Seller Agent

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Introduction

- Title: Milk Basket Business Assistant
- Subtitle: Intelligent Business Analytics Through Conversational AI
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Objective

- Empower Milk Basket sellers with intuitive, conversational access to business insights.
- Simplify interactions with backend analytics systems.
- Enable data-driven decision-making for optimized sales performance.

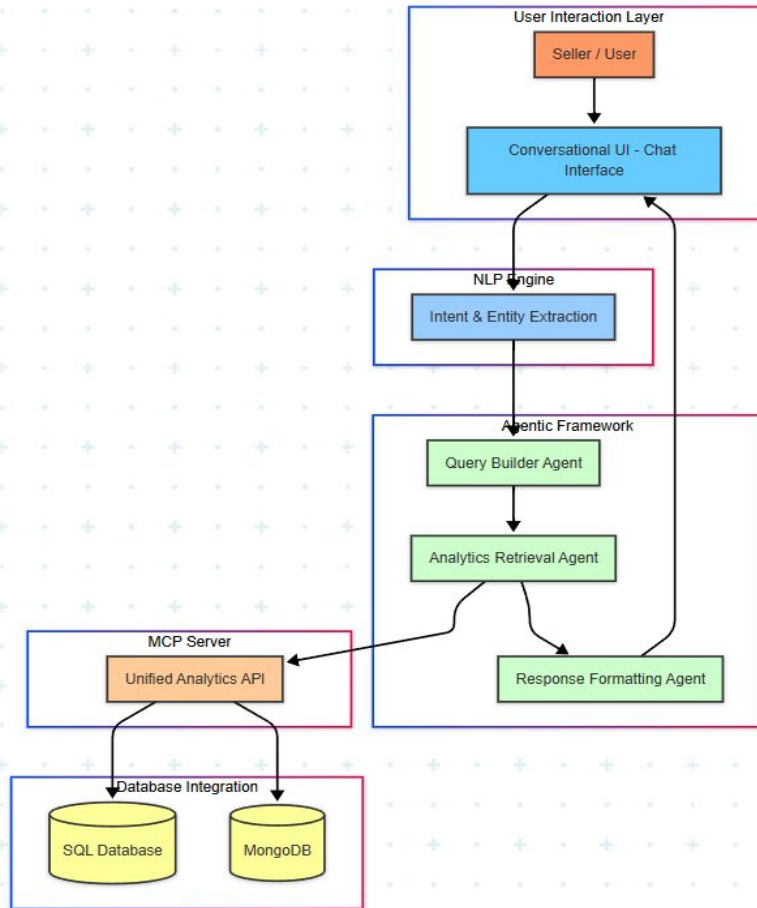# Target User - Ideal Customer Profile (ICP)

- Milk Basket Sellers/Agents
- Primary tasks:
  - Monitor sales performance
  - Analyze customer buying patterns
  - Track inventory and product movement
  - Optimize promotional strategies
  - Competitor Analysis

High-Level Design (HLD)

- Frontend: Conversational UI (Chat Interface)
    a. Provides intuitive and interactive communication channel
    b. Solves pain point: Quick and easy access to insights without navigating complex dashboards
- NLP Engine: Intent & Entity Extraction
    a. Accurately identifies seller queries and context
    b. Solves pain point: Reduces errors and enhances query understanding
- Agentic Framework:
    a. Query Builder Agent: Translates intents into structured queries
    b. Analytics Retrieval Agent: Fetches required data from backend
    c. Response Formatting Agent: Delivers structured insights in understandable formats
    d. Solves pain point: Automates data retrieval and formatting, enhancing productivity
- MCP Server: Unified Analytics API
    a. Consistent query management and execution
    b. Solves pain point: Simplifies complex backend interactions
- Database Integration: SQL, MongoDB
    a. Stores and manages data efficiently for rapid access and retrieval

System Design

MCP Server Integration

- What is MCP Server?
  - Model Context Protocol for structured communication
  - Supports intent-driven queries
- Benefits:
  - Consistent query handling
  - Scalable analytics integration
  - Easy management of backend complexity

Agentic Framework

- Definition: Autonomous agents designed for specific analytics tasks
- Components:
  - Query builder agent
  - Analytics retrieval agent
  - Response formatting agent
- Framework Benefits:
  - Modular and extendable
  - Improved task accuracy and efficiency

Conversational Flow Diagram

- Seller → Chat Interface
- Chat Interface → NLP Engine
- NLP Engine → Intent Identification (FAQ vs Business Query)
- Intent → Task-specific Agent
- Agent → MCP Server → Analytics Backend
- Backend → Data Formatter → Response Agent
- Response → Seller via Chat Interface

Benefits for Milk Basket Sellers

- Immediate access to critical business data
- Enhanced decision-making capabilities
- Increased productivity through automated insights
- Improved customer engagement via targeted analytics

- Phase 1: Requirement Gathering & MVP Development
- Phase 2: Beta Testing & User Feedback Integration
- Phase 3: Full-scale Deployment
- Phase 4: Continuous Improvement & Feature Expansion

Future Enhancements and Integration in HLD

- Predictive Analytics & Forecasting Module
  - Provides predictive insights for future sales and inventory management
  - Solves pain point: Proactive decision-making based on anticipated market trends
- Voice-enabled Interaction Support
  - Enables hands-free conversational queries
  - Solves pain point: Greater accessibility and ease of use
- Advanced Visualization Dashboards
  - Rich, interactive visualization for deeper insights
  - Solves pain point: Enhanced comprehension and data-driven insights
- Expanded Multi-channel Integrations (WhatsApp, Slack)
  - Improves accessibility across popular platforms
  - Solves pain point: Enhanced convenience and reachability for sellers

System Design with future enhancements.