

How do you become smart?

by Ivar Jacobson

"You need to be smart" was my previous column. But how do you become smart? I really think being smart is at the core of being successful in software. The answer depends on who you are. Let's assume you are a leader of some sort, for instance a project manager.

Smart is not the same thing as being intelligent. You can be intelligent without being smart. I know lots of people who are intelligent but not smart. You can be very smart without being very intelligent.

Smart is not the same as having common sense. You can have common sense without being smart, but if you are smart you must however have common sense.

Smart is to do exactly right, not to find a broad solution that is just about right. If you are smart you are very sensitive to finding what is right.

To become smart you need first and foremost to have knowledge and secondly to have experience applying that knowledge. You need knowledge to understand what software development is all about. You need to know how to get good software, quickly and at low cost. It is as simple as that <grin>.

Good software is useful (obvious but not trivial), reliable (works always) and extensible (can grow as long as you want to use it). You need to know how you create good software which means you need to learn some technical practices such as architecture, use cases and iterations/sprints.

Nothing makes you as quick (and agile) as having motivated people. You get this by adopting proven agile practices such as how you work as a team, how you organize your work, etc. As I have said many times, we all need to be agile.

The most powerful way to get software at low cost is by developing as little software as possible. Instead you acquire the many pieces of software you need from other sources. This is called software reuse. You can reuse your company's old software, buy software from a vendor or download open source software. You need to know how to put it all together with some glue and how to only develop what is really needed. Thus you need some other more advanced practices such as service-oriented architecture or product-line engineering.

Thus you need knowledge on practices.

You also need experience in using these practices. This is not trivial. Experience comes from having seen a lot of what works and what does not, either directly or through listening to others. This is a subtle (I hope) plug for what we do - we work with many different projects and we gain insight into what works and doesn't. But it's also a plug for communities, for being open to new ideas and experiences, and to strive to be continuously learning. There is a saying that good judgment comes from experience, most of which comes from bad judgment. Except that you don't need to repeat the mistakes of others to learn.

Experience makes you smart through "focus" - knowing what to focus on and what can be ignored. It's not the amount of effort applied, but knowing where and when to apply that effort.

Unfortunately, nor knowledge about practices neither experience is something you learn at school. Professors can rarely help you. Where do you learn it then? Most people learn it at work, by doing. For now, let us just re-state the obvious: you need it one way or another.

I will come back to this another time.

You may now ask, given that you have knowledge of important practices and you have experience: "Will I now become smart?"

Of course eventually, it comes back to you. We cannot all become equally smart but we can all become smarter.



Tohtori Ivar Jacobson on ohjelmistomenetelmien vaikutusvaltaisimpia hahmoja, joka on ollut mukana kehittämässä monia ohjelmistoalaa muuttaneita menetelmiä. Näitä ovat: komponentit ja komponenttiarkkitehtuurit, käytötapaukset, aspektisuunniteltu ohjelmistokehitys, Unified Modelling Language (UML) ja Rational Unified Process (RUP). Viime aikoina hän on keskittynyt käytäntöihin perustuvaan ohjelmistotuotantoon, jonka suosio kasvaa nyt ympäri maailmaa.

Ivar on ketterien (Agile) menetelmien vahva puolestapuhuja ja kehittää niitä fiksummiksi. Hänen mottonsa on "Kaiken tulisi tulla ketterämmäksi, mutta ketterä ei ole kaikki". Ivar on kirjoittanut kuusi suosittua kirjaa ohjelmistotuotannosta. Ivarin yrityksellä, "Ivar Jacobson International":lla on toimintaa Yhdysvalloissa, Iso-Britanniassa, Kiinassa, Singaporessa, Australiassa, Saksassa ja Ruotsissa.

Tästä Systeemyö-lehden numerosta alkaen Ivar kirjoittaa lehteemme kolumnia ohjelmistotuotannon muutoksen aallonharjalta, tervettä järkeä ja pitkää perspektiiviä unohtamatta.