Module Story Telling

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TBD

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Abstract

This module addresses Story Telling as a means to explore customer needs and as a means for communication.

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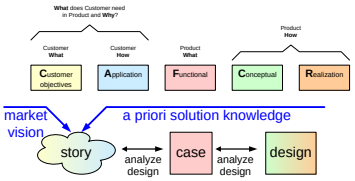
Chapter 1

Story How To



1.1 Introduction

Starting a new product definition often derails in long discussions about generic specification and design issues. Due to lack of reality check these discussions are very risky, and often way too theoretical. Story telling followed by specific analysis and design work is a complementary method to do *in-depth* exploration of *parts* of the specification and design.

The method provided here, based on story telling, is a powerful means to get the product definition quickly in a concrete factual discussion. The method is especially good in improving the communication between the different stakeholders. This communication is tuned to the stakeholders involved in the different CAFCR views: the *story* and *use case* can be exchanged in ways that are understandable for both marketing-oriented people as well as for designers.

Figure 1.1 positions the story in the customer objectives view and application view. A good story combines a clear market vision with a priori realization know how. The story itself must be expressed entirely in customer terms, no solution jargon is allowed.

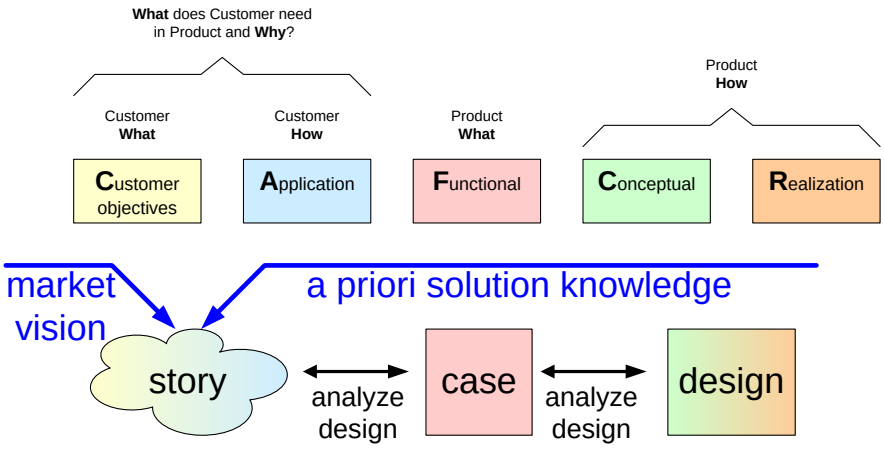


Figure 1.1: From story to design

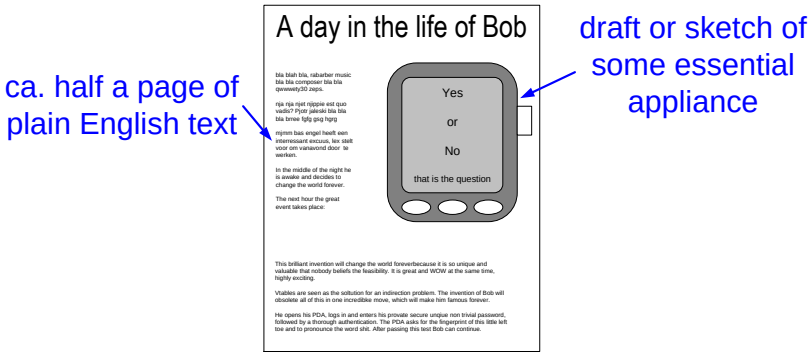


Figure 1.2: Example story layout

1.2 How to Create a Story?

A story is a short single page story, as shown in Figure 1.2, preferably illustrated with sketches of the most relevant elements of the story, for instance the look and feel of the system being used. Other media such as cartoons, animations, video or demonstrations using mockups can be used also. The *duration* or the *size* of the "story" must be limited to enable focus on the essentials.

Every story has a *purpose*, something the design team wants to learn or explore. The purpose of the story is often in the conceptual and realization views. The *scope* of the story must be chosen carefully. A wide scope is useful to understand a wide context, but leaves many details unexplored. An approach is to use recursively refined stories: an overall story setting the context and a few other stories zooming

in on aspects of the overall story.

The story can be written from several *stakeholder viewpoints*. The viewpoints should be carefully chosen. Note that the story is also an important means of communication with customers, marketing managers and other domain experts. Some of the stakeholder viewpoints are especially useful in this communication.

The *size* of the story is rather critical. Only short stories serve the purpose of discussion catalyst. At the same time all stakeholders have plenty of questions that can be answered by extending the story. It is recommended to really limit the size of the story. One way of doing this is by consolidating additional information in a separate document. For instance, in such a document the point of the story in customer perspective, the purpose of the story in the technology exploration, and the implicit assumptions about the customer and system context can be documented.

1.3 How to Use a Story?

The story itself must be very accessible for all stakeholders. The story must be attractive and appealing to facilitate communication and discussion between those stakeholders. The story is also used as input for a more systematic analysis of the product specification in the functional view. All functions, performance figures and quality attributes are extracted from the story. The analysis results are used to explore the design options.

Normally several iterations will take place between story, case and design exploration. During the first iteration many questions will be raised in the case analysis and design, which are caused by the story being insufficiently specific. This needs to be addressed by making the story more explicit. Care should be taken that the story stays in the Customers views and that the story is not extended too much. The story should be sharpened, in other words made more explicit, to answer the questions.

After a few iterations a clear integral overview and understanding emerges for this very specific story. This insight is used as a starting point to create a more complete specification and design.

1.4 Criteria

Figure 1.3 shows the criteria for a good story. It is recommended to assess a story against this checklist and either improve a story such that it meets all the criteria or to reject the story. Fulfillment of these criteria helps to obtain a useful story. The set of five criteria is a necessary but not sufficient set of criteria. The value of a story can only be measured in retrospect by determining the contribution of the story to the specification and design process.

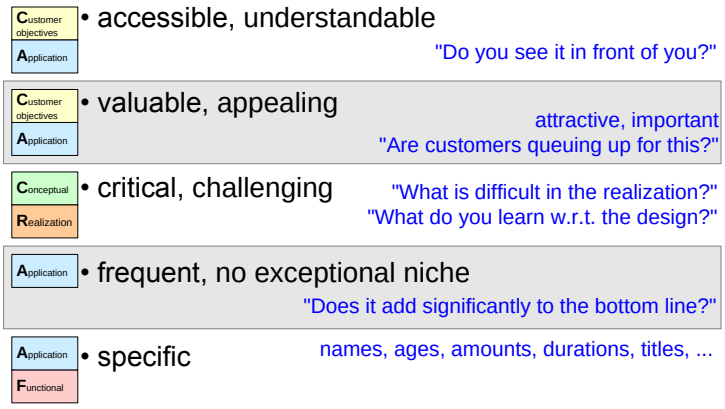


Figure 1.3: criteria for a good story

Accessible, understandable The main function of a story is to make the opportunity or problem communicable with all the stakeholders. This means that the story must be accessible and understandable for all stakeholders. The description or presentation should be such that all stakeholders can *live through*, *experience* or *imagine* the story. A "good" story is not a sheet of paper, it is a living story.

Important, valuable, appealing, attractive The opportunity or problem (idea, product, function or feature) must be significant for the target customers. This means that it should be important for them, or valuable; it should be appealing and attractive.

Most stories fail on this criterium. Some so-so opportunity (whistle and bell-type) is used, where nobody gets really enthusiastic. If this is the case more creativity is required to change the story to an useful level of importance.

Critical, challenging The purpose of the story is to learn, define, analyze new products or features. If the implementation of a story is trivial, nothing will be learned. If all other criteria are met and no product exists yet, than just do it, because it is clearly a quick win!

If the implementation is challenging, then the story is a good vehicle to study the trade-offs and choices to be made.

Frequent, no exceptional niche Especially in the early exploration it is important to focus on the main line, the *typical* case. Later in the system design more specialized cases will be needed to analyze for instance more exceptional worst case situations.

A *typical* case is characterized by being frequent, it should not be an exceptional niche.

Specific The value of a story is the specificity. Most system descriptions are very generic and therefore very powerful, but at the same time very non specific. A good story provides focus on a single story, one occasion only. In other words the thread of the story should be very specific.

Specificity can be achieved in social, cultural, emotional or demographic details, such as names, ages, and locations. "Eleven year old Jane in Shanghai" is a very different setting than "Eighty two year old John in an Amsterdam care center". Note that these social, cultural, emotional or demographic details also help in the engagement of the audience. More analytical stories can be too "sterile" for the audience.

Another form of specificity is information that helps to quantify. For example, using "Doctor Zhivago" as movie content sets the duration to 200 minutes. Stories often need lots of these kinds of detail to facilitate later specification and design analysis. When during the use of the story more quantification is needed, then the story can be modified such that it provides that information.

A good story is in **all** aspects as specific as possible, which means that:

- persons playing a role in the story preferably have a name, age, and other relevant attributes
- the time and location are specific (if relevant)
- the content is specific (for instance is listening for **2 hours** to songs of **the Beatles**)

Story writers sometimes want to show multiple possibilities and describe somewhere an escaping paragraph to fit in all the potential goodies (Aardvark works, sleeps, eats, swims et cetera, while listening to his Wow56). Simply leave out such an paragraph, it only degrades the focus and value of the story.

1.5 Example Story

Figure 1.4 shows an example of a story for hearing aids. The story first discusses the problem an elderly lady suffers from due to imperfect hearing aids. The story continues with postulated new devices that helps her to participate again in an active social life.

Figure 1.5 shows for the value and the challenge criteria what this story contributes.

Betty is a 70-year-old woman who lives in Eindhoven. Three years ago her husband passed away, and since then, she lives in a home for the elderly. Her two children, Angela and Robert, come and visit her every weekend, often with Betty's grandchildren Ashley and Christopher. As with so many women of her age, Betty is reluctant to touch anything that has a technical appearance. She knows how to operate her television, but a VCR or even a DVD player is way to complex.

When Betty turned 60, she stopped working in a sewing studio. Her work in this noisy environment made her hard-of-hearing with a hearing-loss of 70dB around 2kHz. The rest of the frequency spectrum shows a loss of about 45dB. This is why she had problems understanding her grandchildren and why her children urged her to apply for hearing aids two years ago. Her technophobia (and her first hints or arthritis) inhibit her from changing her hearing aids' batteries. Fortunately, her children can do this every weekend.

source: Roland Mathijssen
Embedded Systems Institute
Eindhoven

This Wednesday, Betty visits the weekly Bingo afternoon in the meeting place of the old-folk's home. It's summer now and the tables are outside. With all those people there, it's a lot of chatter and babble. Two years ago, Betty would never go to the bingo: "I cannot hear a thing when everyone babbles and clatters with the coffee cups. How can I hear the winning numbers?!". Now that she has her new digital hearing instruments, even in the bingo cacophony, she can understand everyone she looks at. Her social life has improved a lot, and she even won the bingo a few times.

That same night, together with her friend Janet, she attends Mozart's opera The Magic Flute. Two years earlier, this would have been one big low rumbly mess, but now she even hears the sparkling high piccolos. Her other friend Carol never joins their visits to the theaters. Carol also has hearing aids; however, hers only "work well" in normal conversations. "When I hear music, it's as if a butcher's knife cuts through my head. It's way too sharp!". So Carol prefers to take her hearing aids out, missing most of the fun. Betty is so happy that her hearing instruments simply know where they are and adapt to their environment.

Figure 1.4: Example of a story

1.6 Acknowledgements

Within the IST-SWA research group lots of work has been done on scenario and story based architecting, amongst others by Christian Huiban and Henk Obbink. Rik Willems helped me to sharpen the *specificity* criterium. Melvin Zaya provided feedback on the importance of the story context and the "point" of the story. Roland Mathijssen provided an example story.

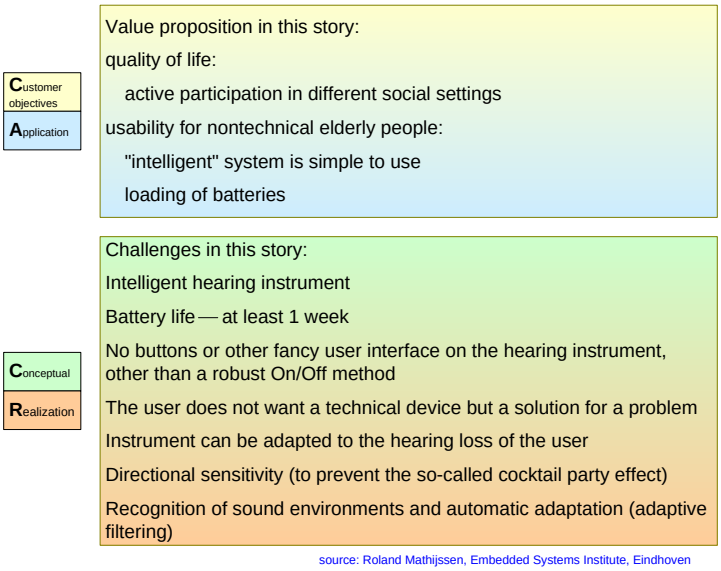


Figure 1.5: Value and Challenges in this story

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[1] Gerrit Muller. The system architecture homepage. http://www.gaudisite.nl/index.html, 1999.

History
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- created module