

## Software Development (C++, C#, FIX, market connectivity)

Contents of the course are as follows:

### Programming Languages

- Introduction to C++, C#, Java
- (Dis)advantages of each language
- Platform independent programming
- How to choose the correct language/platform
- Programming Tools

### Trading Application Components

- GUI
- Pricing
- Automatic Trading
- Connectivity
- Security
- Fat Client or Client/Server

### Connectivity

- FIX Protocol
  - FAST Protocol
  - QuickFIX
- Exchange API's
  - UDP API
  - TCP/IP API
  - DII API
- Choosing a Market Data Provider
- Buy or Build

### Literature

- Thinking in C++ volume 1 and 2 (Bruce Eckel / Chuck Allison)
- The C++ Programming Language (Bjarne Stroustrup)
- TPE C++ / C#
- FIX Syllabus

### Optimization

- Code Profiling
- Round Trip Time measurement
- Tips and tricks

### Project Management

- Waterfall vs Agile
- Agile Development Examples
  - Scrum
  - Kanban
  - Extreme Programming
- How to become an agile development team

---

*All courses will include the use of professional trading and analysis software. The hands-on training environment will allow the participant to experience a real-time trading environment on our virtual exchange. This enables the inclusion of Trading Games (either click trading, position management or running your own algorithm) into the course curriculum.*