

Supporting Stakeholder Collaboration through Pair Writing

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Abstract

The use of persona and scenario is powerful in supporting information system design. Nevertheless, the practice of scenario-based design is notorious for its shortcoming in the term of resources utilisation. Pair Writing is a resource-effective technique that aims to support design collaboration of diverse stakeholders. The technique is designed and developed to tackle the issues of resources utilisation and communication problems. Designed as a game, Pair Writing facilitates the meeting between the language games. Reflecting on the technique, the poster will present the results of several Pair Writing workshop sessions in the form of a comparative analysis, personas and context scenarios.

1 Introduction

The issues of funding, logistics, opportunities, time and human resources often hinder the practice of a scenario-based design. In addition to the resources issues, communication problems often occur in an information system design that involves several diverse stakeholders. During our work for the radio frequency identification (RFID) adoption in the Danish retail industry, we have encountered the similar problems. Furthermore, we have identified that the problems are due in large part to gaps in domain knowledge among design stakeholders (Tedjasaputra, Sari & Strom 2004, Tedjasaputra & Sari 2004).

Pair writing tackles the issue of resources utilisation through its agility and minimum resources utilisation (Tedjasaputra & Sari 2005). Furthermore, the coupling within Pair Writing dynamically establishes communication common ground between a pair of stakeholders (Tedjasaputra et. al 2004, Tedjasaputra & Sari 2004).

2 Comparative Analysis

As a part of our reflexive practice, a comparative analysis has provided a constructive critiques for Pair Writing. We have learnt the strengths and the weakness of Pair Writing in comparison to some other similar techniques. During the design and development of Pair Writing, we have also integrated several elements of the other techniques, such as game. Table 1 summarizes the comparison of Pair Writing with several other similar techniques (see Table 1).

	Pair Writing	Game and Video	Video in Context	Drama
Number of stakeholders	Two stakeholders	A big group of users and designers	At least 5 users and several designers	A big groups of users and designers
Setting	Stage	Stage and natural	Stage and natural	Stage and/or natural
Length of time	At least 30 minutes	Full-day	Several days	Several days

	Pair Writing	Game and Video	Video in Context	Drama
How	<ul style="list-style-type: none"> - Two stakeholders paired - Choose and use persona to write a context scenario - Game of writing - Discussion (iterative cycle from step 1-3)	Two kinds of activities: game and video scenario. <ul style="list-style-type: none"> - Users develop scenarios through board game. - Make a movie based on most promising scenario in natural user setting. - Discussion 	<ul style="list-style-type: none"> - Users improvise a scenario and make a movie in their natural setting. - Designers translate a scenario into some artifacts for a discussion in other workshops with other stakeholders. 	<ul style="list-style-type: none"> - Analysis (10hrs) :: understand users' work - Design (8hrs) :: create design - Evaluation (8hrs) :: test ideas - Scenario orchestration - Reflection.
When in design phases	Analysis, design, and evaluation	Analysis and design	Analysis, design, and evaluation	Analysis, design, and evaluation
Medium	Paper, pencils, and/or computer.	Game board, game equipment, video, cassettes, mock-ups	mock-ups w/ different features, video clips, video & cassettes.	Mock-ups, props, video & cassettes.
Benefits	Problem elicitation, validate ethnographic results, knowledge management, facilitating process of meeting language games, creating equal footing among stakeholders, design vision, negotiated artifacts.	User participation in idea generation process, creating a common language in a shared virtual world.	Co-authoring artifacts, creating equal footing users and designers, facilitating process of meeting language games	Possibility to learn from each other without mastering it.
Drawbacks	Coupling failure, not getting used in writing	Big time & resources investments, little time for iterative process, possibility of disturbing the user context.	Big time & resources investments, little time for iterative process, possibility of disturbing the user context.	Big time & resources investments, an instructor is necessary to apply the method effectively and efficiently.

Table 1. Comparison of Pair Writing Technique and other similar techniques

3 Context Scenarios

The main result of Pair Writing activities is a negotiated context scenario. In writing a scenario, two stakeholders have to start by negotiating and choosing a persona as the main character for the scenario (Tedjasaputra et. al 2004, Tedjasaputra & Sari 2004). The personas serve its purpose as an object world (Bucciareli 2002) that bridge two different stakeholders with different language games (Wittgenstein 1965) and from different object worlds (Bucciareli 2002). The following is an excerpt of the refined persona of Bent:

Bent, a 40-years old IT Manager, works for an IT company named ItYES A/S located in Copenhagen, Denmark. He is a highly educated, hardworking, self-determined, open-minded and careful person. Time is money for him. He wants to do everything effectively and efficiently. He has a lot of experience living abroad and interacting with people with diverse backgrounds. As a technology-minded person, he works a lot with technology. His job tasks require him to interact with many colleagues and customers all over the world and solve their problems everyday. Shopping is a need-basis activity for Bent. His favorite shop is Bently, a cheap supermarket, near his house that has a long opening hour. Everyday, Bent has to go to work early in the morning and go home late in the evening. His wife, Maria is a busy studying housewife. Bent and Maria usually go shopping together every Saturday, but the stores in Copenhagen are usually very crowded. When they come in the Saturday afternoon, the stores often run out of goods. Bent is very keen to be able to shop more effectively and efficiently.

The following is an excerpt of the refined persona of Maria:

Maria is a 33-years old Indonesian lady who is married to a Dane. She has two little children: Line-3 years old and Martin-5 years old. Even though she is an Indonesian, she has been living in Denmark for about 8 years. She lives in a big house in Holte, a suburban area outside the city of Copenhagen. Besides being busy at home, Maria usually goes to a SmartCopenhagen college everyday from 09:00 in the morning to 15:30 in the afternoon. Each morning she takes her children to a day care centre and picks them up in the afternoon on her way home from school. Maria and her husband, Bent, are very friendly. In her daily activities, Maria often easily becomes nervous because of her busy activities. Therefore, she always needs a shopping list to remind her of the groceries she wants to buy while shopping. Besides its function as a reminder, shopping list is also useful to guide her movement in a store. As long as she knows what to buy, she can usually find them in the store. However, once she forgets what to buy, she often gets lost in the store because she becomes confused and usually ends up with buying something that she does not really need. Maria wants to be able to shop during weekdays despite of her busy schedules.

The following is an excerpt of the refined persona of Jens:

Jens is a 30-year old healthy Danish male. He heads a frozen and dairy department with six persons under his supervision in a GiveMeMore supermarket located in Copenhagen, where he has been working for three years. He is responsible to make sure that everything in the frozen and dairy department works well: stuffing the shelves and refrigerators, checking the expiry dates of the goods, ordering goods and supervising the personnels working under his supervision. Compared to the other workers in the supermarket, his job seems to be harder because he has to stuff supermarket freezers twice daily. In order to get frozen goods, he has to take out at least five huge and heavy pallets from a very small and crowded frozen room at the back of the store, pull them into the store through several narrow alleys that are usually crowded with people. After having two or three pallets in the store, he starts to take each case inside the pallets out individually to see its content. However, he has a difficulty in inspecting the content of the pallets and cases at the frozen room. The frozen room is cold. It has a limited space for people to move around because it is usually almost fully filled with messy frozen goods inside cases and pallets. This messiness makes him difficult to know the content of each pallet or case, unless he remembers or knows what he and others have put in a certain location in the frozen room the day before. When the pallets are already in the store, he will take the cases inside the pallets out, open them up, go around the freezers and see which freezers he needs to stuff. Sometimes he has to return two or three big pallets without taking any of the cases out because the freezers are not yet empty. Twice a week in the afternoon, Jens takes a mobile scanner around the freezers and cooling machines to scan the price of goods and to decide how many items he has to order from a centre warehouse that week.

The following is an excerpt of the context scenario for the persona of Bent and Maria:

Today is Thursday morning. Maria tells her spouse, Bent, that she cannot pick up Martin and Line, their children, and prepare for a dinner tonight because she has to meet her study group to prepare for an exam on Friday morning. Bent is very surprised with Maria's plan because she usually gets home earlier than him to prepare for a dinner. The other day, Bent arranged a family dinner this evening with his old German friends who had just moved to Denmark, and he forgot to tell Maria about his plan when he came home very late last night. It is too late to cancel the dinner now. They then decide to share tasks and make the dinner plan work while Maria can still meet her study group today:

Bent: *So, Maria, how should we share the tasks today?*

Maria: *Well, I will do the shopping from my Grabbit because I need to make sure that we will get the best ingredients for our special dinner tonight.*

Bent: *That's fine. I can pick up the kids at 16:00 and pick up the groceries on the way home.*

Maria: *Oh, that's great.*

Bent: *I can also prepare the ingredients for you, so when you come, you can just start cooking.*

Maria: *That's perfect. I will send you a recipe later.*

Before Maria leaves for school, she wears her *Grabbit Shopping* bracelet and waves it to its *Wedlog*, her refrigerator, freezer and kitchen shelves. By doing this, she can know exactly what she has in her kitchen, without having to inspect each of her kitchen storages. After she drives her children safely to their kindergarten and school nearby their house, she will have to further drive for 30 minutes to reach her school.

During her 30-minute drive, she plans the dinner meal: She attaches her Grabbit to her car dashboard and verbally instructs it to browse her stored recipe library and display images of Asian culinary on a display on her car dashboard. The display is wirelessly connected to her Grabbit with Bluetooth. She keeps saying "Next" until she

finds a desired one. After that, she instructs the Grabbit to show the graphical and textual list of ingredients and recipe of the culinary she has chosen. When she finally decides the entrée, main meal, dessert, etc., she instructs her Grabbit to compare the needs for her dinner plan with the supplies she has at her kitchen.

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While Jens roams around the store, he attaches his Grabbit on an RFID-based shopping cart. Jens can find the items that Maria wants quickly because he has been working in the store for about 6 years. Before Jens puts an item in the shopping cart, he always shows the item to Maria and asks for her agreement. Maria can see the item Jens shows on her Grabbit display or asks Jens to show the other items on the shelves.

Maria: I will take that beef.

Jens: O.K. I will put it in the cart.

Maria: I think we have all that we need

Jens: Do you need anything else?

Maria: Just a moment. Let me see if I still have a budget to buy something else.

Lone: *Cool! We can see the current total amount of the groceries and the information of items inside the shopping cart!*

Maria: Yes, It helps me a lot when I have to compare with my budget. O.K. Jens. I think I will finish my shopping.

Jens: O.K. Please enter your secret code.

Maria: Excuse me Jens! I change my mind. I want to change the Keras Coconut Milk with Gurih Coconut Milk. Can you do that please?

Jens: Right away!

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Just before her next class starts, she sends the grocery list to Bent's e-mail along with the recipes of the dinner meals and beams grocery pick-up authorisation code to Bent's Grabbit. Unfortunately, just before Maria goes to her afternoon class, she remembers that she forgets to buy a pack of bamboo sticks for her *Sate*. Her Grabbit did not put bamboo sticks in her shopping list because Grabbit considers bamboo sticks as non-food and it did not take non-food into account when Maria "scans" her kitchen in the morning. She becomes panic for a while and then calls Bent to buy a pack of bamboo sticks as an addition to the grocery list.

After finishing her work for today, Bent locates GiveMeMore supermarket location on his *Grabbit Shopping watch*, drives towards the supermarket and orders a pack of bamboo sticks to be added to the groceries he will pick up without the help of shopping assistant as Maria did previously. Bent talks to himself and to his Grabbit to order a pack of bamboo sticks:

O.K...

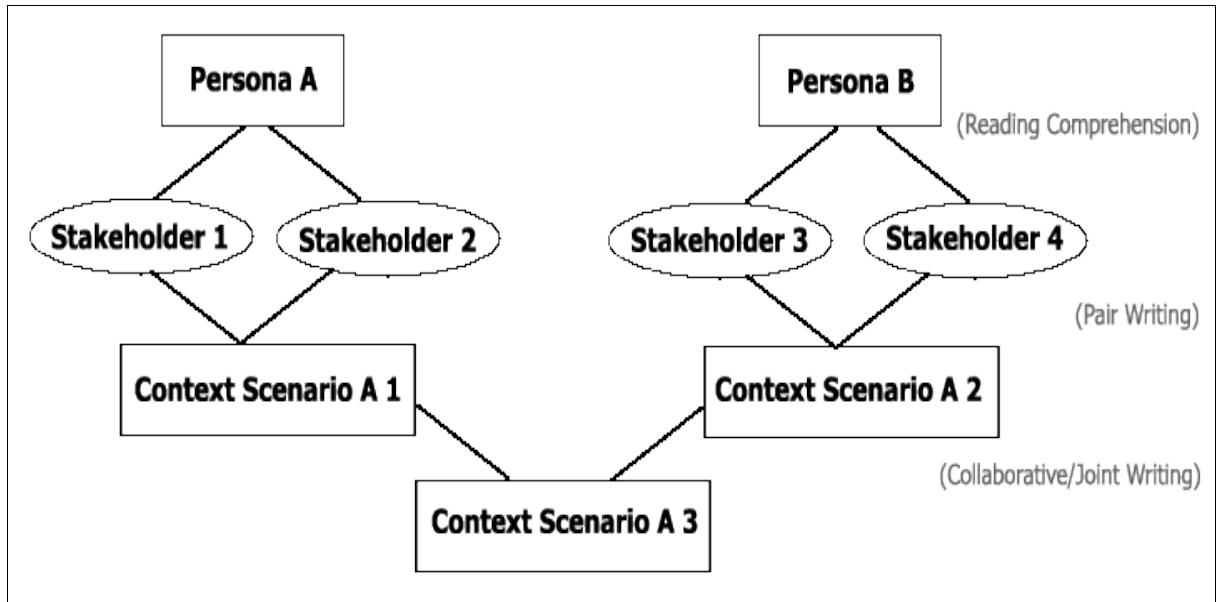
Activate Grabbit!

Now I select GiveMeMore supermarket

...

When Bent arrives at the GiveMeMore supermarket, he drives into a drive-in line where he waves his Grabbit watch to a reader in the gate. The reader authorises the grocery pick-up authorisation code that was previously beamed to Bent's Grabbit by Maria and subsequently opens the gate portal that Bent can drive into a designated area displayed by the reader and park there.

After Bent gets off his car, he spots a locker with a blinking LED on its door. He walks towards the locker and reads his name displayed on the locker. He waves his Grabbit again towards the locker and keys his secret code into a keypad on the locker....



In the comparative analysis with some other similar techniques and the results from the workshop, we can see the potentials, benefits and drawbacks of Pair Writing as a resources-effective technique that can supports stakeholders collaboration in a design process.

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