Modulus Software Case Study – M4 Trading Platform



WhenToTrade Cycles and GA Platform

Company Overview

The founders of WhenToTrade have over 20 years of work experience and profound knowledge in the field of engineering, cyclic analysis and financial markets. They initially developed financial algorithms and trading tools for their individual needs and strategies. In 2009, they decided to share their knowhow with a small "inside group" of traders to spread their knowledge and gather feedback. Today, they support a group of professional traders and offer their services to new clients who express interest. The company is based in Hamburg, Germany and California, USA.

Project and Background

We intended to apply our own methods to analyze the markets on the basis of cyclic analysis. For this, we needed complete control over a financial charting and analysis platform. As we do not design indicators just "for sale", we did not opt for standard consumer charting applications such as TradeStation and Ninjatrader. We had to develop our own algorithms within the heart of the applications. We needed full control over the source with individual access to realize our needs.

Our tools are based on individually-designed routines for cyclic analysis and genetic engineering in the financial markets. We discovered that the available algorithms for signal processing do not cope with the characteristics of financial datasets. Based on our knowledge of financial datasets and digital signal processing, we have been able to develop our own algorithms to detect and project dominant cycles in financial datasets. These algorithms have been used in the markets by our internal group for over five years. Further, how cycles are used to project and integrate trading strategies is crucial. Cyclic analysis has not evolved much since the developments in this field by Hurst. Moreover, most available genetic algorithms (GAs) do not allow full control of the inner parameters. Hence, we developed an open way to apply genetic algorithms in combination with our cycle strategies.

Through our application, the user should be able to load financial data of his choice, plot the charts and apply our individual algorithms for cyclic analysis and genetic engineering. The application has to be designed for our "inside group", and not for the general public. We needed full flexibility to implement new and additional algorithms in the future.

Requirements

As our core routines are developed in C++, we needed a charting source repository that was able to embed C++ routines with an easy-to-code user front-end in C#. The combination offered by Modulus with their modules was precisely what we were looking for. We did not intend to code all the charting and technical indicator basics on our own. Hence, we have opted for a source repository where the basics were already in place.

Solution Implementation

We have used a combination of different modules provided by Modulus with the M4 platform. We applied individualized StockChartX, TradeScript and EVO² codes to plot and analyze the chart data. The M4 source framework enables us to build fast and robust front-end solutions. Our individual cycle codes have been integrated into all components.

Why Modulus?

We chose the Modulus source library because of their long track record and industry experience, and the full open source control that allowed us to integrate our own tools. Modulus has helped us offer a powerful financial charting and cycle analysis solution developed in C++ and C#.

Conclusion

We have been able to focus entirely on our individual algorithms and not get sidetracked by coding all "standards" such as charting and technical analysis. We are sure that we saved more than three years in development and would not have otherwise been able to provide our "inside clients" this toolset for years.

The Definitive Source for Trading Software Development Tools

Solution Highlights

The WhenToTrade Cycles and GA Platform is a new application that combines technical analysis and financial charting with new algorithms for cyclic analysis and genetic algorithms. The solution is part of a complete knowledge package and enables all clients to apply the newly learned strategies to all kind of markets, timeframes and symbols on their own.

Features:

- Real-time charting with most data feed providers
- Different chart types, including volume and range bar charts
- Over 100 standard technical indicators
- Individual cycle analysis and cycle forecasting techniques
- Genetic engineering module with full control over inner parameters
- Backtest, Alert and Scripting functionalities

Project Type:

Standalone Windows client application

Product Screenshot:



Demos:

- How the GA solution works: http://youtu.be/8zquFY7yTZQ
- Live trading recording of a system developed using the GA module: http://youtu.be/JXvJndqOvGc
- Illustrative overview of Platform & Cycle module: http://youtu.be/BV0A0vmlzJg

Company Name:

WhenToTrade

Company URL:

http://www.whentotrade.com

The Definitive Source for Trading Software Development Tools

www.modulusfe.com

sales@modulusfe.com