unthinkable

Developing An AI-Powered Accounting Platform For A Leading UAE-Based Advisory Firm

Country | A Leading Financial Advisory Firm

Industry | UAE

Customer | Finance

ABOUT THE CLIENT

The client is a global financial advisory firm headquartered in Dubai that delivers integrated solutions for corporate and financial management. The firm specializes in company formation, IFRS-compliant accounting, and expert advisory on VAT, corporate tax, and AML compliance. Through its network of offices in the UAE, India, Singapore, Oman, and Canada, it provides these services to a diverse international clientele.

TECH STACK

React | node js | Azure

BUSINESS SITUATION

The firm's accountants were spending a significant amount of their workweek on manual, repetitive data entry. The process of receiving invoices, extracting key information, and creating corresponding journal entries was entirely manual, consuming valuable time that could have been allocated to higher-value analysis and client advisory. This labor-intensive workflow not only created operational bottlenecks but also introduced a high risk of human error, especially when handling a large volume of documents from clients across various industries and regions.

To address these inefficiencies, the firm envisioned a centralized, AI-powered platform to automate the entire bookkeeping cycle. Their goal was to create a single source of truth that could ingest invoices, intelligently extract data, and prepare entries for review, thereby freeing their expert accountants from mundane tasks. They required a solution that would preserve accuracy and oversight through a Human-in-the-Loop model while increasing speed and scalability.

Unthinkable Solutions was chosen as the technology partner to bring this vision to life due to its proven subject matter expertise in developing custom accounting solutions.

In a nutshell, the key requirements were to:

1. Build a secure, multi-tenant accounting platform to manage financial operations for numerous end-clients while ensuring complete data segregation and privacy.

2. Implement an intelligent data capture system using AI-based Optical Character Recognition (OCR) and Large Language Models (LLMs) to automate data extraction from scanned invoices.

3. Incorporate a bulk upload feature to enable accountants to process multiple documents in a single, efficient workflow.

4. Design a "human-in-the-loop" verification interface that allows for quick review and correction of AI-generated data.

5. Develop a full suite of standard accounting features, including modules for managing payables and generating financial reports on demand.

6. Ensure the platform was built on a scalable architecture to support future enhancements, such as direct banking API integrations.

Our primary goal was to eliminate the client's reliance on manual data entry by completely automating their bookkeeping cycle . Our team of software architects and engineers built a custom platform that processes high volumes of invoices with maximum efficiency, while ensuring full compliance with all UAE financial regulations, including IFRS standards, Corporate Tax, VAT reporting requirements, Personal Data Protection Law (PDPL) and KYC compliance.

To power this architecture, we selected a technology stack engineered for high performance. The backend runs on Node.js to efficiently manage the concurrent API calls demanded by the AI workflow. The frontend, built with React.js, powers the platform's core feature: a side-by-side verification screen that allows accountants to instantly validate AI-extracted data against the source invoice.

The platform's intelligence is driven by a two-stage AI pipeline. First, Azure Document Intelligence extracts data from varied document layouts. This structured output is then passed to an OpenAI LLM, which intelligently analyzes the text to identify and populate key fields before creating a draft bill. This layered AI approach automates the most time-consuming bookkeeping tasks while maintaining high accuracy through human oversight.

**The platform was designed with these core features:**

User Access And Authentication Module

The platform features a robust multi-tenant design that ensures complete data segregation by treating each client organization as a distinct and separate entity within the system. Accountants are assigned specific roles, System Admin for platform control or OCR Admin for document processing, restricting access to only their designated clients and relevant modules.
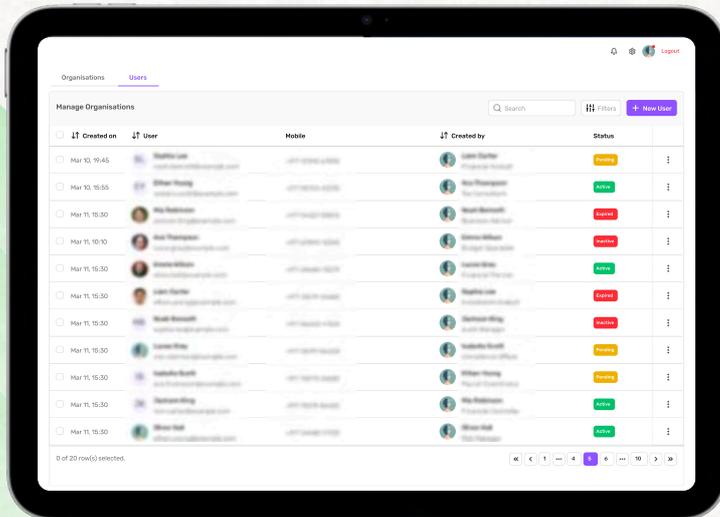

Charts Of Accounts (COA) Module

The platform provides a flexible Charts of Accounts (COA) module that serves as the foundational framework for all accounting activities. This allows the firm to establish standardized yet customizable account structures for each client, ensuring consistency in financial categorization, transaction recording, and reporting across their diverse portfolio.
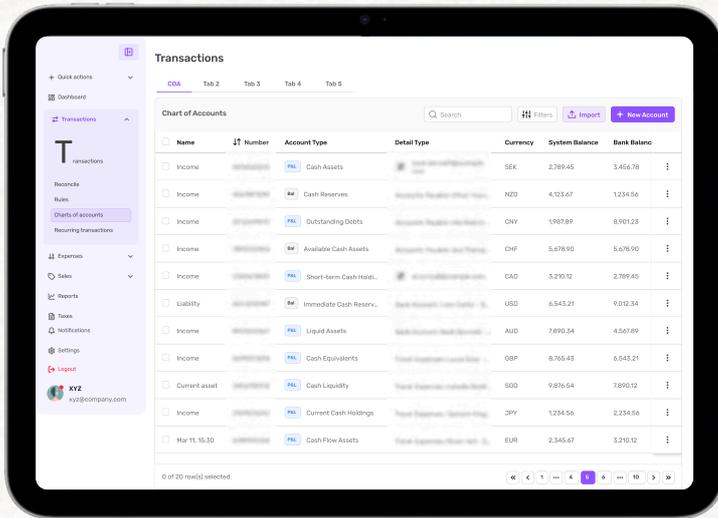
Optical Character Recognition (OCR) Integration

As the core of the platform's automation engine, this feature uses Azure Document Intelligence to eliminate manual data entry. Accountants can bulk-upload scanned invoices and other financial documents. The OCR technology instantly reads the documents, converting images and PDFs into structured, machine-readable text with high accuracy.
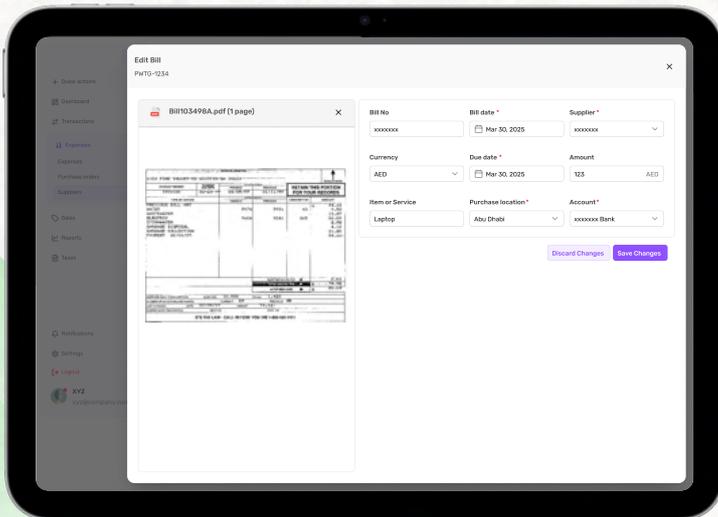

Creation Of Bills Module

Once the OCR extracts the raw data, an integrated OpenAI LLM intelligently analyzes the text to identify and populate key fields. The system automatically creates a draft bill by filling in the vendor name, bill number, line items, and amounts. This AI-driven process is paired with a side-by-side verification interface where an accountant can quickly review the auto-populated data against the original document, make any necessary corrections, and approve the bill for processing.
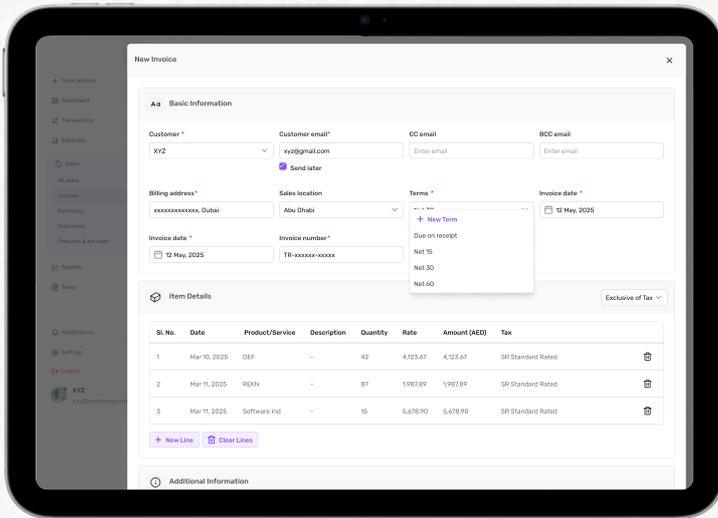
Journal Module

The platform includes a comprehensive module for managing all journal entries, which form the primary record of financial transactions. Upon approval of a bill or other transaction, the system automatically generates the corresponding double-entry journal postings to the correct accounts. This automates a fundamental bookkeeping task, ensuring accuracy and maintaining a complete, auditable transaction history in the general ledger.
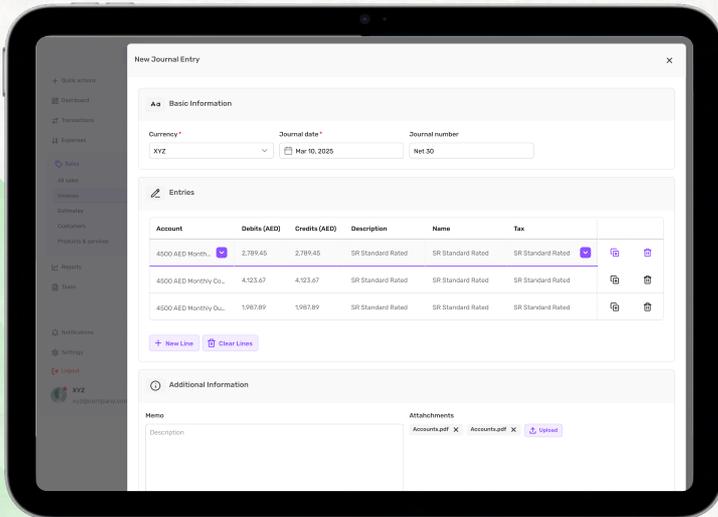

Asset Management Module

A dedicated module for asset management automates the tracking and depreciation of company assets over their entire lifecycle. The system manages acquisition data, calculates various depreciation schedules, and integrates these values directly into the general ledger. This ensures that financial statements accurately reflect current asset valuation at all times without manual calculations.
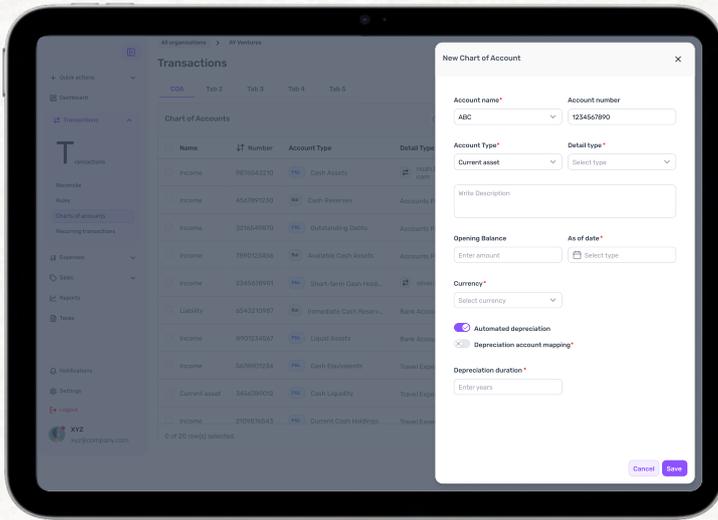
Reports Module

The platform generates critical financial statements on demand, providing real-time visibility into financial performance. Users can instantly create standard reports, including the Profit & Loss (P&L) statement, Balance Sheet, and Trial Balance. This immediate access to accurate financial data accelerates decision-making and supports proactive cash flow management.
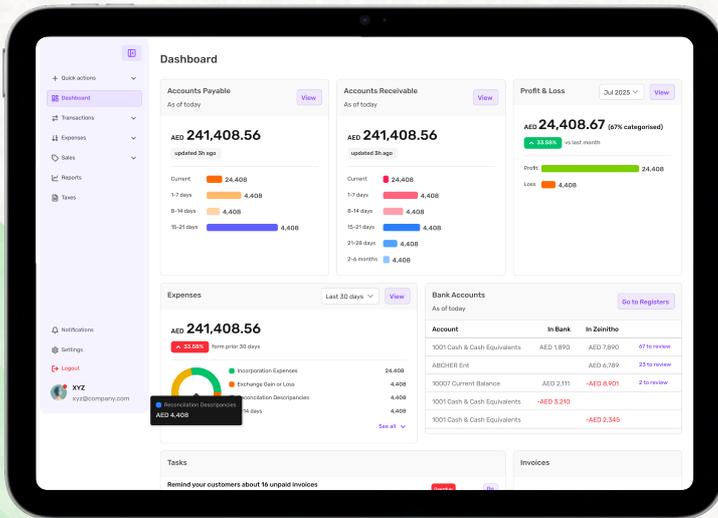
IMPACT

The new platform automates the firm's bookkeeping, freeing accountants from manual data entry to focus on strategic client advisory. It combines Azure Document Intelligence for OCR with an OpenAI LLM, which automates invoice processing and journal entry creation. A Human-in-the-Loop verification model ensures financial data remains accurate by keeping expert accountants in control of final validation.

This automation provides on-demand financial reports, enabling faster, data-driven decisions. The resulting efficiency creates a scalable foundation for growth, allowing the firm to take on more clients without needing to hire more staff.

HAVE A SOFTWARE
PRODUCT VISION IN MIND?

Let's Talk ↗

Set up a personalized consultation with our technology expert

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