

## SYSTEM REQUIREMENTS

### P13: CONTINUUMAI

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# 1. Introduction

**Project Code:** P13

**Project Title:** ContinuumAI

**Project Overview:** ContinuumAI is an Agentic AI system designed to function as a personal data scientist for non-technical users in business roles. Its primary objective is to enable decision-makers - such as managers in HR, Sales, Marketing, and Product teams - to access and act upon data insights through natural language prompts, without requiring coding or technical expertise.

The system bridges the gap between data science capabilities and business needs by automating the full analytics workflow: from data ingestion to descriptive, diagnostic, predictive, and prescriptive analysis. It provides outputs such as trends, visualizations (e.g., bar charts, line graphs), forecasts, performance metrics, and actionable recommendations entirely based on user queries in plain English.

For example, a regional sales manager might want to understand what factors influenced last quarter's revenue dip or forecast next month's performance. Instead of relying on a data team, they can simply ask the system in natural language. ContinuumAI automatically identifies the relevant data, applies the right analytical methods, and delivers clear, actionable insights empowering the user to make informed decisions instantly.

While the long-term goal is to support **all major business domains**, the current version of ContinuumAI is focused specifically on the **Sales domain**, allowing us to build deep and meaningful capabilities before expanding further.

As for the data required to support our sales-oriented features, we are currently in discussions with firms to obtain sales related datasets. If such data is not accessible, we will explore open-source alternatives (e.g., Kaggle, Hugging Face) or generate synthetic data based on well-defined schemas.

## 2. System Actors

Actor Name	Description
Sales Manager	Responsible for overseeing sales teams and performance across regions or product lines. Uses ContinuumAI to track sales trends, identify underperforming areas, and generate forecasts or performance reports.
Product Manager	Drives product development and strategy. Uses the system to uncover sales trends, customer insights, and market opportunities, enabling faster, data-informed decisions without technical support.
Sales Business Analyst	Supports sales strategy through data analysis and reporting. Uses the platform to quickly explore datasets, validate hypotheses, and generate insights (e.g., customer churn, revenue patterns) without manual SQL or spreadsheet work.
Customer Relationship Manager	Works post-sale to ensure client satisfaction and retention. Uses the system to identify at-risk customers based on declining purchases or engagement trends and to suggest proactive follow-up actions.
Regional Sales Lead	Focuses on sales activities within a specific geographic region. Uses ContinuumAI to assess territory-specific trends, seasonal patterns, and demand shifts, helping plan outreach and future steps to take.
ERP/Resource Planning Manager	Responsible for aligning inventory, procurement, and logistics based on product demand. Uses ContinuumAI to monitor sales trends across regions and time periods, helping to allocate resources (e.g., stock, labor, logistics support) more efficiently toward high-performing or fast-moving products.
Marketing Strategist	Focuses on planning high-level marketing campaigns and aligning them with business goals. Uses ContinuumAI to analyze sales trends, customer demographics, and regional performance data to identify underperforming products or markets. Based on these insights, they tailor marketing efforts to boost visibility and engagement where it's most needed.

### 3. Functional Requirements

Requirements of Sales Manager	
Sr#	Requirement
1	I want to ask what factors influenced last quarter's revenue so I can understand root causes without waiting for analysts.
2	I want the system to generate a plain-English summary of weekly performance so I can quickly brief executives without building reports.
3	I want to receive proactive recommendations on how to close my pipeline gap so I can improve quota attainment.

Requirements of Product Manager	
Sr#	Requirement
1	I want to forecast product-specific demand so I can plan for upcoming launches and growth.
2	I want to connect product adoption data with sales outcomes so I can prioritize roadmap decisions.
3	I want to view product-level dashboards (eg. churn) so I can measure product success in the market..

Requirements of Sales Business Analyst	
Sr#	Requirement
1	I want to explore KPIs like conversion, velocity, and churn without using SQL so I can quickly analyze performance.
2	I want to view detailed breakdowns of results (e.g churn, ROI) so I can understand what is driving outcomes.
3	I want to publish insights and visualizations so managers can use them in decision-making.

Requirements of Customer Relationship Manager	
Sr#	Requirement
1	I want to identify at-risk accounts based on signals like declining usage so I can act before churn occurs.
2	I want to receive recommendations for upsell and cross-sell opportunities so I can grow existing accounts.
3	I want the system to generate proactive follow-up suggestions so I can maintain customer satisfaction.

Requirements of Regional Sales Lead	
Sr#	Requirement
1	I want to understand seasonal or geographic sales patterns so I can plan campaigns.
2	I want to forecast future territory performance so I can set realistic targets.

Requirements of ERP/Resource Planning Manager	
Sr#	Requirement
1	I want to align sales forecasts with inventory and logistics data so resources are allocated efficiently.
2	I want the system to forecast resource needs so I can plan procurement in advance.

Requirements of Marketing Strategist	
Sr#	Requirement
1	I want to identify which channels generate the most qualified leads so I can focus budgets effectively.
2	I want to receive recommendations on reallocating spend so I can improve marketing-driven sales impact.

#### 4. Non-functional Requirements / Quality Attributes

Sr#	Requirements
1	The system will process and display visualizations for 90% of natural language queries on datasets under 500 MB within 10 seconds.
2	A 100 MB CSV file will be ingested, processed, and made ready for analysis in under 60 seconds.
3	After a 15-minute tutorial, new users must achieve an 80% first-attempt success rate when generating a sales trend visualization without assistance.
4	The system must support 20 concurrent users with no more than a 20% degradation in average query response time compared to a single user.
5	Exporting any chart to a PNG file or data table to a CSV file must complete within 5 seconds.

## 5. Security Requirements

Sr #	Security Risks	Potential Losses	Controls
1	Broken Access Control	Confidential data exposure, Data integrity compromise, Legal and compliance issues	Session Isolation, Access Control Validation, Token Management
2	Cryptographic Failures	Confidential Data Exposure, Data Integrity Compromise, Regulatory Penalties	Encrypt Data at Rest and Transit, Password Hashing, Key Management
3	Injection	Confidential data exposure, Data integrity compromise, System Compromise	Input Validation and Sanitisation, Parameterized Queries for SQL
4	Unrestricted Resource Consumption	Denial of Service (DoS), Increased Operational Costs	Rate Limiting, Resource Quotas (for network bandwidth etc.)
5	Server Side Request Forgery (SSRF)	Data Exposure, Denial of Service (DoS)	Input Validation and Sanitization, Allowlists for URL Origins



## 6. Security Engineer

Name of the Security Engineer	Muhammad Nafees
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## **7. Use of Generative AI**

- Used to understand the typical LLM benchmark for processing CSV file, relevant for agentic models such like ours
- Learning about what kind of security requirements should we cater for
- Basic grammar fixing, sentence structuring

## 8. Who Did What?

Name of the Team Member	Tasks done
Umer	Section 1, Review Sections 2, 3, 7
Mustufa	Section 4,7
Ali Faizan	Section 1, 2, 7 plus review
Bazaf	Section 2,3 + review
Nafees	Section 5, 6

## 9. Review checklist

Section Title	Reviewer Name(s)
Introduction	Bazaf
Actors	Umer
Functional Requirements	Nafees
Non-functional requirements	Ali Faizan
Security Requirements	Mustafa
Use of Generative AI	Umer