# Stimulating Stakeholders' Imagination: New Creativity Triggers for Eliciting Novel Requirements

## Bibliographic data

This paper was written by Corentin Burnay, Jennifer Horkoff and Neil Maiden and published as the proceedings of the 2016 IEEE 24th International Requirements Engineering Conference. It goes under the name "Stimulating Stakeholders' Imagination: New Creativity Triggers for Eliciting Novel Requirements".

## Theme of the paper

The paper approaches the theme of **Creativity Triggers** in **Requirements Elicitation**. It aims to provide empirical foundations for a more complete set of lightweight creativity triggers both stakeholders and engineers can use in order to generate new and useful requirements in a quick and simple way.

## Synthesis of the paper

Requirements Engineering is a creative process in which stakeholders and engineers work together to create ideas for new products, services and systems. As such, there are several techniques which have been proved to be effective for **eliciting creative requirements**, but most are heavy to implement and require long periods of time to be applied. Only a **few lightweight techniques** have been developed, an example of which is the **creativity trigger**.

Seven creativity triggers were reported by Robertson and Robertson: **Service**, **Information Choices**, **Participation**, **Connections**, **Trust**, **Convenience** and **Green**. However, since **creativity triggers were derived informally from experience of practitioners and not validated in a systematic way**, this paper aimed to explore more in depth the concept of creativity triggers, identify more systematically which triggers may exist and, as a result, **provide empirical foundations for a more complete set of lightweight creativity triggers to be used by stakeholders and engineers to quickly obtain innovative requirements**.

Based on the observations from the conducted focus groups and interviews, it was possible to conclude that triggers point to **uncommon qualities** of the product by provoking a reaction from the stakeholder, are non-functional, have no clear-cut satisfaction criteria and are **subjective** and ambiguous but still understandable by stakeholders. In addition, it was also evident that a combination of two triggers was ideal not to overwhelm stakeholders, their **effectiveness depends on the engineer's objectives and audience** as there are **no universally good triggers** and that they should be used and discussed during interviews, work-groups or brainstorming sessions.

Considering these notions, the authors designed a survey to gather data that allowed them to produce a list of candidate creativity triggers out of which six new creativity triggers were designed: **Entertaining**, **Light**, **Adaptable**, **Economical**, **Complete** and **Durable**. These triggers took the form of a small card to ensure they were easy to use.

By performing experiments where students with some professional experience tried to perform elicitation with or without the triggers, it was confirmed that, although there are no best triggers, there are preferred ones, but their **effectiveness depends on their context of use** and the person who uses them. Also, once more, their subjectivism was evident. As for the design of the trigger cards, the keywords are essential to comprehend the trigger quickly and the visuals are significant since they make the trigger tangible.

Although the link between triggers and requirements might appear to be indirect, the **tested subjects emphasized the link between a trigger and the requirement they came up with**.

Overall, it was clear to the authors that the **use of creativity triggers** influences subjects in the resolution of their problem and they **help in the production of creative early requirements during elicitation**. However, cautiousness is advised when applying the found results in different settings as they have yet to be tested in more representative elicitation settings.

# Questions and reflection

**Q1:** Who chooses the creativity triggers to use in a given situation? And how do they choose which one is appropriate?

**Q2:** By including images in the cards are we not influencing the people looking at them?

I think the authors focused a lot on the concept of the creativity triggers but not enough on how to use them, which arose the question: If the effectiveness of the trigger depends on the context and the people using it, how can one know beforehand which trigger is appropriate for a specific context and the specific people involved in the elicitation process? And who possesses enough knowledge to make that selection?

After reading the paper, I took some time to search online for creativity trigger cards and found there are decks of these cards targeted at specific fields. This might somewhat tone down the difficulty of choosing in regard to the context, but still does not solve the problem of choosing the right triggers for the specific people involved.

In addition, although the presented findings somewhat prove the usefulness of these triggers, I still wonder about whether the people using the cards were actually able to produce completely new ideas or merely influenced by the example pictures, i.e., by providing them with the pictures are we not risking having them come up with ideas similar to the ones they are looking at? I find that it is difficult for people to stray away from examples when they are given some and, therefore, there should have been some analysis in concern to this matter.

Maria Eduarda Santos Cunha
Up201506524
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