CODECELL - CMPN, VESIT

SYRUS HACKATHON 2025

Category Code: C2

Problem Statement Title: Tax Optimization & Harvesting Assistant

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Institute Name: Vivekanand Education Society’s Institute of Technology

Idea / Approach details (& implemented features)

Idea: AI-powered tax optimization assistant for real-time **tax-loss harvesting** & portfolio efficiency.

Problem: Investors face complex tax rules & manual portfolio adjustments

Solution: AI automates tax-saving strategies & ensures compliance.

Approach:

Real-Time Portfolio Analysis

- Continuously monitors an investor's holdings.
- Ensures timely data synchronization for accurate decision-making.

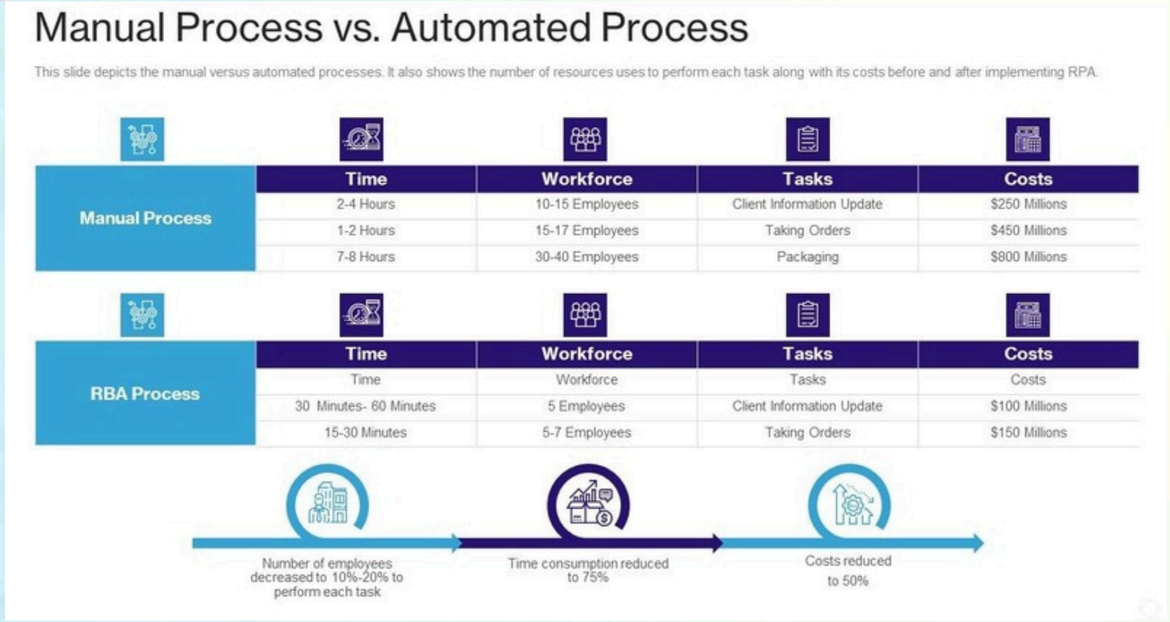
IRS Rule Compliance

- Automates Wash-Sale Rule enforcement (prevents repurchasing the same security within 30 days).
- Uses RAG Query Node to fetch IRS regulations dynamically.

AI-Powered Trade Recommendations

- Suggests alternative securities to maintain portfolio exposure while selling loss-making assets.
- Leverages historical data & AI models to improve recommendation accuracy.

Innovation (Showstopper)



Manual Process vs. Automated Process

This slide depicts the manual versus automated processes. It also shows the number of resources uses to perform each task along with its costs before and after implementing RPA.

	Time	Workforce	Tasks	Costs
Manual Process	2-4 Hours	10-15 Employees	Client Information Update	$250 Millions
	1-2 Hours	15-17 Employees	Taking Orders	$450 Millions
	7-8 Hours	30-40 Employees	Packaging	$800 Millions

	Time	Workforce	Tasks	Costs
RBA Process	Time	Workforce	Tasks	Costs
	30 Minutes- 60 Minutes	5 Employees	Client Information Update	$100 Millions
	15-30 Minutes	5-7 Employees	Taking Orders	$150 Millions

Number of employees decreased to 10%-20% to perform each task

Time consumption reduced to 75%

Costs reduced to 50%

Key differentiator:

- Continuous, real-time tax-loss detection (not just quarterly).
- Fully automated wash-sale rule compliance—no manual checks needed.
- Scenario simulation: Investors can preview tax impacts before trading.

Showstopper:

- "Turns complex tax rules into plain-language, real-time actions—saving time and money effortlessly."

Tech Stack

Uptiq AI Workbench Architecture

🔍 Real-Time Tax-Loss Detection

- Financial Data GatewayLive portfolio pricing retrieval
- Integrated brokerage account synchronization
- JavaScript NodeCustom loss identification logic
- Dynamic price comparison engine

🛡️ Wash-Sale Rule Compliance

- Ruleset NodeAutomated IRS regulation enforcement
- 30-day trade restriction mechanism
- Table NodeTransaction history tracking

🧠 AI-Powered Recommendations

- RAG Query NodeExtensive tax regulation knowledge base
- Tax-efficient security identification
- Prompt NodeActionable investment insights generation
- Personalized tax optimization advice

🔬 Additional Technologies

- Cloud-based financial data APIs
- Secure, encrypted transaction database
- Real-time computational analysis

Implementation/Prototype/Use Case Diagram

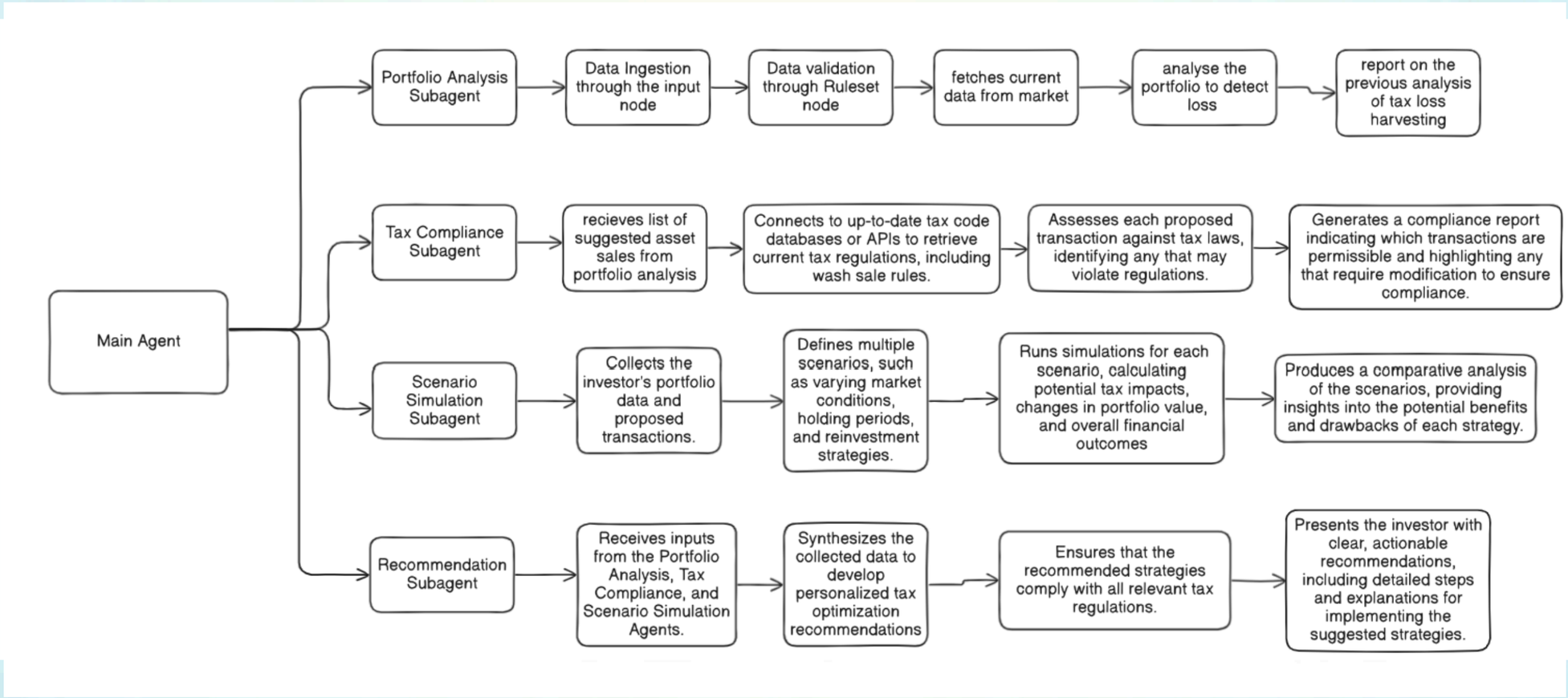


FIGURE 1: UPTIQ WORKFLOW IDEA

In case of Uptiq category - Your Uptiq Agent (explain in detail)

Uptiq Agent: Tax Optimization Assistant
Role: Acts as an AI-powered financial co-pilot for investors and advisors.
Detailed Functionality:

- Real-Time Monitoring: Uses Financial Data Gateway to pull live prices and portfolio data.
- Loss Detection: JavaScript Node runs logic (e.g., if currentPrice < purchasePrice → flag loss).
- Compliance Enforcement: Ruleset Node checks IRS wash-sale rules; Table Node logs sale timestamps.
- Smart Recommendations: RAG Query Node fetches tax rules and alternatives; Prompt Node delivers advice like "Sell X to save $Y, buy Z instead."

YT link:- youtube link

Doc Link:- Doc link

Future Objectives

- Enhanced machine learning models
- More sophisticated tax strategies
- Advanced predictive analytics
- Autonomous investment ecosystem
- Scale to financial advisors and robo-advisory platforms.