MT4 Algorithmic Trading Bot Prototype

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Problem

As a trader, it is very difficult to sit at a computer throughout the day, monitoring markets and identifying trade opportunities on the charts via technical analysis.

- Being at the computer throughout the day and staying focused on the charts is a difficult obligation that requires significant focus and continuous attention to detail.
- The trade strategy at hand is extremely technical and requires the filtering and monitoring of multiple datapoints.

Vision & Opportunity

I see an opportunity to fully automate this trading strategy, allowing the computer to do the work of a human while capitalizing on market opportunities and executing with greater certainty.

- Most large institutions already use algorithms to deploy their trading strategies at scale (60-70% of total market trading volume)
- The global algorithmic trading market size was valued at $18.3 billion in 2024 and is projected to grow at a compound annual growth rate (CAGR) of 13.6%, reaching $64.3 billion by 2033.

Target Use Cases & Tasks

1. As a trader, I want to deploy my strategy stress free, knowing my bot will execute with my rules on each trade, potentially even better than my own human ability.
2. As a trader, I want to deploy my strategy on multiple currency pairs simultaneously, effectively multiplying the number of trade opportunities I am able to capitalize on through the use of the bot.

Proposed Solution

Program the trading strategy algorithmically to deploy on a server, and duplicate the instances with altered inputs to work across a variety of currency pairs.

Top 3 MVP Value Props:

1. **Operate throughout all open hours of the Forex trading market while trading sessions are relevant.**
2. **Work across multiple currency pairs and time frames to increase trading opportunities.**
3. **Have built in risk-management to avoid major account drawdowns and problematic bugs from causing undue losses.**

Goals

- Plug and play: activate the bot with set parameters and allow it to run throughout the week on a paper trading market
- Execute the trading strategy with the same, if not better, precision as the human trader.
- Increase trade opportunities to capitalize with an improved win-rate.

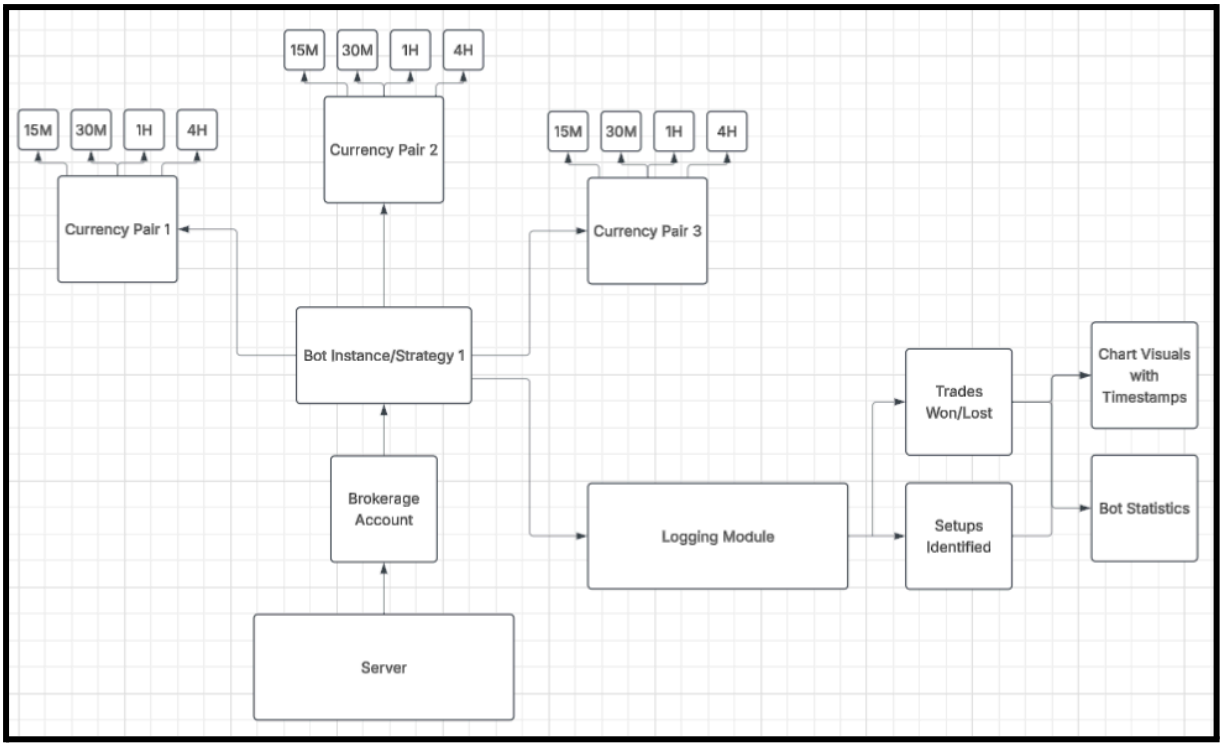
Non-goals

- Deploying multiple strategies to run within the bot.
- Creating a visual UI to monitor the data of the opportunities found and the trades executed.
- Deploy AIML to improve gaps in the strategy that were previously unidentified by human means.

Year 1 Success Metrics

- >50% Win Rate
- >5 Won Trades Weekly
- Server expenses are covered by profits earned through bot deployment

Conceptual Model



There's only a few things the user needs to keep in mind here:

- **Server:** this is where the software is run, and the log files are stored.
- **Brokerage Account:** this is the account through which paper trading and live trading takes place
- **Bot Instance/Strategy:** This is an algorithm derived from the trading strategy that will be deployed on markets to win trades.
- **Currency Pair:** the particular currency being traded (like EUR/USD)
- **15M, 30M, 1H, 4H:** the timeframes being traded on (each offer a different timespan to identify opportunities
- **Logging Module:** The logging portion of a strategy that records data about the bot's activity

  Trades Won/Lost: Data on the trades won/lost in that strategy

  Setups Identified: Data on the setups identified by the bot

  Chart Visuals with Timestamps: visual snippets of the the charts when the bot made a decision

  Bot Statistics: overall statistics on the bot's performance for monitorization and review.

Requirements

Legend
[P0] = MVP for Testing
[P1] = Important for delightful experience
[P2] = Nice-to-have

As a trader, I want to deploy my strategy stress free, knowing my bot will execute with my rules on each trade, potentially even better than my own human ability.

Deployable Algorithm

- **[P0]** User Trade strategy will be hardcoded into the bot as a module with defined rules and configurable inputs
  - Strategy for EUR/USD on Timeframes 15m, 30m, 1h, 4h

Live Chart Visuals

- **[P0]** User can see the created zones and trade entries, market trend, each color coded for each opportunity
  - Supply Zones are orange
  - Demand Zones are blue
  - Bull Market is highlighted green
  - Bear Market is highlighted red

Server Hosting

- **[P0]** User can run the bot on a server to avoid risks involved with local hosting
- **[P0]** User can toggle bot on and off from the server panel for optionality when it comes to discontinuing trading
- **[P1]** User can sign-in to the server from their mobile phone or tablet to edit configurations and start/stop the bot

Logging Mechanism for Review

- **[P0]** User can access server files to review charts and data of when the bot identified setups and trades
  - Setups and Trades organized by Currency Pair > Timeframe
- **[P0]** User can view overall statistics for each currency pair and timeframe
  - Stats include: time of setup, setup parameters, zone parameters, zone cancellations, trade wins/losses
- **[P1]** User can view each identifiable event in a clean UI organized by folder
- **[P1]** User can receive texts and emails for each event the bot logs, toggleable in a configuration

- **[P2]** User can directly edit parameters based on a connection from the UI to the server files directly from the identified logged event

As a trader, I want to deploy my strategy on multiple currency pairs simultaneously, effectively multiplying the number of trade opportunities I am able to capitalize on through the use of the bot.

Multiple Currency Pair Configurations

- **[P0]** User can toggle which Currency Pairs to toggle on and off
- **[P0]** User can toggle which timeframes to toggle on and off
- **[P2]** User can deploy an additional module for currency pairs that require alternative strategies/algorithms

Multiple Live UIs

- **[P1]** User can window each Currency Pair and Timeframe into an individual window for visual monitoring
  - Each pair/timeframe can be added to a grid for monitorization