



# Atlanta SPIN

Software Process Improvement Network

The Atlanta SPINaker

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## Waterfall to Spiral D, Living Together in SDLC Harmony



Chris Colston



Chris Colston Opening the Meeting

Chris Colston, a Principal at AGSI, delivered a highly interactive presentation and discussion at the October Atlanta SPIN Meeting. Chris' focus was on experience with and the evolution of various industry approaches to the Software Development Life Cycle (SDLC), including Waterfall, Spiral, Rational Unified Process (RUP) and Agile. Chris regularly peppered the audience with questions, seeking to elicit its experience with these various approaches. This led to some very interesting interactions and dialogue, with Chris consistently bringing the audience back to the presentation points illustrated by the conversations that resulted.

Early on, Chris noted that it was crucial to explicitly think about the Service Delivery Model that an organization had adopted. In particular, he flagged the importance of how the management of Qualification and Commitment within the various SDLC approaches was handled. He came back to this issue repeatedly during the ensuing discussion. He said that organizations

often don't do a good job of qualifying a project in advance and understanding what commitments are needed from their customer or client.

Failing to do this well almost always leads to serious and predictable problems later in the software development stage, regardless of the SDLC approach adopted. Chris remarked that at Price Waterhouse, there was a checklist of 55 tasks that needed attention prior to a commitment being made; this was appropriate for the complex projects they were addressing. While not advocating this for all situations, it illustrated the importance and potential complexity proper qualification could require.

Chris started the SDLC review with the Traditional and Iterative Waterfall models. He paid particular attention to the advantages and disadvantages of these approaches. One common denominator here was the importance of having the system requirements and architecture well understood before progressing to design and coding. He observed for the Iterative approach that some limitations might not be understood until one cycle was completed, implying that significant subsequent effort that had been expended could be at risk. He also noted, in some sense looking ahead within the presentation, that the waterfall approach could be combined with other approaches, with the project essentially partitioned by major phases.

Continued on Page 2

### Inside this issue:

More from Chris Colston 2

What's Next? Michael Yunadin on OffShoring 2

On the BOARDwalk: Scott Banks 3

Spotlight on our Sponsors: QSM Associates 3

About Atlanta SPIN 4

Signature Event!!!! - December 13—Holiday Inn

Watts Humphrey

Fellow—Software Engineering Institute

## Chris Colston Highlights - continued

The Spiral Approach was one that few in the audience indicated any experience with. Chris noted that typically this has been applied to either smaller projects or limited updates to an existing system. The Spiral approach is particularly appropriate to extremely dynamic specialized applications that have never been done before and will likely require much iteration. The keys to success here are a small development team and a relationship with the Customer that supports significant real-time feedback.

Chris described a project he worked on using this approach, where there were literally no requirements at the start but rather a general concept regarding the business objectives that they were trying to accomplish. In fact, in this instance, they literally wrote the requirements document at the end of the project! The users needed to be available all the time and willing and able to make decisions on the fly. Chris noted that this approach provides Client management little visibility into project progress. It was crucial to success that the Client had the collaborative attributes that backed up the use of this method.

The RUP approach generated considerable audience discussion. This is a technique where up front management commitment is essential because of the potentially heavy process approach it can drive. RUP provides structure and configurable best practices with excellent tool support. There were views expressed that the approach had a tainted reputation, primarily because it was often pursued by people who didn't understand it well and failed in their efforts because of this.

Chris noted that the tie to Use Cases and Functional Requirements meant that the approach was mainly of use when an object-oriented design was being pursued. He noted that scalability and performance issues often did not get addressed very well until late in the project. This was due to the potential for developing relatively heavyweight objects. Project with critical performance requirements should be very carefully approached if RUP would be adopted.

With Agile, Chris noted that one can make changes very quickly. These projects typically have weekly or bi-weekly internal releases, and monthly deliveries to the Customer. They tend to cost more on the front end, but save substantially on back-end testing. In many cases, the requirements are essentially verbal in nature. Chris noted that it was a difficult approach to apply to projects where big changes were being made. Like the Spiral approach, this requires a highly collaborative effort. It's not realistic to think a large development team can be successful with such a collaborative approach, given the number of communication paths that arise within a large team. Chris noted that Agile is essentially a more advanced version of the Spiral approach that is best adapted to smaller sets of functionality that can be rapidly prototyped and then nailed.

Chris then described Harmonization as essentially a "Best of Breed" approach that decomposed a project into various components that were then addressed during different project phases by the SDLC approach that best fit that component. One could easily envision a waterfall approach that adopted Spiral or Agile means to address specific system components that would benefit from their strengths. Chris noted that for a large project, a Method Adoption Workshop that addressed this decomposition and the associated methods to be adopted was an up front way of maximizing success.

Chris' talk and approach were well-received. The slides he used are available on the Atlanta SPIN website at <http://www.atlantaspin.org/meetinginfo.htm>.



**What's Next ? - Michael Yunadin - November 15, 2006**

**Offshoring Assurance—Making It Work**

## On the BOARD walk Scott Banks - Newsletter- Atlanta SPIN

Scott Banks has over 18 years experience in system testing, integration, quality assurance and process improvement. He is currently a Research Engineer with the Georgia Tech Research Institute (GTRI) Electronic Systems Laboratory (ELSYS). Scott joined the Atlanta SPIN board last year and is a member of the Education Committee.



Scott has a BSEE degree from Stevens Institute of Technology. At GTRI, he is a member of the Engineering Process Group, providing quality assurance support and process improvement initiatives to systems and software projects. He is also in the midst of supporting the teams' transition from CMM level

### **How did you get involved with Atlanta SPIN?**

I had been attending meetings off and on for as number of years. Over time I started regularly attending meetings and enjoyed meeting people who were interested in Process Improvement and shared similar "war stories" and experiences.

### **What process improvement-related activities have you personally participated in?**

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### **What benefits have you personally derived from participation in SPIN?**

Well, I found my current position through SPIN. I have also been able to learn so much from our presenters, our members and our Board team. This has allowed me to be more confident in my abilities and career goals.

### **What motivated you to join the Atlanta SPIN Board?**

I found my current position through SPIN and realized how much SPIN has helped me in my career growth. This motivated me to want to give back in some manner to our members.

### **What do you hope to achieve this year within Atlanta SPIN?**

To continue to grow our membership and provide excellent presentations and opportunities for our members.

## Spotlight on our Sponsors: QSM Associates

QSM ASSOCIATES



Quantitative Software Management Associates helps solve the toughest deadline and budget challenges on software projects, through use of state-of-the-art software measurement and estimating tools combined with techniques from modern negotiation science. QSMA has been helping the biggest software companies in the world achieve this for nearly twenty years.

QSMA offers the SLIM (Software Lifecycle Management) Tool Suite, a powerful knowledge-based family of project measurement, estimation, and control models, derived from the pioneering research of Larry Putnam Sr., founder and chief scientist of Quantitative Software Management (QSM). Larry is considered one of the fathers in the field of software measurement and estimation. The SLIM tools contain knowledge from a current-day industry database of over 7,000 completed projects collected worldwide, both in-house and outsourced, domestic and offshore, for engineering and business IT applications. They provide agile managers with the ability to measure and estimate software projects in days instead of weeks. SLIM provides industry productivity and project trends on the desktop against which projects can be compared.

QSM Associates offers effective negotiation techniques drawn from its Program on Negotiation, and advises clients through negotiation consulting and executive coaching.

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### About Atlanta SPIN

The Atlanta SPIN organization was chartered in 1991. This group has been a force for software process improvement in the Atlanta area since then. The organization has a growing membership list that currently numbers 650+ members.

The group typically meets every third Wednesday of the month. Our meetings typically attract audiences of 40 – 50 people. These meetings provide a forum for like-minded people, interested in learning from others and sharing their own experiences. There is time allowed before and after the meeting for networking among the participants, including a review from the audience of any job openings that are available. The Board, through its work with Sponsors, ensures that food and drinks are also available at no cost to the membership.

The Board has a process for identifying excellent speakers, and provides guidelines and necessary support to help ensure the presentations are top quality. The Board sees these as the cornerstone of its value proposition to the overall group. To this end, the Board conducted surveys last year to gain a better understanding of its members' interests. This analysis has directly influenced the choice of specific presentations during the past six months. The Board continues to seek excellent relevant talks of interest to the membership; please advise us of potential talks and speakers that you think may be of interest; contact us at [education\\_committee@atlantaspin.org](mailto:education_committee@atlantaspin.org).

In future Newsletters, we plan to provide more information about the goals and activities that Atlanta SPIN is pursuing. We welcome your feedback on how to improve this newsletter; contact us at [newsletter@atlantaspin.org](mailto:newsletter@atlantaspin.org).

Ron Wojcik, editor