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MINE AI – Product Summary for Development Partners

Issuer-centric intelligence platform for the debt capital markets

Version: 1.0

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Overview

Mine AI is a SaaS platform designed specifically for corporate treasury and debt investor relations teams. It provides an intelligent, centralised workspace for storing, accessing, and analysing bond issuance data, investor engagement history, and real-time order book dynamics.

Our users are corporate issuers, not banks or investors. The platform empowers issuers with full ownership and insight over their historical capital markets activity, investor relationships, and execution strategies.

Current Status

- A working prototype covering ~95% of the intended V1 functionality has already been developed using no-code tools and AI
- We are now engaging development agencies to rebuild this prototype with a scalable, production-ready architecture
- This summary outlines the functional scope and product vision to support quoting and technical planning

Key Features and Functional Scope

1. Deal & Orderbook Management

- Upload and store all historical bond issuance data in one secure, searchable portal
- Structured storage of deal-level metadata and Excel-style orderbooks
- Instant search and retrieval of any past transaction by investor, geography, size, etc.

2. Investor Intelligence & Relationship History

- Upload and track all investor relations activity: meetings, roadshows, interactions
- Record both quantitative and qualitative feedback from investors
- Search and filter all historical engagements
- Generate AI-powered summaries of investor sentiment and feedback

- Produce reports by investor or region, tracking historical views and participation

3. Market Intelligence & Cross-Asset Insights

- Integrate third-party investor data to surface intelligence on key market participants
- Identify cross-asset ownership links (e.g. between equity and debt investors)
- Analyse historical investor behaviour across deals, sectors, and time periods

4. Orderbook Analytics (Live + Historical)

- Enhanced orderbook analytics combining internal and external data
- Customizable interface displaying live deal progression (via future API integration with vendors like S&P/IssueNet)
- Real-time data visualisation to highlight investor momentum and demand shifts
- AI-driven pricing and allocation strategy recommendations, based on historical investor behaviour and predictive modelling

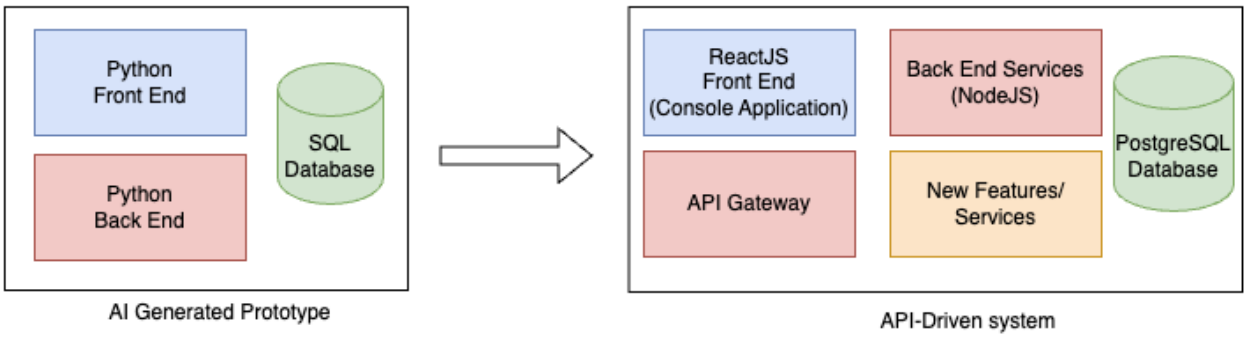
5. Bank Relationship Management

- Track DCM bank activity, roles, and contribution across deals
- Monitor bank wallet share and loans exposure
- Benchmark bank performance over time

Scope of Work

The scope of work involves converting the current prototype into a robust, production-ready API-driven system, with a headless web application serving as the user-facing front-end.

Furthermore, the scope encompasses the development of new features, detailed in this document, that are not currently included in the prototype and require implementation from scratch.



Prototype Application

A prototype monolithic application has been developed and implements the basic features, user journeys and end-to-end flows. It was built using an AI-code generator and uses the following tech stack:

TYPE	TECHNOLOGY
Frontend	Streamlit (Python web framework)
Backend	Python 3.11
Database	SQLite with SQLAlchemy ORM
Data Processing	Pandas, NumPy
Visualisation	Plotly Express/Graph Objects
AI Integration	Claude API

The prototype emphasises core features and user journeys to demonstrate the anticipated inputs and outputs of key functionalities. Additionally, it incorporates analytical computations and

generates aggregated reports based on custom calculations. However, the user interface, user experience, and overall visual design remain provisional and have not been finalised.

The following is a list of modules and features implemented in the prototype application:

Deal Management

Data Model:

- Deal entity with comprehensive bond attributes
- Many-to-many relationship with advisors
- Linked pre-marketing feedback and order tracking

Key Features:

- New deal creation with market scoring
- Historical deal analysis and performance tracking
- Deal status workflow management
- Advisor assignment and review system
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Investor Relations Management

Data Model:

- Investor profiles with contact information
- Order history and preference tracking
- Meeting logs and interaction history
- AI-generated investor summaries

Key Features:

- Comprehensive investor database
- Order placement and tracking
- Meeting scheduling and notes
- Bulk data import via Excel templates

Pre-Marketing Intelligence

Data Model:

- Feedback collection from investor outreach
- Tone analysis (bullish, neutral, cautious)
- Order size predictions and pricing insights

Key Features:

- Feedback form with structured data collection
- Bulk upload capabilities for marketing teams
- Integration with existing investor database
- Automated investor matching algorithms

Advisor Performance Analytics

Data Model:

- Advisor profiles with contact management
- Deal association tracking
- Performance review system with fee analysis

Key Features:

- AI-powered performance scorecards using Claude
- Comparative analysis between advisors
- Fee structure analysis and recommendations
- Historical performance trending

Market Players Intelligence

Data Model:

- Market participant profiles
- Asset under management tracking

- Fund flow analysis (weekly/monthly)
- Geographic and asset class segmentation

Database Schema

Core Entities

1. Deals: Bond issuance records with market data
2. Investors: Institutional investor profiles
3. Advisors: Investment bank and advisor information
4. Orders: Investment orders and allocations
5. Meetings: Investor interaction logs
6. PreMarketingFeedback: Market intelligence gathering
7. MarketPlayers: Broader market participant data
8. EquityInvestors: Equity-focused investor data

AI Integration

Claude API Integration

- Investor performance analysis and insights
- Advisor scorecard generation
- Market condition assessment
- Comparative analysis between market participants

Features

- Automated report generation
- Natural language insights from numerical data
- Performance benchmarking
- Strategic recommendations

Data Management

Import/Export Capabilities

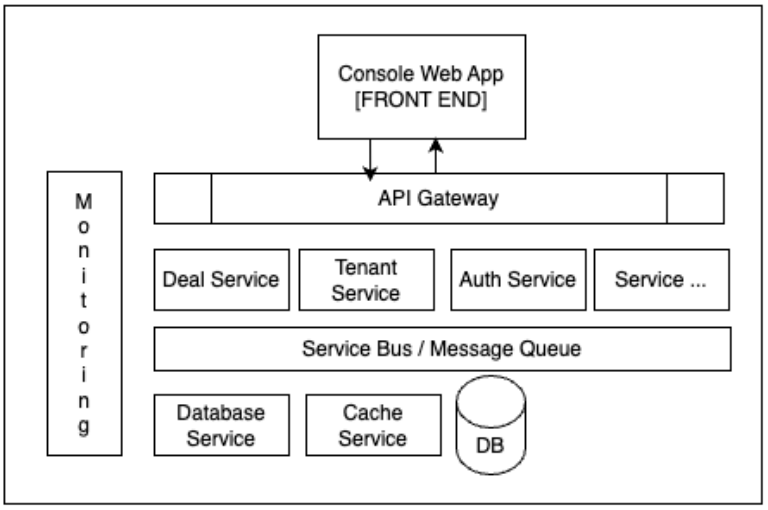
- Excel template generation for bulk data entry
- CSV import for historical data migration
- PDF report generation for client presentations
- Data validation and duplicate detection

Data Integrity

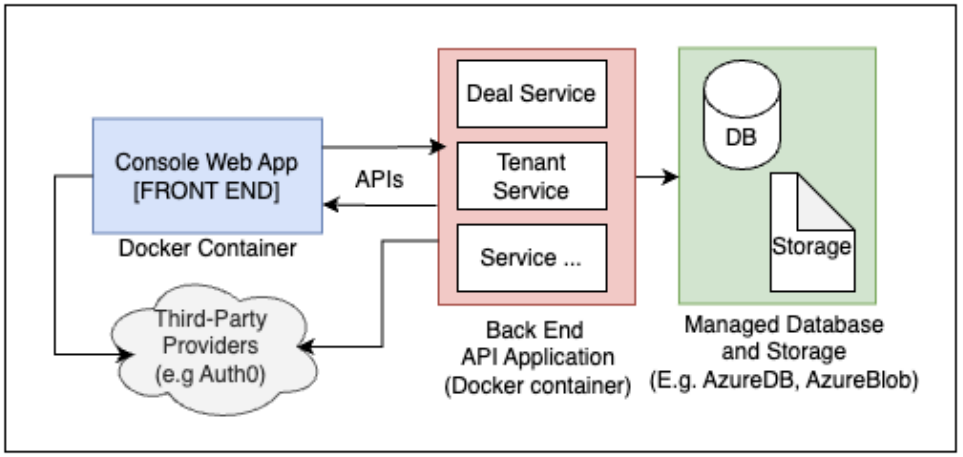
- Standardized naming conventions
- Country code standardization
- Duplicate detection algorithms
- Foreign key constraint enforcement

Refactored Application - MVP

Since the solution will be delivered to end users as a multi-tenant SaaS platform, the target architecture must be scalable, capable of effective load management, and support automatic scaling. The final architecture will be a distributed system based on an API-driven microservices mesh, deployed using a container orchestrator such as Kubernetes. However, for the MVP phase, a streamlined architecture will be implemented to align with project timelines and budgetary constraints.



Final Target Architecture



MVP Architecture

The MVP App needs to implement all features currently in the prototype, including file upload, report generation, deal management and order tracking. Moreover, the following Key features will have to be implemented:

1. The system will be multi-tenant, encompassing tenant provisioning, management, and, where required, data segregation and partitioning. New tenants will be onboarded via an invitation link, enabling them to create an ‘owner’ account. Following this, the system will asynchronously provision and onboard the new customer, including the appropriate data setup.

2. An authentication system is essential, with the capability for tenant owners to invite additional users within their organisation. To address this requirement, we will consider both a bespoke/in-house authentication system or an out-of-the-box authentication and CIAM solution, such as Auth0. Further details regarding Auth0 integration are available in their documentation.

3. Authorisation of Front-End to Back-End, using JWT Bearer tokens. Since Auth0 will be used, its JWT SDK can be leveraged to authorise API calls from the front-end application to the backend.

4. A monitoring system, such as Kibana or Grafana, will also be required in order to monitor the application and its services.

The UI/UX is still being finalised. These will be provided as Figma files.

Core development principles:

1. API-first development
2. Test-driven/automated testing development
3. Cluster/Hyperscaler Agnostic

AI-Native Approach

Mine AI is designed to be AI-native, embedding artificial intelligence throughout the data pipeline and user experience to ensure scalability, intelligence, and operational efficiency. AI is used to:

- **Assist with data ingestion** from uploaded Excel files and manual inputs
- **Clean and standardise investor data**, resolving naming inconsistencies and mapping duplicate entities (e.g. consolidating “Blackrock” and “Black Rock Inc.” into one profile)
- **De-duplicate and normalise** investor records to enable a clean, unified dataset
- **Tag investors** based on behaviour, participation history, and engagement
- **Summarise investor feedback** automatically into readable formats for internal use or reporting
- **Power predictive analytics** to support smarter execution decisions

A clean and intelligently mapped investor dataset is foundational to the platform's value proposition, and AI plays a critical role in ensuring this is maintained automatically and at scale.

Summary of Required Tasks

The following is a list of expected tasks that our development partner will be contributing to:

Phase 1

- Timeline: H2/2025

1. Data Schema refactoring/optimisation from the prototype app
2. Database conversion to PostgreSQL
3. Refactoring of code and modules from Python to ideally ReactJS and NodeJS
4. Implementation and design of various APIs and tools
5. Implementation and design of the multi-tenancy feature
6. Implementation of an authentication system, either using an out-of-the-box provider or a bespoke one (Please quote/estimate for both options)
7. Implementation and integration with Azure Services (Database, Blob)
8. Integration with Claude AI APIs
9. Implement automated testing scripts
10. UI/UX wireframing - Optional - please quote for this service if you have it in-house

Phase 2

- Timeline H1/2026

1. Refactor to final architecture using microservices, API-gateway (Kong), RT Message queue
2. Additional AI-driven features