Agile Acquisition

featuring Mary Ann Lapham & Suzanne Miller interviewed by Bill Novak

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Bill Novak: Welcome to the SEI Podcast Series, a production of the Carnegie Mellon Software Engineering Institute. The SEI is a federally funded research and development center at Carnegie Mellon University in Pittsburgh, Pennsylvania. The transcript of today's podcast is posted on the SEI website at sei.cmu.edu/podcasts. My name is Bill Novak, and today I'm pleased to introduce you to Mary Ann Lapham and Suzanne Miller, both senior researchers at the SEI's Acquisition Support Program. Today we'll be discussing Agile Acquisition but, first, a little background on today's guests. Mary Ann's work focuses on supporting and improving the acquisition of software intensive systems. For Department of Defense programs, this means working with the program office to assist and advise on software issues at the system and/or segment level. In addition, she performs research on software topics that are germane to acquisition of software intensive systems. Suzanne's research focuses on synthesizing effective technology transition of management practices from research and industry into effective techniques for use in the governance and acquisition of complex systems of systems. Mary Ann, Suzanne, thanks for joining us today. To start off, I'd like you to tell us what is Agile, as it applies to our discussion.

Suzanne Miller: So I'll start out. Agile is kind of an umbrella term for a lot of methods that have been in use within the commercial industry for over 10 years. They go actually back as early as the 70s in terms of some of the individual methods. But what distinguishes Agile from other types of methods is that it's based on a set of principles that are used to kind of make sure that what you're doing is actually meeting the intent of Agile, which is to be much more focused on the human set of aspects of software development, and by doing that, by paying attention to the human set of aspects, getting more productivity from your developers, essentially. But it's a broad umbrella term, and there are a lot of different methods that come under it.

Mary Ann Lapham: To build on what Suzanne said, a lot of people will consider Agile as a philosophy as opposed to just a method. So it can be thought of as a philosophy. And there's a variety of forms in which it can be instantiated.

Bill: Okay. Great. Well, why is the Department of Defense interested in Agile and Lean Methods for software development?

Mary Ann: Well, today the Department of Defense needs to acquire software faster than it ever has in the past. Everything is changing and evolving much quicker than it used to. And the current traditional methods don't seem to be able to get us software that quickly. Eighty-four months is the average amount of time it takes to get an IT system in place. So they're looking at Agile and Lean Methods to help them speed up the delivery of the software to the field.

Bill: So what role is the SEI playing in trying to help the DoD learn more about Agile and Lean Methods and software development?

Suzanne: Everything we can think of. And when I say that, I mean we're basically exercising all the different modes that we operate in with any technology. We're doing customer work, where we have acquisition offices that are interested in applying Agile Methods in their acquisition. We are doing interview-based kinds of techniques to try and gather data about people who are active in the DoD in applying Agile Methods. We have a bunch of different topics that people can volunteer for. We have an Agile Collaboration Group that is made up of interested parties from government and the DoD contracting community primarily, who give us advice on what the current problems are, what kinds of things they've seen working. We've helped to sponsor – been on the program committees, and sponsoring Agile events for the government. So we're involved in a lot of different activities and trying to—and in the meantime, trying to publish, you know, our results as we get them out of this work. Did I miss anything, Mary Ann?

Mary Ann: Suz, I think the only thing you may have missed is we are also trying to take what's in the commercial environment—which there is a lot of it—and translate it, if you will, so it makes sense for the DoD people to have to implement this because they speak somewhat of a different language in the sense that some terms in the commercial world mean something totally different in the DoD world.

Suzanne: True enough.

Bill: Okay. So I think we've talked a little bit about, you know, the relationship between the SEI and the DoD. Maybe you can back us up a little bit and tell us about what some of the previous research is that the SEI has done in Agile and supporting acquisition program offices.

Mary Ann: Well, the Agile research actually started about three years ago when one of our Air Force executive sponsors asked us: So can we use this Agile stuff in DoD? Which was a good question. And off we went to determine whether or not there were any regulations, particularly the 5000 Series, which is what most of the DoD has to follow in order to acquire any system. And we went and looked through it with a fine tooth comb, I might add, to see if there's anything in it that said you couldn't possibly do Agile, and we didn't find anything that said thou can't.

We found some things that might be constraints, some things that might make it a little more interesting, where you would have to do things slightly different than the normal Agile commercial environment. But there is nothing in the DoD that we found in the 5000 Series that would preclude you from using Agile Methods. So that was Step One. And then through that research, we also had a couple of programs volunteer to be our first—I'll say this kindly—guinea pigs to talk to us about what they were doing. And we came up with a list of issues, if you will, the top ones that they had to overcome.

And our search in literature at the same time came up with the same set of issues, which was, to me, surprising. So we published the paper on that saying there's nothing that says you can't. Here's some of the initial issues you run into. And that led us to, if you will, the next layer of the onion, where three issues became six, became eight and it's growing. Because as soon as you think you solved an issue, you find out, well, we didn't cover it in enough detail. So we've been adding to that list. We've published a second paper with five more topics. And we found out through that experience we're not going to do five topics in one paper anymore. It takes way too long. So we're doing individual topics as we go on now.

Bill: So it sounds like the work is continuing on in Agile. Do you have any thoughts about what's going to be coming out in this coming year in 2012?

Suzanne: Well, we have eight.

Mary Ann: There are nine papers in work right now.

Suzanne: Yeah. We've got a lot of topics, everything from how requirements are different when you're using Agile Methods from a traditional waterfall cycle to contract language and how it affects your ability to work together and collaborate. We've got or almost published, at this moment in time, a paper on information assurance issues, certification and accreditation issues, which is a big deal in the DoD, in particular, in the federal space. We have what we fondly call -- it won't be titled this, but the underground title is "The Alternate Universe" kind of paper, where we actually do the translation that Mary Ann was talking about between typical Agile terms and terms that would be analogous, where possible, or if there is no such term in DoD parlance, then, you know, giving people an idea of what those terms mean when they hear them. So it's a way to help educate the DoD acquisition practitioners into what they're hearing. So we've got a programmatics

Mary Ann: Programmatics.

Suzanne: paper.

Mary Ann: And there's a second IA paper, which is a deeper dive into a couple of areas that we touch on in the first IA paper.

Suzanne: If we get half of those published, by the end of the year we'll be happy. But we're working on all those, and we will be continuing this work most probably in FY-13 as well.

Bill: That's great to hear. I think a lot of people are going to be very interested in hearing about the results. So with that, thanks so much for joining us today. If you'd like more information about the research in this field in Agile development, you can find the first two papers in the SEI Series on Agile Methods in the DoD on our library website at sei.cmu.edu/library/reportspapers.cfm. This podcast is also available on the SEI website. As always, if you have any questions, please don't hesitate to e-mail us at info@sei.cmu.edu. Thanks for listening.