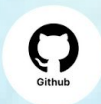# SYRUS HACKATHON 2025

Category Code: C5

Problem Statement Title: Investment & Stock Market Insights

Team Name: Status 200

Institute Name: Vivekanand Education Society's Institute of Technology

UPTIQ   unstop   Github   sprect   Rotary Club Bombay Chembur West   interview buddy   appwrite   .xyz   fueler   Interview Cake

Idea / Approach details

- Once the user enters an amount it is received by the UPTIQ agent which monitors OHLC values of stocks and starts trading execution.
- The live data fetched in csv file is split into three time frames into 5 minutes, 15 minutes and 60 minutes(candlestick charts).
- Candlestick patterns are analyzed through all three categories and an average pattern resemblance score is generated based on 8 patterns.
- This score helps in triggering buy, sell, short sell orders as well as managing risks such as stop loss.

Implemented features

- The system streams live market data by appending one transaction per second to individual stock CSV files in the liveData folder. A dedicated module then resamples this minute-level data into 5-minute, 15-minute, and 60-minute intervals, storing these resampled files in the slotting folder.
- Every second, the system analyzes the resampled data using eight statistical candlestick patterns. For each stock, it computes a resemblance score (ranging from 0 to 1) for each pattern, applies a directional factor (+1 for bullish, –1 for bearish), and aggregates these values into a final confidence score. A weighted average across the different timeframes produces a unified score ranging from –1 to +1, which is then calculated and stored in a CSV file for each stock.

Innovation (Showstopper) - The Algorithm

- The system ingests live minute-level OHLC data and resamples it into 5-minute, 15-minute, and 60-minute intervals, ensuring a multi-timeframe view of the market.
- Eight robust candlestick patterns (Bullish/Bearish Engulfing, Hammer, Hanging Man, Morning Star, Evening Star, Dragonfly Doji, and Shooting Star) are evaluated on each timeframe. For each pattern, a resemblance score (ranging from 0 to 1) is computed, and a directional factor (+1 for bullish, −1 for bearish) is applied.
- For each timeframe, the algorithm computes a final score by combining the highest bullish and the lowest bearish scores. These individual scores are then aggregated into a unified confidence score—ranging from −1 to +1—using a weighted average .This is calculated for every stock at every minute monitored by UPTIQ agent for trade execution.

Tech Stack

Frontend: React and Tailwind CSS

Backend: Flask

External APIs: Gemini

Database: MongoDB

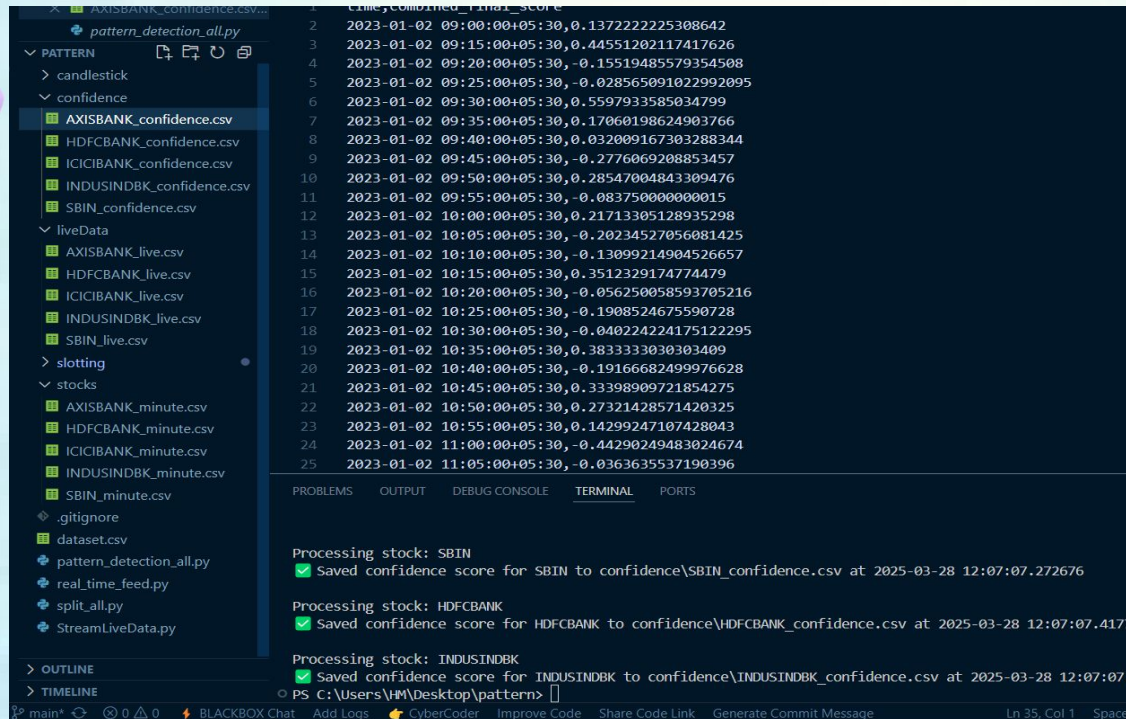# Implementation/Prototype/Use Case Diagram (screenshots)
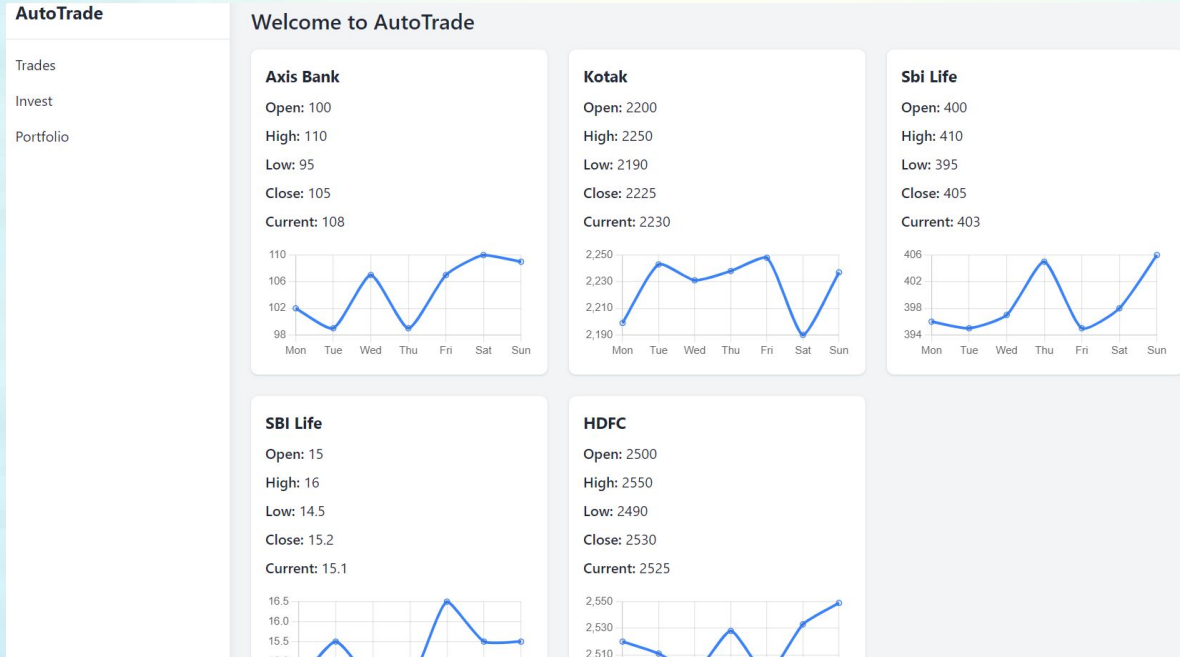
Frontend UI

Implementation/Prototype/Use Case Diagram (screenshots)
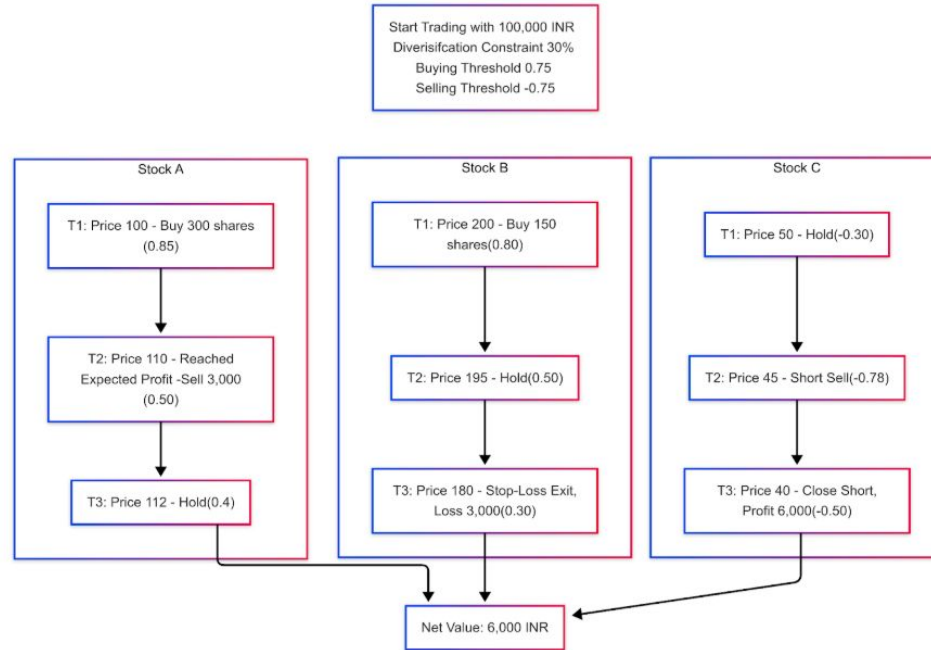
UPITQ Agent Trading Execution Flow

Implementation/Prototype/Use Case Diagram (screenshots)

Implemented Backend

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

UPTIQ Agent – Automated Trading & Live Monitoring

- The UPTIQ Agent is designed to automate trades and continuously manage portfolio positions in real time.
- Continuously monitors live confidence scores generated every second.
- Integrates data from multi-timeframe analysis (5, 15, & 60 min).
- Executes buy orders when the confidence score exceeds the buying threshold, sell when the score drops below the selling threshold if owned and holds the stock if the score is neutral.
- Continuously monitors stop-loss levels.
- Automatically exits positions if the stop-loss threshold is breached.

Future Objectives

- Financial news will be scraped from the internet and will be provided to Gemini for summarization based on how it'll affect the stock domain(banking).
- The summarized text will be fed to sentiment analysis models.
- These models will generate a sentiment score that ranges between -1 to 1 where -1 indicates dip and 1 indicates rise.
- Based on this sentiment score which will be integrated with confidence score to predict the rise or dip of stock.