Keynote Presentation 1

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Specialization and Economies of Scale:
Where Adam Smith Went Wrong

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Ever since Adam Smith’s pin factory, it has been obvious that the best way to increase productivity is through specialization; the economies of scale make this obvious. But wait! The economies of scale do not hold up in the face of variety. If we have learned nothing else from the Toyota Production System, we have learned this: a system designed to absorb variety outperforms a system designed to leverage scale in every system where variety is an essential element. And in software development, surely variety is an essential element. And yet many of our software development practices would make Adam Smith proud.

When viewed through the lens of the economies of scale, the practices of agile development seem counterintuitive. But when the lens is changed to the economies of flow, suddenly agile makes perfect sense. It’s time to move from the pin factory to the internet, and get with the flow!

Biography

Mary Poppendieck started her career as a process control programmer, moved on to manage the IT department of a manufacturing plant, and then ended up in product development, where she was both product manager and department manager. After Mary left the corporate world in 1998, she found herself managing a government software project where she first encountered the word “waterfall.” When Mary compared her experience in successful software and product development to the prevailing opinions about how to manage software projects, she decided the time had come for a new paradigm. She wrote the award-winning book “Lean Software Development” to explain how the lean principles from manufacturing offer a better approach to software development. Over the past several years, Mary has found retirement elusive as she lectures and teaches classes with her husband Tom. Based on their on-going learning, they wrote a second book, “Implementing Lean Software Development.” A popular writer and speaker, Mary continues to bring fresh perspectives to the world of software development.