

Excellent analyst and communicative interface

Chris Rupp was a keynote speaker at the DREAM event 2014. In her talk about elicitation she claimed that we sometimes need the methods of Sherlock Holmes to get the best results. She told us who the adequate informants are and which witnesses we should call, which methods of investigation are appropriate and what the best possible cognitive process in the case of system development should look like. After the event we asked her to explain her way of working in more detail.

by Geertje Appel and Linda Haak - van der Spek



Stakeholder map: You explained the concept of a stakeholder map, we like that and think it could even be more useful if you add some more information about stakeholders, like for instance the attitude towards the project and the power they have to influence it? Do you agree on that or do you keep this information separate from the stakeholder map (if yes, why would you keep it separate?)

A stakeholder list should be publicly accessible, so that every person involved in the project can add comments. By handling it this way, one often discovers further relevant stakeholders, when someone who is missing these stakeholders on the list recommends adding them.

As the stakeholder list is public, you should think twice about which information you want to include. Information such as the attitude of a person towards the project or the decisive power in terms of that project might be sensitive. However, especially this information is very interesting for us as requirements engineers. I know about projects in which two stakeholder lists are maintained. One official version which includes the uncritical information relevant for all persons involved. The other one, the confidential stakeholder list, is only accessible to the requirements engineers. The latter list might include information such as the relevance of that person's opinion in the project, whether that person is rather approachable or difficult in interviews, his attitude towards the project, or what analyst he gets on well with and so on.

Personas: You told us about personas and how useful they are. Can you mention some disadvantages of using personas? Do you also use personas in projects where there is a limited group of stakeholders who are all good accessible?

Of course, personas also have disadvantages. To create them in a meaningful way, for instance, takes time. You could as well use that time to ask a later user of the system directly about his expectations on the system.

When I'm dealing with a very limited group of stakeholders, whose requirements I am able to elicit directly, I refrain from creating a persona. For me, a persona always remains only a representative for a group of people whose needs and behavior I try to take into account as specifically as possible, since I cannot interview them in the necessary level of detail (as the group is either too big or inaccessible). A persona is always a compromise, since I attribute the needs of an entire target group to one single persona. In doing so, I am making lots of decisions, as a persona is a stereotype, supposedly representing an entire group. A persona is good when 80% of the members of a group find themselves represented in it. Every actual member of that group will significantly differ from the persona in certain needs.

However, when eliciting the needs of all individual persons directly, I also have to make compromises when designing the system, as not all requests can be implemented simultaneously in the future system. In this case, however, I deliberately make compromises regarding the expressed requests of individual stakeholders. That is, I know for a fact who I offend with my decision when rejecting their requirements.

I always recommend using personas as an addition to real stakeholders when either a certain group of stakeholders is inaccessible, or when this particular group is too large to interview a representative number of people.

Personas: What is your tip to make good personas? How do you prevent making too many assumptions?

The most reliable way of creating a good persona is profound market research. You would have to interrogate

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an empirically significant number of people out of your target group. The next steps are subdividing these people in suitable subgroups, statistically evaluating their needs and characteristics and then, based on the results, creating a persona. If you're now thinking "that sounds like a whole lot of effort", you're perfectly right. This method is used in the consumer market when the goal is to generate high-quality goods for a highly competitive mass market. I always recommend using personas as an addition to real stakeholders when either a certain group of stakeholders is inaccessible, or when this particular group is too large to interview a representative number of people.

In the first case (real stakeholders of a certain group are not accessible), it is better to have a persona which roughly represents the group of stakeholders, than having no idea about how the stakeholders are wired. I remember a project where we did not have access to the maintenance engineers. Therefore, we did some research on the occupational profile of the maintenance engineers working in this corporation and, based on our generated insights, created the draft of a persona. We then discussed this persona with the other stakeholders who knew maintenance engineers in this corporation and gathered feedback. In the end, we eventually found a maintenance engineer who could at least review the persona, found himself quite well represented and could contribute a number of important requirements.

In the other case (an excessively large group of stakeholders), we combine eliciting requirements from real stakeholders with creating requirements based on personas. The made-up requirements based on personas are then of course presented to the real stakeholders for comments and adjusted to their requirements.

Sherlock Holmes: We liked your comparison with Sherlock Holmes. Do you think good requirements engineers are also good detectives like Sherlock Holmes?

Yes! There is definitely a similarity between these occupational profiles. You're searching for conscious, unconscious and subconscious knowledge. You're talking to willing and unwilling interview partners. Not everybody reveals his true intention,... As a requirements engineer you're gaining a better and better insight over time, you're able to ask more specific questions and to compare the facts. Just like a skilled detective ;-)).

Interview

Subconscious knowledge: You told that the subconscious knowledge is difficult to elicitate. Can you give us some tips how we improve our skills on this subject?

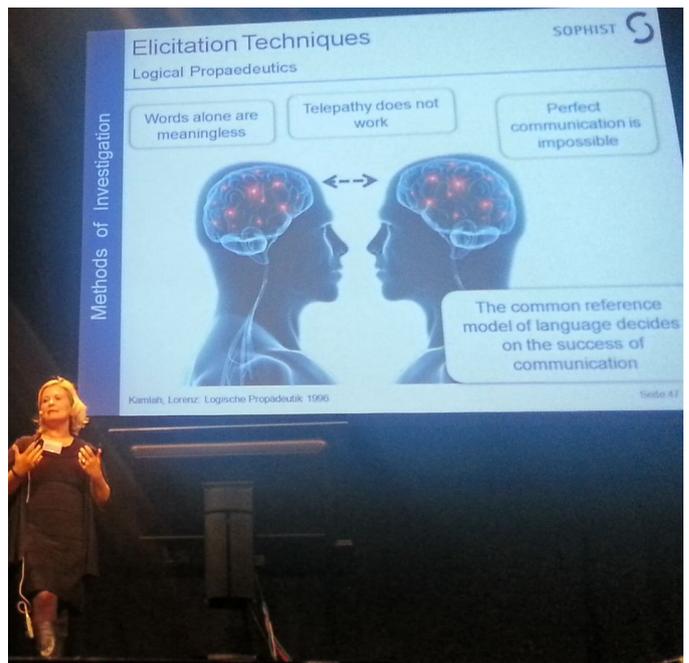
Subconscious requirements are that self-evident for the stakeholders that they do not express them, they do not even perceive them consciously. That does not mean, however, that these requirements are not important. Quite the opposite. They are so essential that the functions that result from them are used so often that the system behavior is already taken for granted.

Why don't you try to conduct the work of your stakeholder (who, at best, guides you as your teacher) for once?

You can elicit these requirements e.g. by observing your stakeholder at work. When doing so, you will also witness the self-evident workflows. Why don't you try to conduct the work of your stakeholder (who, at best, guides you as your teacher) for once? While doing so, you will notice that you miss the self-evident information your teacher forgets to provide you with. A look at the predecessor system will pay off as well. The subconscious requirements should be implemented there. If you discover subconscious requirements and face your customers with them, they will tell you: Of course I need that...

Elicitation: You made clear that the key to good requirements elicitation is using the right techniques, that is a skill that is learnable, but also to be able to get to the unconscious knowledge. Is that part also learnable, as it seems much more intuitive than rational?

Unconscious requirements are requirements which the stakeholders do not recognize initially. When experiencing them using the product, however, they are immediately fascinated and discover their need for them. You don't elicit these requirements, you invent them together with the stakeholders. Hence, we're in the field of innovation, creativity, intuition. In order to work successfully in this field, all involved parties need profound basic knowledge of the respective domain. Great ideas do not evolve from a base of ignorance. In addition to solid knowledge of the special field, you also need broad knowledge in many other areas (in order to be able to draw ideas for a possible transfer from them) and the skill to cross concepts and ideas of one field with problems of another. Thus, concepts might emerge which cover the current needs of your stakeholders. I'm not a



big fan of creativity techniques. They are one possible way of creating innovative ideas. What is of more importance to me is the wealth of knowledge in the heads of people that you can use to work with and the potential to wildly match these fragments of knowledge. Skilled people can do this with or without using a certain creativity technique. However, specific creativity techniques are advisable when running workshops with several participants, especially when certain problems exist, for example difficult group dynamics. In this case, a technique like the 6-3-5 method might solve the problem and help to establish a creative working climate.

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Elicitation: In the IT business the majority of people seems to be more beta (mathematical, methodical, scientific) but is requirements elicitation of business analysis the area where the more alpha (linguistic, creative) people can be effective?

Phew, difficult question. In general, it is essential that a requirements engineer is, on the one hand, an excellent analyst (as the requirements engineer has to build one model of a system out of 1000 single items of information and resolve redundancies and contradictions while doing so). The requirements engineer gathers information of a great number of stakeholders and condenses these details to one consistent view.

Chris Rupp

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SOPHIST-in-chief (formally: founder and executive partner of the SOPHIST GmbH), chief consultant, coach and trainer. Looking back over 25 years of professional experience, a lot has come up: a company, 6 books, 55 employees, countless articles and presentations and a whole lot of experience. My passion for project consultation might account for the fact that, until now, I do not “only” manage, but I am still directly involved in projects and close to customers. What drives me is the vision to implement good ideas so that developers, contractual partners and users – both direct and indirect – face an intelligent, sophisticated and beneficial product. In doing so, I work with a range of methods and approaches in agile and non-agile environments. In order to standardize qualification for requirements engineers / business analysts, I founded the IREB e.V. (International Requirements Engineering Board).

On the other hand, requirements engineers are the communicative interface that connects system development and the rest of the world. Thus, they need a high level of linguistic competence and a creative mindset, as they have to invent the future system together with the stakeholders.

Compared with other IT-disciplines (such as architects, developers, testers), they need considerably more alpha features.

Elicitation matrix: We can see that using the matrix with elicitation can be very useful, how

do you (at your company for instance) use this in practice, is there a general matrix per project, or is this more personal per consultant?

We work with the matrix we have published. From that we draw the most suitable elicitation technique that would help with the specific situation. However, every analyst takes the liberty of contradicting the matrix, when they personally do not like the respective technique, or when they have the feeling that a certain stakeholder might be more open to another technique. The matrix should serve as a support tool and not as a strict precept or dogma.

Choosing suitable elicitation techniques

Legend:

-	not recommended
0	no influence => may be used
+	recommended
++	highly recommended

													
	Brainstorming	Brainstorming paradox	Method 6-3-5	Change of Perspectives	Analogy Techniques (bionics/bisociation)	Osborn's Checklist	Field Observation	Apprenticing	Contextual Inquiry	Questionnaire	Interview	System archaeology	Reuse
Human influences													
Low motivation of the stakeholders (to participate actively)	-	-	-	-	-	-	+	-	0	0	+	++	++
Low communication skills	-	-	-	-	-	-	++	++	0	-	+	++	++
Ability to think in the abstract deficient	-	-	-	-	0	-	++	++	++	0	+	++	++
Many different opinions	+	+	++	+	+	+	++	++	++	+	0	0	0
Imbalance of power between the people involved	-	-	+	-	0	0	0	0	0	0	0	0	0
Problematic group dynamics	-	-	+	+	0	0	0	0	0	0	0	0	0
Organizational influences													
Development for a complex market	++	+	+	+	+	+	-	-	-	++	0	+	0
Fixed, tight project budget	++	++	++	+	-	+	+	-	-	-	+	-	++
Wide distribution of stakeholders	-	-	0	-	-	0	0	0	0	++	0	0	0
Poor availability of the stakeholders	+	+	+	-	-	+	+	-	+	+	++	++	++
High number of stakeholders	+	+	-	+	0	0	0	-	0	++	0	0	0
Technical influences													
High criticality of the business matter	0	0	0	+	0	0	++	-	+	+	+	++	+
System has a large scope	0	0	0	0	-	-	+	-	0	-	-	+	+
No previous experience in the domain	0	0	0	0	0	0	-	+	+	-	-	+	+
Trying to find rough requirements	++	++	++	+	+	++	+	0	0	+	++	-	0
Trying to find detailed requirements	+	+	+	+	0	0	+	++	++	-	+	++	+
Non-functional requirements wanted	0	0	0	0	+	+	0	+	+	-	+	+	+
High complexity of the business matter	0	0	0	0	+	-	-	-	0	-	+	+	+
Part of the syllabi for CPRE Foundation Level (*), Advanced Level Elicitation & Consolidation (**)	***	***	**	**	***	**	***	***	**	***	***	***	***