fiberboard, particleboard, and paper foil	0.70m length 0.36m width
	2-door wall cabinet with shelves	0.60m length 0.80m width
	Strong office frameless glass door that is made from aluminum alloy and thick glass	2.1m length 1.8m width



	<p>Manager's door made with wood and glass</p>	<p>1.34m length 0.67 width</p>
	<p>Water dispenser for hot and cold water</p>	<p>0.38m length 0.27m width</p>
	<p>50" NEO QLED 4K QN90C Smart TV</p>	<p>1.11m length 0.705m width</p>
	<p>Carrier Alpha Aircon for cooling the place</p>	<p>0.25m length 0.74m width</p>








	Butterfly Palm	0.91m Height 0.25m Width
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Table 3: Creative Department Equipment

d) Country Manager


Picture	Description	Dimension
	Executive desk for managers provides a variety of storage solutions	0.16m length 0.80m width
	Executive chair for manager made with leather	1.11m length 0.58m width
	Oak drawer unit with material of fiberboard, particleboard, and paper foil	0.70m length 0.36m width

	Sofa with wide armrests and adjustable cushions	2.55m length 0.55m width
	Oval coffee table made with walnut veneer, fiberboard, clear acrylic lacquer, and paper foil	1.80m length 0.59m width
	Conference table made with wood and melamine cherry finish	1.80m length 0.90m width
	50" NEO QLED 4K QN90C Smart TV	1.11m length 0.705m width
	Carrier Alpha Aircon for cooling the place	0.25m length 0.74m width
	Manager's door made with wood and glass	1.34m length 0.67 width

	Toilet bowl with flush and glossy finished	0.82m length 0.38m width
	Countertop sink made with polyester and crushed marbles	0.45m length 0.32m width
	Faucet with strainer made with brass and chrome plated	0.12m length 0.10m width
	Toilet roll holder made with stainless steel and polyamide	0.14m width

Table 4: Country Manager Equipment

e) Bathrooms








Picture	Description	Dimension
	Toilet bowl with flush and glossy finished	0.82m length 0.38m width

	Wall mounted urinal for men with sensor and glossy finished	0.68m length 0.34m width
	Countertop sink made with polyester and crushed marbles	0.45m length 0.32m width
	Faucet with strainer made with brass and chrome plated	0.12m length 0.10m width
	Toilet roll holder made with stainless steel and polyamide	0.14m width
	31" rectangular bathroom mirror made with glass	0.6m length 0.8m width

Table 5: Bathroom Furniture

f) Lounge

Picture	Description	Dimension
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	L-shaped sofa with loose back cushions and pillows	1.57m length 2.76m width
	Sofa with wide armrests and adjustable cushions	2.55m length 0.55m width
	Two seat sofa with cover is made of dope-dyed gunnared fabric in polyester	0.57m length 0.37m width
	50" NEO QLED 4K QN90C Smart TV	1.11m length 0.705m width
	Standup circular reception desk made with wood with high glossy finished	3.6m diameter 1.05m height
	Ergonomic office chair made with strong nylon frame	1.11m length 0.64m width
	Carrier Alpha Aircon for cooling the place	0.25m length 0.74m width





	Butterfly Palm	0.91m height 0.25m width
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Table 6: Lounge Furniture

g) Cafeteria

Picture	Description	Dimension
	Table set with four additional chairs and an antique stain finish	Table: 1.18m length 0.74m width  Chair: 0.41m length 0.41m width
	White legged high table with a wooden top	1.30m length 0.17m width
	White bar chair with gray cushion	0.85m length 1.20m Width

	<p>Burner Gas and thermo ventilated Electric Oven</p>	<p>0.9m length 0.6m width</p>
	<p>Dishwasher that is water and energy efficient</p>	<p>0.85m length 0.60m width</p>
	<p>Countertop with a marble and Luminating effect</p>	<p>1.86m length 0.026m width</p>
	<p>Multi Door Refrigerator</p>	<p>1.785m length 0.84m width</p>





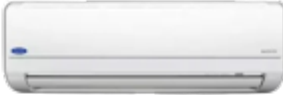
	White body cabinet with wooden top	0.85m Length, 1.20m Width
	Wall Cabinets	0.80m l, 0.30m w
	Carrier Alpha Aircon for cooling the place	0.25m length 0.74m width

Table 7: Cafeteria Furniture

h) Server Room


Picture	Description	Dimension
	Steel Door that is weather resistant, highly secured, and durable	2.10m length 90m width

Table 8: Server Room Equipment

i) Conference Room


Picture	Description	Dimension
	Conference table made with wood and melamine cherry finish	6m length 1.8m width
	Ergonomic office chair made with strong nylon frame	1.11m length 0.64m width
	50" NEO QLED 4K QN90C Smart TV	1.11m length 0.705m width
	Carrier Alpha Aircon for cooling the place	0.25m length 0.74m width
	Butterfly palm for aesthetics	0.91m Height 0.25m Width

Table 9: Conference Room Equipment

j) Security / CCTV Room




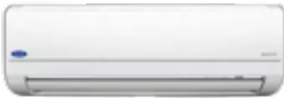
Picture	Description	Dimension
	Ergonomic office chair made with strong nylon frame	1.11m length 0.64m width
	Devant 32 inch Full HD Smart TV	0.516m length 0.80m width
	Large cabinet with two opening windows	1.60m length 0.45m width
	Wooden table top with white legs and white filing cabinet for support	1.20m length 0.60m width
	Carrier Alpha Aircon for cooling the place	0.25m length 0.74m width

Table 10: Security/Camera Room Furniture


k) Filing room






	Filing drawer cabinet made out of metal	1.31m length 0.60m width
	Wooden door with glass	1.34m length 0.67 width

Table 12: Filing Room Furniture

### III. Network Design and Layout

#### A. Networking Equipment

Equipment Name	Description	Picture
Cisco 9300 Router	Core Router	

Cisco 9500 Switch	Distribution Switch	
Cisco 9200 Switch	Access Switch, PoE	
Cisco Catalyst 9130ax AP	Wireless AP	
EATON 5P1550iR UPS	Uninterruptible Power Supply	
Cisco 12000/10-AC-PDU	PDU for Racks	
Cisco Meraki MV32 IP Cameras	IP software controlled Camera, PoE	





Cisco Meraki MR Magnetic Door Sensors	Smart Magnetic Door Sensors	
Cisco Meraki ML400 Door Locks	Smart Door Locks	
CSA Precision Air Conditioner	Industry Grade Computer Room Air Conditioner (CRAC)	
Cisco R42610 42RU Server Rack	Industry Grade Server Rack	

Table 11: Networking Equipment

## B. Cabling and Raceway Schematics

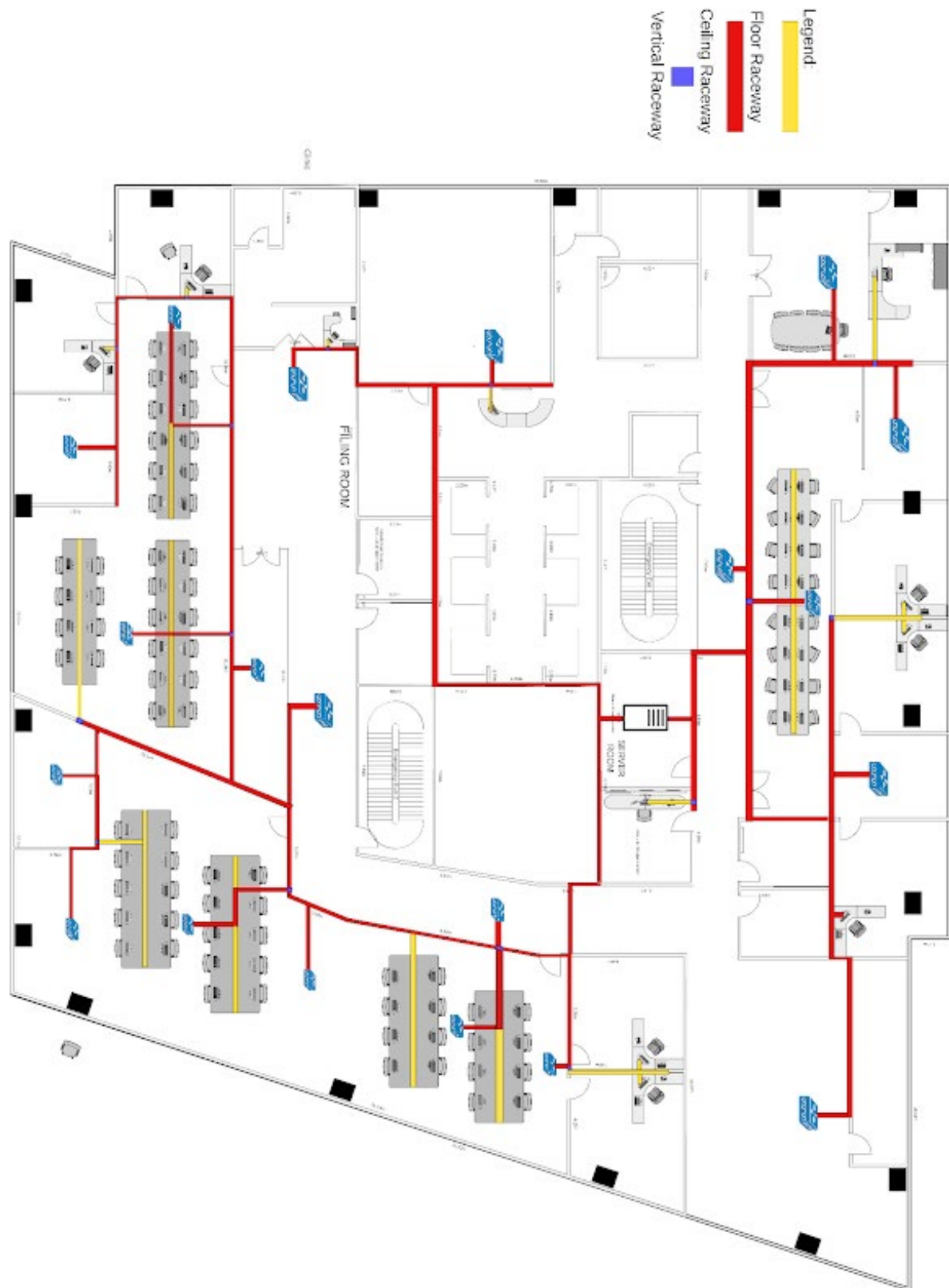


Figure 2: Cabling and Raceway Schematics

Table 11 shows the different networking equipment installed in the server room. Each component is chosen for maximum compatibility with each other and high-performance network capabilities. The Cisco 9300 Router will be the network's backbone, providing high-speed routing and switching for all devices and traffic. It offers high security, QoS, and segmentation. The Cisco 9500 Switch will be connected to the core router and aggregate traffic from access layer switches. The Cisco Catalyst 9200 switch will be the Access Layer for the network, it connects directly to the user devices, IP cameras, and smart doors. It's also capable of Power over Ethernet, reducing cable clutter, and simplifying installation and troubleshooting. The Cisco 9130X access point provides high-speed, reliable WiFi-6 coverage, ensuring seamless wireless connectivity for users.

Displayed in Figure 2 is the network cabling scheme for the office. The red lines represent the Ceiling Cable Raceways, the Yellow lines represent the Floor Cable Raceways, and the Blue Boxes represent the Vertical Raceways. The office will implement a centralized network topology where most major components are located on one site. All the network cables will be contained within the respective raceways connecting the terminals and devices to the access layers located in the server room. The Cisco Meraki MV32 IP camera and the Meraki door equipment are all controllable via the Cisco SecureX platform.

#### **Cisco SecureX Platform:**

The Cisco SecureX Platform provides a centralized platform for monitoring, managing, and securing internetwork. The SecureX platform contains the Cisco DNA Center for configuring all the network devices in the topology. It is also integrated with the Cisco Meraki Management platform to manage IP Cameras and Smart Doors around the Office. The SecureX platform provides a smooth Software-Defined Networking experience due to its superior centralized system of interconnected applications.



Figure 3: SecureX Logo



### C. IP Cameras Schematic

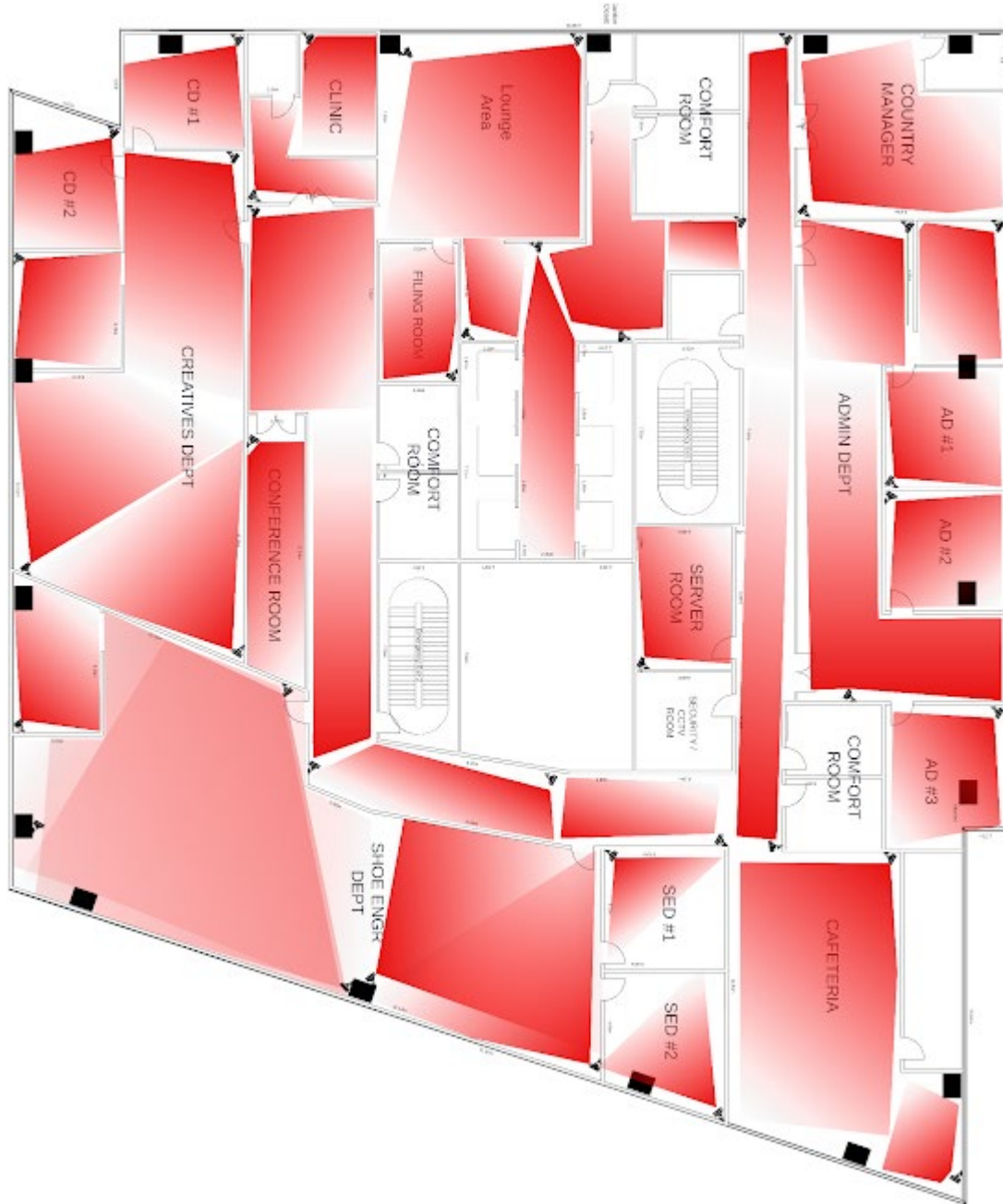


Figure 4: IP Camera Configuration

There are 40 IP cameras in the plan. These cameras are positioned to provide coverage to all parts of the floor. There is minimal overlap between the coverages of the cameras as a result of strategic positioning. A strength of the IP Camera system is redundancy; if one camera fails, others continue to operate. Another strength is that it is scalable, meaning we can add cameras as needed. Finally, flexibility is a strength of the system. It can be configured to meet the specific needs of the site.

#### D. Network Topology

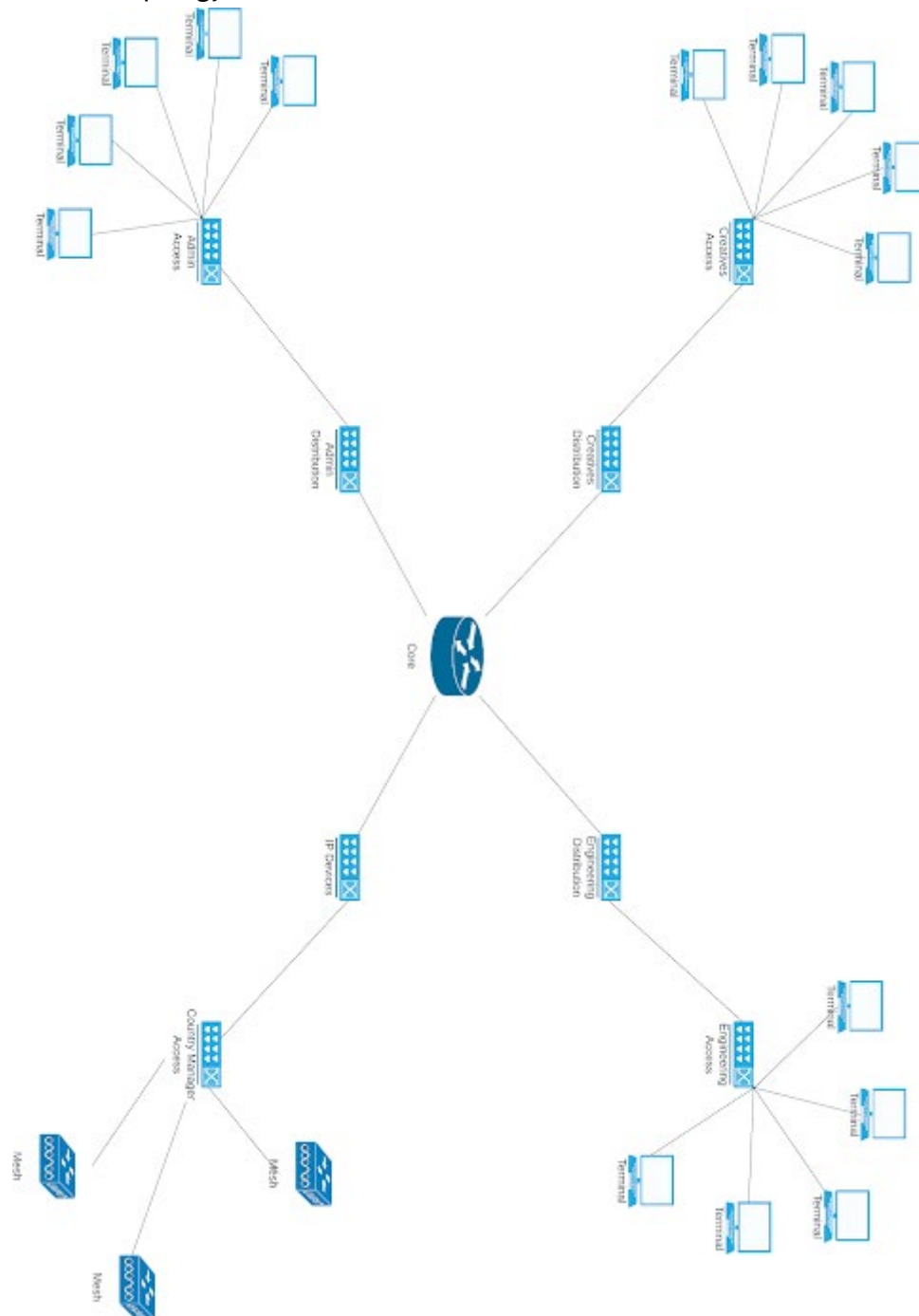


Figure 5: Network Topology

The 3-layer Cisco hierarchy will be adopted for this project. The networking model utilizes three distinct layers: the Core, Distribution Layer, and access layers. Figure 5 shows the network topology for the configuration of switches and terminals for this project, where each department is connected to their respective access layers (switches), including a dedicated switch for the IP devices.

#### E. Server Rack Configuration

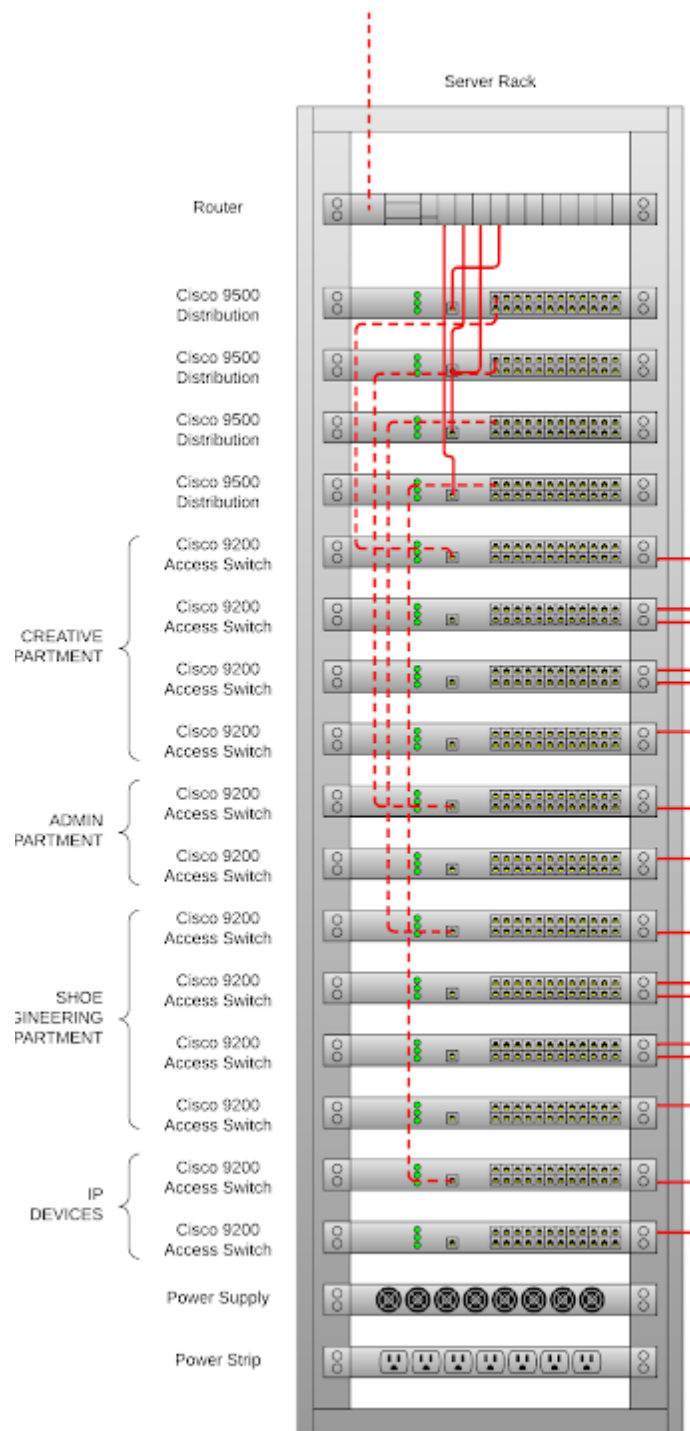


Figure 6: Server Rack Configuration

Shown in Figure 6 is the server rack layout in the server room. It follows the 3-layer hierarchy topology of Cisco from the Core router to the Distribution switches and the Access Layers.

F. Server Room Layout

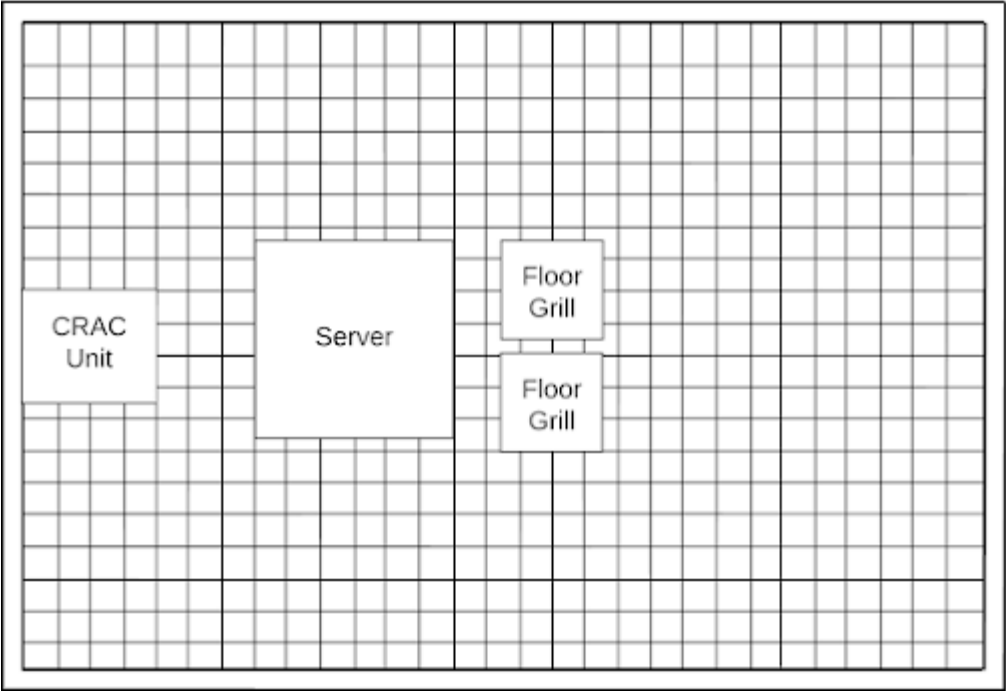


Figure 7: Server Room Layout

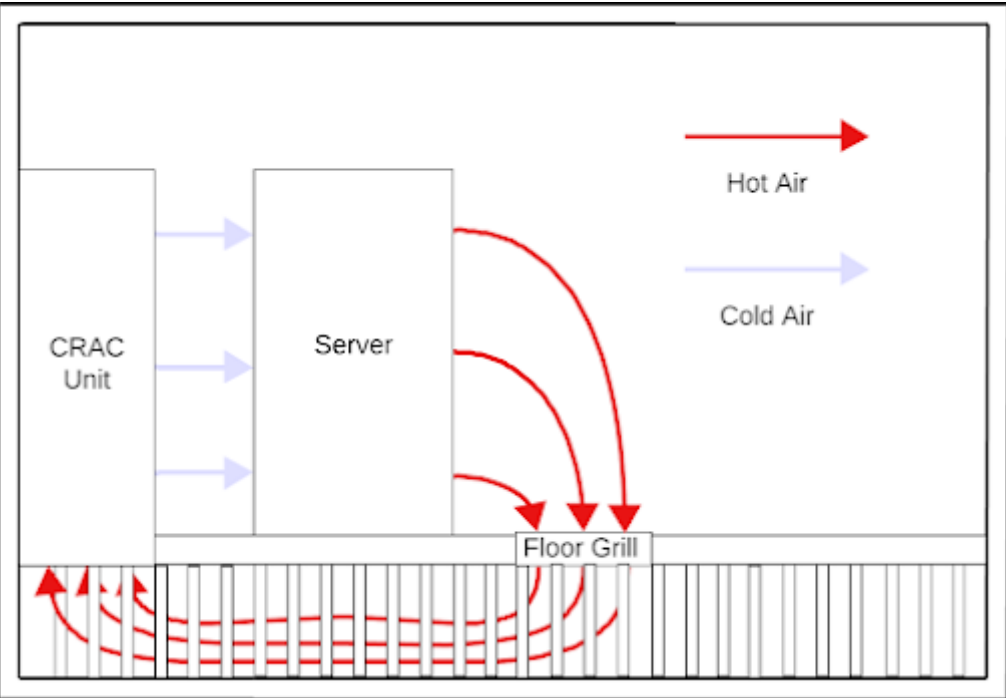


Figure 8: Server Room Airflow Diagram

#### IV. Project Costing and Timeline

##### A. Project Timeline and Labor Costs

Project Timeline	
Phase	Duration (Weeks)
Mobilization and Permitting	4
Structural Work	12
External Finishes	8
Internal Works and Networking Installations	16
Final Touches & Cleaning	4
Project Duration	11 months (44 weeks)

Table 12: Project Timeline

Labor Cost Breakdown		
Stage	Cost (per sqm.)	Estimated Cost
Mobilization and Permitting	Php 300	Php 465,270
Structural Work	Php 4,000	Php 6,203,600
Internal Works and Networking Installations	Php 2,000	Php 3,101,800
External Finishes	Php 3,500	Php 5,428,150
Final Touches & Cleaning	Php 500	Php 775,450
Total		Php 15,974,270

Table 13: Labor Cost Breakdown

The project timeline will span at most 44 weeks or 11 months, beginning with the processing of permits and project mobilization. Structural work on the division of the departments and necessary rooms will follow when the permits and the necessary project planning and mobilization have been completed; this would also include internal works such as electricity and water lines. External finishes such as paint jobs and other necessary processes for the building materials will proceed, followed by installing internals such as electricity and water lines. Networking Installations will follow, and finally, the final touches will be the installation of furniture and terminals, with respective cleaning.

## B. Summary of Expenses

ITEM	QTY	INDIVIDUAL PRICE	TOTAL PRICE
Network Equipment			
Cisco 9300 Router	1	₱26,332.00	₱26,332.00
Cisco 9500 Switch	3	₱52,487.00	₱157,461.00
Cisco 9200 Switch	12	₱38,084.00	₱457,008.00
Cisco Catalyst 9130ax AP	20	₱11,642.04	₱232,840.80
EATON 5P1550iR UPS	1	₱99,277.00	₱99,277.00
CAT6 Ethernet Cable	2000m	₱28,413.53	₱113,654.12
Cisco R42610	1	₱100,156.00	₱100,156.00
12000/10-AC-PDU	1	₱28,600.00	₱28,600.00
Total			₱1,215,328.92
IP Camera Equipment			
Cisco Meraki MV32	46	₱4,666.23	₱214,646.58
Monitor	3	₱6,895.00	₱20,685.00
Desk	1	₱5,000.00	₱5,000.00
CPU	1	₱23,451.00	₱23,451.00
Total			₱263,782.58
Office Equipment Equipment			
L table Large (Managers)	8	₱24,490.00	₱195,920.00
Square Table (Cafeteria)	9	₱10,990.00	₱98,910.00
Big Cabinet (2 windows)	18	₱16,990.00	₱305,820.00
Long Table (Country Manager)	1	₱13,850.00	₱13,850.00
Table (CCTV Room)	2	₱7,580.00	₱15,160.00
TV Bench	2	₱990.00	₱1,980.00
TV (CCTV Room)	3	₱9,400.00	₱28,200.00
Coffee Table	3	₱7,490.00	₱22,470.00
Office Chairs	81	₱8,990.00	₱728,190.00
Office chair (Country Manager)	1	₱4,999.00	₱4,999.00
Office Chairs (Managers)	7	₱7,350.00	₱51,450.00

High Table (Cafeteria)	6	₱10,590.00	₱63,540.00
Smart TV 50"	5	₱46,304.00	₱231,520.00
Wall cabinet (Office)	9	₱6,550.00	₱58,950.00
Round coffee table	3	₱2,990.00	₱8,970.00
Oval Coffee table	3	₱19,990.00	₱59,970.00
Curved Table	1	₱55,109.57	₱55,109.57
Urinals	9	₱3,319.60	₱29,876.40
Toilets	15	₱14,072.00	₱211,080.00
Sink	24	₱8,500.00	₱204,000.00
Faucet	24	₱3,990.00	₱95,760.00
Tissue Holder	15	₱590.00	₱8,850.00
Mirror	6	₱1,339.00	₱8,034.00
Long Table (Meeting room)	1	₱170,233.00	₱170,233.00
Filing Cabinets (Filing room)	24	₱10,250.00	₱246,000.00
Collaborative Table Small (Creative Dept)	1	₱22,161.00	₱22,161.00
Collaborative Table Large (Creative Dept)	2	₱28,346.00	₱56,692.00
Collaborative Table (Shoe Dept)	4	₱34,827.00	₱139,308.00
Collaborative Table (Admin Dept)	2	₱21,179.00	₱42,358.00
Office Cabinets	24	₱5,490.00	₱131,760.00
L-Couch	1	₱39,990.00	₱39,990.00
Triple Couch	11	₱37,990.00	₱417,890.00
Double Couch	2	₱6,990.00	₱13,980.00
Wall Cabinets (Kitchen)	3	₱1,199.00	₱3,597.00
Stove	2	₱99,995.00	₱199,990.00
Dishwasher	1	₱59,995.00	₱59,995.00
Countertop	1	₱5,250.00	₱5,250.00
Fridge	1	₱45,595.00	₱45,595.00
Cabinet (Kitchen)	2	₱12,900.00	₱25,800.00
Conference Table	2	₱13,850.00	₱27,700.00
Stools (Cafeteria)	12	₱4,990.00	₱59,880.00

Water Dispenser	3	₱2,198.00	₱6,594.00
Flower ornament	23	₱1,000.00	₱23,000.00
Total			₱4,217,381.97
Employee Terminals			
Admin Terminals	18	₱39,872.00	₱717,696.00
Creative Department Displays	28	₱15,519.00	₱434,532.00
CD and SE Terminals	70	₱58,446.00	₱4,091,220.00
Total			₱5,243,448.00
Smart Doors			
Cisco Meraki Magnetic Sensors	9	₱6,943.69	₱62,493.21
Cisco Meraki Door Locks	9	₱6,979.69	₱62,817.21
Office Frameless Glass Door	14	₱7,500.00	₱105,000.00
Reinforced Steel Door	3	₱10,500.00	₱31,500.00
Manager Door	8	₱10,000.00	₱80,000.00
Total			₱341,810.42
Air Conditioning			
Precision CRAC Industry Grade	1	₱333,324.00	₱333,324.00
CARRIER CFE ASD Room Air Conditioner	32	₱96,895.00	₱3,100,640.00
Total			₱3,433,964.00
Miscellaneous			

### C. Overall Project Bid

Overall Project Bid	
Project Total Costing	₱30,689,985.89
Net Profit (30%)	₱9,206,995.77
Project Bidding	₱39,896,981.66



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