Promoting change among your peers

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ABSTRACT

This paper is about one foundation for promoting improvements, such as agile methodologies; especially those that have an "open source"-like community aspect like eXtreme Programming, and thus might have less marketing support from proprietary commercial interests.

Around the globe, a number of Software Process Improvement Networks – SPINs -, have gathered individuals and companies in informal exchanges on best practices, methods and tools. This paper highlights the benefits of introducing improvements and practices, such as eXtreme Programming (XP) [1], through regional networks of peers, in the best tradition of e g quality networks.

XP and agile processes are but one example of non-commercial concepts that have been successfully introduced to companies through regional SPINs. As an example we look closer at recent XP activities of a regional Swedish SPIN. The paper also includes some details on how to form a regional SPIN.

Keywords

Strategy, agile process, management, introducing change, peer networks

INTRODUCTION

In its best moments, a SPIN community provides a bridge over the decision gap between management and developers. What decision gap? Corporations usually only encounter expensive, dramatic "improvement products", because the potentially large investment in tools and services is needed for a vendor to justify a qualified sales force that can sell change to their customer's management. Developers, on the other hand, tend to engage in special interest communities focusing around a single method or subject that is often dismissed as "just technical" by management.

The following sections provide a closer look at the factors behind this decision gap.

Selling change to companies
"No one got fired for buying IBM"

When companies decide on dramatic changes to how they develop their products, they often do it in splendid isolation.

They compare offerings from different vendors and consultants. They may try to find out what their main competitors have done. But all too often, they are not aware that the company next door has a lot of the same professional development needs and problems, although their products are aimed at a completely different market.

From a commercial perspective, XP and other agile [5] processes may suffer from the fact that they are inexpensive, effective and easy to implement. There is a limited business potential for traditional "body shop" consultancy firms to sell agile process improvement such as XP, because XP is not a product suited for large-scale consultancy business models [2]. It is far too easy to get self-sufficient by applying the practices, maybe with some training and an external coach. It is a paradox that cost efficiency may hamper the actual widespread implementation of agile processes in many software development organizations.

Selling change to developers
Special Interest Communities

Software developers seek means to improve the way they, and their company, develop products. They find inspiration in magazines, special interest communities and memberships in IEEE, ACM and similar national and international organizations. But the rhetoric collected from these sources might be dismissed as "technical jargon" by upper management in many companies.

Selling change to an industry
Think globally, act locally - in peer networks

A regional peer network, formed from the network pattern behind most SPINs, consists of individuals and companies that have a common set of interests, challenges and problems. They are usually not competitors, or are able to set that fact aside because of a greater mutual benefit. Professional problems and needs are discussed as well as common business problems. A regional SPIN also works as a benchmarking forum.

The patterns applied in corporate management are some of humanity's older practices. Human mechanisms - such as social proof among peers - are not surprisingly a good explanation for the classic chasm [6] between early adopters of an improvement and the early majority.

Robert Cialdini describes in his classic Influence [3] "social proof", following the example of others, as a shortcut in the human decision process. Social proof is a powerful marketing tool that can result in acceptance of market dominants as de facto standard, given that the agent of influence, such as advertising or sales staff, is motivated by their own immediate sales interest. But in our experience exchange context, social proof is more of a positive influence from peers that has little or no business interest in leading you astray. Influence from peers that doesn't try to sell you stuff might yield: Promotion of inexpensive or freeware best practices, cooperation on tool and method evaluation. And actual experience, not testimonials, from your peers of a tool or methodology that the vendor insists is a must-have (probably expensive) competitive edge.

A regional community of companies with a common stake in software, but quite different end products and markets, can provide social proof to corporations of the benefits of a change or improvement. Management does not usually look into non-competing companies.

By only looking at similar companies addressing the same market, strategic technical focus tends to gravitate towards expertise in specific standards, and even standards committee work. Professional maturity in the basic engineering disciplines is taken for granted. "Why should our developers read programming books? They should have learned how to write programs at the university. Better have them focus on penetrating the new standards draft". This leads to staff that has very domain specific skills and a very limited job market. Whole industries have found out the hard way that expertise in the domain alone does not guarantee success and marketable quality products.

It is very valuable to show everyone from developers to management that the neighbor company, although addressing a market nowhere near our own, faces many similar professional problems in developing the right product that makes customers happy and pays the bills. How development companies, within other market domains, make or break in the game of shipping products. This tends to put general engineering skills, in some

domain-centered organizations even labeled "silent knowledge", on the agenda.

HISTORY OF SPIN
The Capability Maturity Model, CMM, was originally a model to grade US Dept of Defense (DoD) software contractors. The aim was later changed, and CMM became a roadmap for software process improvement among DoD contractors. Software Engineering Institute, developer of CMM, was overwhelmed by the need for CMM implementation support. One of the things SEI did was to encourage the forming of peer-help SPINs. SPIN Bangalore in India, formed in 1991, was one of the earliest SPINs, at least outside US. Motorola in Bangalore was allegedly the very first nonmilitary development organization to reach CMM level 5, after only two years of existence.

SPIN-SYD - A SWEDISH REGIONAL SPIN
SPIN-SYD was formed in 1996, initially around CMM key practices, software quality and process improvement in general.

Like many other SPINs it evolved into an open exchange around a large number of big and small issues in software development. Today SPIN-SYD lists about 35 member companies and organizations. The product-oriented companies with a big stake in software dominate in numbers among the members. The network has about 8 general meetings a year, hosted by different member companies. Being a host is popular, partly because as a rule this is the only opportunity that companies get to promote their

business. The network builds on values of respect and consideration for your peers, rather than on formal regulations.

Extreme Hour XP live project simulation, with the audience (155 people) as the market, at SPIN-SYD's annual conference 2001. (The audience could follow simulation details on the big screen on the left side, captured by three TV camera crews.)

In 2001 SPIN-SYD added agile methodologies like XP to the growing arsenal of organizational process improvement practices. This was done after two years of successful workgroup activities, member pilot projects, and a large grass-roots XP conference, XP and its agile cousins do not attempt to solve all problems in an organization, just the problems of an specific target audience, the development team. Agile software development methodologies, like XP, may dramatically improve the software product development process. Other agile methods that SPIN-SYD looked into, like Critical Chain[7], make e g life with multi-project management much easier.

How SPIN-SYD learned about XP

People at the Department of Computer Science at Lund University have a longstanding, friendly relationship with Kent Beck, XP's chief articulator. In mid-1999, SPIN members from Lund University started to gently introduce the concepts of eXtreme Programming to the SPIN-SYD community.

The community dipped their toes in XP waters late 1999 by running a small XP project simulation at a SPIN meeting, trying to write requirements and plan XP style. That got us into trouble at once. SPIN people were used to write a set of clear, concise, and easily verified requirements. That turned out not to work well in XP! Requirements in XP come in two flavors: user stories that need to be "fuzzy" to initiate exploration and negotiation during planning, and acceptance tests. Acceptance tests are mostly generated out of user stories, but sometimes stand on their own , when the customer/business side of the planning table cannot capture requirements in user stories.

We discovered the importance of requirement fuzziness in the agile planning process, where requirements expressed as user stories sometimes sound more like ad slogans. Experienced SPIN members noted that the fuzziness acts as a catalyst for stepwise requirements refinement and a mutual understanding that is harder to achieve in a traditional planning process.

In 2001, SPIN-SYD and the LUCAS research institute started a joint XP workgroup. It was one of SPIN-SYD's most successful workgroups ever, judging from the level of participation. People were standing along the walls for lack of chairs at the first meeting in January 2001. The group had half-day meetings every 14 days, exploring different aspects of XP. The goal for the group was to be able to demonstrate XP abilities at the yearly SPIN-SYD conference in early May 2001. The group became especially proficient in XP planning, the Planning Game, through XP project simulations in the well-known format Extreme Hour. When, due to the large interest, half of the participants had to stand by as audience while a team ran through the project simulations, we realized that the audience could act as a market providing live input to the marketing people, the XP team's customer. Many SPIN-SYD members develop volume products or consumer products for mass markets. The early XP literature largely described contract-programming projects being successful with XP. In those cases the customer role in XP was actually a customer. In an XP volume product project the customers in the team are from marketing and sales.

We finally ran the Extreme Hour simulation for a conference audience of 155 people. The marketing people within the team walked around in the audience and col-

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lected market input and user stories live, while the developers realized the product.

Another surprise: XP talks directly to the heart and soul of developers, and XP is often introduced on their initiative. But in our experience, once full XP is in effect, the marketing and sales people become the real XP ambassadors within an organization. We now have several XP success stories among SPIN-SYD members.

Even some member companies doing telecom and safety-critical development are now preparing their own XP pilot projects.

WORLD WIDE SPIN
There are at least 100 regional SPINs in the world, roughly half of them in the US.

Most of the SPINs started out as special interest communities. But, some of them had the optimizing level 5 of CMM in their sights from the outset. CMM at the optimizing level 5 means that an organization is able to change its process and tools even during a project. That meant that even when a community was formed around the common interest in CMM, its members identified the ability to embrace change and being agile as their ultimate goal.

Why is CMM perceived as the very opposite of XP and agile processes? Maybe the answer is CMM sadly used as a "checkmark criteria" in some government and aerospace subcontractor evaluations. Like ISO 900 and other quality standards, a quest for high CMM rating just to win contracts might contradict the original intentions with the maturity model.

How many SPINs do really look into e g agile processes? Erik Lundh recently performed an international email survey among SPINs listed at SEI. The replies from 26 SPINs in and outside USA shows that 19 out of 26 has been, or plan, looking into XP and agile processes. SEI lists about 100 SPINs on their web site [4]. That list is not complete.

Currently a number of SPINs all over the world are activating a number of global SPIN interchanges.

HOW TO MAKE IT SPIN
You need a few peers. You don't need a budget.

Many SPINs work like this:

- No membership fees and an open network. Everyone has to contribute. You pay your membership dues in goodwill.

- No cost for regular meetings. Members take turns as hosts.

- Start with networking, not conferences.

- At first, the network is the workgroup.

- Common problems are discussed more and more openly as trust builds. In a positive sense, a kind of "therapy group" for process shortcomings, where people learn that they are not alone in their troubles.

- The SPIN finds sponsorship for seminars and conferences.

- When possible, getting a neighborhood university involved has proven very valuable.

- Further down the road: People that actually develop, from vastly different companies, start to meet and learn from each other in exchanges such as work groups and seminars. Developers, project managers, QA, usability, and product management people. Not just one representative from each company serving at a prestigious board or committee.

- When independent workgroups start to form, the main network transforms into a steering committee role. The monthly meetings could have a public part. The steering committee should coordinate workgroups, conferences, sponsorships, etc.

The author and some of his peers have prepared a "How to make it SPIN" package with SPIN-SYD's networking best practices. It is used for startup of new regional SPINs.

Are you interested in starting a SPIN? Send a mail to: erik.lundh@spin-sweden.org

CONCLUSIONS
Peer networks, such as SPINs, with a general interest in improving on shortcomings in software development, are an efficient and strategically important way to promote paradigm shifts such as XP and other agile methodologies, all the way up to management.

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ABOUT THE AUTHOR
Erik Lundh has 20 years of experience of product oriented software development.

Erik is an independent that still cranks out code, but prefers to offer his consultancy time as a mentor and coach to companies that develop software for products. He serves as an advisor to management and as a director at the board of select companies.

Erik chose XP, as the preferred process, in a project to create a cross-industrial center of excellence in early 2000. Erik got exposed to XP principles fairly early through the design patterns community and some people at Lund University that knew Kent Beck, Ward Cunningham et al.

Erik is very active in both the regional SPIN-SYD for the south of Sweden and the national SPIN-SWEDEN. He invests hundreds of hours annually pro bono in SPIN work. Erik has initiated international exchanges e g with SPIN in Bangalore, India.

Erik currently acts as coach to several XP-teams working with product oriented software development.

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