Project Management & Custom Programming

Elite E Services (EES) develops technology for the foreign exchange market. The core of this technology is automated, algorithmic trading systems. The business is 90% I.T. (10% is compliance, accounting, and traditional business components). An algorithmic trading system is a type of software, and has many similarities with traditional software development with several major differences:

1) A strategy, when complete, will be valid or invalid. There isn't any in between as is the case with other development. For example if you develop a DVD burning software, it may not have the market appeal originally estimated, but it may have some value to some users. A strategy that loses money and doesn't consistently profit has no value. A strategy that consistently makes money has almost unlimited value.

2) A strategy is software that actually creates profit. If a strategy works, one would never 'sell' it in the software marketplace, because it can be used to generate money itself.

Brief History

In 2006, with the popularity of the Meta Trader 4 platform, EES began coding strategies in the MQL language. When coding inside a platform, as opposed to C++ or traditional programming languages, code is highly dependent on the MT4 platform, as it is executed inside the environment. It requires a high degree of knowledge about the platform not only from a syntax perspective, but from an I.T. perspective; how will code be executed if the platform resets itself, what if a trade is rejected, etc. MT4 provides a 'sandbox' for traders to focus on core strategy development rather than dealing with execution issues and many other issues that can become unnecessarily complex in FIX or Java APIs.

Clients began contacting us to code their systems in MQL. Having a high level of experience in MT4 is important, to know what pitfalls to avoid and know how to solve common problems quickly or by using existing libraries and tools. Most of these systems are simple indicator based systems, such as: Buy if RSI < 30, Sell if RSI > 70. However, the requests became more complex, some requiring the coding of custom indicators, and some requests having elements not clearly defined, such as "I want a system that buys at the low and sells at the high"… This became less custom programming and more project management and project design. It's important for

clients to understand what is involved in the software process, and specifically, how programming is an important but small part in the process.

Project Management

Developing software includes programming but programming is a small part of the overall project. Programming can be compared with 'typing' – anyone who remembers the days of dictation and secretaries typing can use this analogy to understand what programming really is. Just like with dictation, a programmer will code the design according to the specifications. A solid design based on a logically tested algorithm will result in a solid program. Vague descriptions or logical circular references can have poor results.

Modern freelance programmers who do not work as a part of a larger team have assumed many roles not appropriate for programmers. First, they are entrepreneurs, trying to get as many projects as possible to make as much money as possible. This is an obvious conflict because as they pile on more projects, the quality of the individual projects will suffer. Second, they have taken on all other aspects of project management, such as design, testing, implementation, archiving, etc. For small applications, scripts, widgets, or in the case of website building, this is simple and can be done by one person. But as projects become more complex, as is usually the case with automated trading systems, these complexities require more structured solutions, sometimes beyond the talent scope of an individual programmer.

In the case of trading, it is common that experienced programmers do not develop high quality trading systems because of their lack of experience in the markets. They may not consider issues such as price spikes, trade rejections, counterparty data inconsistencies, and other factors that can cause a program to malfunction.

Goodwill Value

The reason technicians charge more than manual laborers is because of training, education, experience, and tools. When a programmer charges $50/hour, many don't consider in addition to his services, he has expenses such as computer equipment, internet, testing tools, and development software such as an MSDN license that costs $2,500 per year. Clients also make the mistake of shopping for programming services as they shop for goods – you can find the same product at WalMart that Publix sells for 150% more. It is exactly the same product. In the case of programming, a provider who charges $45 per hour is probably more skilled than someone charging $10. Of course there is room for fraud, and this is why a system such as Odesk is an excellent way to gauge honesty, as fraudsters are quickly filtered out with bad reviews.

Trading knowledge is difficult to quantify but highly valuable. It is extremely valuable when programming a system to have experience trading and developing trading systems.
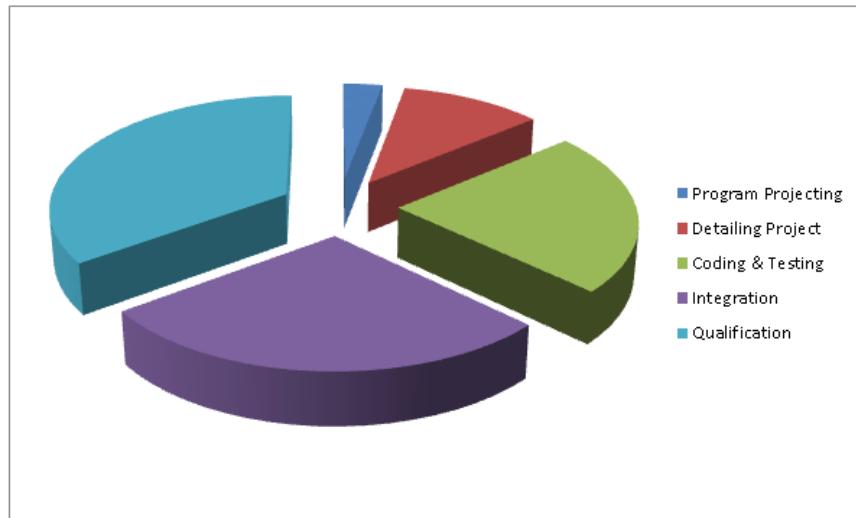
Project Development Components

Project Timeline

Structural and modular timeline

Program Projecting	3%
Detailing Project	11%
Coding & Testing	23%
Integration	28%
Qualification	35%

The above was developed by researching many software projects and identified how much time and money was spent on each component of development. As you can see, coding and testing is only 23% of the total project. If we look at this chart in terms of project financing, programming should be only 23% of the total cost. If $5,000 is spent on the entire project, see the financial breakdown for each component:

Hours		$ 5,000.00	Total		$ 35.00
4.29	$	150.00	Program Projecting		
15.71	$	550.00	Detailing Project		
32.86	$	1,150.00	Coding & Testing		
40.00	$	1,400.00	Integration		
50.00	$	1,750.00	Qualification		

If we use an hourly rate of $35 (which is very cheap for quality programming!) see the breakdown of how many hours would be spent on actual coding: 32.

Also note these are estimated percentages based on research conducted based on traditional software projects. Each project may require more or less of each item – and in the case of complex trading systems, coding & testing is probably even less than 23%, as detailing the project in logical form can be more complex with trading systems. Also the qualification of trading systems, live trading, can be greater than traditional software as real-time market conditions may show issues that were not foreseeable in the original design.

Project Development Algorithm
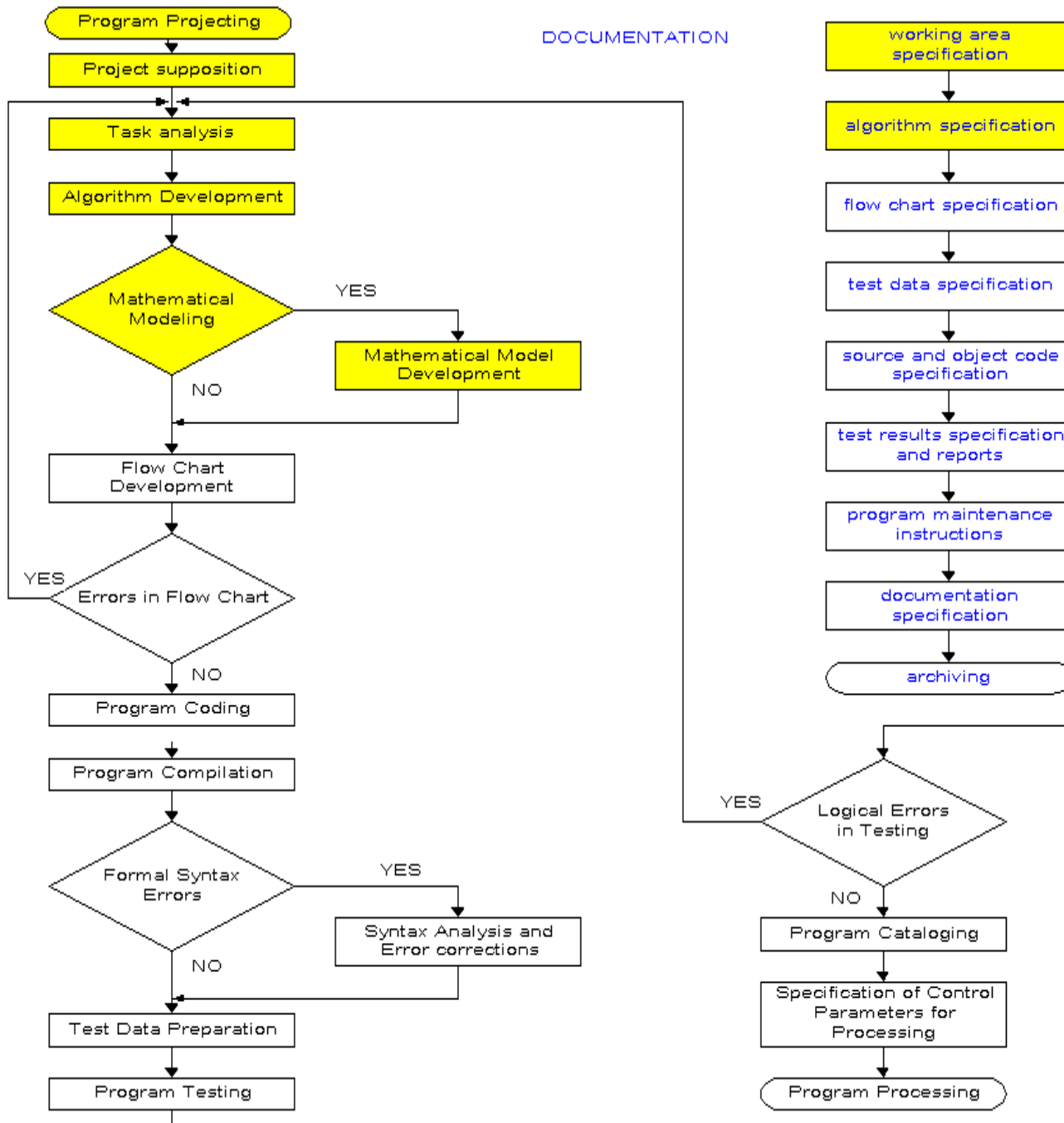
The above algorithm represents the process of any development. It is important for anyone considering a development project that they read and fully understand this algorithm.

Remember, proper structured development is a *prerequisite*, not a *guarantee*, for a successful trading system.

Elite E. Services, Inc.   www.eliteeservices.net info@eliteeservices.net
1201 Main Street, Suite 1980 Columbia, SC 29201

EES Custom Programming & Development

The above explanation should apply to any development project. Now we shall explain some EES specific policies and procedures.

1) EES will take on development projects selectively – any development done even if paid will take away time and resources of our own strategy development.
2) EES requires full up-front payment on any work done, and is non-refundable.
3) Before beginning, all clients must read and agree they understand this document.
4) A 3% non-refundable fee of the estimated overall project budget is required to do the Program Projecting. Once this is complete, a detailed budget and breakdown of activities will be provided before accepting development funds and an agreement to proceed.
5) We guarantee any work will be completed according to the specification – we cannot guarantee that a strategy will make money!
6) All projects are confidential and an NDA can be signed if required.

Typical development costs:

Simple EA for MT4: $2,000 - $5,000

Custom software application: $3,000 - $10,000

Black Box API trading system: $30,000 - $50,000

For more information, please contact Elite E Services at http://eliteeservices.net