RCIS 2013 - Tutorial Proposal Improvise your User Stories: Running a Creative co-Design Session

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***Abstract*—This tutorial proposes participants to be the co-designers of an innovative Information System, in a session where improvisational theatre (improv) is used to invent creative user stories. Living this session, participants will discover how improv can become an intuitive experience-oriented design tool. They will have to tailor the tool to the problem at hand, and see how it fits with their preferred documentation technique. This contextetualization and personalization is expected to ease understanding and transfer to practice.**

I. Introduction

According to many commentators, creativity is the new key economic activity. This holds for the development of Information Systems (IS) as much as in any other sector of the economy, and so we must look for ways of bringing more creativity into IS development [1]. Developing IS can be seen as a fundamentally collaborative and creative process, from discovering requirements until development, through architecture. While these domains are still largely considered in isolation, the success of agile paradigms forces us to see them as a whole, putting an even stronger emphasis on collaboration and creativity at design time. While collaboration and creativity may yield wonderful results, they remain difficult to achieve. IS engineers and researchers are currently lacking skills in these areas, and training is hard to find. Moreover, adapted collaborative creativity techniques are lacking too. This mini-tutorial builds on results from our current research on creativity [2] and intends to show participants how to fill this gap.

II. Improvisational theatre for IS development

Improvisational theatre, or *improv*, is a group activity in which actors simultaneously write, direct, and perform a play in front of an audience. Actors build on, and act out, ideas to interpret a theme given to them in real time. No actor knows what the others are thinking, but they act as if they are in the same world, imagining what others are doing, seeing, and hearing. Each actor responds to the others with new proposals that take the show forward, no matter how bizarre the direction might seem. These proposals build the performance piece by piece.

So what does improv theatre have to do with IS engineering? In simple terms, improv supports *team-based innovation*. To achieve this, it provides techniques for improving stakeholder communication, increasing mutual understanding as well as open-mindedness, creativity, empathy, self and mutual confidence, agility… [3]. It also helps generating and testing ideas. We argue that this cheap and rapid story-making technique can effectively be considered an experience-based design technique: the focus is on the experience around the product, not on the product.

In particular, improv :

- exaggerates the characteristics of group creativity: emergence, intersubjectivity, unpredictability, communication [4];
- provides a *framework for group creativity*: It leads to fun, builds self and mutual trust, works out your listening and communication skills, opens your mind and turns it into collaboration rather than competition;
- helps you *understand your responsibilities* in a creative group, and to find your place in it, teach you to accept errors and to use them;
- provides a *framework for different types of creativity*: exploration, combination, transformation;
- exploits the notion of *stories* and *storytelling*;
- offers a more *collaborative and positive model for conflict resolution*, in that it uses conflict as the source of creativity.

III. Intended Audience, Objectives, Teaching Method

We welcome practitioners and researchers who are willing to discover or deepen their understanding of collaboration and creativity, when designing and developing IS. This tutorial is also particularly recommended for people who are engaged in teaching or coaching IS and are willing to address the "soft" side of it. There are no prerequisites, and we cope particularly well with diverse levels of expertise in the field.

Our first objective is to *raise awareness*: let participants understand that team innovation requires specific skills, let them *feel* what these skills are, and realise that effective techniques exist to acquire them. Our second objective is to provide participants with a first *hands-on experience* with an innovative yet intuitive co-design technique.

Both objectives are pursued by letting the participants actually play selected improv games under the supervision of an experimented improviser and IS tutor, in a simulated IS design context. The participants will be guided to tailor the technique to the problem at hand and will be asked to document the output in their favorite documentation technique. Throughout the session, we will ask people how they feel, when playing, or when observing others playing. What they say is reformulated by the coaches in terms of improv theory as well as IS engineering concepts. Letting people feel and express their feelings is key here. Being able to explain why they feel in such a way, and why they feel the same (or not) on their workplace, is crucial too. While on the surface it seems we are talking about a simple naïve game, in reality we are giving them important feedback on their own team playing skills whereas on their actual workplace they would be reluctant to accept it. This tutorial is thus meant to provide a real "learning by playing" experience, and offer something that no book or standard course could provide.

IV. Slides

There are no slides! As we just explained, this is a pure "learning by playing" tutorial. A video trailer can be seen here: http://vimeo.com/16406674.

V. Outline

1) Introduction (10'): We first briefly define creativity, motivate the need for it, and then expose some theoretical bases that establish the link between improv and creativity.

2) Awareness exercise (10'): This first exercise will raise group awareness and open people's mind for the remainder of the session. It will already reveal the difficulties of establishing an efficient communication channel, and ways to tackle them.

3) Warm-up exercise (10'): From this moment on, people remove their tie or sweat-shirt, if any, and are ready to go.

4) "Goalkeeper" exercise (20'): Here we will ask participants to play around with *personas*. This will help them cope with their inhibitions, dare collecting the ideas that are in them, essentialize their messages into a clear and actionable form. Participants will be challenged on their reactivity and will realize how far they are ready to accept and build upon proposals from others. This exercise also serves as a brainstorming session to enrich the personas for the next exercise.

5) Creative Session (40'): It's time to put things into practice. So we will pretend that we are a group of stakeholders willing to invent a new software product. We will use guided improvisations as an experience-based design technique, inventing user stories on the fly, and commenting them in order to specify what our product should or should not do. We will organize the workshop and the use of improv' as to cope with the current problem (are we in search of detailed interactions or of high level ideas) and will see how various documentation techniques can be used to record the output of such a creative session.

VI. Previous editions of the Tutorial

During the last 5 years, Martin has been using improv in ICT environments. He has given various flavors of this tutorial in many companies, including WWF, Fnac, Euroclear, Swift or IBA. It has each time received an excellent feedback from participants, who were positively surprised by what they learned and the fun they had. Figure 1 is taken from the IEEE Requirements Engineering Conference, Sydney 2010, where Martin gave a requirements-oriented version of it, prepared with Neil Maiden and Patrick Heymans [5]. A trailer of this event can be seen here: http://vimeo.com/16406674. RCIS 2012 welcomed a similar version of this tutorial. This year, we will focus even more on IS design, see various ways to use improv concretely for this goal, and will personalize the tutorial to participants' documentation techniques.

VII. Presenters

Martin Mahaux started his career as an IT consultant, where he enjoyed various positions in the IS development life cycle. He is the main developer of the improv based training technique that is the subject of this mini-tutorial. Martin published about it during his free time in IEEE Software and RE conference. He then started a PhD thesis at the University of Namur on the topic of collaboration and creativity in RE, which is ongoing. His initial work on creativity in RE will soon be published at REFSQ, and he gave a mini-tutorial at the IEEE Requirements Engineering conference last year in Sydney. He also works on methods for assessing sustainability of socio-technical systems. He recently received a regional prize for successful application of improv to sustainability problems in IS. He is also the co-organizer of the 1st International Workshop on Requirements engineering for Sustainable Systems, to be held at the REFSQ conference.

Dr. Patrick Heymans is full professor of IS at University of Namur, and visiting researcher at INRIA Lille. He is founding member and co-director of the PReCISE research centre (50 researchers) where he leads the requirements engineering and software product line efforts. He has supervised 9 PhD theses and authored 85 peer-reviewed papers. He is a regular referee for top IS journals and conferences, and associate editor of IEEE TSE. Patrick was recently the program chair of RE'11. He is principal investigator on various international SE research projects and regularly acts as an advisor and trainer for IT companies.

References

[1] S. Jones, P. Lynch, N. A. M. Maiden, and S. N. Lindstaedt, "Use and influence of creative ideas and requirements for a work-integrated learning system," pp. 289–294, 2008.

[2] M. Mahaux, A. Mavin, and P. Heymans, "Choose your creativity: Why and how creativity means different things to different people," in *To appear in Procs. REFSQ'12*.

Fig. 1. RE'10 Tutorial

[3] M. Mahaux and N. A. M. Maiden, "Theater improvisers know the requirements game," *IEEE Software*, vol. 25, no. 5, pp. 68–69, 2008.

[4] R. K. Sawyer, *Group Creativity: Music, Theater, Collaboration*. LEA, Jan. 2009.

[5] M. Mahaux, N. A. M. Maiden, and P. Heymans, "Making it all up: getting on the act to improvise creative requirements," in *Proceedings of the 18th IEEE conference on Requirements engineering*. Sydney, Australia: IEEE, Oct. 2010.