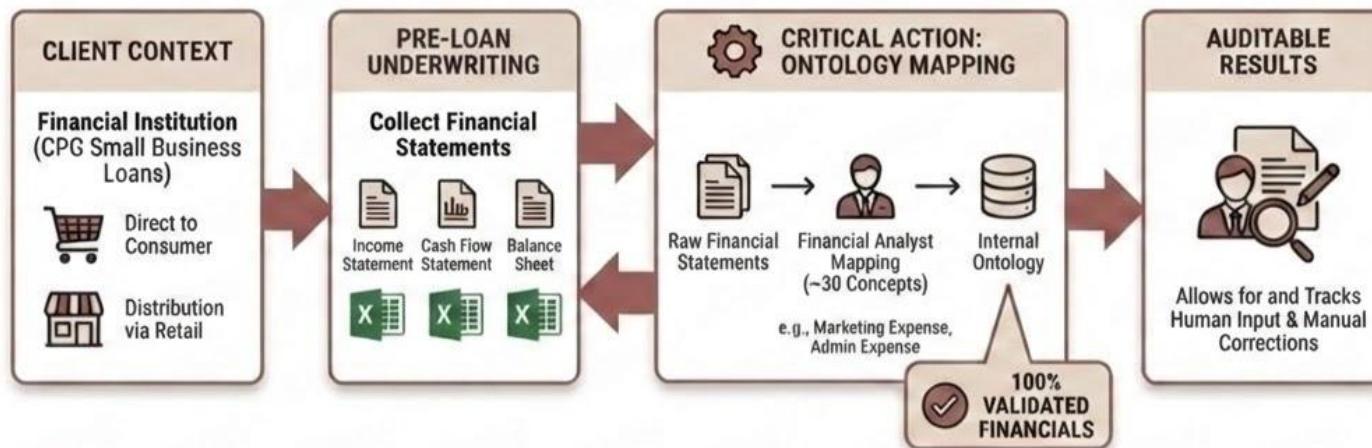


Exgent - A Finance Workflow

- Exgent is designed to solve the problem of evaluating a company's financials before a loan is made.
- As companies have different reporting formats, the accounts must be standardized so the internal loan evaluation system can process it.
- Exgent provides an Agent solution to a task that is currently 100% manual



Our Goal

Turn excel files into standardized reports. 30+ standard tags need to be associated

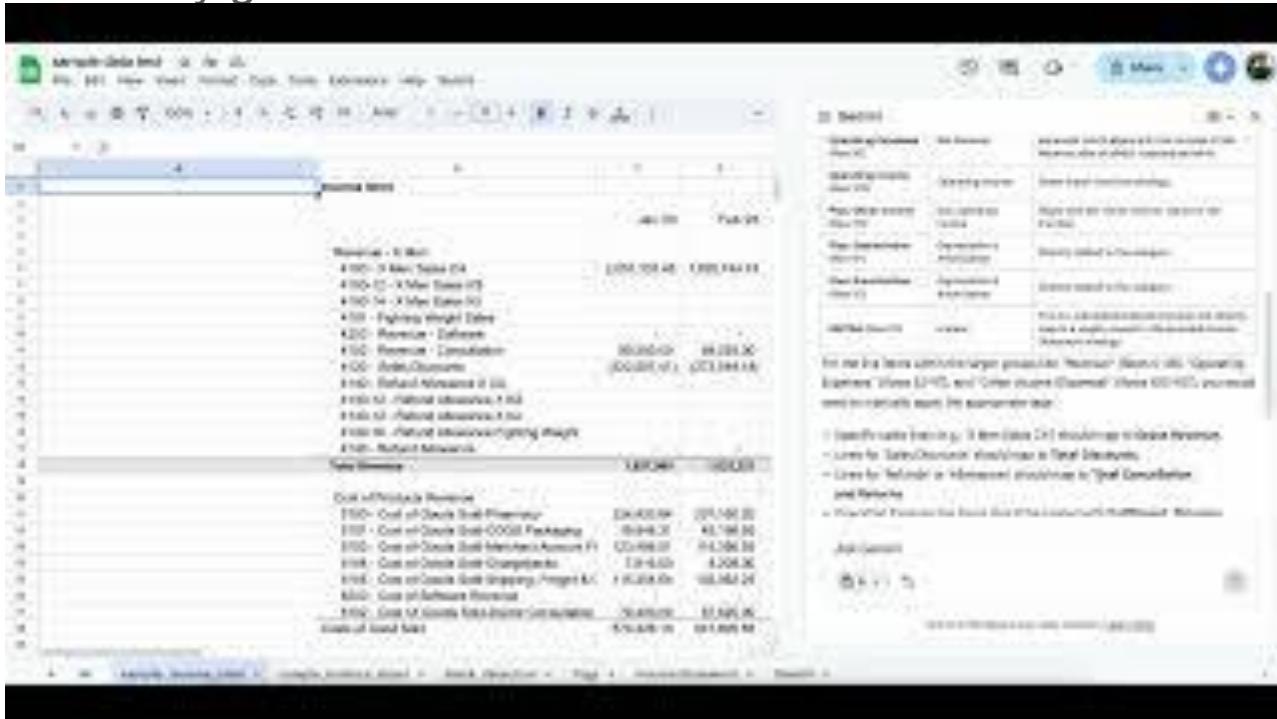
| | A | B | C |
|----|--|------------------|------------------|
| 1 | Income Stmt | | |
| 2 | | | |
| 3 | | Jan '23 | Feb '23 |
| 4 | | | |
| 5 | Revenue - X Men | | |
| 6 | 4100 - X Men Sales CA | 2,051,332.45 | 1,820,744.74 |
| 7 | 4100-12 - X Men Sales KS | | |
| 8 | 4100-14 - X Men Sales NJ | | |
| 9 | 4101 - Fighting Weight Sales | | |
| 10 | 4203 - Revenue - Software | - | - |
| 11 | 4102 - Revenue - Consultation | 99,250.00 | 84,525.00 |
| 12 | 4120 - Sales Discounts | (322,587.41) | (273,049.18) |
| 13 | 4140 - Refund Allowance X CA | | |
| 14 | 4140-12 - Refund Allowance X KS | | |
| 15 | 4140-14 - Refund Allowance X NJ | | |
| 16 | 4140-16 - Refund Allowance Fighting Weight | | |
| 17 | 4140 - Refund Allowance | - | - |
| 18 | Total Revenue | 1,827,995 | 1,632,221 |
| 19 | | | |
| 20 | Cost of Products Revenue | | |
| 21 | 5100 - Cost of Goods Sold-Pharmacy | 224,420.64 | 207,160.20 |
| 22 | 5101 - Cost of Goods Sold-COGS Packaging | 19,848.31 | 45,198.55 |
| 23 | 5103 - Cost of Goods Sold-Merchant Account Fee | 123,486.51 | 115,356.55 |
| 24 | 5104 - Cost of Goods Sold-Chargebacks | 7,816.00 | 4,208.00 |



| Standard tags | Income Stmt | Jan '23 |
|--------------------------------|--|------------------|
| Revenue - X Men | Revenue - X Men | |
| Gross Revenue | 4100 - X Men Sales CA | 2,051,332.45 |
| Gross Revenue | 4100-12 - X Men Sales KS | |
| Gross Revenue | 4100-14 - X Men Sales NJ | |
| Gross Revenue | 4101 - Fighting Weight Sales | |
| Gross Revenue | 4203 - Revenue - Software | - |
| Gross Revenue | 4102 - Revenue - Consultation | 99,250.00 |
| Total Discounts | 4120 - Sales Discounts | (322,587.41) |
| Total Cancellation and Returns | 4140 - Refund Allowance X CA | |
| Total Cancellation and Returns | 4140-12 - Refund Allowance X KS | |
| Total Cancellation and Returns | 4140-14 - Refund Allowance X NJ | |
| Total Cancellation and Returns | 4140-16 - Refund Allowance Fighting Weight | |
| Total Cancellation and Returns | 4140 - Refund Allowance | - |
| Net Revenue | Total Revenue | 1,827,995 |
| | | |
| Cost of Products Revenue | | |
| Gross Product Cost | 5100 - Cost of Goods Sold-Pharmacy | 224,420.64 |
| Gross Product Cost | 5101 - Cost of Goods Sold-COGS Packaging | 19,848.31 |
| Shipping & Fulfillment Cost | 5103 - Cost of Goods Sold-Merchant Account Fee | 123,486.51 |
| Shipping & Fulfillment Cost | 5104 - Cost of Goods Sold-Chargebacks | 7,816.00 |

Start point - Dec 26th 2025

Lets try gemini - How hard can it be?



Maybe just

- Open sheets
 - Add prompt
 - Ask gemini to insert ontology tags

* Recorded on Jan3rd,
with prompt from demo

Settling on a no-compromise design - Dec 30th

- Users **upload excel files** into a React application
- Users must be able to **interact with the excel sheet** (Similar to canvas in modern Al)s)
- Make the process interactive so the analyst remains involved
 - Remove the boring parts of validating financials “such as checking the totals for each date”.
- **Divide and conquer the problem** that is too hard to solve in single step
 - Agent to understand **sheet structure**
 - Another agent to take logical part of sheet **and tag them**
 - Testing on sample data in gemini web app with prompt engineering has been promising..
- Must maintain **Audit trail** and be able to review all changes.

I choose with Python Fast API and React 13 for the frontend, Google ADK for the agent framework.

Github: <https://github.com/sanjayvenkat2000/exgent>

Demo

<https://youtu.be/WT1LHVI8Qgc>

Learning - What the demo achieves

- Models are much better at dealing with csv or markdown than excel files.
 - Matches their training data more closely
- Context engineering is key
 - Small problems with **clean context** and **clear prompt instructions** proved very effective.
 - Asking the **model to rewrite its prompt** for clarity help as always.
- In order to build trust an interactive experience is ideal.
 - Show the user the end result
 - Show the user the steps
 - Allow the user to change the output of the model
 - Maintain an audit trail

Architecture highlights - Server

Storage

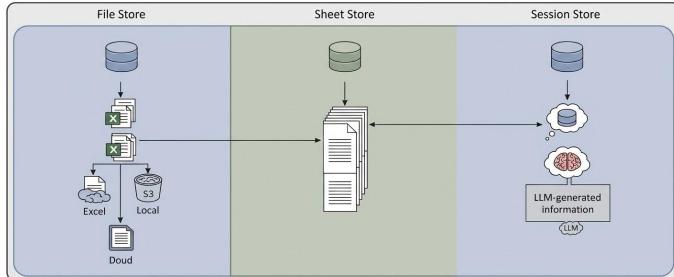
- **File Store:** Stores uploaded files and access control information
- **Sheet Store:** Stores metadata and validation information extracted from the excel files. This is a **versioned store**
- **Session Store:** Stores the LLM chat outputs that are synchronize with the Sheet Store

Agents

- **Sheet Structure Agent:** Purely responsible for understand the sheet structure
- **Tag Agent:** Responsible for tagging
- **Verify Agent:** Uses tools to validate the sheet numbers

Server

- REST inspired endpoints with streaming chat endpoint (all endpoints shown)



| | |
|--------|---|
| GET | / Read Root |
| GET | /files List Files |
| DELETE | /files/{file_id} Delete File |
| GET | /files/{file_id} Get File Details |
| GET | /sheets/{file_id} Get Sheet Names |
| GET | /sheetdata/{file_id}/{sheet_idx} Get Sheet Data By Index |
| GET | /sheetinfo/{file_id}/{sheet_idx} Get Sheet Info By Index |
| POST | /sheetinfo/{file_id}/{sheet_idx} Update Sheet Info |
| POST | /sheetchat/{file_id}/{sheet_idx} Sheet Chat Stream |
| GET | /sheetchat/history/{file_id}/{sheet_idx} Get Sheet Chat History |
| POST | /upload Upload File |

Architecture highlights - Client

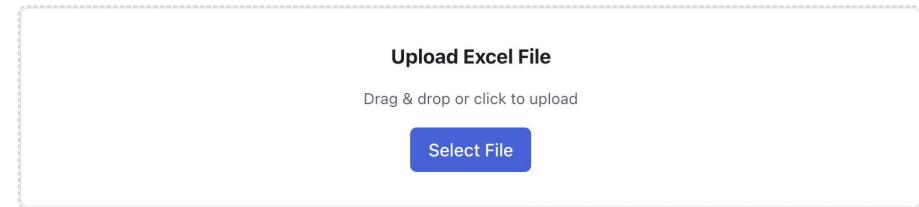
Not Much: “Good react app. Supports streaming for agent”

- **Use best of class libraries:** React apps can break down quick if good design is not followed.
 - Tanstack useQuery is used here to borrow the great work they do.
- Abstract all service calls to a single file, we need to implement authentication etc. (one file to change later).
- Use good state management using providers
 - Providers allow good access without passing props all over the place (prop tunneling)
- Do not use **useEffect(..)**, where possible, as this is an anti-pattern and causes issues very fast that are hard to debug.

Welcome to Exgent

Your professional AI agent designed to handle **very large Excel files** with ease. Exgent's **Primary Objective** is to tag the data into your internal ontology. You can also **converse** with Exgent about information in the files.

[Large File Support](#) [Internal Ontology Tagging](#) [Instant Insights](#)



Architecture highlights - Client

Synchronizing UI state

- Ag-UI and A2UI are emerging standards. Needs a few more months to flush out.
- **Current idea: Use a custom LLM message to tell the UI “what to update”.**
- Should migrate to standards to get UI reuse.

The screenshot shows a spreadsheet application window titled "Egxent" with the file "sample.xlsx" open. The sheet "sample_balance_sheet" is selected. The data is organized into sections: Assets, Current Assets, Liabilities and Equity. A tooltip for "Current Assets" indicates "29 Valid | 2 Errors Click to see details". The "Assets" section includes rows for Cash and bank balances, Accounts receivable, Inventory, and Unclear items. The "Current Assets" section includes rows for Total Current Assets, Property, Plant, & Equipment, Other Long Term Assets, and Unclear items. The "Liabilities and Equity" section is partially visible at the bottom. The interface includes a toolbar with tabs for sample_income_sheet, sample_balance_sheet, blank_detection, Tags, and Income Statement, along with columns A through H.

| A | B | C | D | E | F | G | H |
|----|------------------------------|-----------------|--------------|--------------------|--------------------|--------------------|------------|
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | Assets | Current Assets | | | | | |
| 4 | Cash and bank balances | 16.03 | 876608.52 | 534286.69 | 1215766.66 | 62295.87 | 405764.78 |
| 5 | Cash and bank balances | 0.0 | 0.0 | 0.0 | 0.0 | 250568.25 | 400970.28 |
| 6 | Accounts receivable | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10000.0 |
| 7 | Inventory | 1.98 | 194663.35 | 191110.6 | 169075.36 | 226574.95 | 230138.58 |
| 8 | Unclear | 1.49 | 132731.93 | 175103.29 | 154716.37 | 149278.61 | 168129.44 |
| 9 | Accounts receivable | 0.03 | 25651.03 | 25651.03 | 25651.03 | 25651.03 | 25651.03 |
| 10 | Accounts receivable | 41 | 0.0 | 23602.46 | 0.0 | 103794.36 | 91294.97 |
| 11 | Accounts receivable | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12 | Accounts receivable | 5,277,267.35 | 5,277,260.00 | Variance: 7.35 | | | |
| 13 | Accounts receivable | | | | | | |
| 14 | Cash and bank balances | | | | | | |
| 15 | Total Current Assets | 18.12 | 1229654.83 | 949754.07 | 1565209.4200000002 | 1378163.0700000003 | 1331949.08 |
| 16 | Property, Plant, & Equipment | 5,876,842.93 | 87 | 113682.28 | 141445.02 | 145402.98 | 154847.46 |
| 17 | Other Long Term Assets | 5,874,151.99 | 164 | 187044.87 | 239011.92 | 268493.33 | 313153.35 |
| 18 | Other Long Term Assets | 2,690.94 | | 0.0 | 0.0 | 53000.0 | 423685.23 |
| 19 | Other Long Term Assets | | | | | | |
| 20 | Other Long Term Assets | | | 0.0 | 0.0 | 250.0 | 250.0 |
| 21 | Unclear | 99,630,000,0004 | 1530381.98 | 1330211.0099999998 | 1979355.7300000002 | 1899163.8800000004 | 1988980.81 |
| 22 | | | | | | | |
| 23 | | | | | | | |
| 24 | Liabilities and Equity | | | | | | |
| 25 | | | | | | | |