

Project proposal meta text

1) A brief description of the topic and where it fits into the field – in this section I will:

- Automated Trading
 - Its role in the finance industry
 - Include the retail industry
 - High frequency trading
 - Direct market access
 - A framework to accommodate the ability to access the markets
- Fundamental and technical analysis.
 - What they are
 - How they are used to trade the markets
 - how it has changed with computational finance
- Foreign exchange and equities markets.
 - Foreign exchange moving to a floating exchange rates
 - Lightweight introduction on the London stock exchange
 - Briefly mention the others markets

2) An account of the current work/applied technology in this area

- MAN Groups AHL fund
 - Its success – starting in 1987
 - Recent poor performance
 - Research into systematic trading
- Co-location
 - Enabling high frequency trading even lower latency
 - Research article into HFT
- Direct market access bringing more retail users into the market place
 - Trading API's
- The efficient market hypothesis and its strong, medium and weak forms and how all of the above mentioned technologies aim to disprove this in their own way.

3) Description of the project and what you hope to achieve

- Create an automated trading framework
 - Users to plug in price feeds
 - Market data
 - CSV
 - FIX or RESTful
 - Users to plug in trading strategies
 - Via the API the framework offers
- Use the framework to implement an automated trading strategy
 - Use systematic trading to test a null hypothesis of weak market efficiency
- Why chose this
 - Improve development skills
 - To be confident on working on a large project with N number of components
 - Version management
 - Work with client side and server side technology
 - Make it open source

- Enable people to add to it
 - Come up with new ideas
- Parts I will find challenging
 - Creating an asynchronous real time system
 - Creating an API that will be robust against future code upgrades
 - Core API functions must be stable
 - ?Portfolio managing? (maybe a nice to have)
 - Filtering out bad data points in the pricing data sets

4) **How will you go about achieving this**

- Tools and testing
 - Bitbucket and git for version management
 - SBT and sublime text if java
 - JUnit testing
 - Sublime text and unit tests if python
 - Explain why no IDE's
- See high level system design doc
- Agile development
 - Start with CSV
 - Then markets data engine
 - Then FIX trading protocol
- N-tier design tool
 - 5 layers
 - talk about each