IONIQ.AI®
ADDING INTELLIGENCE

ARCHITECTURE DOCUMENT

Building 8-2-293-82/A, Plot 1107, Road Number 55,
opposite Peddamma Talli Temple, CBI Colony,
Jubilee Hills, Hyderabad, Telangana 500033

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SIONIQ.AI Architecture Document

1. Overview

❖ About Jewellery Industry

The jewelry industry is a broad and multifaceted sector that encompasses the design, production, marketing, and sale of jewelry. This industry deals with items such as rings, necklaces, bracelets, earrings, and other adornments made from precious metals, gemstones, and other materials. The jewelry industry is both an art form and a business, balancing creative design with the commercial aspects of production and sales.

❖ Mining and Sourcing:

- Gemstones: Precious stones like diamonds, emeralds, rubies, and sapphires are mined from the earth.
- Metals: Precious metals such as gold, silver, and platinum are extracted and refined.
- Ethical Sourcing: There is growing importance on ethically sourced materials to ensure that the materials are mined and traded responsibly.

Reference Video & IMG:

The jewellery industry operates through a structured supply chain involving manufacturers, wholesalers, and retailers. Let's break down the operations within each segment:

1.1 Manufacturer

- ❖ Role: Jewellery manufacturers are responsible for creating jewellery pieces from raw materials such as gold, silver, platinum, and gemstones.
- ❖ Process:
  - i. Design: Initial designs are either handcrafted by artisans or created using computer-aided design (CAD) software.
  - ii. Sourcing Raw Materials: Manufacturers procure raw materials from suppliers. This includes metals, stones, and other components.

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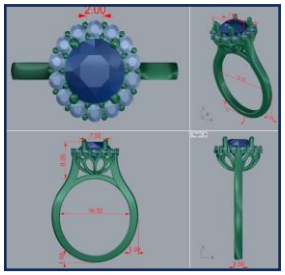
iii. Production: Jewellery production involves a series of processes including casting, stone setting, polishing, and finishing.
iv. Quality Control: Finished pieces undergo stringent quality checks to ensure they meet design specifications and industry standards.

Sketch design



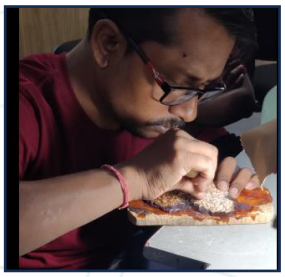
CAD Desing

CAM

WaxTree Setup

Casting tree

Filling Process



Stone Fitting

Polish

Casting Process Video Link:
https://www.youtube.com/watch?app=desktop&v=htYnG3FD68Q

Complete Manufacturing Process

Stone: https://youtu.be/cNEmjmcXJYA?start=65&end=275

Plan: https://www.youtube.com/watch?v=5tcK2tB88eU

Kundan: https://www.youtube.com/watch?v=nmW--7s5lpM

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1.2 Wholesalers

- Role: Wholesalers act as intermediaries between manufacturers and retailers, purchasing bulk products from manufacturers and selling them to retailers.
- Process:
  i. Bulk Purchasing: Wholesalers purchase large quantities of jewellery items from various manufacturers.
  ii. Inventory Management: They maintain an inventory of diverse jewellery pieces to meet the demands of various retailers.
  iii. Distribution: Wholesalers distribute the jewellery to retailers, often offering variety in terms of design, price range, and collection.
  iv. Pricing Strategy: They set prices that allow for profit margins while remaining competitive within the market.

1.3 Retailers

- Role: Retailers are the final point of sale, presenting jewellery directly to consumers.
- Process:
  i. Stocking Inventory: Retailers stock their stores with jewellery purchased from wholesalers or directly from manufacturers.
  ii. Sales and Marketing: Retailers use various marketing strategies, including advertising, promotions, and customer engagement, to attract buyers.
  iii. Customer Service: Providing superior customer service, including personalized consultations, customization options, and after-sales services, is crucial for retailers.
  iv. Pricing: Retailers set prices based on wholesale costs, operational expenses, and desired profit margins.

1.4 How It Works:

i. Material Sourcing: Raw materials like gold, silver, diamonds, and other gemstones are mined or sourced from various locations around the world.

ii. Design: Designers create jewelry pieces, often influenced by current fashion trends or cultural traditions.

iii. Manufacturing: The design is brought to life through manufacturing processes, which can range from handcrafting to mass production.

iv. Sales Channels: Jewelry is sold through various channels, including high-end boutiques, department stores, online platforms, and auctions.

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v. Marketing: Brands market their products through advertising, social media, and influencer partnerships.

vi. Customer Engagement: After purchase, brands often engage with customers through after-sales services like cleaning, repairs, and appraisals.

1.5 Key Interactions:

i. Manufacturers to Wholesalers: Manufacturers produce and sell jewellery in bulk to wholesalers.
ii. Wholesalers to Retailers: Wholesalers distribute the jewellery to retailers, broadening the reach of different jewellery brands and designs.
iii. Retailers to Consumers: Retailers serve as the contact point for the consumers, customizing, and showcasing products to meet consumer preferences and trends.

Each player in this chain plays a critical role in bringing jewellery from concept to consumer. The seamless coordination between these segments ensures the efficient operation of the jewellery industry.

1.6 Bullion Merchant:

important to understand the key processes of the bullion business. Here's an overview of the bullion trading process:

i. Sourcing and Procurement: Dealers acquire gold bullion from refineries, mints, or secondary markets. This involves establishing relationships with trusted suppliers and adhering to regulations around gold purity and sourcing standards.
ii. Inventory Management: Gold bullion is treated as high-value stock, so real-time tracking of quantities, types (bars, coins), and pricing is crucial. The application should support dynamic inventory management, including batch tracking and live price updates.
iii. Price Monitoring: Bullion dealers closely monitor global gold prices, which fluctuate throughout the day based on market demand and economic factors. A key feature would be live price feeds and the ability to lock in prices at the time of the transaction.
iv. Customer Orders and Transactions: Clients may include manufacturer, wholesaler, retail customers or other businesses. The order process can be for outright purchases or reserving gold at a specific price. The application should facilitate order placement, invoicing, and secure payment processing.
v. Logistics and Storage: Gold may be delivered directly to customers or stored in secure vaults. Dealers may also offer vault storage services. Tracking shipping, insurance, and custody details will be a key functionality.

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vi. Compliance and Reporting: Bullion trading is subject to stringent regulatory and tax requirements. The application should manage compliance reporting, KYC (Know Your Customer), anti-money laundering checks, and transaction history for audits.

vii. Buyback and Reselling: Dealers often buy back bullion from customers, so the application should support price appraisal, testing for purity, and reverse logistics for gold return and resale.

viii. Customer Relationship Management (CRM): The system should include tools for managing customer accounts, preferences, and history. VIP clients or bulk buyers might have special pricing or terms, which should be managed automatically.

2. What are the Different Business Models

The jewellery industry encompasses a wide range of business models, each with distinct structural and operational requirements. Jewellery businesses operate in varied configurations that may include single or multiple companies, warehouses, and branches. To address these diverse needs, software architecture is designed with flexibility, scalability, and modularity at its core.

Below is a detailed description of the core business models and their respective configurations:

2.1 Single Company

A single company conducts its business operations with potential variations in how it operates its warehouses and branches. These models are software that enables centralized or distributed control depending on the configuration.

2.1.1 Single Store (Scenario-1)

i. Description: A small, independent jewelry business with a single store location.

ii. Operations: All jewelry inventory is stored and managed at the store itself. There is no separate warehouse.

iii. Summary: The software is providing essential features such as inventory management, sales tracking, and customer relationship management to streamline operations.

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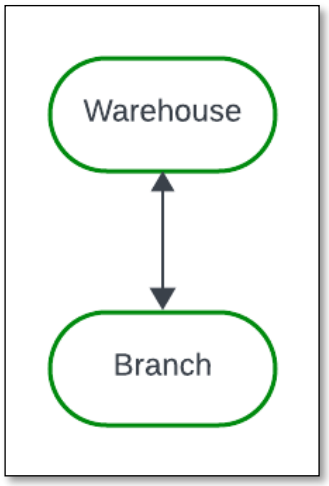

Scenario-1_IMG

2.1.2 Single Warehouse, Single-Branch (Scenario–2)

i. Description: A straightforward business model where a single company operates with one warehouse and one retail store (branch)

ii. Operations:

Warehouse:

a) The warehouse serves as the central storage location for all inventory. It holds all the products that the branch will sell, including jewelry pieces, raw materials, packaging, and any other necessary supplies.
b) Inventory management is straightforward, with all stock housed in one location. The warehouse supplies the branch based on demand forecasts and sales data.

Branch:

a) The single retail branch acts as the sole customer-facing outlet for the company. All sales occur here, whether it be direct in-store sales or online orders fulfilled from the branch's stock.
b) The branch is responsible for day-to-day sales, customer service, and in some cases, light inventory management such as reordering stock from the warehouse.
c) If the company operates online, the branch also manages e-commerce sales, packaging, and shipping.

iii. Summary: The software supports real-time inventory transfers and synchronized sales data, efficient stock movement and warehouse-branch communication.

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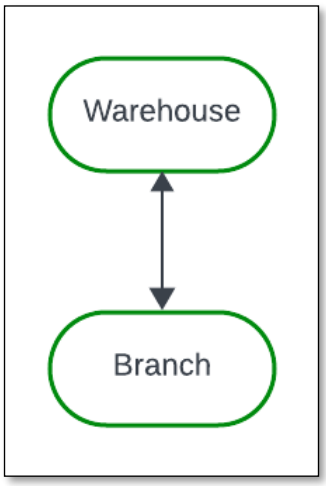


Scenario-2_IMG

2.1.3 Single Warehouse, Multi-Branch (Scenario–3)

i. Description: A company operates multiple branches or stores but manages inventory from a single centralized warehouse.

ii. Operations:

Warehouse:

a) Stores all the jewelry inventory and supplies for the entire company.

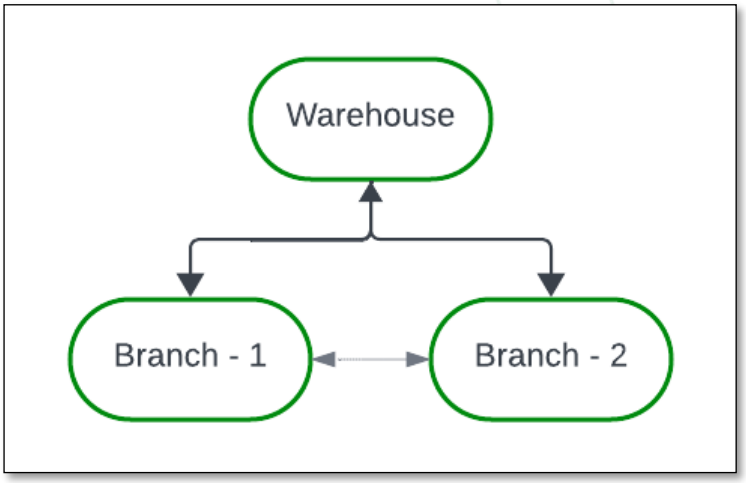
b) Ships products to multiple retail stores (branches) as needed.

Branches:

a) Multiple stores located in different areas where customers can shop.

b) Each branch gets its inventory from the central warehouse.

iii. Summary: The software enables real-time tracking of inventory across multiple locations and seamless stock transfers from warehouse to branches & branch to branch & branches to warehouse.



Scenario-3_IMG

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2.1.4 Multi-Warehouse, Multi-Branch (Scenario–4)

i. Description: A business model where a single company operates multiple warehouses and multiple retail stores (branches).

ii. Operations:

Warehouse:

a) The company has several warehouses, possibly located in different regions.
b) Each warehouse stores inventory and supplies for the stores in its area.

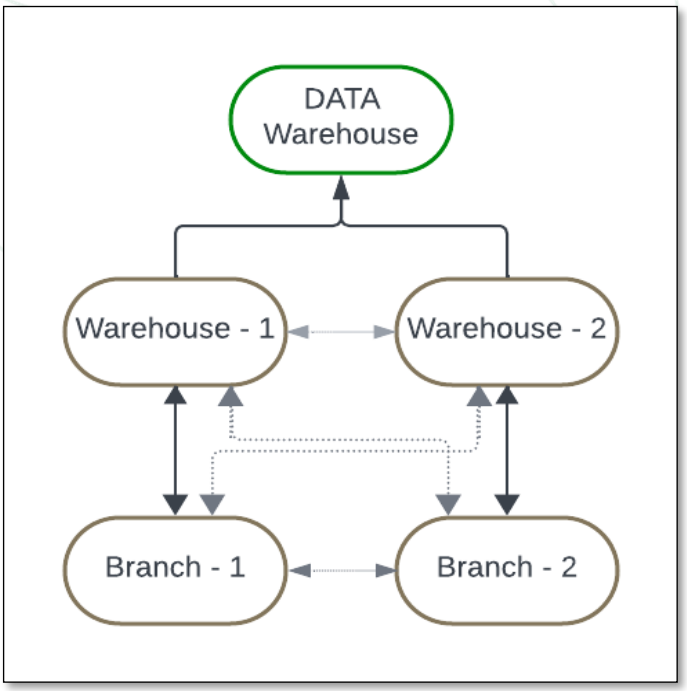
Branches:

a) Multiple stores located in different areas where customers can shop.
b) Each branch gets its inventory from the nearest warehouse.

iii. Summary: This is a more complex setup with multiple warehouses supporting several branches. software allows for inter-warehouse stock transfers and multi-location inventory visibility, with the ability to direct stock to different branches as needed.

Key Features:

a) Distributed warehouse management
b) Real-time tracking of stock across all locations
c) Automated inter-warehouse transfers
d) Multi-branch inventory and sales control
e) Centralized reporting for comparative analysis



Scenario-4_IMG

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2.1.5 Multi-Warehouse, Single Branch (Scenario-5)

i. Description: A business model where a single company operates multiple manufacturing warehouses and has one wholesale branch that distributes jewelry to other retailers or businesses.

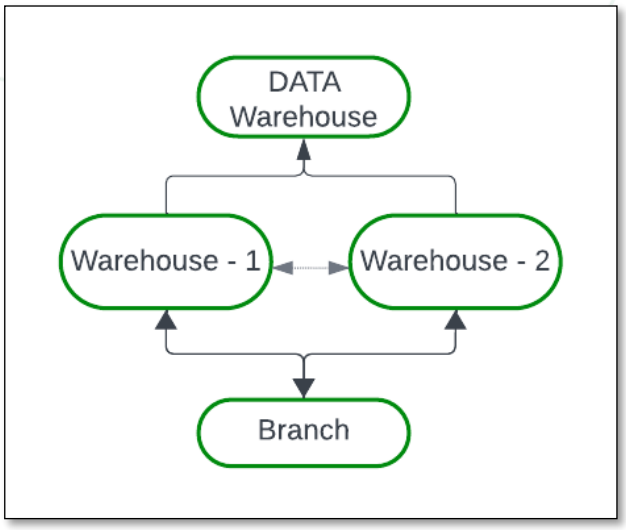
ii. Operations:

a) The store receives inventory from multiple warehouses, which may specialize in different types of jewelry or handle overflow stock.
b) Each warehouse may focus on different types of jewelry or different stages of production.
c) All manufactured products are sent to the single wholesale branch.
d) There is one wholesale branch where all the products from the manufacturing warehouses are gathered.
e) The wholesale branch sells and distributes the jewelry to other retailers, businesses, or bulk buyers.

iii. Summary: In this configuration, a single branch is supported by multiple warehouses. The software can handle stock requests from the branch, optimizing the supply chain to allocate products from the appropriate warehouse.

Key Features:

a) Multiple warehouse stock management
b) Single branch sales and inventory tracking
c) Efficient stock distribution from multiple sources
d) Centralized inventory visibility



Scenario-5_IMG

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2.1.6 Single Warehouse, Multi-Branch, Franchise Branch (Scenario-6)

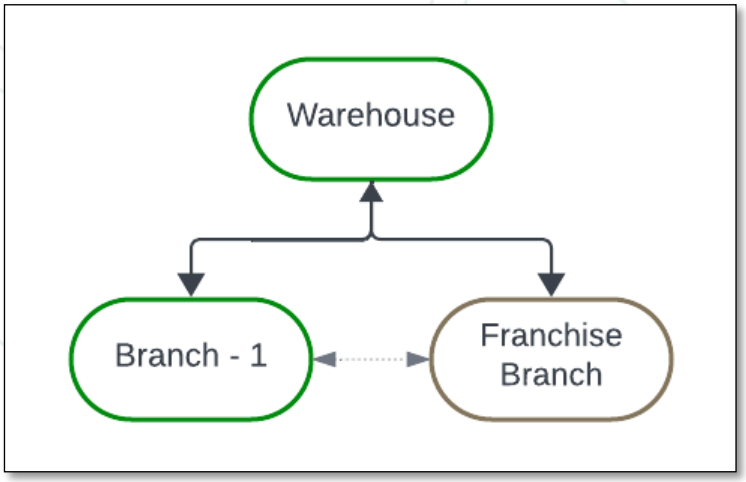
i. Description: The company operates multiple branches, some of which are franchised, with a single central warehouse.

ii. Operations: The central warehouse supplies both company-owned and franchise branches. Franchise branches may operate under strict brand guidelines.

iii. Summary: The software can handle distinct stock distribution requirements while maintaining separate financial tracking for franchise operations.

Key Features:

a. Stock allocation between company-owned and franchise branches
b. Separate financial and sales reporting for franchises
c. Centralized warehouse inventory management
d. Real-time order fulfillment for all branches
e. Manages relationships and performance of franchise branches.



Scenario-6_IMG

2.1.7 Multi-Warehouse, Multi-Branch & Franchise Warehouse, Franchise Branch (Scenario-7)

i. Description: The most complex model, where both the company and franchises operate warehouses and branches.

ii. Operations: The company manages its own warehouses and branches while franchises may also manage their own warehouses to supply their branches. The model supports both independent and company-distributed inventory systems.

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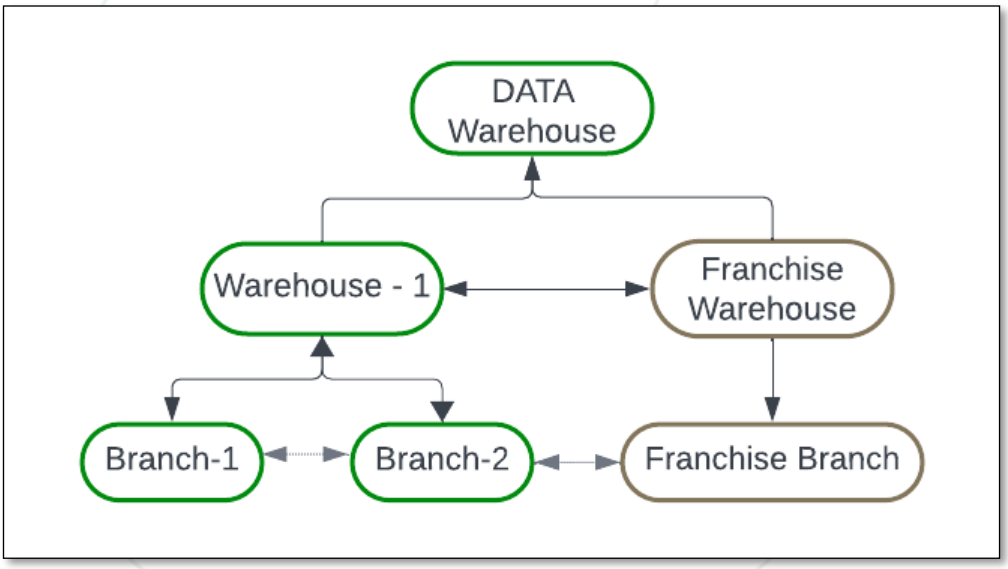
iii. Summary: This more complex model involves a company operating one warehouse, multiple branches, and additional franchise-owned warehouses and branches. The software ensures smooth coordination between company-owned and franchise entities, with separate operational controls for franchisees.

Key Features:

a) Centralized and franchise-owned warehouse management
b) Inventory and sales control for company and franchise locations
c) Separate financial tracking for franchise operations
d) Real-time inventory updates and stock transfers



Scenario-7_IMG

2.2 Multiple-Company

In a multi-company setup, multiple legally independent companies collaborate while sharing resources like warehouses or branches. The software allows account for separate financial, inventory, and operational management for each company while supporting cross-company resource sharing.

2.2.1 Multi-Warehouse, Multi-Branch (Scenario–8)

i. Description: Several companies operate their own warehouses and branches, but there may be collaboration or partnerships in logistics, supply chain management, or inventory sharing.

ii. Operations: Each company manages its own warehouses, which supply their respective branches. Companies may collaborate on certain aspects such as shared logistics routes, joint marketing efforts, or bulk purchasing of materials.

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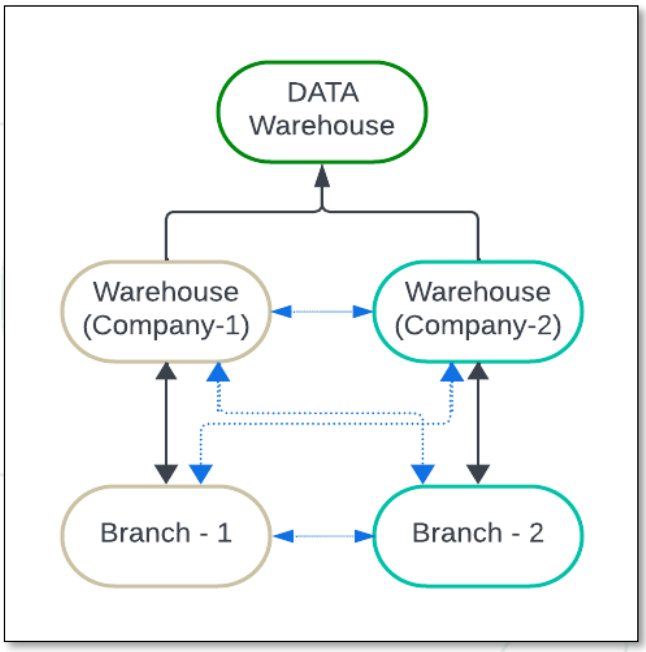
iii. Summary: This configuration involves multiple companies sharing multiple warehouses and branches. Software that allows efficient resource sharing for each company's unique inventory, sales and financial controls.

Key Features:

a) Segregated inventory management per company
b) Multi-company warehouse and branch operations
c) Centralized and separate reporting for each company
d) Cross-company stock transfers and supply chain coordination



Scenario-8_IMG

2.2.2 Single Warehouse, Multi-Branch (Scenario-9)

i. Description: Multiple independent jewelry companies share a single warehouse to manage and distribute inventory to their respective branches.

ii. Operations: The shared warehouse handles inventory for all companies involved, with each company responsible for managing its own stock levels and distribution to its branches.

iii. Summary: In this model, multiple companies share a single warehouse with multiple branches. The software that inventory belonging to each company is tracked separately while allowing for efficient stock distribution to the respective branches.

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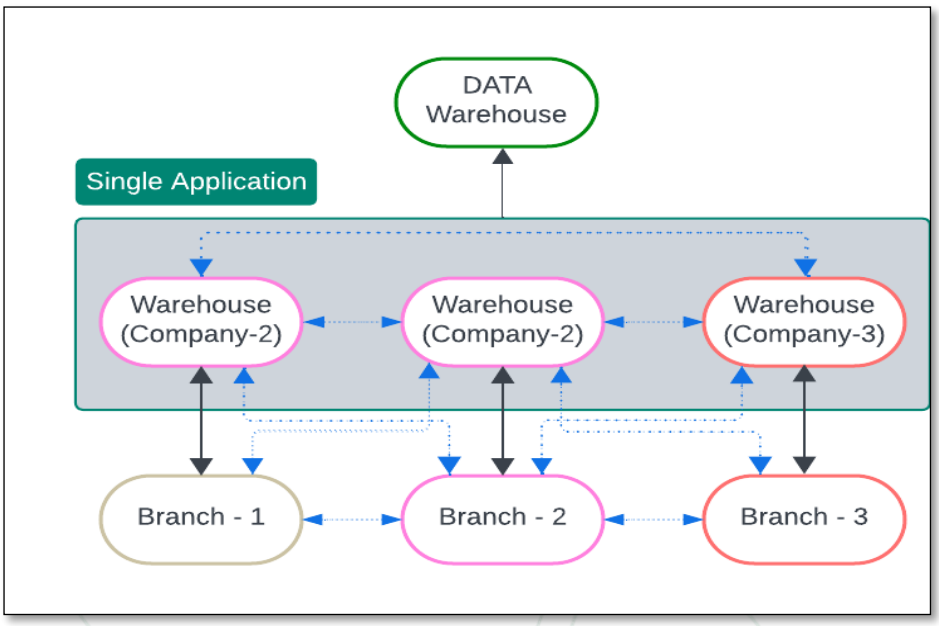
Key Features:

a) Single warehouse with multi-company inventory control
b) Centralized and separate reporting for each company
c) Financial separation between companies
d) Efficient stock allocation and distribution



Scenario-9_IMG

2.2.3 Multi-Warehouse, Single Branch (Scenario–10)

i. Description: Multiple companies supply inventory to a single branch or store, each managing its own warehouse.

ii. Operations: The single branch receives inventory from various companies, each of which handles its own warehouse operations. The branch could operate as a multi-brand store, offering products from different companies.

iii. Summary: Here, multiple companies operate through multiple warehouses but share a single branch. The software can support proper stock allocation to the branch and maintain separate financial records for each company.

Key Features:

a) Multi-company warehouse management
b) Single branch with cross-company stock fulfillment
c) Segregated sales and financial reporting
d) Efficient supply chain coordination
e) Centralized and separate reporting for each company

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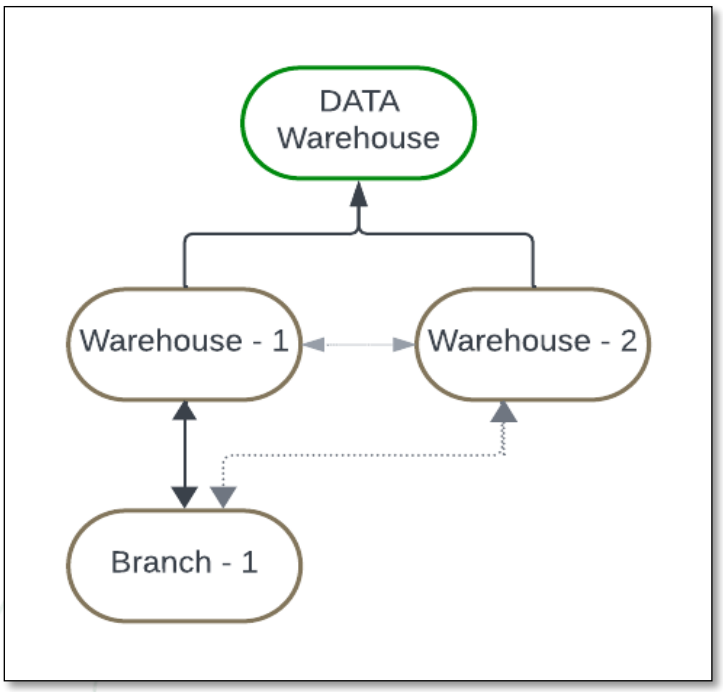

Scenario-10_IMG

2.2.4 Single Warehouse, Multi-Branch, Franchise Branch (Scenario–11)

i. Description: Multiple companies share a single warehouse that supplies inventory to both company-owned and franchise branches.

ii. Operations: The central warehouse is jointly managed by the companies and supplies products to their respective branches, including franchises. Companies may operate under a shared franchise model or individually but use the same warehouse for efficiency.

iii. Summary: In this setup, multiple companies manage several warehouses and branches, including franchise branches. The Software cand balance company and franchise operations, ensuring separate control and reporting for franchise branches.

Key Features:

a) Segregated inventory management for franchise and company branches
b) Real-time stock transfers and fulfillment
c) Franchise-wise financial and performance tracking
d) Centralized warehouse management with franchise visibility
e) Centralized and separate reporting for each company and franchise

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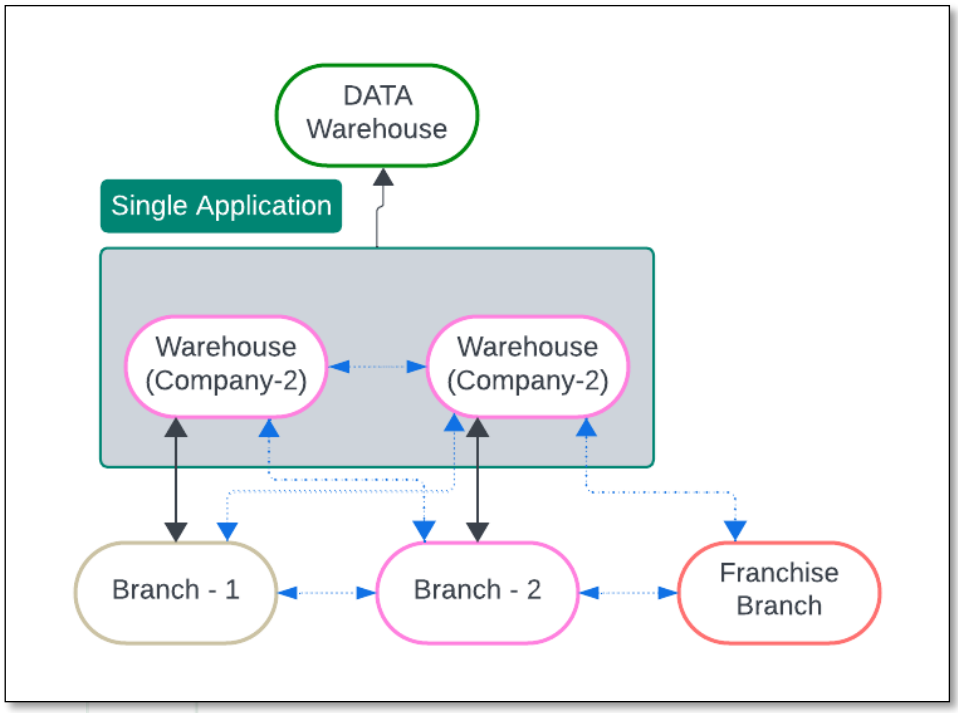

Scenario-11_IMG

2.2.5 Multi-Warehouse, Multi-Branch & Franchise Warehouse, Franchise Branch (Scenario–12)

i. Description: The most complex model where multiple companies operate their own warehouses, branches, and franchise systems, with some franchisees possibly managing their own warehouses.

ii. Operations: Each company manages its warehouses and branches, while franchises operate independently with their own warehouses and branches. Companies may collaborate on shared logistics, bulk purchasing, or marketing campaigns, but maintain distinct operations.

iii. Summary: This is one of the more complex configurations where multiple companies own multiple warehouses and branches along with franchise owned warehouses and branches. The software can handle the complexities of inventory control, order fulfillment and financial reporting in company and franchise entities.

Key Features:

a) Centralized and franchise-specific inventory management
b) Warehouse and branch coordination across companies and franchises
c) Financial segregation for each company and franchise
d) Centralized and separate reporting for each company and franchise

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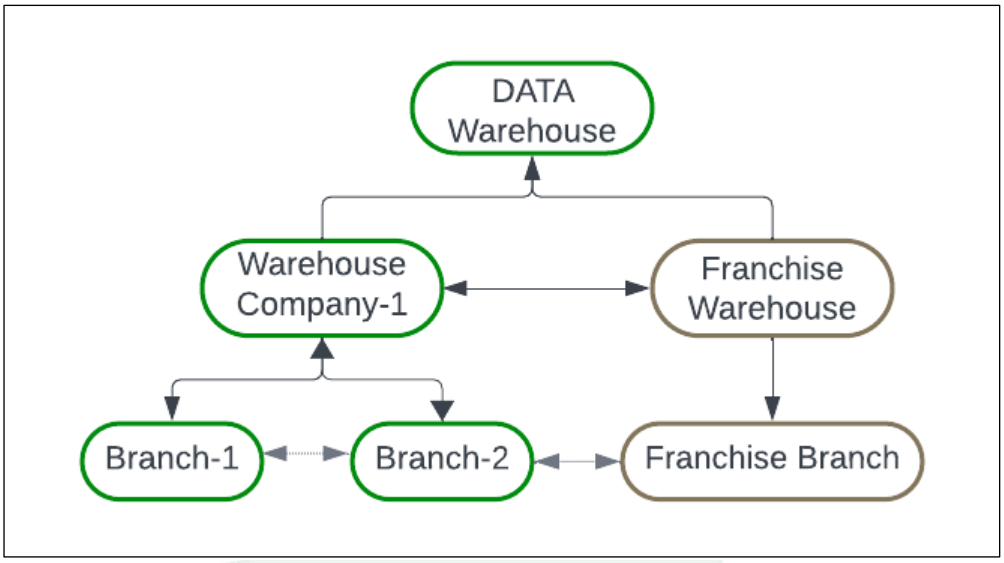

Scenario-12_IMG

2.3 Single Company, Single Warehouse, Multiple Branches, Multi-Brands (Scenario–13)

i. Description: A business model where a single company operates one central warehouse that supplies multiple retail branches. These branches are divided into different Brands, each Brand having its own strategy and target market.

ii. How It Works:

a) Warehouse: The company has one central warehouse that stores all the jewelry inventory. The warehouse supplies products to all branches, regardless of Brand.

b) Multiple Branches with Multi-Brands: The branches are divided into different Brands, each with its own unique strategy.

1. Brand 1: Could focus on luxury or high-end jewelry, targeting affluent customers. The branches in this Brand might be located in upscale areas and offer exclusive collections.
2. Brand 2: Might cater to a younger, fashion-forward audience, offering trendy and affordable jewelry. These branches could be positioned in popular shopping districts with a more casual atmosphere.
3. Brand 3: Could focus on traditional or cultural jewelry, appealing to customers looking for classic designs. These branches might emphasize heritage and craftsmanship.

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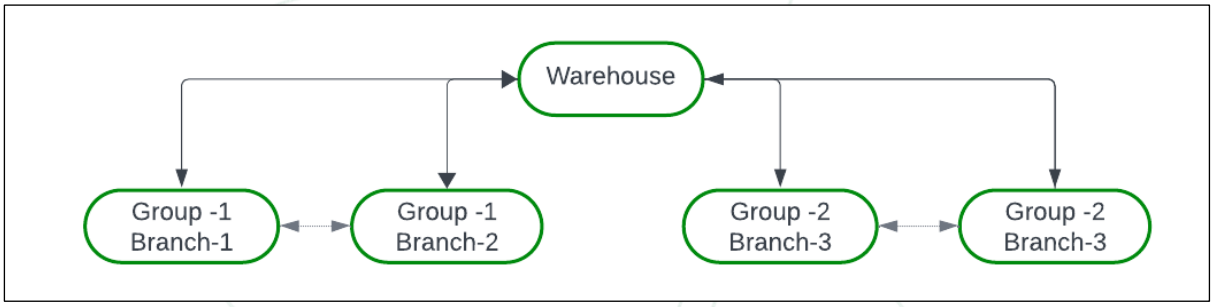
iii. Brand-Specific Strategies: Each Brand operates under its own marketing, pricing, and customer service strategies to best serve its target audience.

iv. Summary: This unique configuration involves a single company with a central warehouse serving multiple branches, but the company is organized into separate Brands. Each Brand may manage its own branches while sharing inventory from the central warehouse. The software can support Brand-based operations with centralized inventory control.

Key Features:

a) Brand-based branch management
b) Centralized inventory with Brand-specific sales and reporting
c) Cross-Brand analytics and financial reporting



Scenario-13_IMG

❖ Conclusion

SIONIQ.AI is developed for jewelers with high adaptable, supporting both single and multi-company operations. The core focus is to provide seamless stock control, sales reporting, and franchise management, whether the business operates a single store or multiple warehouses and branches. Each business configuration tailored software functionality to ensure operational efficiency, scalability, and comprehensive business oversight.

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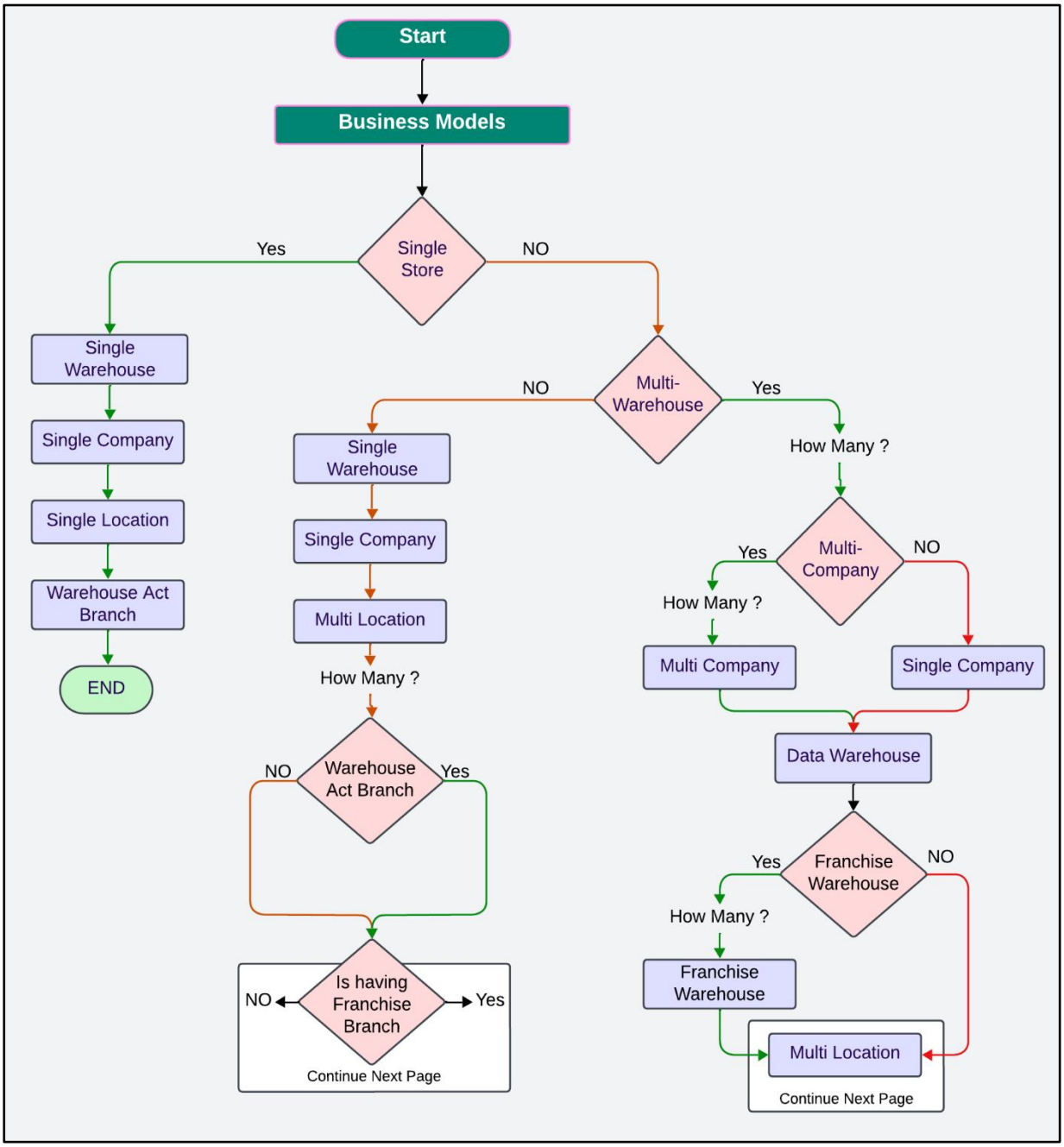

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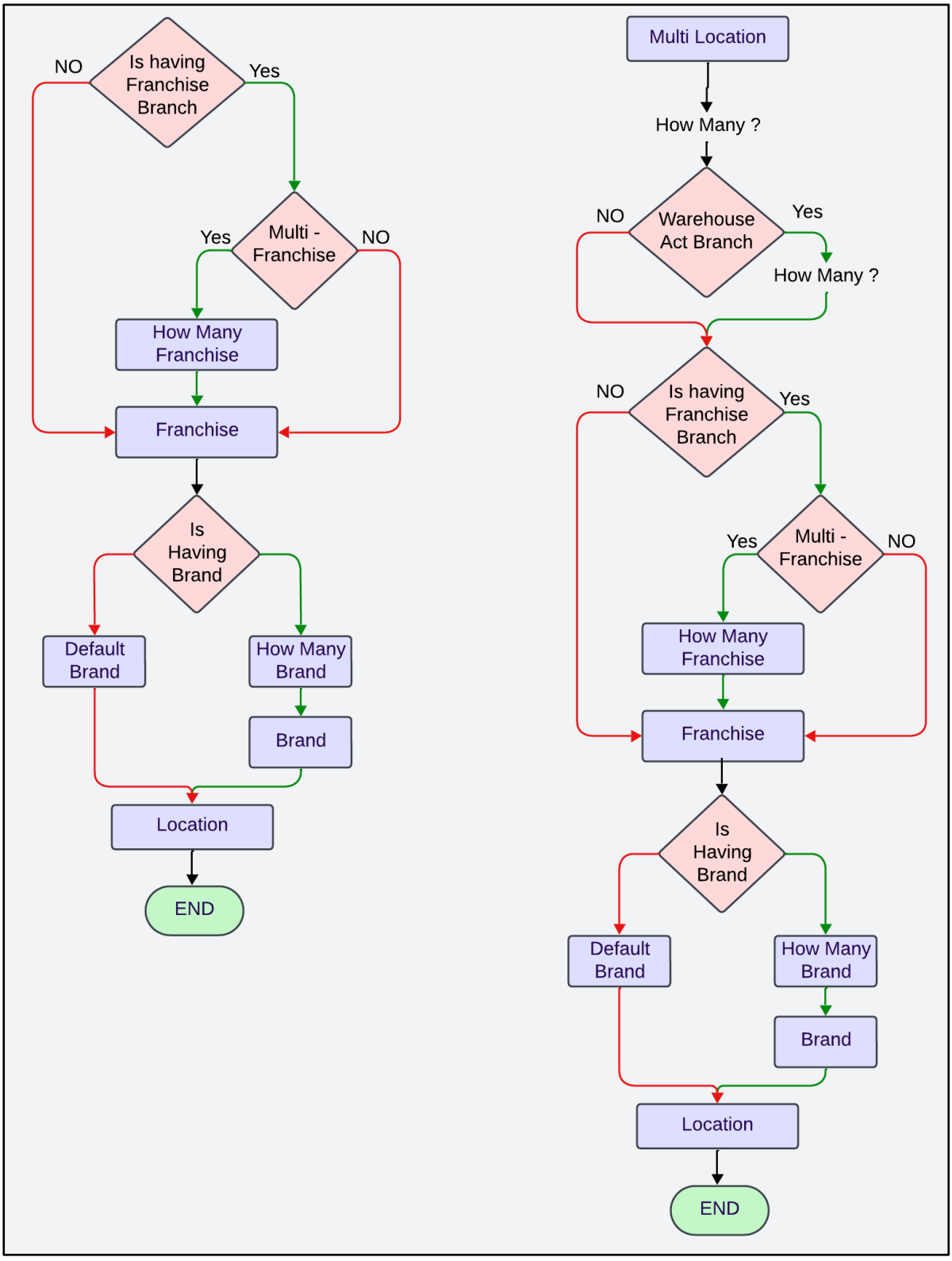

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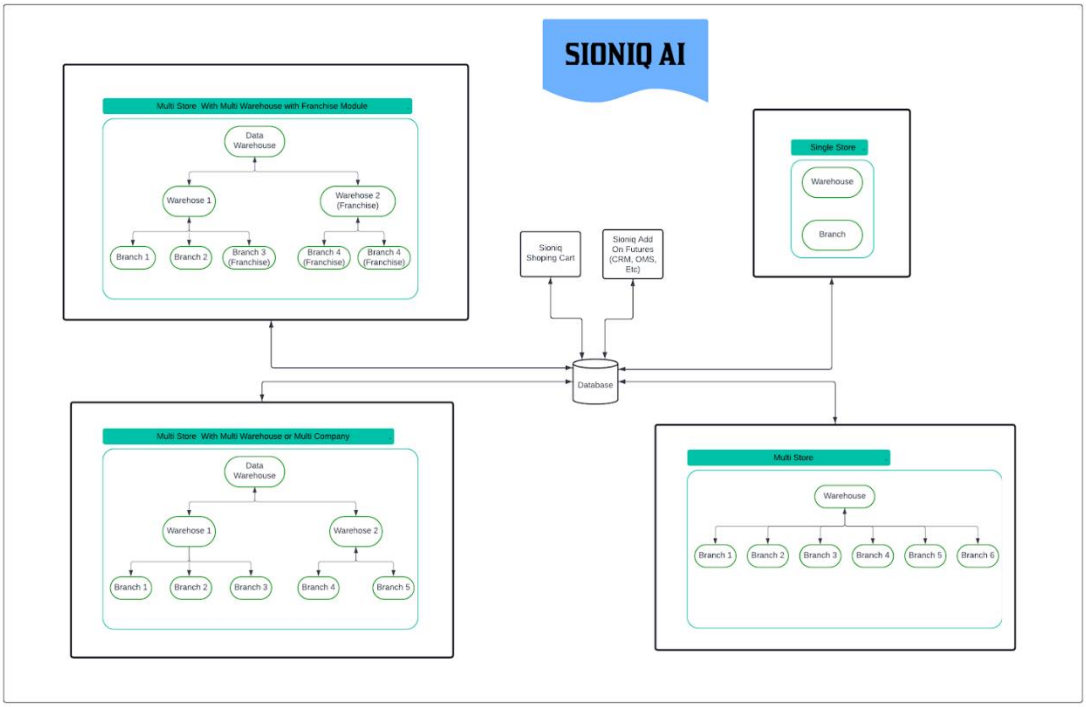
3. Sioniq.AI Total view



4. Deployment Architectures

Overview:

This document provides an overview of three primary deployment architectures: Centralized Architecture Cloud Model, Centralized Architecture On-Premise Model, and De-Centralized Architecture. Each of these architectures has distinct characteristics, advantages, and disadvantages, which are crucial to consider when designing and deploying IT systems.

4.1 Centralized Architecture Cloud Model

4.1.1 Overview:

The Centralized Architecture Cloud Model leverages cloud computing platforms to host and manage all system components in a single, centralized location. This architecture is widely adopted due to its scalability, flexibility, and reduced capital expenditure.

4.1.2 Key Characteristics:

a) Centralized Control: All data, applications, and services are hosted in a centralized cloud environment.

b) Scalability: Resources can be easily scaled up or down based on demand without the need for physical hardware changes.

c) Cost Efficiency: Reduced upfront costs as the need for physical infrastructure is minimized. Operational expenses are based on usage.

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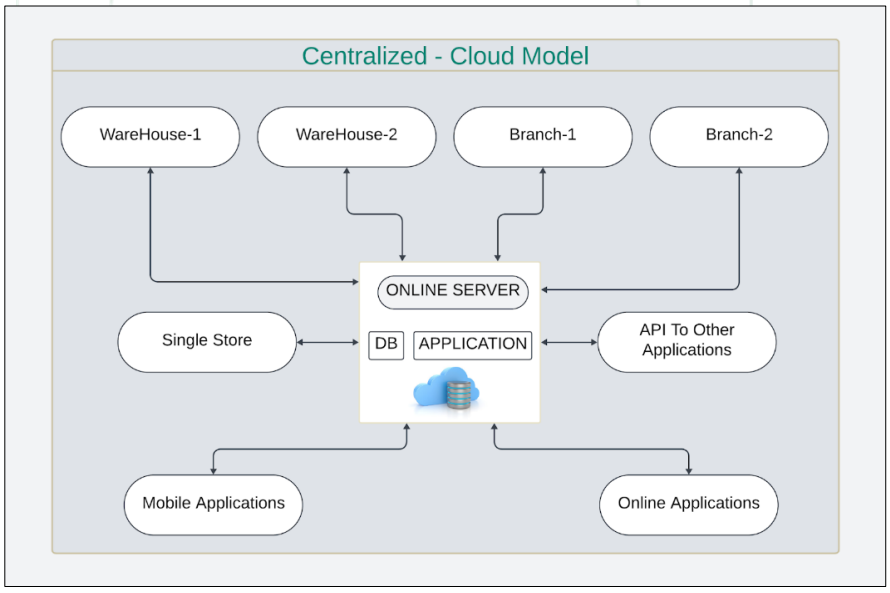
d) Accessibility: Users can access services from anywhere with an internet connection, facilitating remote work and global operations.
e) Security: Cloud providers offer robust security measures, but the centralization of data can pose a risk if security is breached.

4.1.3 Advantages:

a) Rapid Deployment: Services can be deployed quickly with minimal setup time.
b) High Availability: Cloud providers offer built-in redundancy and failover capabilities, ensuring high uptime.
c) Automatic Updates: Cloud platforms often provide automatic updates and patches, reducing the burden on IT teams.
d) Disaster Recovery: Integrated disaster recovery solutions are often available, ensuring data protection.

4.1.4 Disadvantages:

a) Dependency on Internet: The performance and availability of services are dependent on internet connectivity.
b) Data Privacy Concerns: Storing sensitive data in the cloud may raise privacy and compliance concerns, especially in regulated industries.
c) Potential Downtime: Although rare, outages from cloud providers can affect all centralized services.



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4.2 Centralized Architecture On-Premise Model

4.2.1 Overview:

In the Centralized Architecture On-Premise Model, all computing resources are hosted within an organization's physical premises. This model is traditionally favored by organizations that require complete control over their infrastructure and data.

4.2.2 Key Characteristics:

a) On-Premise-Hosting: All servers, storage, and networking equipment are located within the organization's physical site.
b) Control: The organization has full control over the hardware, software, and security policies.
c) Customization: Systems can be fully customized to meet specific business needs.
d) Compliance: Easier to meet stringent regulatory requirements by keeping data on-premise.

4.2.3 Advantages:

a) Data Sovereignty: Organizations maintain full ownership and control over their data.
b) Security: Greater control over security measures, with the ability to implement custom security protocols.
c) Performance: Potentially lower latency for internal users, as data does not need to traverse the internet.
d) Customization: The architecture can be tailored to meet unique organizational requirements.

4.2.4 Disadvantages:

a) High Initial Costs: Significant upfront investment in hardware, software, and physical space.
b) Scalability Challenges: Scaling requires the purchase and installation of additional hardware, which can be time-consuming and expensive.
c) Maintenance: Requires a dedicated IT team to manage and maintain the infrastructure, including handling updates and patches.
d) Disaster Recovery: On-premise solutions may require additional investment in off-site backups and disaster recovery systems.

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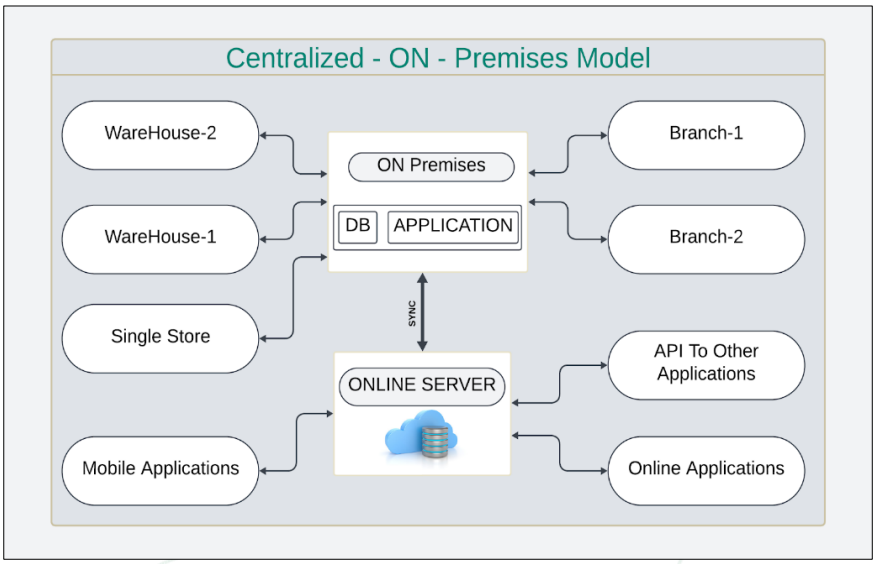

4.3 De-Centralized Architecture

i. **Overview:** De-Centralized Architecture distributes computing resources across multiple locations, rather than centralizing them in a single site. This model enhances redundancy, resilience, and autonomy but introduces complexity in management and synchronization.

ii. **Key Characteristics:**
   a) **Distributed Resources:** Computing power and data are spread across multiple locations, often spanning geographical boundaries.
   b) **Autonomy:** Different nodes or locations can operate independently, with local control over resources.
   c) **Redundancy:** Enhanced fault tolerance as the failure of one node does not necessarily impact the entire system.
   d) **Complexity:** Increased complexity in ensuring consistency, synchronization, and security across distributed nodes.

iii. **Advantages:**
   a) **Fault Tolerance:** Greater resilience against outages, as the failure of one node has limited impact on others.
   b) **Reduced Latency:** Data processing can occur closer to the source of data generation, reducing latency.
   c) **Scalability:** Easier to scale horizontally by adding more nodes or locations.
   d) **Autonomy:** Locations can operate independently, making it ideal for organizations with distributed teams or operations.

iv. **Disadvantages:**
   a) **Complex Management:** Managing and synchronizing resources across multiple locations can be challenging.
   b) **Security Risks:** Increased attack surface due to multiple points of entry and data transmission across networks.
   c) **Data Consistency:** Ensuring data consistency and synchronization across distributed nodes requires sophisticated solutions.

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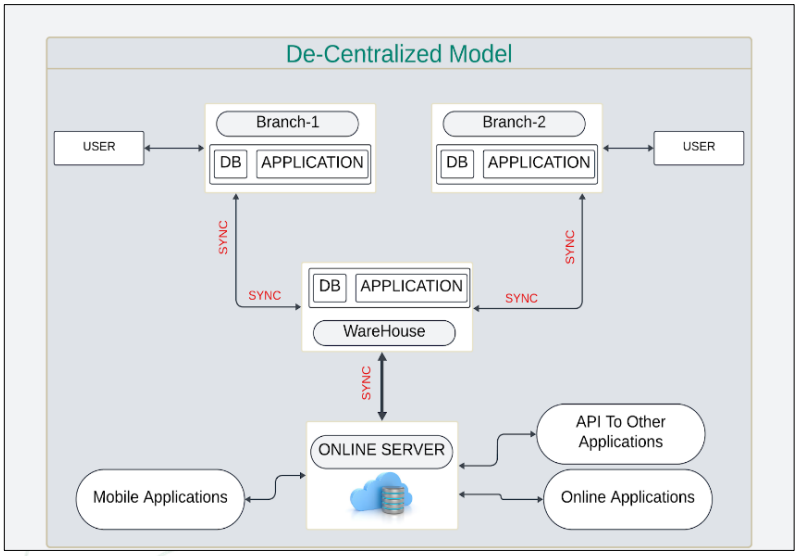
d) Higher Costs: Potentially higher costs due to the need for more extensive infrastructure and redundant systems.



4.4 SAAS- Model

SaaS applications and services typically use a multi-tenant approach, which means a single instance of the SaaS application will be running on the host servers, and that single instance will serve each subscribing customer or cloud tenant. The application will run on a single version and configuration across all customers, or tenants. Though different subscribing customers will run on the same cloud instance with a common infrastructure and platform, the data from different customers will still be segregated.

SaaS applications mean manage, maintenance, updates and bug fixes faster, easier and more efficiently. Rather than having to implement changes in multiple instances, engineers can make necessary changes for all customers by maintaining the one, shared instance.

i. Advantages

a) SaaS removes the need for organizations to install and run applications on their own computers or in their own data centers. This eliminates the expense of hardware acquisition, provisioning and maintenance.

b) Rather than purchasing software to install, or additional hardware to support it, customers subscribe to a SaaS offering. Transitioning costs to a recurring operating expense allows many businesses to exercise better and more predictable budgeting. Users can also terminate SaaS offerings at any time to stop those recurring costs.

c) Cloud services like SaaS offer high Vertical scalability, which gives customers the option to access more or fewer services or features on demand.

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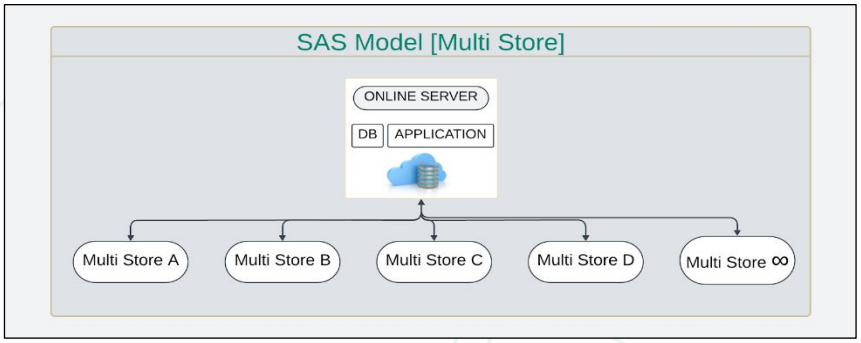
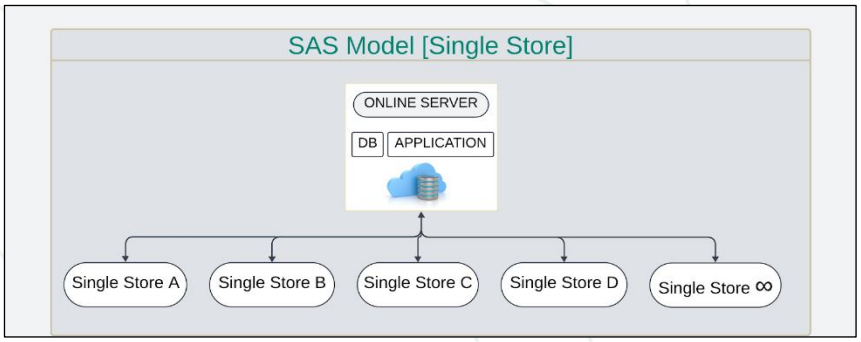
d) Automatically perform updates and patch management. This further reduces the burden on in-house IT staff.
e) Applications over the internet, users can access them from any internet-enabled device and location.

Software as a service (SaaS) is a software distribution model in which a cloud provider hosts applications and makes them available to end users over the internet. The application will be accessible to any device with a network connection. Also provide an application programming interface (API) which their customers can use to integrate the SaaS application with other SaaS or traditional software applications.

a. SAS Model [Multiple]



b. SAS Model [Single]



4.5 Deployment Structure

The Sioniq.AI application offers four types of deployment structures, designed as a series of "Yes" or "No" options to help clients determine the most suitable deployment model. The deployment process follows these steps:

4.5.1 Decentralized Model:

a. If "Yes" is selected, the system prompts whether to include the ERP with ADD-ONS module.
b. If "No" is chosen, the deployment is fixed as a Decentralized Model.
c. If "Yes" is chosen, the deployment is fixed as Decentralized with ADD-ONS.

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4.5.2 Centralized On-Premise Model:

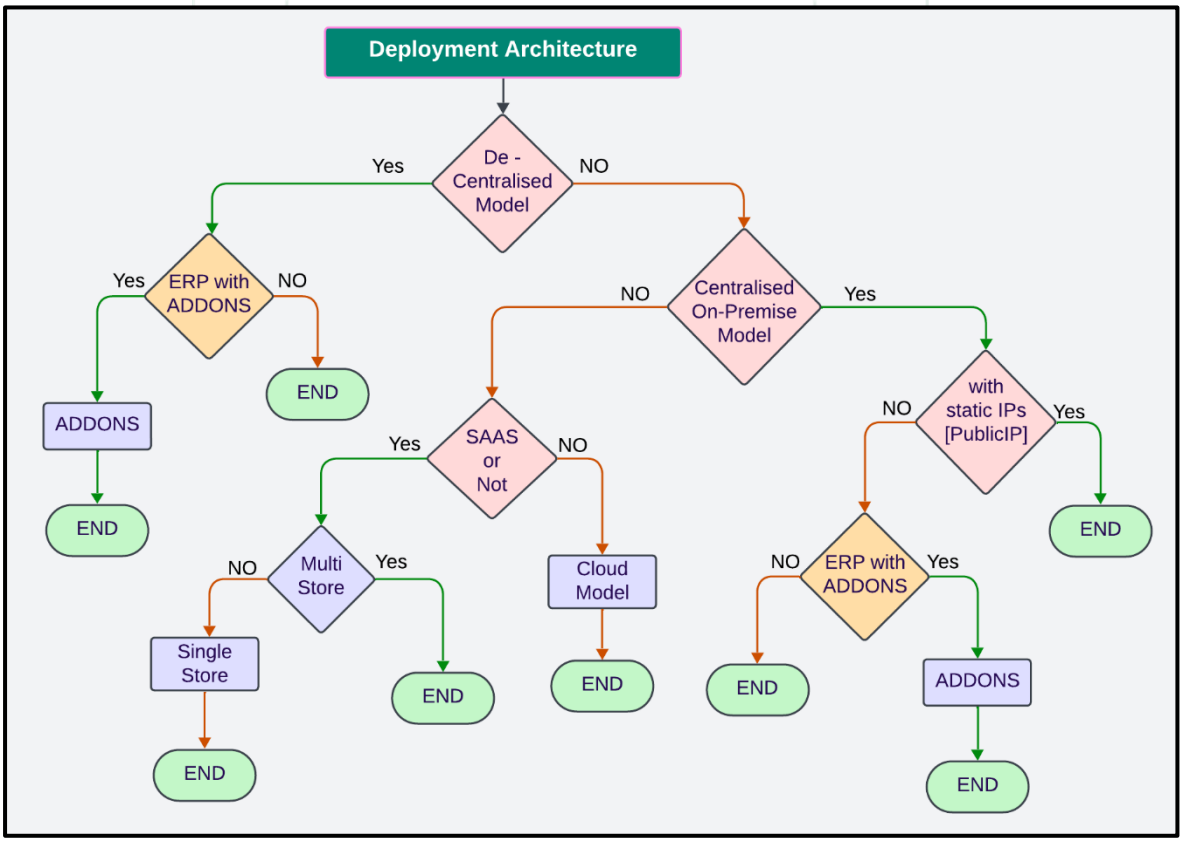
a. If "No" is selected for the Decentralized Model, the system proceeds to the Centralized On-Premise option.
b. If "Yes" is selected, the next step is to choose if the deployment will have Static IPs [Public IP].
   - If "Yes," the deployment is fixed as Centralized On-Premise with Static IPs.
   - If "No," the system asks if the deployment includes ERP ADD-ONS.
     - If "No," the deployment is fixed as Centralized On-Premise.
     - If "Yes," the deployment is fixed as Centralized On-Premise with ADD-ONS.

If "No" is selected for the Centralized On-Premise Model, the system proceeds to cloud-based options.

4.5.3 Cloud Model (SaaS):

The client is asked whether they prefer a SaaS (Software as a Service) model.

a. If "No," the deployment is fixed as Centralized On-Premise Cloud Model.
b. If "Yes," the system asks if the deployment is for Multiple Stores.
   - If "Yes," the deployment is fixed as SaaS with Multiple Stores.
   - If "No," the deployment is fixed as SaaS with a Single Store.



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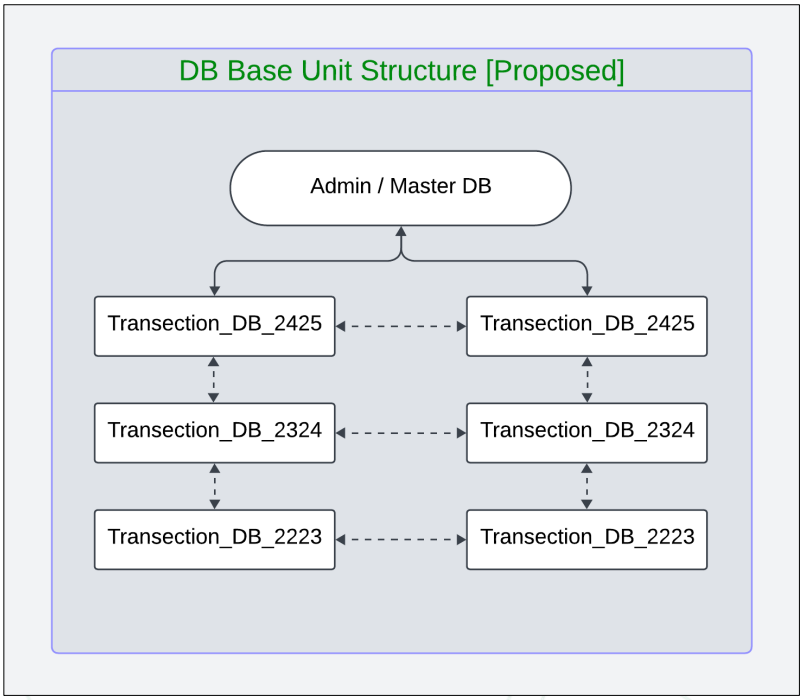
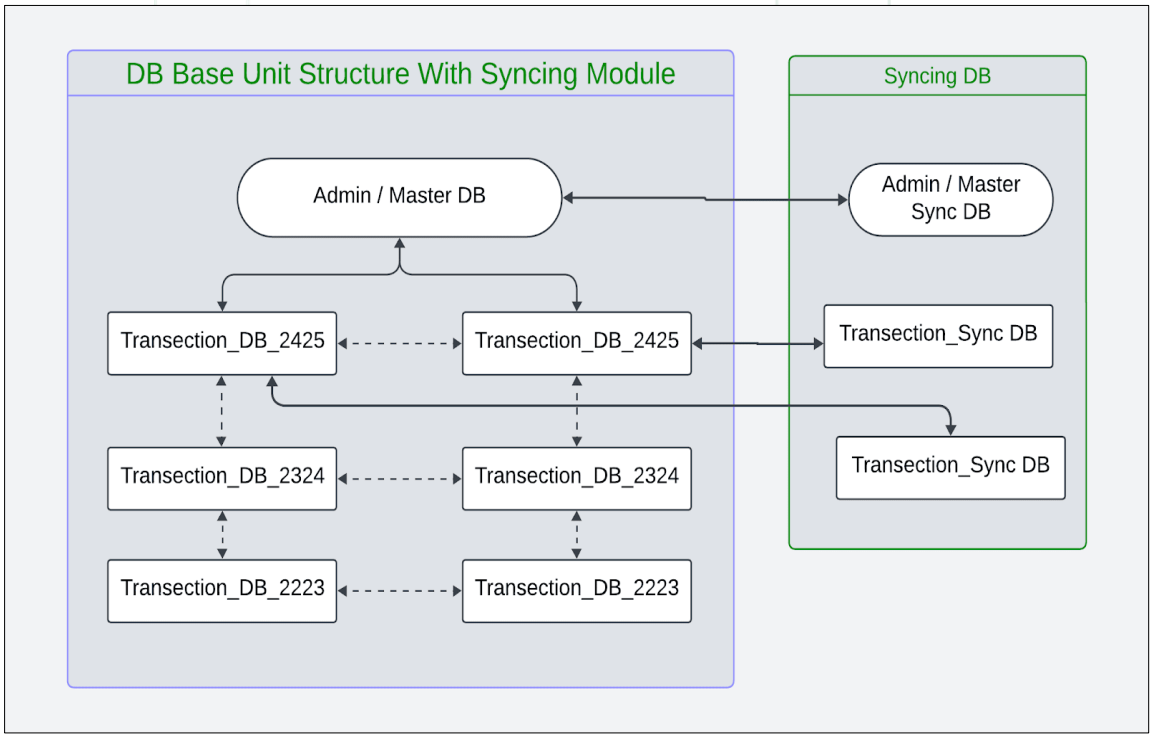
5. DB Architecture

5.1 Data Base Unit Structure



5.2 Data Base Unit Structure with Sync Module



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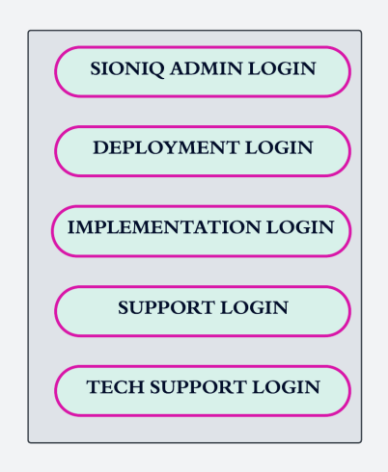
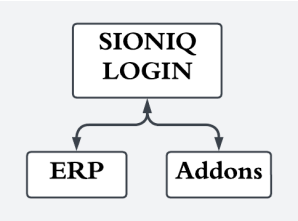
6. Stake Holders of SIONIQ.AI

This application offering a comprehensive suite of features tailored to various stakeholders. The application requires users to log in to access its functionalities, which are categorized based on the user's role. Below is a description of the login use for different categories of users:

6.1 SioniQ Logins



These all logins are related to "Provider" and applicable to all the part of SIONIQ.AI.



6.1.1 Sioniq Admin: Sioniq admin can do all the works related to "Deployment Login", "Implementation Login", "Support Login" and "Tech Support Login. Sioniq Admin Have full access to the "SIONIQ.AI" application.

6.1.2 Deployment Login:

I. Pre-deployment: Through separate Interface

II. Post Deployment: After deployment if they want to do any other settings, they need to complete.

6.1.3 Implementation Login: To Complete the Client Onboarding Process

6.1.4 Support Login: Support Team Can view all the normal assigned to that Client. Settings Screens that allowed to support Employ.

6.1.5 Tech Support Login: Access to specific setting & menus and modules allocated to that client.

Note: Sioniq admin credence's can be reset from the CRM

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6.2 Jewellers Logins

6.2.1 **Admin:** The software will provide access to settings, menus, and all modules through this login. The admin login will have full access to the entire application.

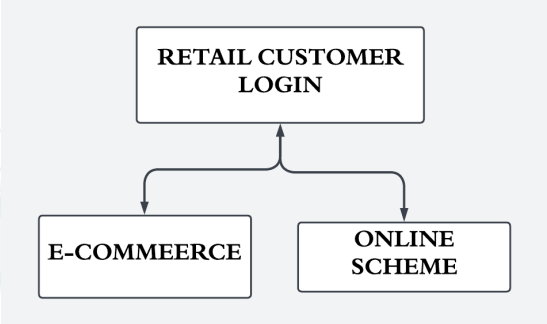
Note: This admin can access entire application and Addon's of the Sioniq.AI.

6.2.2 **Employee:** The application will provide employees access to the ERP system based on their roles.

6.3 Retail Customers:

They can access the E-Commerce Application to purchase products and use the Online Scheme Applications to join schemes, make repayments, check the ledger, track orders, and view the digital catalog. Access is provided based on the customer's category.

Note: Order tracking and a digital catalog are available to those who purchase the OMS module.



6.4 Wholesale Customers:

The client will provide application login credentials to different retail stores for the OMS based on their requirements, specifically for those not using the Sioniq.AI application. For example, Vinati Jewels, a wholesale client using Sioniq.AI, can provide login credentials to JC Jewellers, who do not use Sioniq.AI. This allows JC Jewellers to log into Vinati Jewels' OMS application, access design numbers and catalogs, place custom orders, and track those orders.

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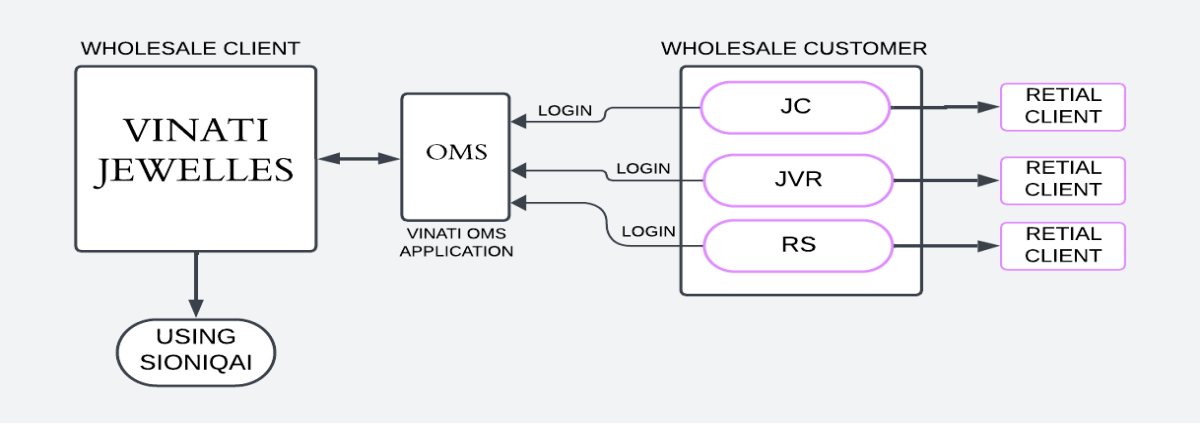
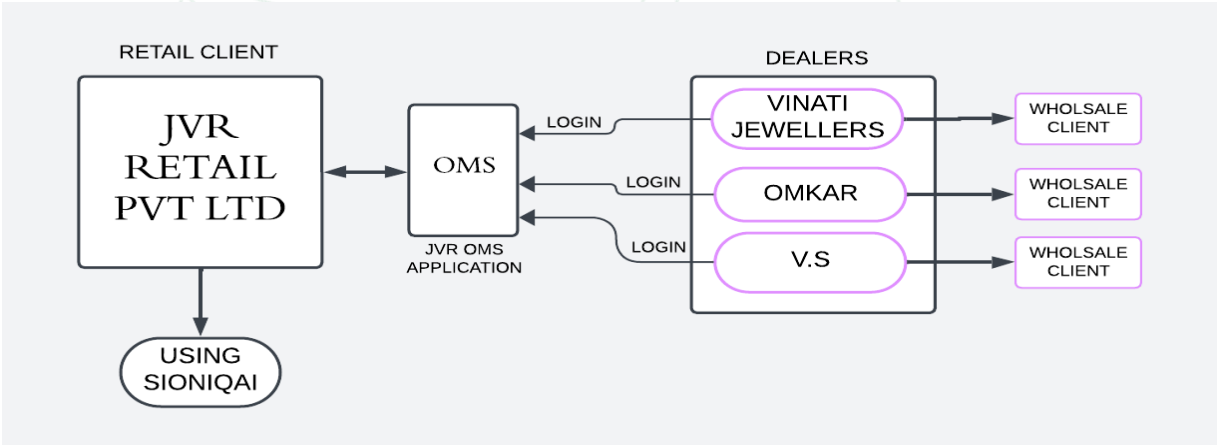


6.5 **Jewellery Dealer:** The client will provide application login credentials to different dealers for the OMS (Order Management System) based on their requirements, even if they are not using the Sioniq.AI application. For example, JC Jewellers, a retail client using Sioniq.AI, has a wholesaler, Vinati Jewellers, that does not use Sioniq.AI. In this case, JC Jewellers will provide login credentials to Vinati Jewellers, allowing them to access the OMS application, manage customer orders, and update the order stages accordingly.



6.6 **Guest:** Guest login permissions are provided for a limited time and with restricted access. This feature allows users to search for product inquiries on the e-commerce application within a specified timeframe and based on selected categories. If guests wish to make a purchase, they must register. Similarly, guest login access to the online scheme application is available to view the details of ongoing plans within a restricted timeline. If guests are satisfied with any plan, they can register and join.

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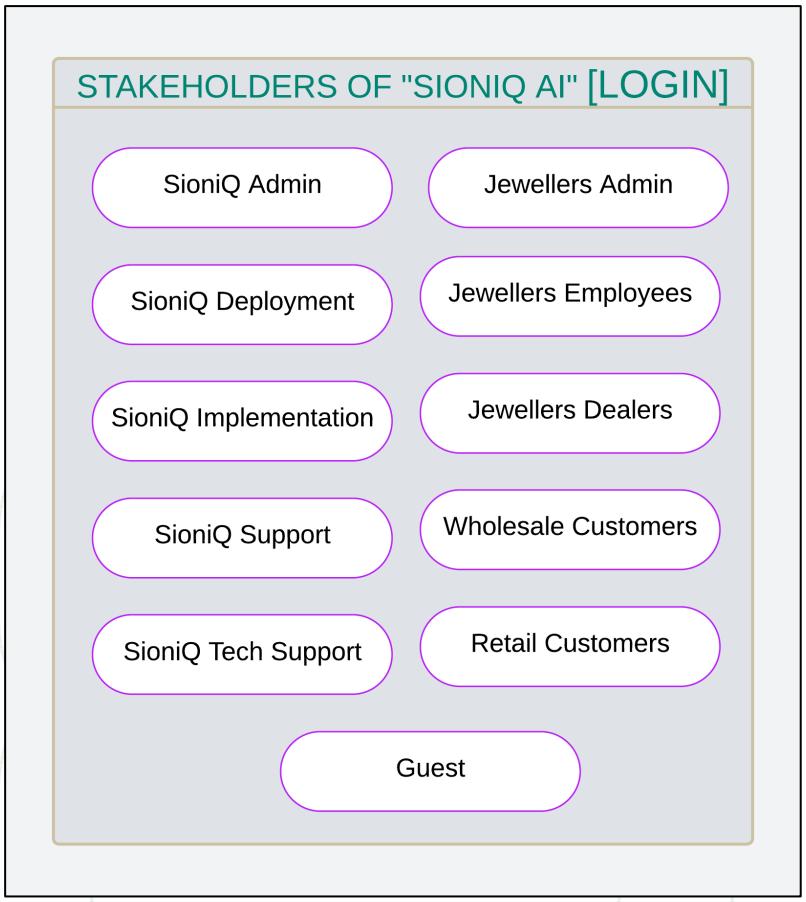
Note: Guest login access will be restricted for security reasons, including on cash transactions to ensure the protection of sensitive information and financial integrity.



7. Modules

7.1 Basic Modules

7.1.1 Admin:
Central control panel for managing the software. User management, role assignment, system settings, and access controls.

7.1.2 Master:
The master module is the foundational part that manages and stores the core data used across the system. This data is critical to the functioning of all other business processes, ensuring consistent, accurate, and standardized information throughout the application.

7.2 Core Modules

7.2.1 Procurement:
Procurement involves sourcing and acquiring raw materials, such as gold and gemstones, ensuring supplier reliability, cost efficiency, and compliance with ethical standards. Managing purchase orders and tracking delivery timelines are essential to maintain smooth production.

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7.2.2 **Inventory:** Inventory management focuses on real-time tracking of stock levels, batch management for quality control, and ensuring timely order fulfillment. Regular audits help maintain accuracy and prevent shortages or overstocking.

7.2.3 **POS:** Handles retail transactions, including sales, returns, and possibly integrates with payment systems and receipt printing.

7.2.4 **Order:** Manages customer orders from placement to fulfillment. Order entry, tracking, processing, and status updates.

7.2.5 **Repair:** Handles repair and maintenance of jewellery items. Repair tracking, job orders, cost management, and status updates.

7.2.6 **B2B Transection:** Manages wholesale operations, including bulk orders, special pricing, and business customer accounts.

7.2.7 **Manufacturing:** Handles the production process of jewelry items, including materials management, work orders, and production tracking.

7.2.8 **Bullion Merchant:** Gold bullion dealers acquire bullion from trusted suppliers such as refineries or mints, adhering to strict purity regulations. Effective inventory management is crucial, requiring real-time tracking of stock and pricing. Dealers monitor global gold prices and may lock in rates for transactions, which can be either purchases or reservations. Logistics include secure delivery or vault storage, with tracking of shipping and insurance. Compliance with regulations like KYC and anti-money laundering laws is mandatory. Dealers also offer buyback services, and CRM tools are essential for managing client accounts and special pricing for bulk buyers.

7.3 Advance Modules

7.3.1 **Scheme:** schemes are financial or investment plans that allow customers to make regular payments towards purchasing jewellery. These schemes are typically offered by jewellery stores and are designed to help customers save for future purchases, often with added incentives like discounts or bonus amounts.

7.3.2 **HRMS:** Manages employee-related functions. Payroll, attendance, recruitment, performance management, and employee records.

7.3.3 **Accounts:** Manages financial transactions and accounting. Ledger management, invoicing, expense tracking, and financial reporting.

7.3.4 **Asset Management:** Manages and tracks company assets. Asset acquisition, tracking, maintenance, and depreciation management.

7.4 Add-Ons

7.4.1 **E-Commerce:** E-commerce for jewellers involves selling jewellery online through websites, social media platforms. It allows jewellers to reach a broader audience, offer detailed product descriptions, high-quality images, and secure payment options. E-commerce helps build brand visibility, track customer preferences, and manage inventory efficiently. Key aspects include showcasing unique designs, providing customization options, and ensuring trust with certifications, secure transactions, and return policies.

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7.4.2 CRM: Customer Relationship Management is a specialized system designed to help jewellery businesses manage customer interactions, sales, and relationships.

Like:

I. Customer Data Management: Stores detailed customer profiles, including purchase history, preferences, and important dates (like anniversaries).
II. Sales and Marketing: Tracks leads, helps manage sales pipelines, and facilitates targeted marketing campaigns (e.g., special offers for repeat customers or seasonal promotions).
III. Personalized Customer Service: Provides insights into customer preferences, enabling jewellers to offer personalized recommendations and services.
IV. Inventory Management Integration: Ensures that customer inquiries and sales align with available stock, simplifying order fulfillment.
V. After-Sales Services: Manages repair requests, warranties, and follow-ups, enhancing customer satisfaction.

CRM systems for jewellers help build stronger customer relationships, increase retention, and improve sales by offering tailored experiences.

7.4.3 Marketing: Marketing involves promoting jewelry products to attract customers, build brand awareness, and drive sales.

Like:

I. Target Audience: Identify your ideal customers (e.g., luxury buyers, couples, fashion enthusiasts) to tailor your messaging.
II. Branding: Create a strong, unique brand that reflects the quality and style of your jewelry, including logo, packaging, and store design.
III. Digital Marketing: Use social media platforms (Instagram, Facebook, Pinterest) to showcase your designs, engage with followers, and run targeted ads.
IV. SEO & Website: Optimize your website for search engines and provide a seamless shopping experience, including high-quality images, detailed descriptions, and a simple checkout process.
V. Influencer Partnerships: Collaborate with influencers or fashion bloggers to showcase your jewelry to a broader audience.
VI. Content Marketing: Create blogs, videos, and tutorials about trends, care tips, or the craftsmanship behind your pieces to engage and educate potential buyers.
VII. Email Marketing: Build a mailing list to send promotions, new arrivals, and personalized recommendations.
VIII. Offline Marketing: Participate in events, exhibitions, and pop-up shops to engage directly with customers and showcase your products in person.

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7.4.4 **Online Schemes:** Customers can manage their saving accounts, track payments, and redeem their savings for jewellery purchases online through websites or apps.

7.4.5 **Scheme website:** Our Scheme Website is designed for customers interested in participating in online jewellery schemes, allowing them to explore various options with detailed information on terms, policies, and benefits. Existing customers can directly log in, while new users have the option to sign up. If the client enables guest login, customers can browse the available schemes without registration, and when they're ready to join, they can complete the required details and join the scheme.

7.4.6 **Digital Catalog:** A digital catalog is an online or electronic presentation of a jeweler's products, typically showcasing various types of jewelry like rings, necklaces, bracelets, and earrings. It allows customers to browse through the collection digitally, often featuring high-quality images, detailed product descriptions, prices, and specifications such as materials, stones, and weight. it is a modern tool for jewelers to engage customers, boost sales, and efficiently manage their inventory online.

7.4.7 **MIS Report:** An MIS (Management Information System) report is provides detailed insights into the business operations of a store. It helps the management track and analyze various aspects like sales, inventory, customer data, and financial performance. Key components of an MIS report typically include:

I. **Sales Reports:** Information on daily, weekly, quarterly, or monthly sales, including top-selling items and revenue trends.
II. **Inventory Reports:** Stock levels of different items, alerting when certain products need to be reordered.
III. **Customer Data:** Details on customer purchases, preferences, and buying behavior.
IV. **Financial Reports:** Overview of income, expenses, profits, and losses.

The MIS report helps to make data-driven decisions to improve sales, manage inventory, and optimize business operations.

7.4.8 **Gold Loans:** A gold loan is a secured loan where borrowers pledge their gold jewelry or ornaments as collateral to obtain funds. The loan amount is determined based on the current market value of the pledged gold, typically up to a certain percentage, referred to as the Loan-to-Value (LTV) ratio.

- The Sioniq.AI application facilitates the gold loan process by implementing functionalities to track applications, approvals, disbursements, repayments, and outstanding balances. It calculates loan amounts based on real-time gold prices and purity levels, with the lender assessing the purity and weight of the gold. The LTV ratio, often capped at 75% by regulatory authorities, is used to determine the maximum loan amount.
- Once the appraisal is complete and documents are verified, the loan is approved, and the borrower is informed of the loan amount, interest rate, and repayment terms. The application provides a secure system for digitally storing user documents while ensuring compliance with data protection regulations. After the borrower accepts the terms, funds are disbursed quickly, either via bank transfer or in cash.

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- Borrowers can repay the loan through EMIs or as a lump sum at maturity. The system includes features for customer support, notifications on loan status updates, and reminders for repayments. The application also offers analytics tools for lenders to monitor key loan performance metrics such as approval rates, average loan amounts, and repayment behaviors. Once the loan is fully repaid, the pledged gold is returned to the borrower.

This structure outlines the workflow and key functionalities for the gold loan process in the Sioniq.AI application.

7.4.9 **Sioniq Shaping Cart:** Sioniq.AI features the Sioniq Shaping Cart module, which provides a virtual shopping cart experience similar to a physical shopping trolley in a store. It allows customers to add products, review and adjust their selections, and proceed to checkout. The module efficiently manages item selection, calculates totals, and handles payment processing, making it an essential component for any e-commerce platform. Key functionalities include adding products to the cart, managing the cart, processing checkout and payments, confirming orders, and collecting relevant customer data.

7.4.10 **OMS:** An Order Management System help manage and streamline the entire process of handling customer orders. This system automates tasks related to order tracking providing jewelers with a centralized platform to track their products and transactions. Manages customer orders from placement to fulfillment, ensuring accuracy and efficiency & tracking design specifications and production timelines. Allows synchronization with online platforms, physical stores, and marketplaces.

I. **Retail:** Retailers can provide OMS login credentials to wholesalers for better order tracking. This allows wholesalers to manage customer orders, stock orders, and custom orders, while retailers can monitor order status. It's especially useful for tracking pending orders, identifying which dealer has the most pending orders, who fulfills orders the fastest, and how much inventory is maintained for each order. Additionally, customers with access to the online scheme application can check their order status and delivery time. Certain customer categories can also access the digital catalog, where they can view, reserve, or order items based on their access level.

II. **Wholesale:** Wholesalers can provide OMS login credentials to different retail jewelry stores for improved order tracking, purchasing, payments, and ledger cross-verification. Retailers can place orders directly through the OMS portal, and wholesalers can update new designs, enabling retailers to order directly, which helps increase sales. Wholesalers can also track customer orders and stock orders with priority levels, easily monitoring pending orders, the amount of metal maintained for each order, and the required stones and weights.

Note: Retailers can access the digital catalog based on permissions granted by the wholesaler.

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7.4.11 Sioniq OMS: The SioniQ OMS model is a powerful solution designed to enhance communication between retail and wholesale operations using the Sioniq.AI application. It offers features like direct order posting, real-time tag importing, and comprehensive reporting, enabling jewellery businesses to streamline their processes. When the OMS module is purchased, an OMS_ID is generated for each party, which both clients need to map to enable seamless communication. For example, Vinati, a wholesaler, has OMS_ID "S!Q00001," and JVR, a retailer, has OMS_ID "S!Q00008." Vinati maps JVR's OMS_ID "S!Q00008" in their OMS_ID mapping form, and JVR maps Vinati's OMS_ID "S!Q00001" in their mapping form, ensuring efficient order management between both businesses.

7.5 SIONIQ CRM

The Sioniq CRM Application is designed to streamline internal operations by providing a comprehensive end-to-end customer management system. It tracks the entire customer journey, starting from the Prospect Stage through various stages such as Prospect Allocation, Prospect Activity, Lead Stage, Opportunity Stage, Customer, Client, and finally, the Advocate Stage.

- A "Customer" refers to those who have purchased the Sioniq application.
- A "Client" is a repeat customer who provides ongoing business.
- An "Advocate" is someone who actively promotes Sioniq and generates new leads.

Once a customer purchases the Sioniq application, the entire implementation process is monitored within the CRM. The system simplifies deployment by capturing critical information about the client's business model, their deployment needs, the specific modules they have purchased, and any add-on modules. This ensures a seamless experience for the installation, implementation, and training teams, as well as ongoing support staff. All stakeholders, from implementation to support, have access to real-time data about the customer's current stage, the modules they have, and the level of service they require.

The Sioniq CRM also encompasses the entire marketing process, including campaign creation, data import, online marketing, and exhibitions, among others. It includes a ticketing system that helps track customer issues, requirements, clarifications, and training requests, enabling effective management of customer interactions and ensuring the resolution of issues.

Additionally, the CRM facilitates a smooth implementation tracking process, providing visibility into the training clients need, the modules they have purchased, and the type of deployment required. It also tracks employee performance, from BDEs and BDMs (monitoring activities like demos and sales plans) to implementation personnel, ensuring timely and satisfactory client onboarding. Client satisfaction is continually monitored, with feedback on both the application and support engineers collected through ratings, which clients can update as needed.

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Daily, weekly, and monthly reports can be generated with custom date ranges, giving department heads, managers, and team leads insight into employee performance and overall business growth. The Sioniq CRM enhances operational efficiency and transparency, making it a vital tool for tracking internal activities and improving business outcomes.

7.6 Addon Services

7.6.1 Cloud backup:

The Cloud Backup Services in the architecture are designed to ensure reliable, secure, and scalable storage and retrieval of critical data. These services allow for seamless data protection, disaster recovery, and compliance with data retention policies.

Key Components:

I. Data Storage Layer: A distributed, cloud-based storage infrastructure designed for high availability and redundancy. Geographically dispersed data centers are used to ensure data replication and failover capabilities.

II. Backup Scheduler: Automates backup processes, allowing users to define backup frequencies (daily, weekly, on-demand). Customizable schedules enable flexibility for different business requirements.

III. Encryption Layer: Data is encrypted both in transit (using TLS) and at rest (using AES-256). Secure key management ensures that only authorized users can access the data.

IV. Versioning & Retention Policies: Supports version control to allow rollback to previous data states. Retention policies are configured based on client needs or compliance requirements (e.g., GDPR, HIPAA).

V. Disaster Recovery & Restore Mechanism: Ensures a fail-safe restoration process with minimal downtime. Redundant backup copies are available across regions for instant access in case of a disaster.

VI. Monitoring and Alerts: Continuous monitoring of backup operations ensures successful backups. Alerts and notifications are triggered in case of any failures or integrity issues.

7.6.2 WhatsApp:

Allowing seamless interaction with customers through WhatsApp for notifications, support, and marketing.

Key Components:

I. WhatsApp API Gateway: The core component that interacts with WhatsApp's official Business API, handling message delivery, status checks, and receiving incoming messages. It ensures secure, real-time communication.

II. Message Queue System: Manages the queueing of messages to ensure orderly delivery and retries in case of failures. It also handles bulk messaging scenarios, such as promotional campaigns.

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III. Template Manager: Stores and manages predefined message templates for notifications, alerts, and customer interactions. Templates can be used for personalized messaging (e.g., order confirmation, delivery updates).
IV. Two-Way Messaging System: Enables interactive communication, allowing users to send responses and queries. The system can be extended to support customer service or sales processes using chatbot automation.
V. Compliance and Security Layer: Ensures compliance with WhatsApp's Business policies, including opt-in mechanisms and message limitations. End-to-end encryption guarantees data privacy.

7.6.3 API Integration: The API Integration Services component provides a robust and scalable framework for integrating with third-party systems, enabling data exchange and service orchestration between various platforms.

Key Components:

I. API Gateway: Serves as the central hub for managing all API requests, handling authentication, rate-limiting, and routing to the appropriate microservices. The API gateway also provides security features like SSL termination and OAuth2 for authentication.
II. Service Layer: Consists of microservices that interact with third-party APIs to execute operations such as fetching data, updating records, or triggering actions in external systems (e.g., ERP, CRM, or payment gateways).
III. Data Transformation & Mapping Engine: Handles data transformation between different formats (e.g., JSON to XML) and ensures smooth data flow between incompatible systems. Mapping rules define how data fields are translated from one system to another.
IV. Error Handling and Retry Mechanism: In the event of failed API calls, the system includes automatic retry mechanisms with exponential backoff and logging for error tracking. Failed requests are logged for future analysis.
V. Monitoring & Analytics: Monitors API performance, usage statistics, and error rates. API requests are tracked for auditing purposes, and analytics dashboards offer insight into API performance and traffic.

7.6.4 Scheme Website: The Scheme Website Services architecture supports web-based applications for promoting and managing client schemes, offers, and campaigns. These services are optimized for a high-traffic environment and provide a flexible platform for businesses to publish, manage, and analyze schemes.

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Key Components:

I. Frontend Web Interface: A responsive, user-friendly interface built using modern web technologies (e.g., React, Angular, or Vue.js) for displaying schemes and promotional offers. The design is optimized for both desktop and mobile devices, ensuring accessibility.
II. Content Management System (CMS): Allows business administrators to create, edit, and manage schemes or promotional offers. The CMS provides an intuitive interface for defining scheme parameters such as eligibility, discounts, time frames, and terms.
III. Database Layer: Stores information about the schemes, user interactions, and customer data in a highly optimized relational database (e.g., MySQL, PostgreSQL). This layer also maintains audit logs and tracks the history of changes made to schemes.
IV. Campaign Analytics Engine: Provides real-time tracking of how well the schemes are performing. Data such as user engagement, conversion rates, and sales driven by specific campaigns are gathered and displayed through interactive dashboards.
V. Payment and Transaction System: If schemes involve purchases or financial transactions, an integrated payment gateway processes these in a secure and compliant manner. The system supports multiple payment methods and ensures a seamless user experience.
VI. Security Layer: Implements strong authentication (e.g., OAuth2) and access control mechanisms to protect sensitive customer and scheme data. All transactions and data exchanges are secured using HTTPS and encryption.

7.6.5 ERP Health checkup package: The ERP Health Checkup Package is designed to provide a comprehensive analysis of the performance, security, and operational efficiency of the ERP system. This package helps identify potential issues, optimize system performance, and ensure that the ERP system is running smoothly and securely to support business processes.

Key Components:

I. System Performance Assessment:
- CPU and Memory Utilization: Monitors the ERP system's CPU, memory usage, and overall system load to ensure optimal performance. It helps identify bottlenecks, potential overloads, and areas for hardware or resource upgrades.
- Database Performance: Evaluates the health of the ERP database, including query response times, indexing, and data integrity. Optimization recommendations are

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provided for faster data retrieval and transaction processing.
- Transaction Load Analysis: Monitors transaction volumes and processing times to ensure that the system handles the business workload efficiently. Any latency or delayed processing is flagged for resolution.

II. Security Audit:
- User Access and Role Management: Reviews user roles and access control policies to ensure that permissions are assigned based on least privilege principles. Identifies unauthorized access attempts and misconfigurations in security roles.
- Data Encryption and Protection: Assesses the encryption policies in place to secure sensitive data both in transit and at rest. Ensures that sensitive business and customer information is adequately protected from unauthorized access.
- Vulnerability Scan: Conducts an in-depth vulnerability assessment of the ERP system, scanning for potential security loopholes, outdated software, and weak configurations that could expose the system to external threats.

III. Data Integrity Check:
- Data Accuracy and Consistency: Verifies the integrity of data stored in the ERP system to ensure that all records are accurate and up to date. Data discrepancies are flagged, and recommendations are made for correcting any inconsistencies.
- Audit Trail Verification: Checks the audit trails within the ERP system to ensure that all transactions, changes, and user activities are properly logged and can be traced for compliance purposes.

IV. Module-Specific Health Check:
- Finance Module: Examines financial transactions, reports, and processes to ensure that they are functioning as expected and aligned with accounting standards.
- Inventory Module: Monitors stock levels, movements, and inventory accuracy. Identifies discrepancies in stock data and evaluates inventory turnover rates to suggest improvements.
- Sales and CRM Modules: Evaluates the performance and accuracy of sales processes, from lead generation to order fulfillment. Ensures customer data and interactions are being properly tracked and managed.

V. Backup and Disaster Recovery Review:
- Backup Integrity: Verifies that regular backups are being performed successfully and that backup files are intact

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and accessible. Ensures that backup schedules are aligned with business continuity requirements.

- Disaster Recovery Plan: Reviews the existing disaster recovery protocols to ensure that the ERP system can be restored in case of a failure. Tests the recovery process to validate its effectiveness and identify any potential gaps.

VI. System Updates and Patching:

- Patch Management: Ensures that the ERP system is up to date with the latest security patches and software updates. Outdated versions and unsupported components are flagged for immediate attention.
- Customization and Integration Review: Assesses the stability and compatibility of customizations and third-party integrations, ensuring they do not negatively impact system performance or security.

VII. User Experience Evaluation:

- Interface Usability: Reviews the usability of the ERP system's interface, identifying areas where navigation, responsiveness, or design could be improved for a better user experience.
- Performance Feedback: Gathers feedback from end-users regarding system speed, ease of use, and overall satisfaction. Any usability or performance concerns are logged and addressed.

VIII. Reporting and Recommendations:

- Comprehensive Report: Generates a detailed report outlining the findings of the health check, including system performance, security vulnerabilities, data integrity, and module-specific issues.
- Actionable Recommendations: Provides actionable recommendations for improving the ERP system's performance, security, and efficiency. This includes suggestions for hardware upgrades, software optimizations, patch installations, and workflow improvements.

The ERP Health Checkup Package ensures that the ERP system is fully optimized, secure, and capable of supporting business operations efficiently. Regular health checks help prevent downtime, enhance performance, and protect against security threats, ensuring the long-term stability and scalability of the ERP solution.

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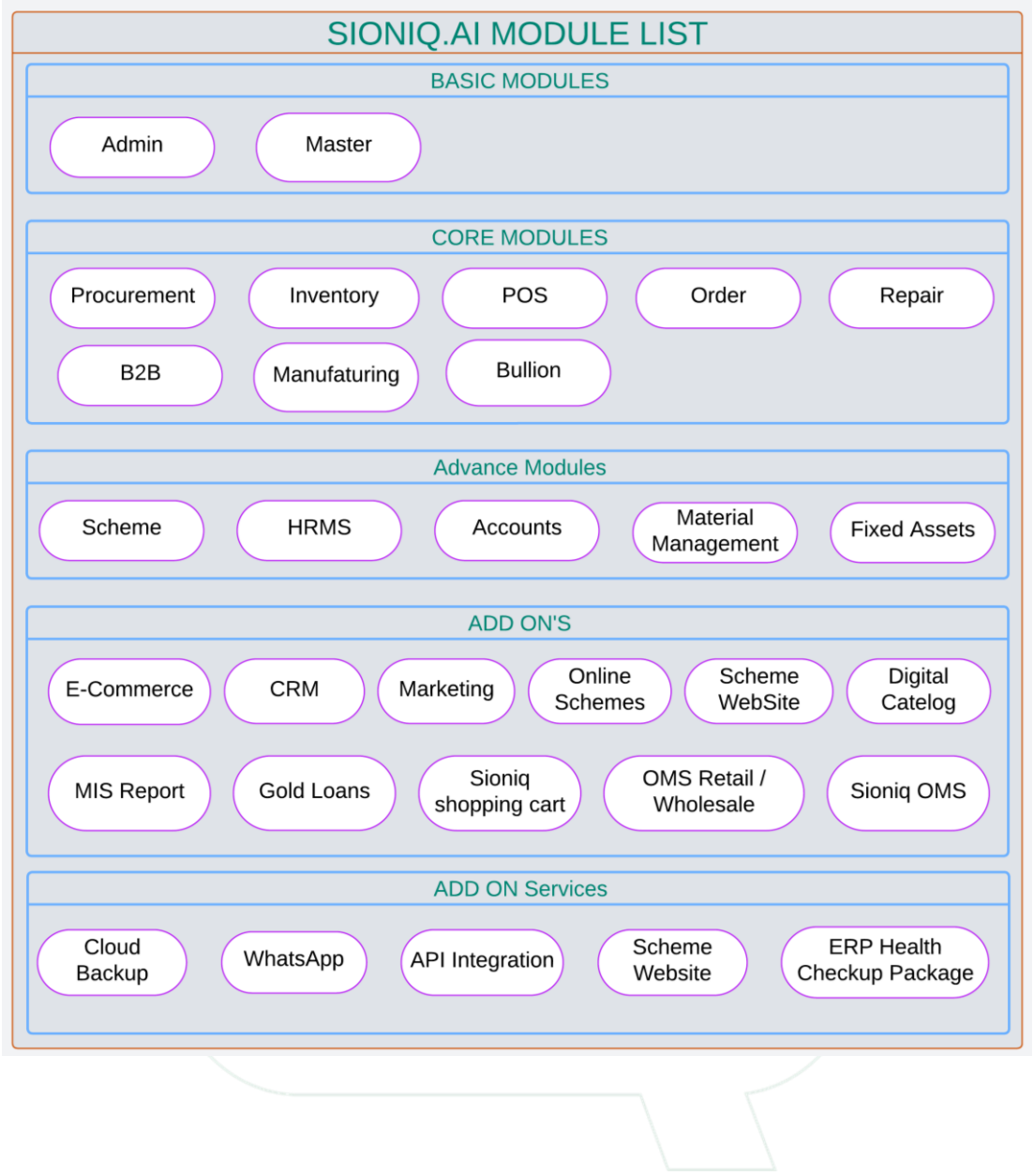

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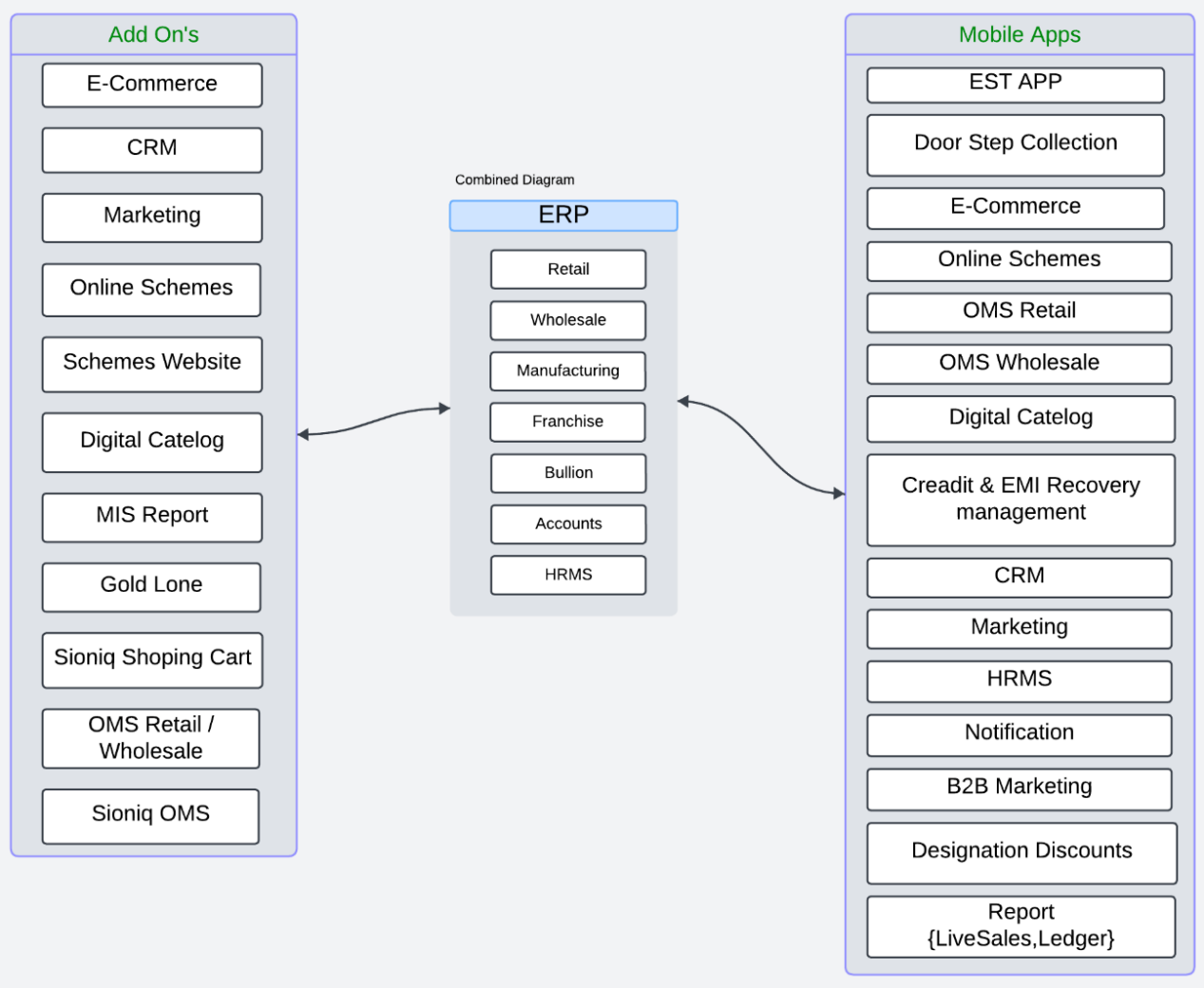
8. Combined Diagram of "Modules" and "Add-Ons"



9. Menu Structure

In the Sioniq.AI application, the menu is structured into a three-level hierarchy for better organization and ease of navigation:

9.1 Module (1st Level): This is the top-level category, representing the core areas of the business (e.g., Sales, Inventory, Finance, HR, etc.). Each module corresponds to a major functional area of the software.

9.2 Menu (2nd Level): Within each module, there are various menus that represent specific functions or features. For example, in the “Inventory” module, menus might include Setup, Master, Transection and Reports.

9.3 Sub Menu (3rd Level): Each menu can have multiple submenus that dive deeper into specific actions or processes. For example, under the " Transection " menu, the submenus might be Stock Receipt, Lot Creation, Barcode Generation, etc.

This hierarchy helps users navigate through different areas of the application efficiently.

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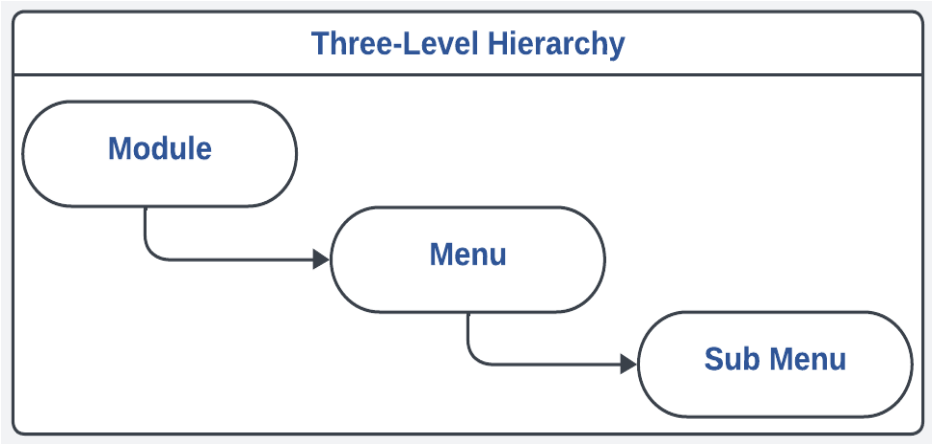
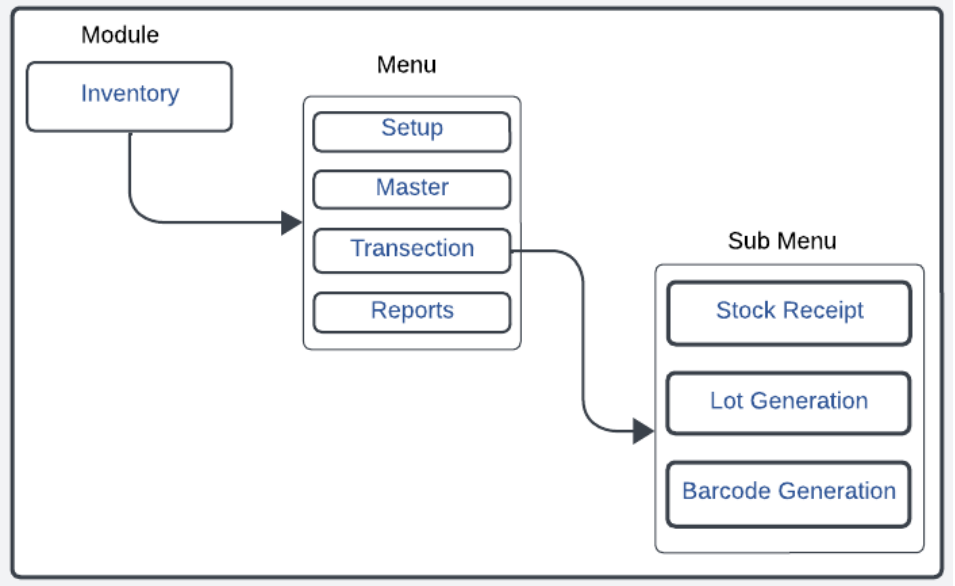


❖ Example Diagram



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10. Sioniq Client Intercommunication [SIONIQ SATELITE]

i. Overview

The Sioniq.AI Application is facilitating seamless communication between retail and wholesale operations. This model focuses on inter-application communication, enabling functionalities such as direct order posting, real-time tag importing during purchases, and timeline-based ledger management. Additionally, it provides access to various reports relevant to both retail and wholesale operations, enhancing efficiency and decision-making processes.

ii. Key Features

a) Direct Order Posting: The application allows users to post orders directly from the retail interface to the wholesale system. This feature minimizes manual entry errors, streamlines order processing, and ensures that inventory levels are updated in real-time.
b) Real-Time Tag Importing: During the purchasing process, users can import tags directly into the system. This feature simplifies inventory management by automatically associating new purchases with the correct product tags, thereby enhancing tracking and reporting accuracy.
c) Timeline-Based Ledger Management: The model includes a timeline-based ledger that tracks all transactions over time. Users can easily access historical data, allowing for better financial oversight and reporting. This feature is crucial for both retailers and wholesalers to manage their accounts effectively.
d) Comprehensive Reporting: Users have access to a variety of reports that provide insights into sales performance, inventory levels, and order fulfillment. These reports are essential for making informed business decisions and optimizing operational efficiency.
e) Digital Catalog Access: The application provides a digital catalog that can be accessed based on time-sensitive needs. Retailers can showcase products to customers, while wholesalers can manage their inventory effectively, ensuring that all stakeholders have the information they need at their fingertips.

iii. User Roles and Access

a) Retailers: Access to manage & track the customer orders, view reports, and utilize the digital catalog for showcasing products.
b) Wholesalers: Ability to process bulk orders, manage inventory, and access real-time sales data.
c) Jewellers Employees: Tools for order management and customer interaction, enhancing day-to-day operations.
d) Dealers and Customers: Access to view product offerings and place orders efficiently through the digital catalog.

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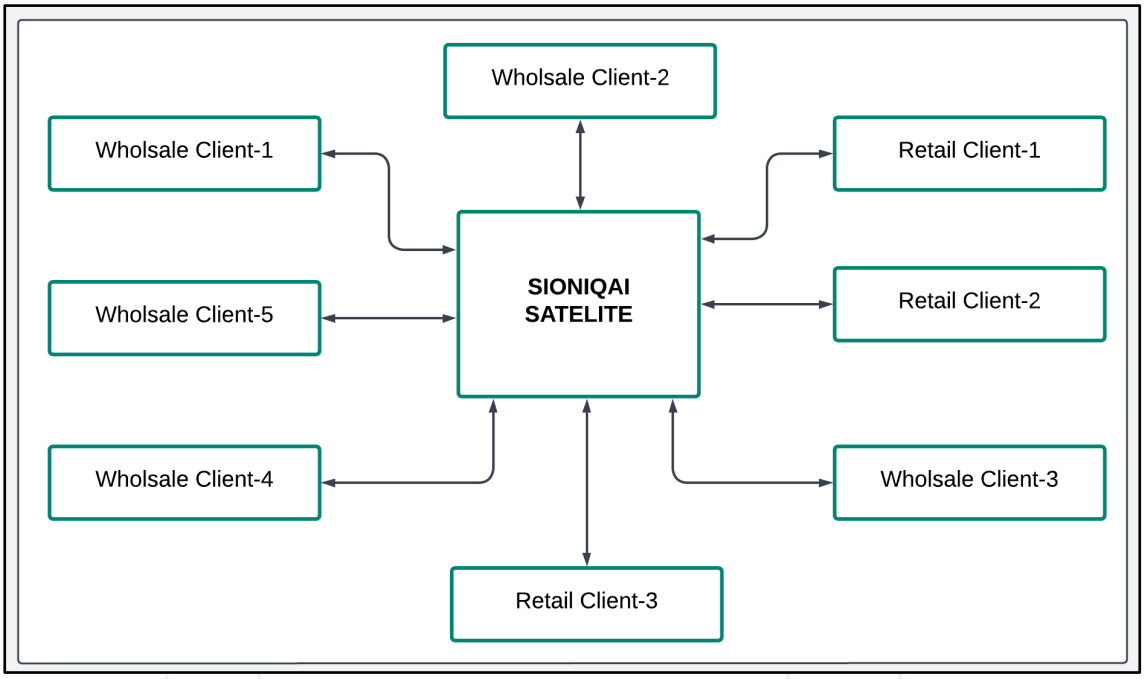
iv. Conclusion

The SioniQ Jewellery Software Application model is a robust solution that enhances inter-application communication between retail and wholesale operations. By providing features such as direct order posting, real-time tag importing, and comprehensive reporting, Sioniq.AI empowers jewellery businesses to operate more efficiently and effectively.



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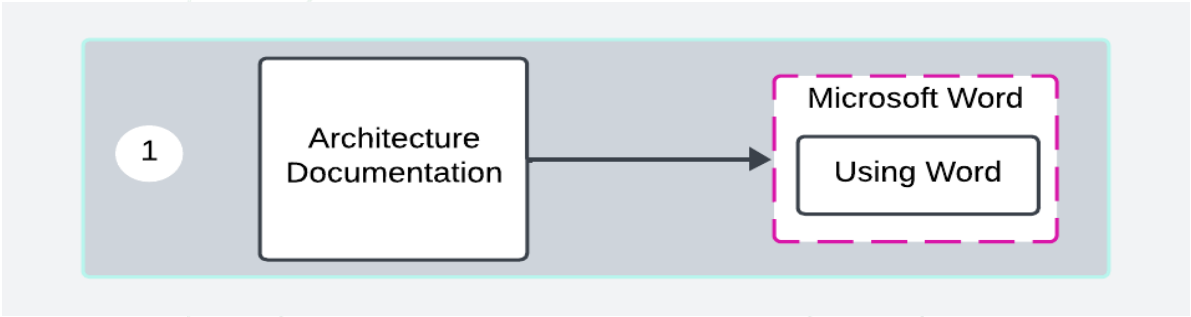
11. Documentation Architecture

Documentation architecture refers to the structured approach to creating, organizing, and managing documentation within a software development project. It ensures that all necessary documentation is created and maintained in a way that is accessible and useful to various stakeholders. This architecture encompasses different types of documentation, each serving specific purposes and audiences.

Types of Documentation:

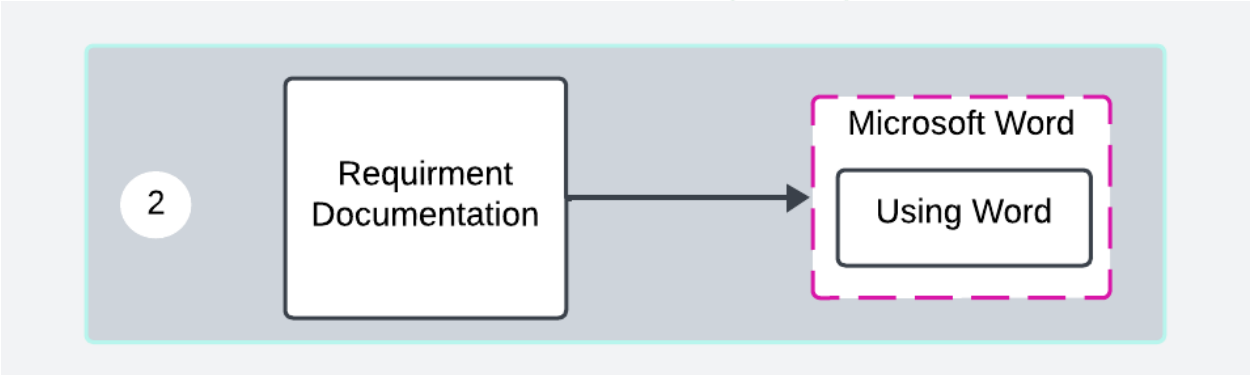
11.1 Architecture Documentation:

This type of documentation outlines the overall structure of the software system, including design decisions, components, and their interactions. It provides a high-level overview that helps stakeholders understand how the system is organized and how it meets business requirements.



11.2 Requirement Documentation:

Requirement documentation captures the needs and expectations of stakeholders, detailing what the software must accomplish. It serves as a foundation for design and development, ensuring that all parties have a clear understanding of the project goals.



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11.3 Technical Documentation:

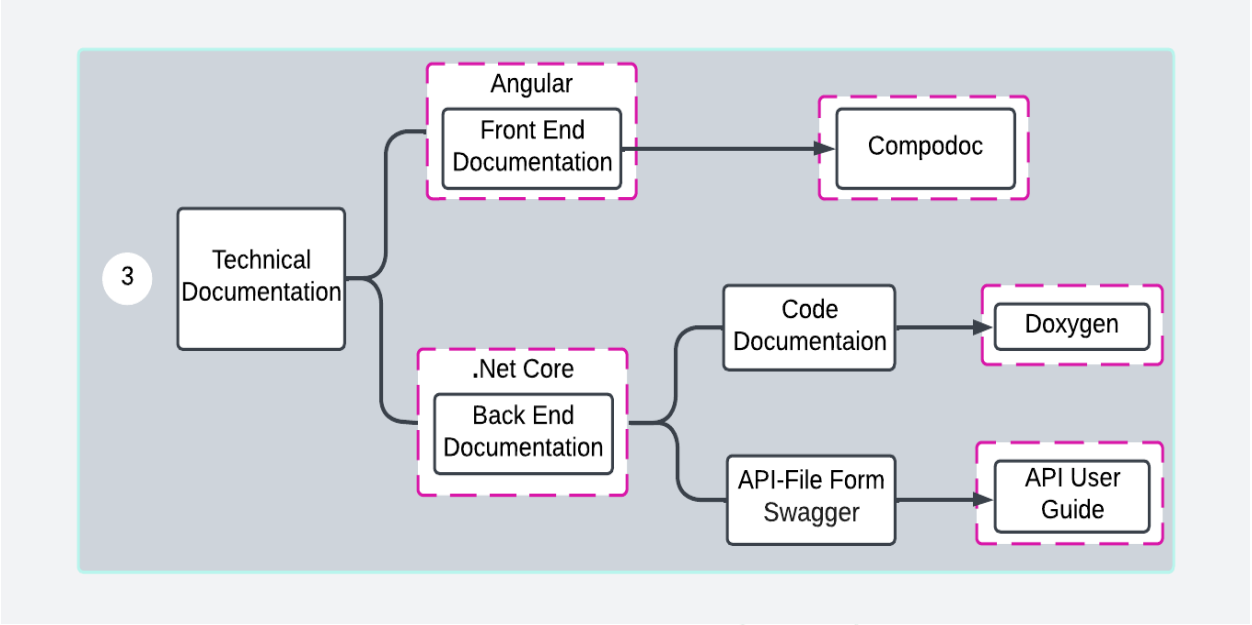
Technical documentation provides detailed information on the system's architecture, components, and technologies used. It is essential for developers and technical stakeholders to understand how to implement and maintain the system.

11.3.1 Front End with Angular:

This section of technical documentation focuses on the front-end architecture developed using Angular. It includes details about component structure, state management, routing, and integration with backend services. It may also cover best practices for coding and user interface design.

11.3.2 Back End with ASP.Net Core:

This part details the backend architecture built with ASP.Net Core, including API design, data handling, middleware configuration, and security measures. It provides insights into how the backend interacts with the front end and manages data processing.



11.4 Database Documentation (ER Diagrams):

Database documentation includes Entity-Relationship (ER) diagrams that illustrate the data model of the application. These diagrams show the relationships between different data entities, helping developers understand the database structure and design.

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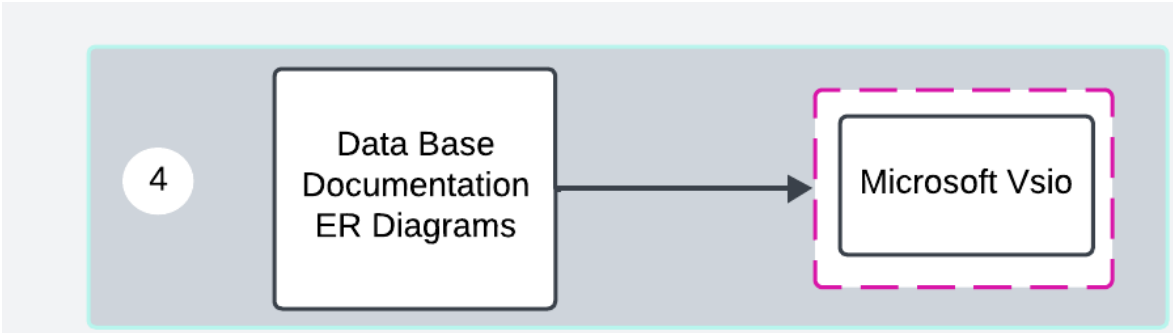
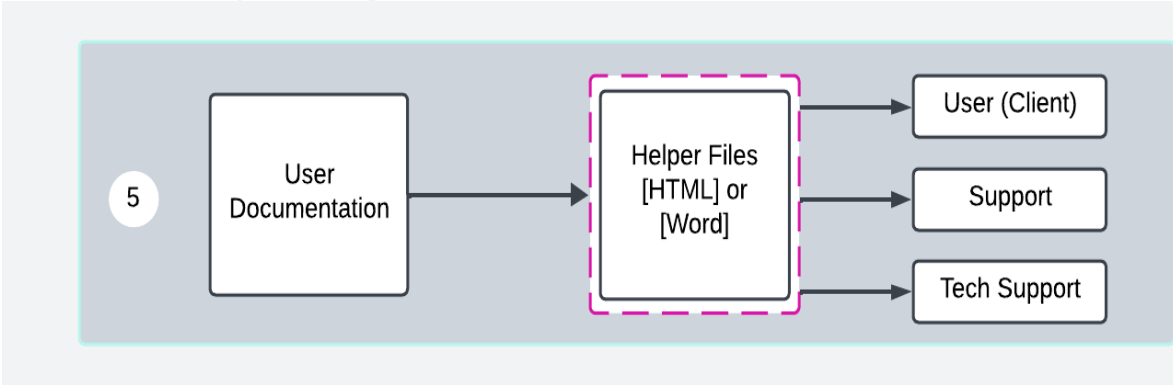


11.5 User Documentation:

User documentation is designed for end-users of the software. It includes manuals, guides, and FAQs that help users understand how to navigate and utilize the application effectively. This documentation is crucial for ensuring a positive user experience and reducing support requests.



11.6 Proto Type Using Justinmind

Introduction

This document provides a detailed guide to the creation of an interactive prototype using the Justinmind tool. Prototyping is a crucial step in the software development lifecycle, allowing developers, designers, and stakeholders to visualize and interact with the proposed user interface (UI) and functionality before full-scale development. Justinmind is a comprehensive prototyping tool that facilitates the design of wireframes, interactive UI prototypes, and user flows for both mobile and web applications.

1. Purpose: The prototype will:
   A. Visualize UI/UX for early feedback.
   B. Simulate user interactions and flows.
   C. Serve as a development reference.
2. Justinmind Overview: Justinmind provides:
   A. Drag-and-Drop Interface for ease of use.
   B. Interactive Prototypes simulating user flows.
   C. Device Simulation for testing on various screen sizes.

3 Steps for Creating a Prototype:

A. Project Setup: Open Justinmind and start a new project (e.g., Mobile, Tablet, or Desktop).
B. UI Design: Create screens using built-in UI components (buttons, text fields, etc.).
C. Define Interactions: Add clickable actions and navigation links between screens.
D. Testing: Use Simulation Mode to test the prototype's interactions and user flow.
E. Share for Feedback: Share via Cloud or HTML export for stakeholder review.

4 Prototype Components: Login Screen, Dashboard, Forms, Navigation, and Error Messages.

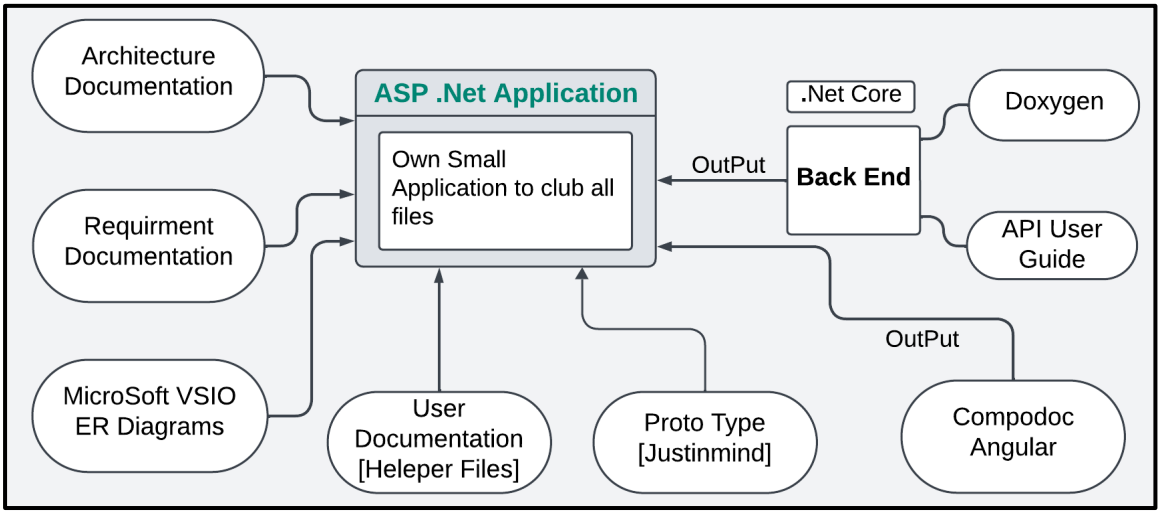
Conclusion

The prototype created in Justinmind allows for interactive testing, feedback collection, and serves as a development reference, streamlining the application development process.

11.7 SioniQ Documentation Hub

The SioniQ Documentation Hub is a small, integrated application designed to streamline the management and access of critical documentation related to the SioniQ software application. This hub serves as a centralized repository for various types of documentation, ensuring that all stakeholders can easily find, reference, and utilize essential information throughout the software development and deployment lifecycle.

The SioniQ Documentation Hub is designed to facilitate collaboration and knowledge sharing among developers, project managers, and end-users. By consolidating all relevant documentation into a single application, it enhances accessibility and ensures that all stakeholders have the information they need to contribute to the success of the SioniQ software application. This centralized approach not only improves efficiency but also fosters a culture of continuous improvement and learning within the organization.



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12. Data Migration Architecture

The Sioniq data migration process is designed to transfer data from various sources into the Sioniq.AI database (Sioniq.AI_DB), which is a dedicated migration database supporting multiple types of migration methodologies. The process ensures seamless integration of data into the Sioniq.AI ecosystem, whether the data comes from Excel files, other software, or APIs.

Here's an overview of the different migration methods supported by Sioniq.AI_DB:

12.1 **Sioniq Provided Excel:** Sioniq offers pre-structured Excel templates for data migration. Clients can input their data into these templates, which are then uploaded and mapped to the Sioniq.AI system.

12.2 **Excel from Clients:** If clients have their own Excel files with data, Sioniq.AI_DB can also handle these. Custom mapping and transformation may be done to ensure the data aligns with the Sioniq.AI database structure.

12.3 **Other Software DB to DB (e.g., Jewelplus, Ornet, etc.):** Sioniq supports direct database-to-database migrations from other software commonly used in the jewellery industry, such as Jewelplus and Ornet. This process involves extracting data from the source database and transforming it for compatibility with Sioniq.AI_DB.

12.4 **API Integration from Other Applications:** For systems that offer API access, Sioniq.AI_DB can leverage APIs to pull data from external applications and migrate it directly into the Sioniq.AI database.

12.5 **Sioniq ERP Database:** If the client is using the Sioniq ERP system, data from this system can be migrated directly into Sioniq.AI_DB, ensuring a smooth transition between different Sioniq systems.

12.6 **Sioniq.AI Application Database:** Data migration can also occur between Sioniq.AI environments. If clients are upgrading or restructuring their Sioniq.AI application, data from the existing Sioniq.AI database can be migrated to a new instance of Sioniq.AI_DB.

Each of these migration methods is designed to handle different client scenarios, ensuring data is securely and accurately transferred into Sioniq.AI with minimal disruption.

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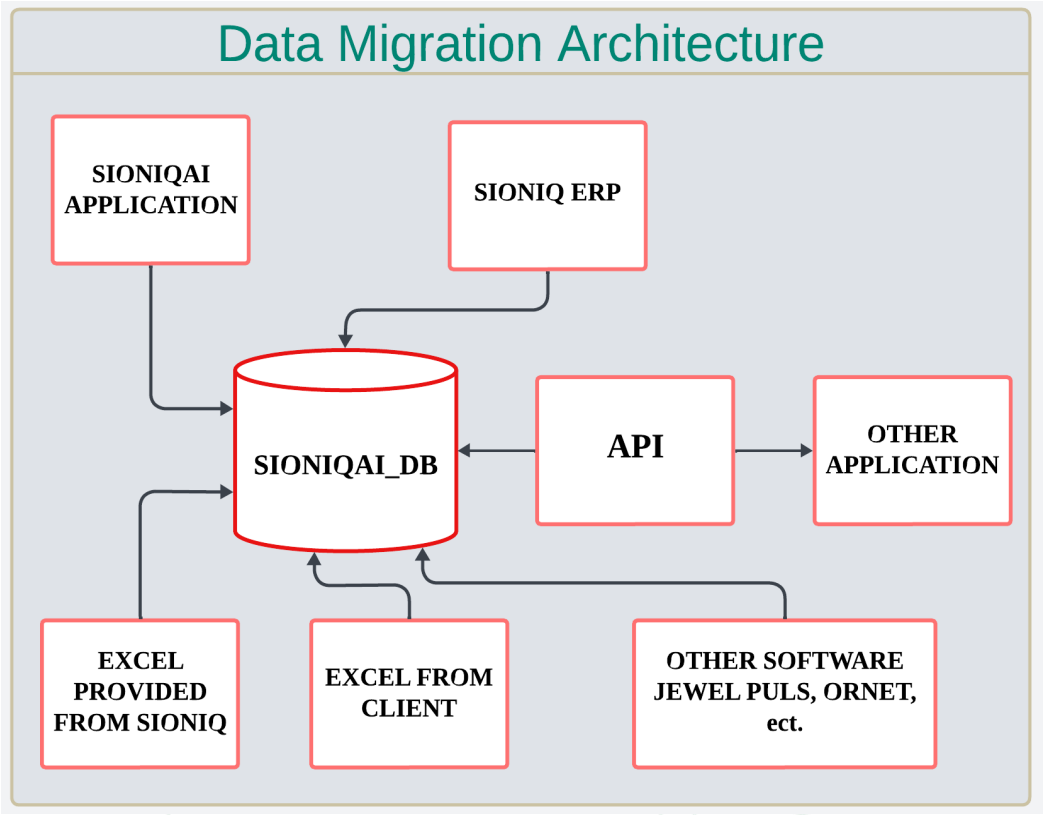
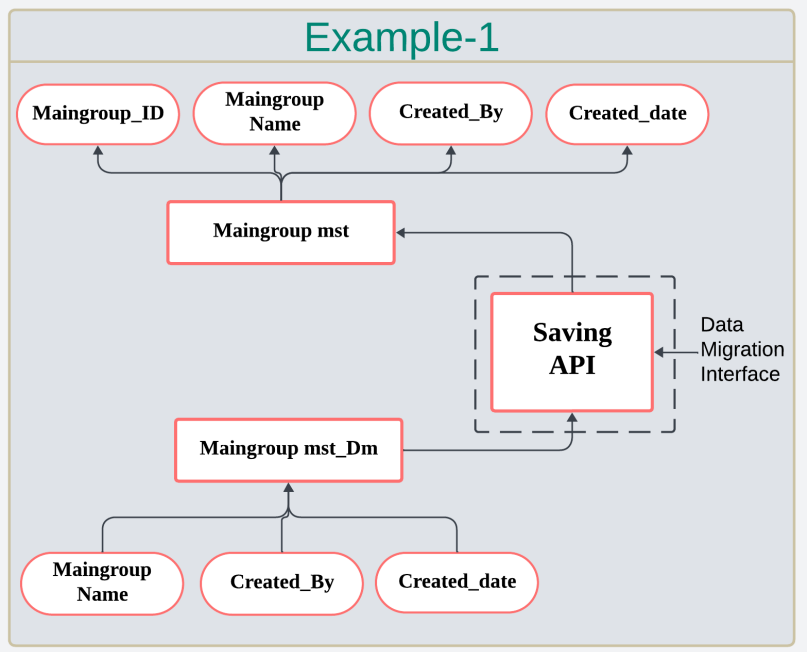


- Example1: The Sioniq.AI_DB Maingroup_mst table contains columns such as MainGroupID, MainGroupName, CreatedBy, and CreatedDate. The old database or provided Excel file contains similar columns for the master table: MainGroupName, CreatedBy, and CreatedDate. During data migration, this data will be saved via API into the Sioniq.AI_DB Maingroup_mst table, create new records by generating the MainGroupID.



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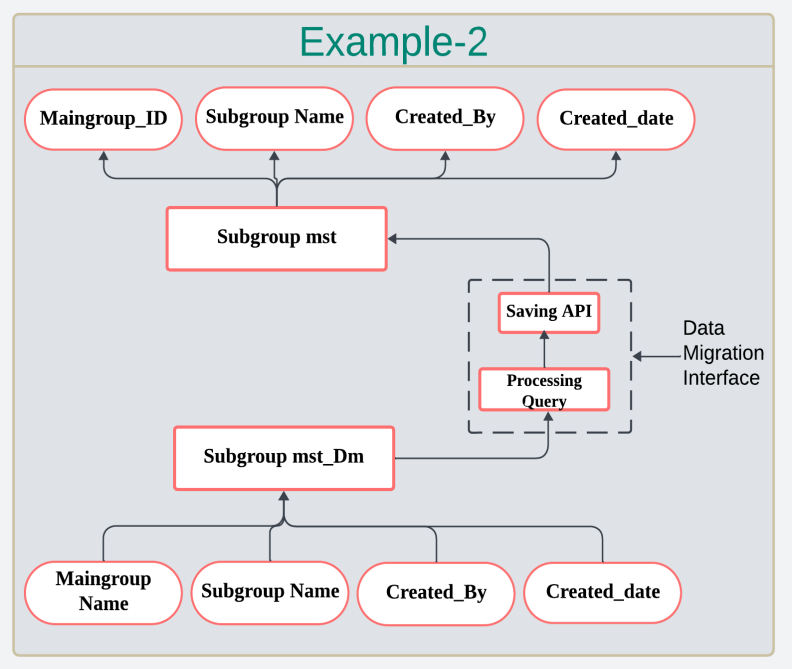
❖ Example2: The Sioniq.AI_DB has a subgroup_mst table with columns such as MainGroupID, SubgroupName, CreatedBy, and CreatedDate. The old database contains a similar table, subgroupmst_dm, with columns MainGroupName, SubgroupName, CreatedBy, and CreatedDate. During the data migration process, a query is executed to map the old MainGroupName to the new MainGroupID. If the MainGroupName exists in the new maingroup_mst table, the corresponding MainGroupID is retrieved; if not, a new record is created, and the MainGroupID is obtained. Afterward, the data is saved through an API, updating the subgroup_mst table in Sioniq.AI_DB with the newly created records.



13. Audit Log Architecture

Audit Log is a detailed record of all actions on data modifications and user activities. The primary purpose of audit logs is to ensure transparency, accountability, and traceability of operations, which is especially important for compliance, security, and troubleshooting.

13.1 Key Features of Audit Logs:

13.1.1 User Activity Tracking: Logs user actions such as logins, data creation, modifications, deletions, and viewing records.

13.1.2 Timestamping: Every action is timestamped, recording the exact time when the event occurred.

13.1.3 Data Change History: Tracks changes to data, including old and new values for records, providing a history of modifications.

13.1.4 Entity-Level Logging: Captures which specific data entities (e.g., customers, orders, products) were affected by the action.

13.1.5 User Identification: Logs the identity (username, user ID) of the person or system that performed the action.

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13.2 Benefits:

13.2.1 Compliance: Essential for meeting regulatory requirements (e.g., GDPR, SOX) that mandate detailed tracking of data changes.

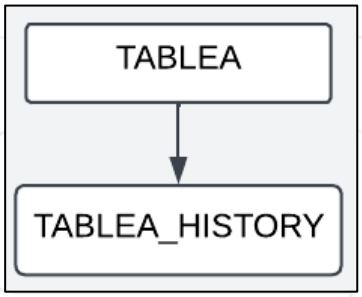
13.2.2 Security: Helps detect and investigate unauthorized access or modifications.

13.2.3 Troubleshooting: Provides a clear history of changes for identifying issues or bugs.

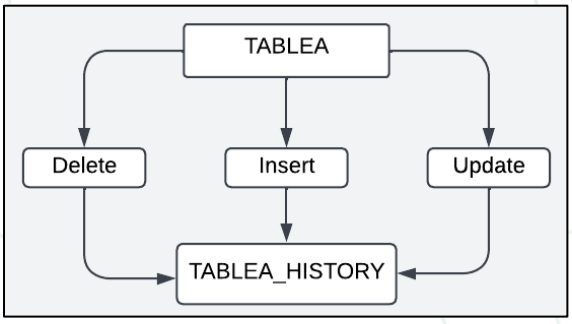
13.2.4 Accountability: Ensures users are accountable for their actions within the system.

13.3 Sioniq.AI Application – History Table for Every Table:

In the Sioniq.AI application, each table in the database maintains a History Table to store records of changes for auditing purposes.



13.3.1 Every change in the main table (inserts, updates, and deletes) is captured in the corresponding history table.



13.3.2 The history table contains:

i. Old and New Values: Keeps a record of both the original data and the modified data.

ii. Timestamp: The date and time when the change occurred.

iii. User Information: The identity of the user who made the change.

iv. Action Type: The type of action performed (e.g., INSERT, UPDATE, DELETE).

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TABLE A

ID	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
1	ABC	123	XYZ	LMP
2	ABCD	PQR	456	ZRA

TABLE A_HISTORY

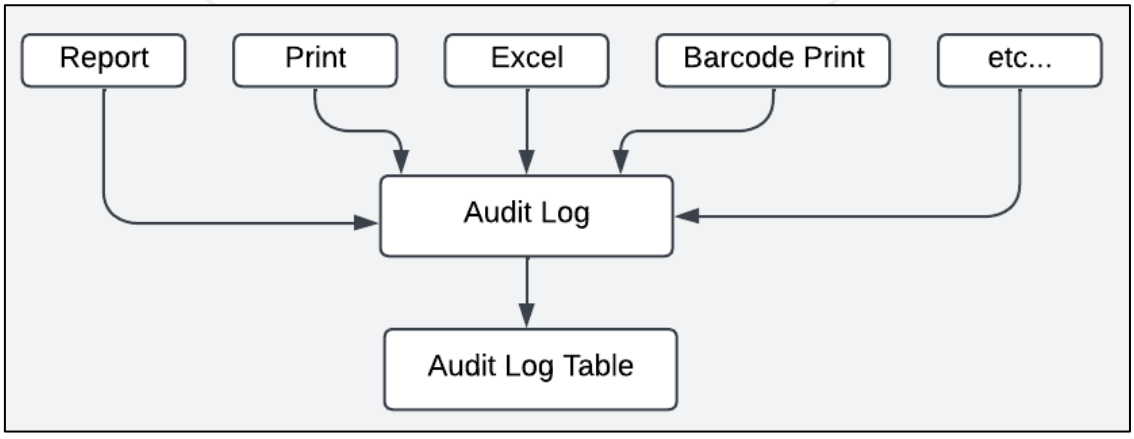
ID	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4	OPERATION	MODIFIED_BY
1	ABC	123	XYZ	LMP	C	EMP_1
2	ABCD	PQR	456	ZRA	C	EMP_1
1	ABC	123	TBC	SSR	U	EMP_3
1	DFG	123	RRR	DEF	U	EMP_2

13.3.3 Audit Log for Report, Print, Excel download:

In the Sioniq.AI application, the system will likely maintain an audit log table for these actions:

i. For each report viewed, printed, or downloaded (whether as Excel, PDF, or other formats), the system creates a record in the audit log with all the relevant details (user, timestamp, action type, parameters, etc.).

ii. This audit log can be reviewed by administrators to track how often reports are generated and shared, helping to ensure proper use of the system and data security.



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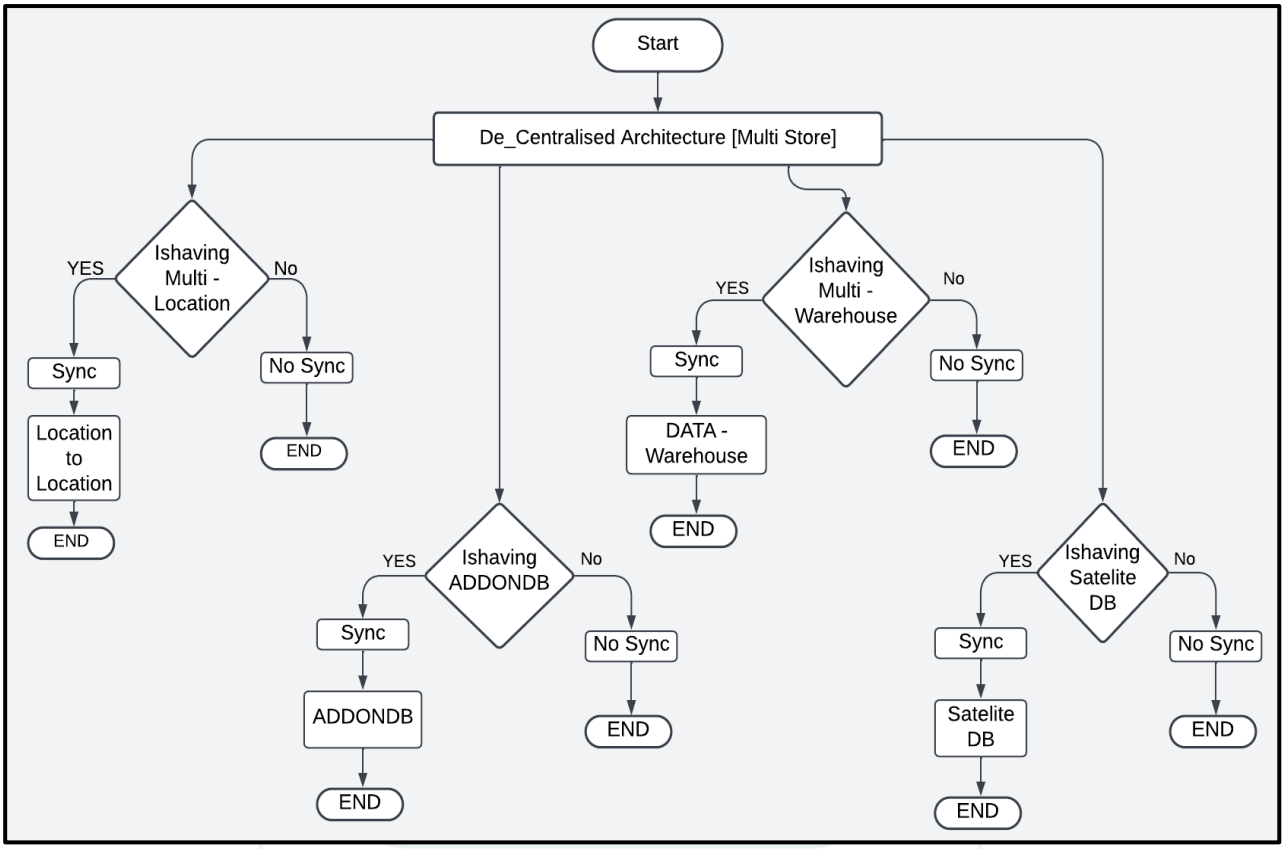
14. Syncing Architecture

14.1 De-centralized Architecture Syncing Concept



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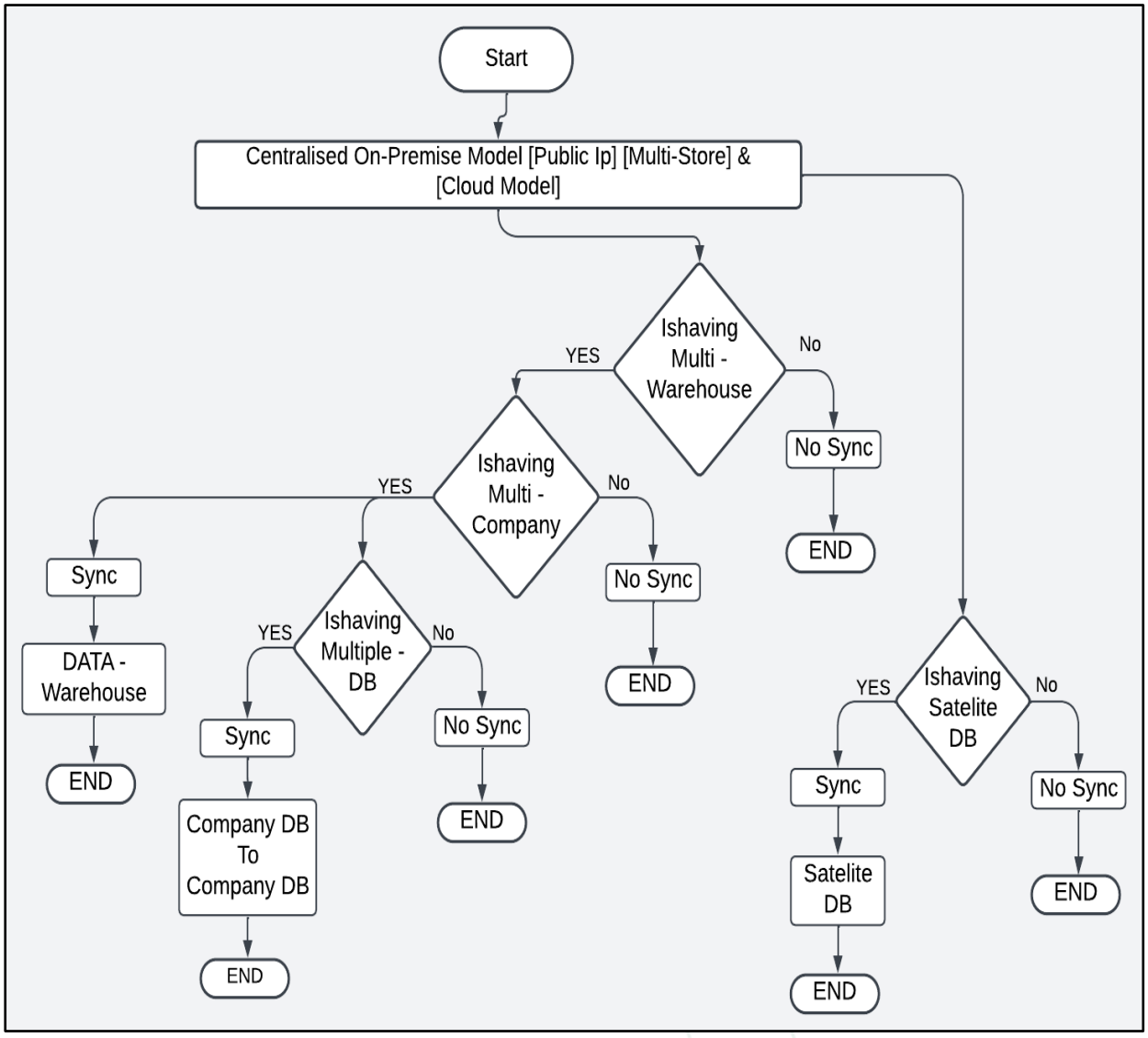
14.2 Centralised On-Premise Model [Multi-Store] [Public IP] & [Cloud Model]



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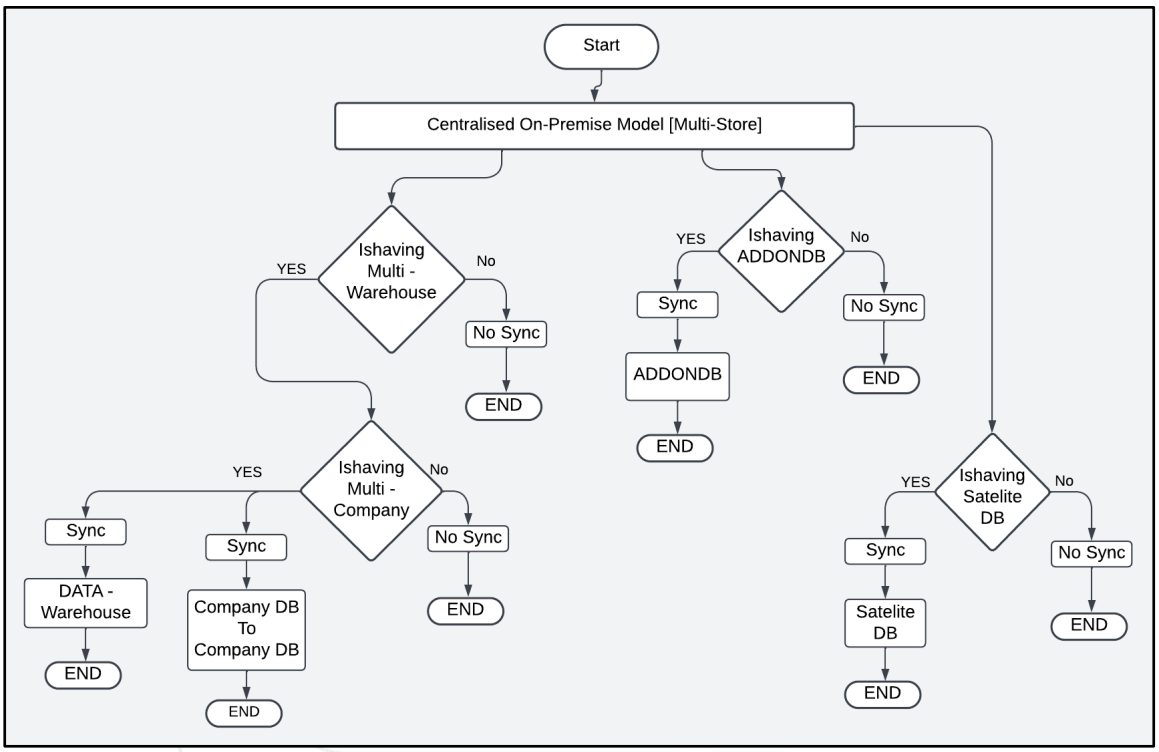
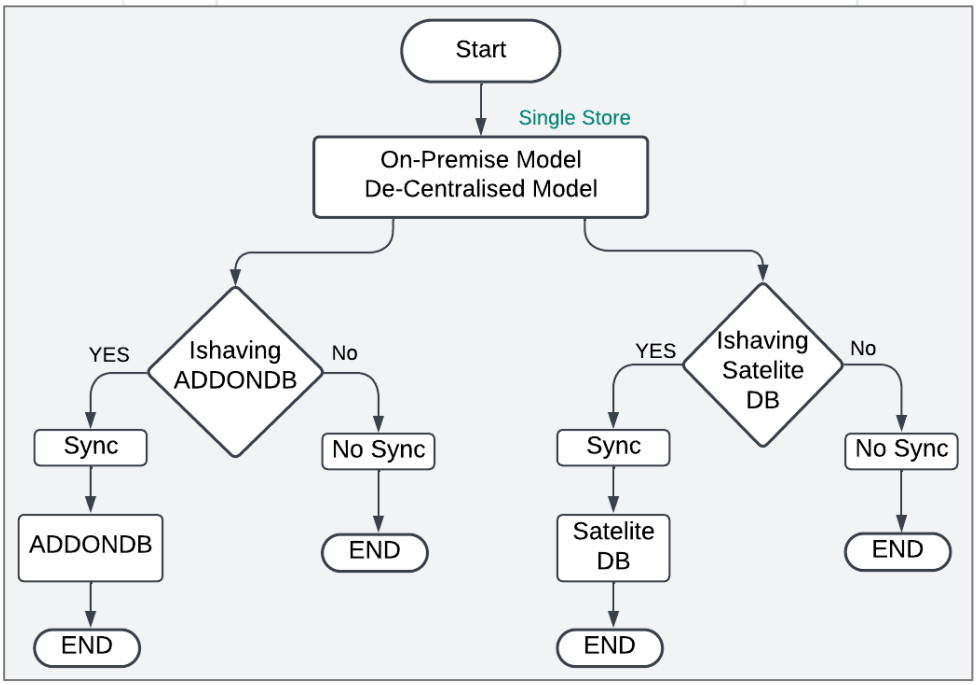
14.3 Centralised On-Premise Model [Multi-Store]



14.4 On-Premise Model & De-Centralised Model



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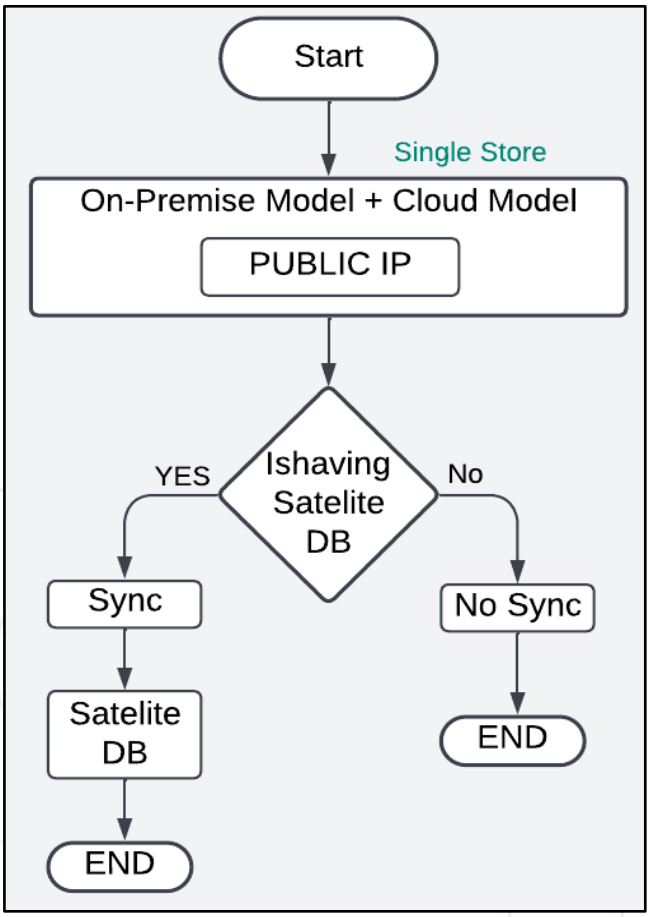
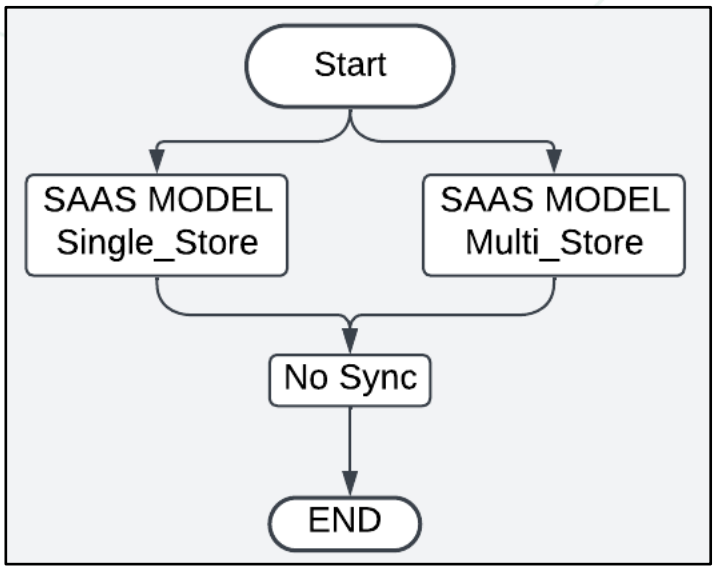
14.5 On-Premise Model + Cloud Model & [Public IP]



14.6 SAAS Model



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15. Project Architecture

Designing an Sioniq.AI application using Angular for the frontend and .NET Core for the backend involves several considerations for architecture, scalability, and maintainability. Here's a suggested project architecture:

15.1 Overview

The Sioniq.AI ERP system will consist of a frontend Angular application that communicates with a backend API built with .NET Core. This architecture promotes a clear separation of concerns, making the application easier to maintain and scale.

15.2 Architecture Components:

15.2.1 Frontend (Angular)

I. Angular Modules: Organize features (e.g., Admin, Inventory, HRM) into separate modules for better maintainability.
II. Components: Create reusable components (e.g., forms, tables, modals) to ensure consistency across the application.
III. Services*: Implement services for data retrieval and business logic, utilizing Angular's HTTP Client to communicate with the backend API.
IV. State Management: Use NgRx or a similar library for state management to handle complex application states effectively.
V. Routing: Implement Angular Router for navigation between different views or modules.
VI. UI Framework: Consider using a UI library like Angular Material or PrimeNG for a responsive and consistent UI.

15.2.2 Bootstrap

Bootstrap is a free front-end framework for faster and easier web development and includes HTML and CSS-based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and others, as well as optional JavaScript plug-ins.

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15.2.3 Backend (.NET Core)

I. ASP.NET Core Web API: Build RESTful APIs to expose the functionality of the ERP system.
II. Entity Framework Core: Use EF Core for ORM to manage database operations, allowing for easy data access and manipulation.
III. Service Layer: Implement a service layer to handle business logic, separating it from the controller logic.
IV. Repository Pattern: Use the repository pattern to abstract data access logic, making it easier to swap out the data source in the future.
V. Dependency Injection: Leverage .NET Core's built-in dependency injection for better testability and modularity.
VI. Authentication and Authorization: Implement JWT (JSON Web Tokens) for securing the API and managing user roles/permissions.

15.2.4 Database

I. SQL Server: Use SQL Server or any other relational database that suits your needs.
II. Database Migrations: Use EF Core migrations to handle database schema changes over time.
III. Stored Procedures: Consider using stored procedures for complex queries to optimize performance.

15.2.5 TFS (Team Foundation Server)

TFS (Team Foundation Server) is a Microsoft tool used for version control, project management, and continuous integration and delivery (CI/CD). It supports Agile workflows, source control with Git or TFVC, and automated builds and releases. The architecture includes a centralized server for managing repositories, work items, and builds, integrated with IDEs like Visual Studio. TFS enables collaboration through role-based access control, branching strategies, and a REST API for custom development and automation.

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15.3 Communication

15.3.1 HTTP/REST: Use standard HTTP methods (GET, POST, PUT, DELETE) for communication between Angular and .NET Core.

15.3.2 WebSockets: Consider WebSockets for real-time features if necessary (e.g., notifications, live updates).

15.4 Security

15.4.1 CORS: Configure Cross-Origin Resource Sharing (CORS) in the .NET Core API to allow your Angular app to communicate with it.

15.4.2 Input Validation: Implement robust input validation and sanitization on both frontend and backend to prevent attacks like SQL Injection and XSS.

15.4.3 HTTPS: Ensure all communications are done over HTTPS.

15.5 Example Folder Structure

15.5.1 Angular

```
/src
  /app
    /core
    /shared
    /modules
      /admin
      /inventory
      /hrm
    /services
    /components
```

15.5.2 .NET Core

```
/src
  /ERP.Api
    /Controllers
    /Services
    /Models
    /Repositories
    /DTOs
  /ERP.Data
    /Migrations
    /Entities
```

❖ Conclusion

This architecture provides a robust foundation for building a scalable and maintainable ERP application. We can adjust components and layers based on specific requirements and scale as needed. Always consider best practices for code quality, performance, and security throughout our development process.

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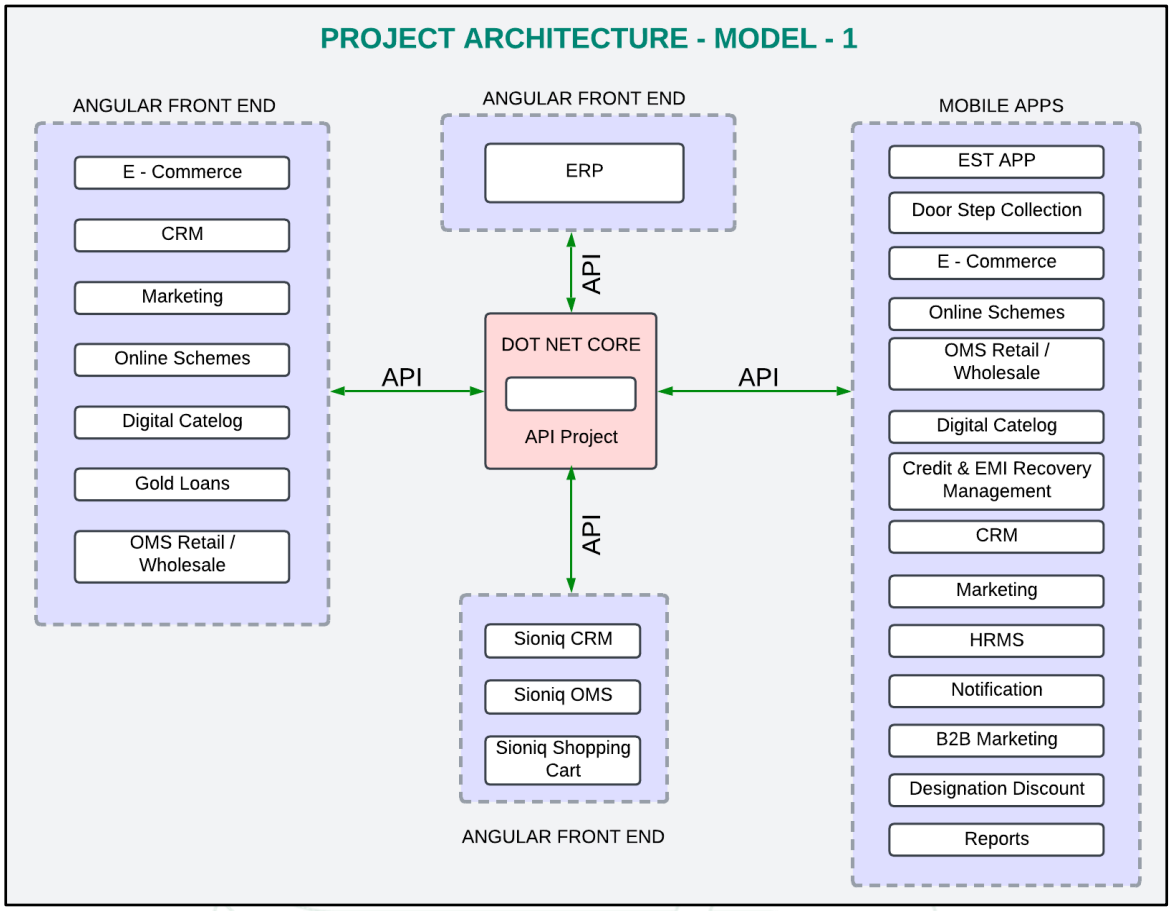


15.6 SioniqERP vs SIONIQ.AI

15.6.1 Sioniq ERP:

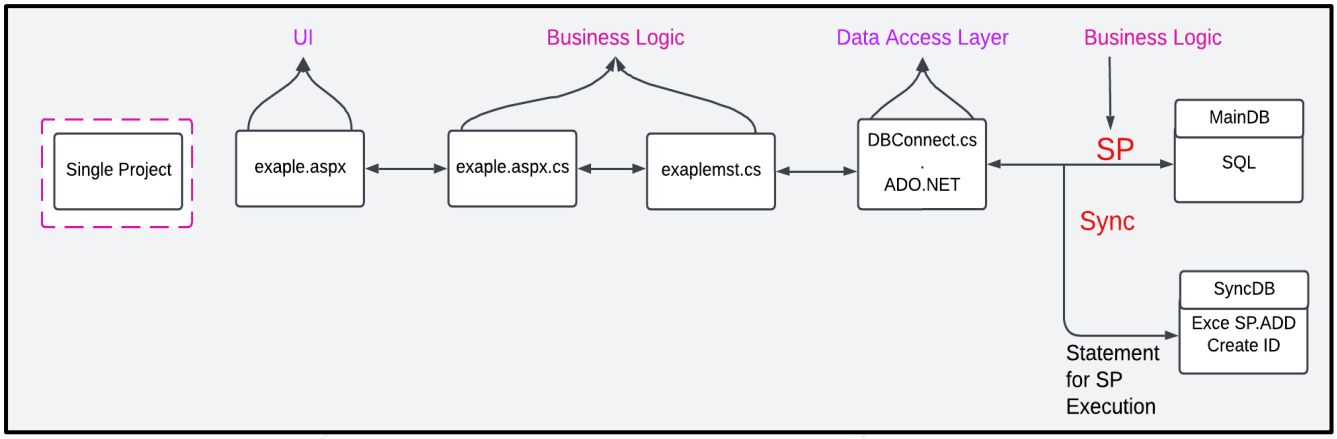
Technologies Used:

- Front End: HTML, CSS
- Back End: ASP.NET
- Database Interaction: ADO.NET with Stored Procedures (SP)
- UI: Standard UI using basic web technologies

Architecture:

- Single Project Structure: SioniqERP is built as a monolithic application where the front end, business logic, and data access are all tightly integrated within a single project.
- Data Storage: Business logic and data operations are entirely managed via Stored Procedures (SP). Data access is handled through the DBConnect.CS file using ADO.NET.
- Business Logic Execution: Almost all business logic is contained within the stored procedures, with the execution of logic based solely on SPs.
- Sync Process: Sync operations are managed through SP execution using conditional formatting to control the logic and flow.

- API Integration: The system does not provide its own API. Any integration with third-party services is done by consuming external APIs rather than offering one.



15.6.2 Sioniq AI:

Technologies Used:

- Front End: Angular, HTML, Bootstrap
- Back End: .NET Core
- Database Interaction: Direct database access with minimal reliance on Stored Procedures (SP)
- UI: Modern UI with Angular and Bootstrap for an improved user experience

Architecture:

- Multiple Projects Structure: SioniqAI is divided into multiple, independent projects. The Angular and Bootstrap-based front end is decoupled from the back end, which is handled by .NET Core, creating a modular and flexible architecture.
- Data Storage: 98% of data is stored directly in the database using direct insert and update statements. Only 2% of data, primarily related to complex reporting, is managed through Stored Procedures.
- Business Logic Execution: Approximately 70% of the business logic is handled on the front end via Angular, drastically reducing the server-side load and improving responsiveness.
- Sync Process: Sync operations are simplified with direct data insertion and updates, making the process faster and reducing complexity.
- API Support: SioniqAI provides its own API for third-party integrations, allowing other systems to interact with it directly. This is a significant improvement over SioniqERP, which only consumed external APIs.

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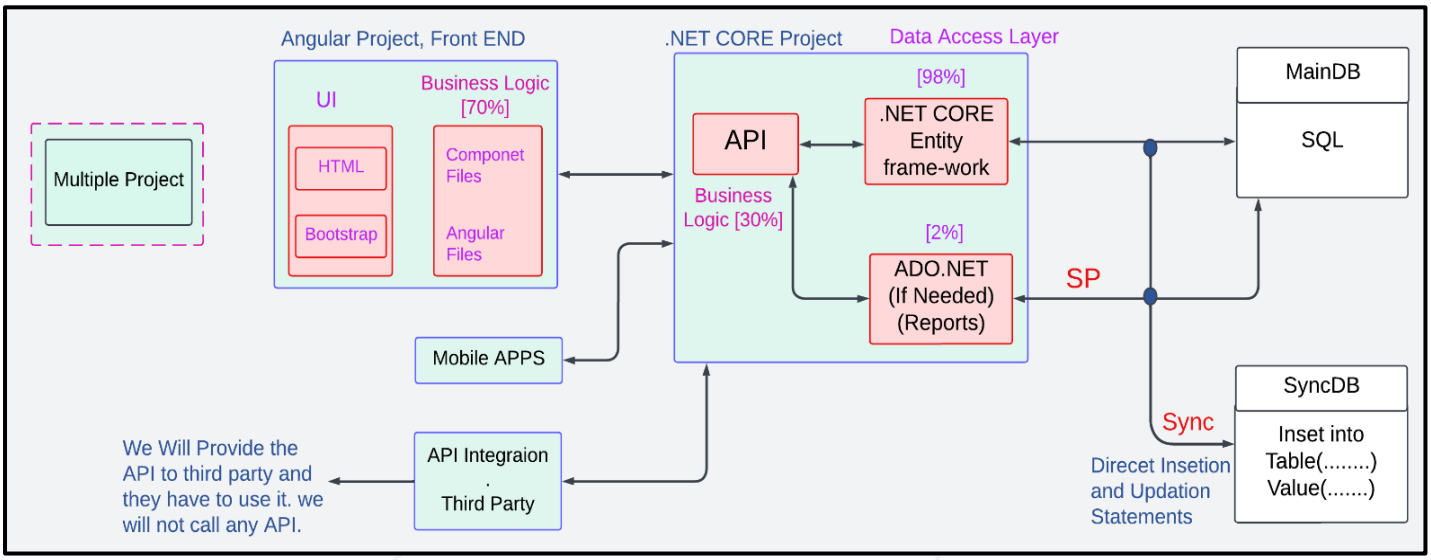

❖ Comparison Summary:

Feature	SioniqERP	SioniqAI
Technologies	HTML, CSS, ASP.NET, ADO.NET	Angular, HTML, Bootstrap, .NET Core
Project Structure	Single project (monolithic)	Multiple projects (modular)
Data Storage	100% Stored Procedures (SP)	98% direct DB access, 2% SP
Business Logic	Fully in SP	70% on the front end
Sync Process	SP-based, conditional formatting	Direct data insertion and updates
API Integration	No internal API, uses third-party APIs	Provides its own API for third-party use
UI	Standard UI	Modern UI with Angular and Bootstrap
Scalability & Flexibility	Limited due to monolithic structure	High scalability with modular design

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15.7 Tools & Technology for SIONIQ.AI

S.No	Description	Version	Purpose	Tool Type	Amount
1	Online Server		Development	Paid	
2	Hyper Admin & Dashboard Template (Dark/Light)	Extended	UI	Paid	$599
3	Microsoft Visual Studio 2022	Professional 2022	.NET Core [API]	Paid	₹40,688.00 incl. GST
4	Microsoft Visio	Standard 2021	ER Diagram /DB Design	Paid	₹25,599.00
5	Justinmind	Professional	Prototype	Paid	$455
6	Microsoft SQL Server 2022	Developer	SQL DATABASE	Free	
7	Microsoft Visual Studio Code	version 1.94	Angular	Free	
8	Compodoc		Angular documentation	Open Source	
9	Doxygen		.NET Core Documentation	Open Source	
10	Node.js			Open Source	
11	Angular			Open Source	
12	TypeScript/JavaScript			Open Source	
13	.NET Core			Open Source	
14	Bootstrap			Open Source	
15	Swagger / Postman		For API testing and API Documentation		

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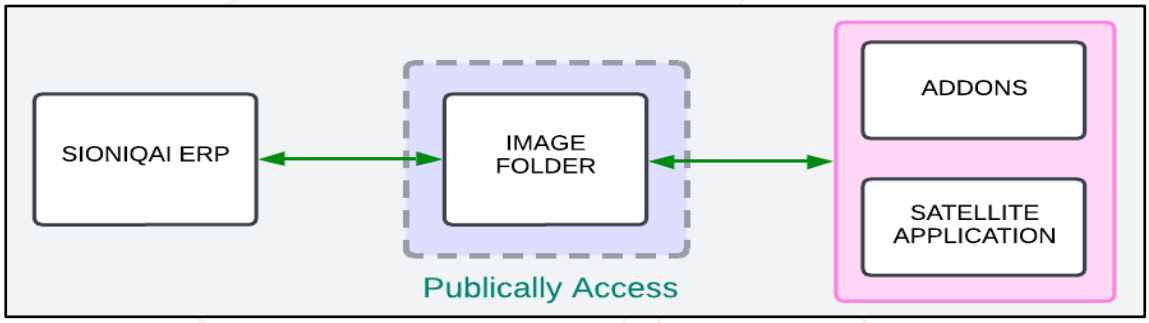
16. Image Architecture

16.1 Cloud Model + Centralised On-Premise Model [Public IP]

This model utilizes both cloud storage and a centralized on-premise server with a public IP for image management. When an image is uploaded to the SioniqAI ERP application, it follows the process below:

- The image is stored in the Image Folder on the server.
- This Image Folder is publicly accessible via the public IP, meaning external applications can access these images without additional authentication.
- Once stored, the images are directly accessible by:
  - Add-ons Modules.
  - Satellite Applications.

This model is designed for real-time access where the image data is readily available across different integrated modules of SioniqAI.

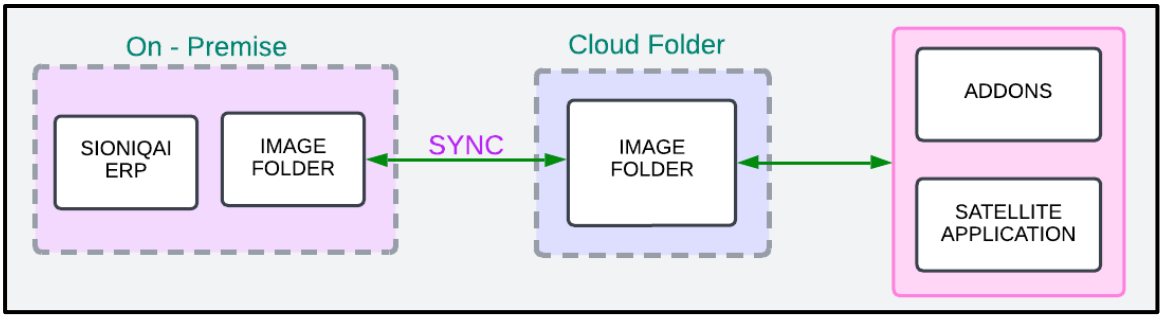


16.2 Centralise On-Premise Model

In this model, image management is handled by a centralized server with syncing to the cloud for broader access. The process flow is as follows:

- When an image is uploaded to the SioniqAI ERP application, it is saved to an Image Folder on the local server.
- The image is then synchronized with the cloud Image Folder.
- After synchronization, images are available to:
  - Add-ons Modules.
  - Satellite Applications.

This model offers a secure internal storage option with the added advantage of cloud synchronization for accessibility.



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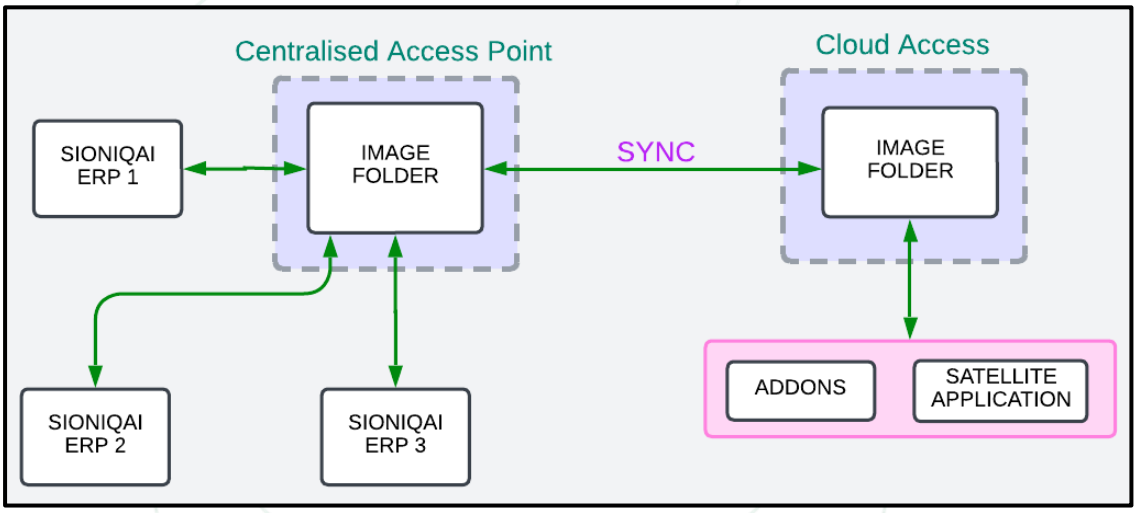
16.3 De-Centralise Architecture: Model-1

16.3.1 Model 1: Centralized Access Point

In this decentralized model, multiple ERP systems with different servers collaborate with a centralized image repository. The workflow is as follows:

- When an image is uploaded from SioniqAI ERP1, ERP2, ERP3, etc. (each having a separate server), the image is stored in a centralized Image Folder.
- The centralized Image Folder is then synced to the cloud.
- Once synced, the image is available for use by:
  - Add-ons Modules.
  - Satellite Applications.

This model allows multiple ERP systems to function independently while sharing a common image storage point, ensuring a unified storage approach across multiple systems.



16.3.2 Model 2: Server-Specific Storage with Syncing

In the second decentralized architecture model, each ERP system maintains its own local image storage. The workflow is as follows:

- Each ERP system (ERP1, ERP2, ERP3, etc.) uploads images to its own local Image Folder.
- These individual Image Folders are then synced across servers through a sync process, creating a unified image dataset.
- After the local sync, the images are synchronized with the cloud Image Folder.
- Images are then available for:
  - Add-ons Modules.
  - Satellite Applications.

This model provides a more distributed storage solution with server-specific autonomy, ensuring that each ERP can operate independently while still benefiting from shared data.

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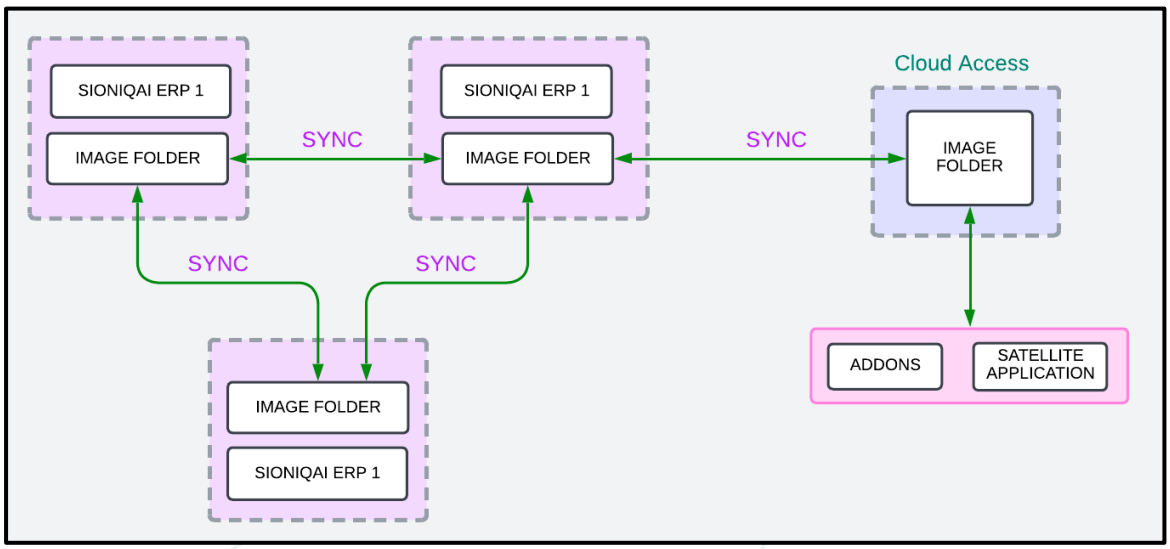
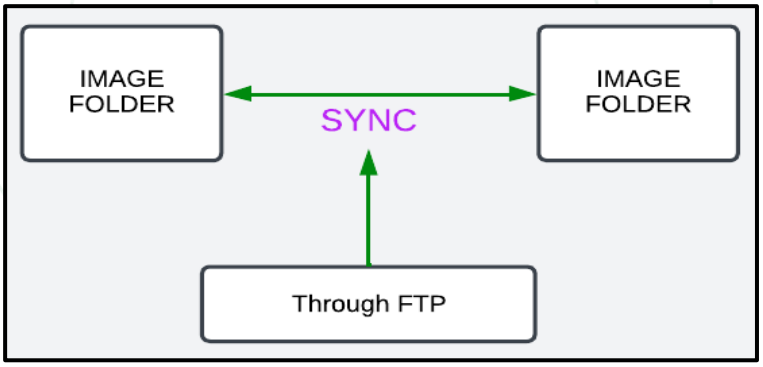


16.4 Sync Process

For all models, images are synchronized between local servers and the cloud using one of the following methods:

16.4.1 FTP Syncing:

The local Image Folder is synced to the cloud Image Folder using FTP (File Transfer Protocol). This ensures that images are transferred securely and reliably between on-premise and cloud storage.



16.4.2 Third-Party Application Syncing:

Alternatively, the sync process can be managed using third-party applications that automate the transfer and synchronization of image data from local folders to the cloud. These tools often provide enhanced features like error handling and automated conflict resolution.

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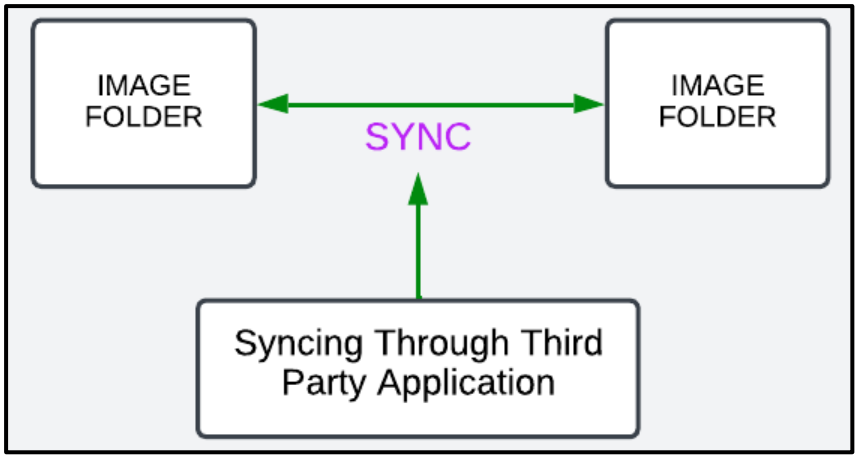

❖ Conclusion

SioniqAI ERP offers flexible and scalable architecture models for managing image data, catering to different business needs ranging from public cloud access, centralized storage, to distributed storage systems. The syncing mechanisms ensure that image data is always up to date, enabling smooth access for add-ons and satellite applications regardless of the chosen model.

17. Error Log Architecture

❖ Overview

The Error Log Architecture is designed to capture and store errors that occur across various applications, including the ERP system, add-ons, and external APIs. These errors are recorded into a central database, specifically an Admin Database, to provide a unified error management system.

17.1 Step 1: Error Generation

Errors can originate from various sources:

A. ERP system (e.g., during customer creation, transactions)
B. Add-ons and satellite applications
C. External APIs integrated into the system.

17.2 Step 2: Error Capture via Error Log API

Once an error is generated, it is passed through the Error Log API. This API serves as an intermediary between the source of the error (ERP, add-ons, APIs) and the central database where errors are stored.

The Error Log API captures the following details from each error:

A. Application Name: The source of the error (ERP, online schemes, etc.).
B. Menu Name: The module or section where the error occurred (e.g., customer creation).
C. Project Type: The type of project where the error happened (e.g., Angular, API, SQL).
D. Error Information: A brief summary or code of the error.
E. Error Description: Detailed description of what went wrong.

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F. Logged User: The user who was logged in when the error occurred.
G. Logged Time: The timestamp when the error happened.
H. Terminal: The terminal or system being used.
I. Accessed From: The location (e.g., Home or Third-party access).

17.3 Step 3: Storing Errors in Admin DB

Once the Error Log API captures the error data, it stores the information in the ErrorLog_Table inside the Admin Database. This table acts as the central repository for error logs.
SQL errors or any database-related issues are also directly stored and monitored within this table.

17.4 Step 4: Error Management and Analysis

Errors stored in the Admin Database can then be analyzed and managed by the system administrators. This centralized logging mechanism ensures that all errors, whether from the ERP, APIs, or external modules, are captured in a unified system.

17.5 ErrorLog_Table Structure

The ErrorLog_Table within the Admin DB consists of several critical columns that capture necessary information to identify and resolve errors effectively. Here's the detailed structure:

No	Columns	Description
1	Application Name	Name of the application where the error originated (e.g., ERP, Online Scheme).
2	Menu Name	Specific module or section where the error occurred (e.g., Customer Creation).
3	Project Type	The type of technology where the error was encountered (e.g., Angular, API, SQL).
4	Error Info	Summary or brief information about the error.
5	Error Description	Detailed description of the error.
6	Logged User	User who was logged in when the error occurred.
7	Logged Time	Timestamp when the error was logged.
8	Terminal	The terminal from which the error was generated.
9	Accessed From	Location or type of access (e.g., Home or Third-party).

17.6 Error Types

The system captures a variety of error types:

A. Application Errors: Issues arising from ERP modules or satellite applications.
B. API Errors: Errors generated by API calls and interactions with external systems.
C. SQL Errors: Database-specific issues like failed queries or data integrity violations.

17.7 Advantages of Centralized Error Logging

A. Unified Tracking: All errors, regardless of their origin (ERP, API, Add-ons), are captured in a single database.

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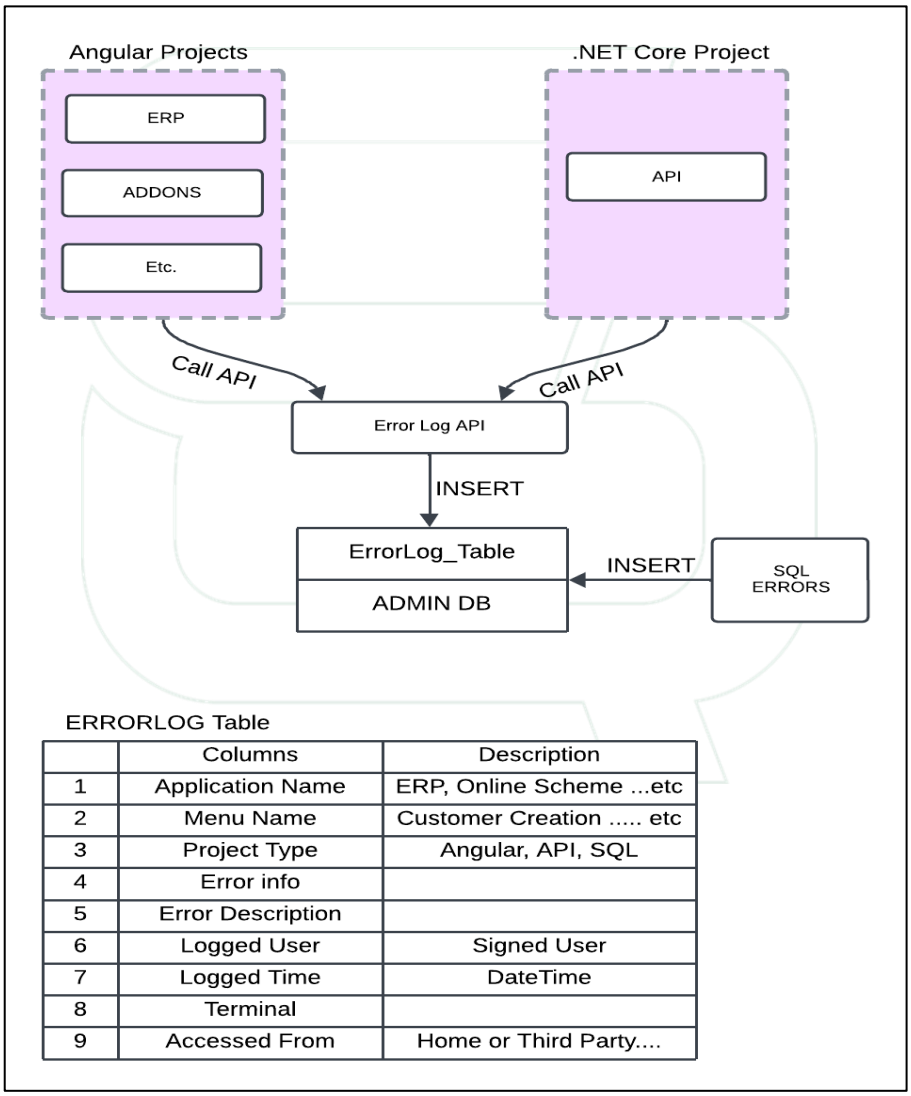
B. Easier Debugging: Developers can quickly locate and identify the cause of errors using the structured data in the ErrorLog_Table.
C. Improved Stability: Monitoring errors in real-time allows quicker responses and fixes, resulting in more stable applications.
D. Historical Data: Having a repository of past errors enables the team to spot trends and prevent future issues.

❖ Conclusion

The Error Log Architecture in SioniqAI ERP provides a robust mechanism for capturing, storing, and analyzing errors across various modules and external APIs. With a centralized logging system and structured error reporting, this architecture improves the efficiency of troubleshooting and enhances the overall stability of the application.

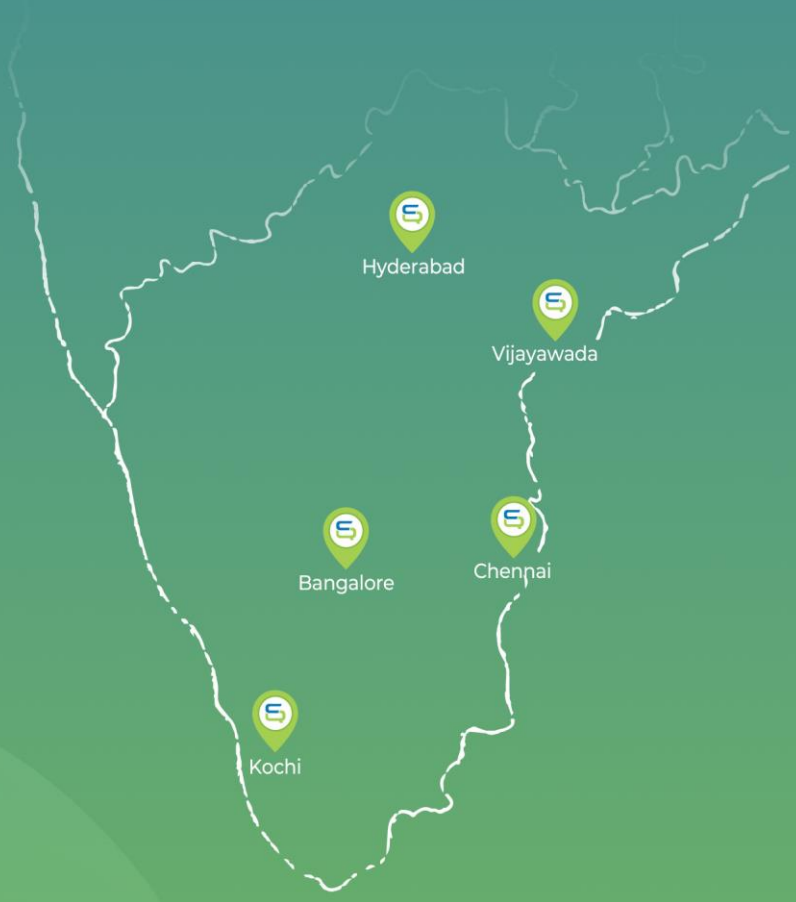


ERRORLOG Table

	Columns	Description
1	Application Name	ERP, Online Scheme ...etc
2	Menu Name	Customer Creation ..... etc
3	Project Type	Angular, API, SQL
4	Error info	
5	Error Description	
6	Logged User	Signed User
7	Logged Time	DateTime
8	Terminal	
9	Accessed From	Home or Third Party....

Thank You!

Our Office Locations



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