KADIR HAS UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES
M.A. PROGRAM IN COMMUNICATION SCIENCES

FORUM THEATER and ROLEPLAY in INTERACTION DESIGN

M.A. in Communication Sciences

ANIL TÜRKMAYALI

İstanbul, 2009

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Advisors

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ABSTRACT

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Anıl Türkmayalı

M.A. Program in Communication Studies

Advisors: Assoc. Prof. Dr. Çetin Sarıkartal, Asst. Prof. Dr. Yoram Chisik

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Combining theater with interaction design is a new experiment, one that focuses mostly on techniques to facilitate the visualization and communication of interaction design ideas. This study examines the possible contributions that can be made by Roleplaying and Forum Theater Methods to the field of Interaction Design. Interaction design ideas, by their nature, can easily be communicated through the use of Roleplaying and tested by the use of Forum Theater. This thesis aims to prove that certain applications can benefit from the inclusion of Roleplaying in their design process.

Keywords: Interaction Design, Forum Theater, Participatory Design, Design Theater

ÖZET

ETKİLEŞİM TASARIMINDA FORUM TİYATROSU VE ROL YAPMA

Anıl Türkmayalı

İletişim Bilimleri Bölümü Yüksek Lisans Programı

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Temmuz 2009

Tiyatro ile etkileşim tasarımını birleştirmek yeni bir deneyim olmakla birlikte, çoğunlukla etkileşim tasarımı fikirlerinin görselleştirme süreçlerine yardımcı olma amacı güder. Bu çalışma rol yapma teknikleri ve forum tiyatrosu yöntemlerinin etkileşim tasarımı alanına yapabileceği olası katkıları inceler. Doğaları gereği, etkileşim tasarımı alanında üretilen fikirlerin iletişimi, rol yapma ve forum tiyatrosu kullanımıyla kolaylaştırılabilir. Bu tez, bazı etkileşimli uygulamaların, tasarım süreci esnasında rol yapma tekniklerinin kullanımından yarar sağlayabileceğini ispatlamayı amaçlar.

Anahtar Kavramlar: Etkileşim Tasarımı, Forum Tiyatrosu, Etkileşim Tasarımı, Tasarım Tiyatrosu

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INTRODUCTION

This thesis investigates the adaptation possibilities of Role-Playing methods and the Forum Theater environment to the process of interaction design in two phases: (1) Developing alternative designs, (2) Evaluating designs.

In this thesis, I carried out an extended research on the field as well as answering to the question *what are the role and scenario patterns for interaction design ?* I try to create methodologies in order to facilitate conceptualization visualization and communication, during the design and evaluation phases of interaction design by trying to aid the flow and communication of ideas.

My inspiration grew out of a possible cooperation between interaction design and theater. Representation, which is mostly thought together with dramatic structures, can produce different outcomes when used for different aims. It means, in addition to tragedy or comedy, representation can also be thought for educational, informative and problem-solving structures. At its point of origin, my concern has similarities with Augusto Boal's thoughts/experiments on the theater environment (the relationship between the play and the spectators) and Paulo Freire's *Pedagogy of the Oppressed* (Freire 1970). To be honest, I must claim that Boal was my primary source of inspiration in terms of conception.

Relying on *Pedagogy of the Oppressed* (Freire 1970), in *Theater of the Oppressed* (Boal 1980), Augusto Boal experiments with the theater environment, spectatorship and the relationship of the spectators with actors. He suggests a new form of theater (Forum Theater or Theater of the Oppressed), which opposes the classical

forms of theater, where the spectators can actively involve on the play by replacing the actors. Boal defines this new spectator as *spectactor* (spectator + actor) (Boal, 1980). These qualities of Forum Theater stands like a counterpart to the user's situation in user-centered design.

On the other hand, several techniques (like character sheets and the role of the moderator) used in role-playing games made me think about a possible cooperation of them with interaction design. For example the use of character sheets, creating characters to be represented and role-played by professional and amateur actors seem to the situation of the potential users in interaction design. Because similar to the characters in Fantasy Role-Playing games, the potential users of an interactive product/application also require an empathy.

In this thesis, contemporary examples that combine theater with design are evaluated shortly. More importantly, I try to explain the terminology and in-between points of two intersected fields: theater and interaction/experience design. What is important to me is not only to present a methodology, but also to spark thoughts into new methods, in the service of interaction design. I also question the contemporary conception of the term participation by trying to determine the user's role in a design project. For me, participation is not simply the act of making the users involve in the process, it is way of thinking and questioning things. Participation allows others to question and present their own ideas, thus enriching the initial thinkings. Thus, I never read Augusto Boal simply as a theater person. For me, the things he's questioning can also be thought with contemporary politics of communication.

While searching answers to the question *why interaction design is suitable for the adaptation of role-playing and Forum Theater* , I went into dividing design fields as *moments* and *processes*. This division is based on the designed product's relationship with the user/beholder. I claim that some fields such as graphic design can be considered as moments, while interactive products are more suitable to be thought as processes.

I claim that some methods and techniques of Role-Playing, when adapted to interaction design, can contribute interaction design in two ways: (1) that it allows more problems to be uncovered, thus it serves to understand any possible problems, (2) can allow more people to experience the potential product and get a better insight of it. Because when compared with other fields such as graphic design, industrial product design, etc., products of interaction design are more open to be considered as processes or events, than constant devices designed for a single moment of use. The confrontation between the potential user and the interaction design product can be considered in different occasions, this unpredictability provides interaction ideas to be discussed in multiple ways. Therefore, it would be a good idea to simulate the possible consequences of the confrontation between the product and its potential users.

I introduce Boal's Forum Theater into interaction design, by combining methods from Forum Theater and fantasy role-playing into interaction design. This allows the privileges and qualities of spectators and moderator to be different than usual. This method is another way of making design meetings and/or debates on a product/idea. Compared to the regular meetings and presentations, this one encourages critical thinking.

The method allows role-playing to be used both as a sketching and a presentation method. But it talks mostly about the sketching qualities of role-playing techniques. In this method, while a potential confrontation between the product and the persona is represented, the spectator has right to intervene the actors on the stage and express her solution through role-playing. During the performance, the moderator's role is more passive, but she's still directing the discussion by standing in the shadows. Also in this method, some techniques of persona representation and creation are evaluated by proposals of new techniques.

There are several works in the field that made experiments with theater and interaction design, but none of them actually present a methodology and an extended evaluation of the field's terminology according to the new methodology. This is where this dissertation contributes the field with new qualities.

In the first chapter of this thesis, several techniques and terms that are generally used for externalizing and sketching interaction design, are discussed. This chapter also acts like the place where all the current techniques and terms of the field are discussed and evaluated according to the proposed method of this thesis. Also, an extended definition of the two binaries (*moments* and *processes*) is made in this chapter.

The second chapter *Design Theater* makes an introduction to Forum Theater and its terminology such as Joker, Forum, Magic and Spectactor. This is where I define Boal's Forum Theater according to interaction design and where I try to create the framework for the two fields' possible adaptation. Here, I evaluate Boal's terminology from the perspective of interaction design.

In the third chapter, I continue the discussion on Chapter II with more focus on technical issues of interaction design. Prototyping, environmental and social contexts are now discussed from the perspective of Forum Theater. One can say that the third chapter is the inverted version of second chapter, where the issues of Forum Theater were being approached from the perspective of interaction design.

In the second and the third chapters I present approaches for both fields (interaction design, Forum Theater). These chapters answer to the questions: *how a theater person should approach interaction design ?* and *how an interaction designer should approach theater ?*

Finally the forth chapter, provides a detailed description of the proposed method. This is where I present a method that combines techniques and methods from role-playing, Forum Theater and interaction design. As I presented some approaches in the previous chapters, I build a method based on these approaches and concerns. A researcher can use this method to conduct a role-playing session in/for interaction design.

1. COMMUNICATING DESIGN

According to Interaction Design Association (IXDA), a contemporary definition of interaction design is: ("About Interaction Design" 2009)

> Interaction design (IxD) is a professional discipline that illuminates the relationship between people and the interactive products they use. While interaction design has a firm foundation in the theory, practice, and methodology of traditional design, its focus is on defining the complex dialogues that occur between people and interactive devices of many types—from computers to mobile communications devices to appliances.

A differentiation of interaction design from other design fields is made in the book *Interaction Design* (Preece, Rogers and Sharp 2007: 166): "In interaction design, we investigate the artifact's use and target domain by
taking a user-centered approach to development. This means that users' concerns direct the development rather than technical concerns."

An analysis by Jonas Löwgren explains the approaches in interaction design by grouping them in two main categories; interaction design as a design discipline and interaction design as an extension of HCI (Löwgren 2008). The interpretation that sees it as a design discipline, is positioning interaction design closer to industrial design and architecture, instead of engineering and behavorial science. The other interpretation sees it as an extension of HCI (human-computer interaction). This one has different priorities such as usability and usefulness, mostly departing from the user's needs. Towards the end of the analysis, Löwgren speaks about the convergence of these two perspectives, claiming that the contemporary situation makes these two perspectives work together.

For me, the term *interaction* (in design) is about the relationship between the user and the designed product. Thus, I undertake *interaction design* as the effort to build and/or develop the flow of the communication between the two sides, the interactive product and its user(s). This effort to build can be based on desired goals.

1.1 Bringing Design Ideas to Life

According to the study in *Interaction Design: Beyond Human-Computer Interaction* (Preece, Rogers and Sharp 2007: 429) there exists four major phases of interaction design,

1) Identifying needs and establishing requirements:

This is where users' behaviour and context of use are studied based on the gathered and analysed data. Answers to the questions *what do users want ?* and *what do users need ?* are given in this phase. To be able to decide on the required problem-solving action, the designers should first have a precise understanding of the current problem/situation.

2) Developing alternative designs:

In this phase, new ideas for meeting the requirements are suggested. Decisions about conceptual and physical design of the work are done here. Conceptual design tries to describe the product's conceptual model in terms of appearance and behaviours. Physical design includes details like color, menu, sounds, images to be used in the product.

3) Building interactive versions of the designs:

In order to provide an early evaluation of the designs, the users need to interact with them. This fact requires an interactive version of the design to be built. By using the interactive prototype, the users gain an insight about the design of the product.

4) Evaluating designs.

Evaluation of the design depends on its usability and acceptability. This phase encloses activities with a purpose of testing, to see whether the final product matches the needs and requirements or not.

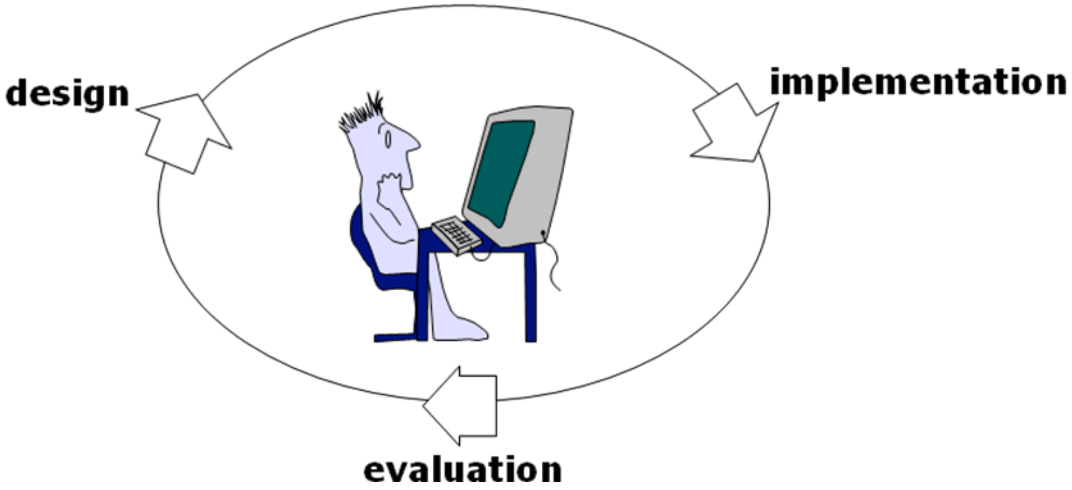

Figure 1. The Design Cycle

By their nature, interactive products need to be produced by repeating the interaction process with the aim of approaching towards the desired result. The design process is iterative with a feedback loop between the phases. Thus a revision of the design ideas (based on the feedback) is a part of interaction design's nature.

1.2 Moments and Processes in Design

Based on how people experience interaction, I categorize them either as *moments* or *processes*. Compared to the other fields of design, interactive applications, devices and so on, can be considered as processes (formed with the experiences of the user) rather than single static moments. This interactive nature of interaction design opposes the static nature of other design fields such as print design.

After it's launched, a product that is considered as a *moment* does not necessarily require a feedback from its users. For example, during its production phase, a graphic design poster is target to many critics that can alter its look. But its launch also means its immunity towards the user's (beholder's) critics and/or feedback. Even if the users criticize the product many times, it absolutely has no affection to the product itself. The same ineffectiveness can also exist in *processes*, where a user's idea is thought to be useless for the project. What makes the difference is not whether the users can criticize or not, but the launched product's flexibility according to users' feedback.

Figure 2. Example of the “moment” in design

Figure 2 is an example of what I call “moment” in design. Many changes may occur during the designing of the visual. But the beholder’s way of interacting with the visual, is what makes it to be considered as a “moment”. There is no involvement of the user after her confrontation with the launched (final) product.

In ludology, a dichotomy between the terms simulation and narration (Frasca 2003) exists and it’s what makes me describe the nature of design in the binaries of moments and processes. In interaction design I use these terms to define whether a design idea needs to be discussed or its idea is finalized in itself. Another similar dichotomy also exists in sculpture as the form of the statues are defined as *open* and *closed*.

Not only how interactive products are designed, but also the way they're used makes them closer to the processes instead of moments. Here, the nature of a design field (whether it's a process, or a moment) is a determinent factor in the choice of the medium to externalize design ideas. While a photograph would be enough to communicate a successful print design product, a medium that allows processes to be simulated is required for interaction design products.

In products that can be considered as processes, users express themselves not so differently than what they do for moments. But one can talk about their affection towards the product (or the product's susceptibility). In an iterative way, the users' feedback gives shape to the product, enhancing it based on the user's needs.

Sketching with pen and paper is the universal way to visualize/communicate ideas. Other than this, new forms emerge with the changes in the visual technologies. Animated use sketches, use of photographic animations are examples of these new forms, where computer-based animation is used to express ideas. The design idea remains unchanged, but there are changes in the medium through which it's expressed.

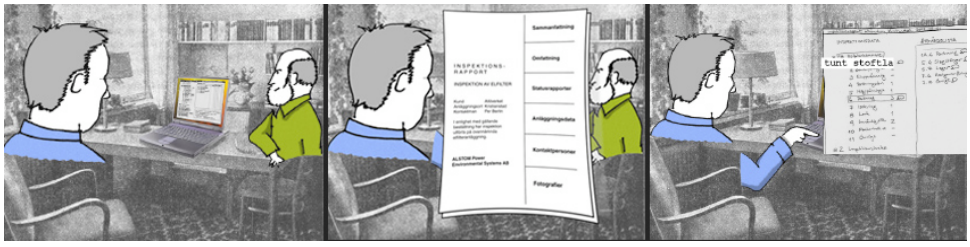

Figure 3. Combination of an environment's photo with sketches of users and a proposed interface[1]

[1] Taken from Jonas Löwgren's article *Animated use sketches as design representations,* they represent a presentation made by Alstom Power Sweden (Löwgren 2004)

1.3 Mindmapping

A mind map is a chart to show the ideas, words, notes that are formed around an initial idea. It shows how the ideas are linked to each other and how they are categorized. The branches between the words represent either the relationship between the ideas and the hierarchy between the elements. This old method that has been used for centuries ("History of mindmaps" 2009) can serve as a starting point to scenario-writing, which I will be going to explain in the forthcoming chapters.

Figure 4. Example of a mindmap from Interaction Design Summer School, Kadir Has University, Istanbul, 2006.

Mind maps are usable in many situations including personal, business-related, educational and so on. By designers, mindmaps are used in many ways such as problem solving, taking notes, framework design, creating outlines and collaborating/linking ideas. There are many mind mapping software in the market that serve purposes such as organizing large amount of information, hierarchical structuring, etc...

1.4 Sketching

Sketching is an essential design method to explore and think an idea visually. It's commonly used to visualize the abstract state of an idea. explain and/or to keep a design idea on paper, so that it can be worked on later. Generally, the term sketching connotes pen and paper sketching. Indeed, pen and paper are only the tools/media of recording an idea, but the term sketch is simply the effort of visual thinking, therefore it needs to be conceived in an abstract meaning.

The form of sketches can vary from quick doodles on the back of a napkin to a highly detailed visualization of the idea. From the designers' point of view, the detail of a sketch is an important issue. The more detailed the sketches are, the more difficult they are to change, thus it's more difficult for a designer to change her mind and let herself think about new ideas.

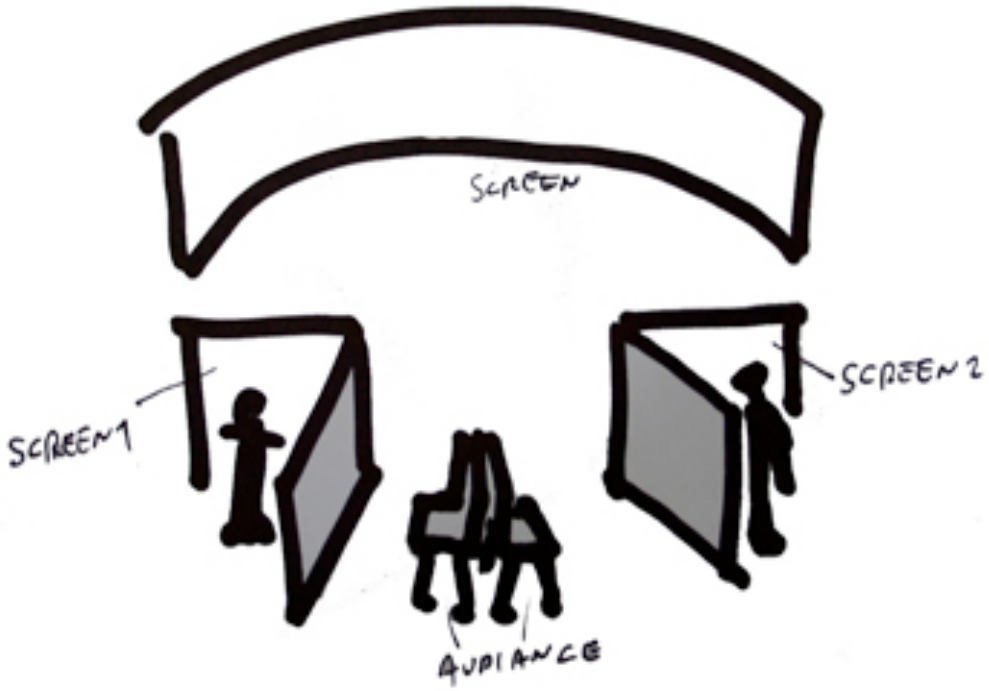

Figure 5. Example of a rough sketch

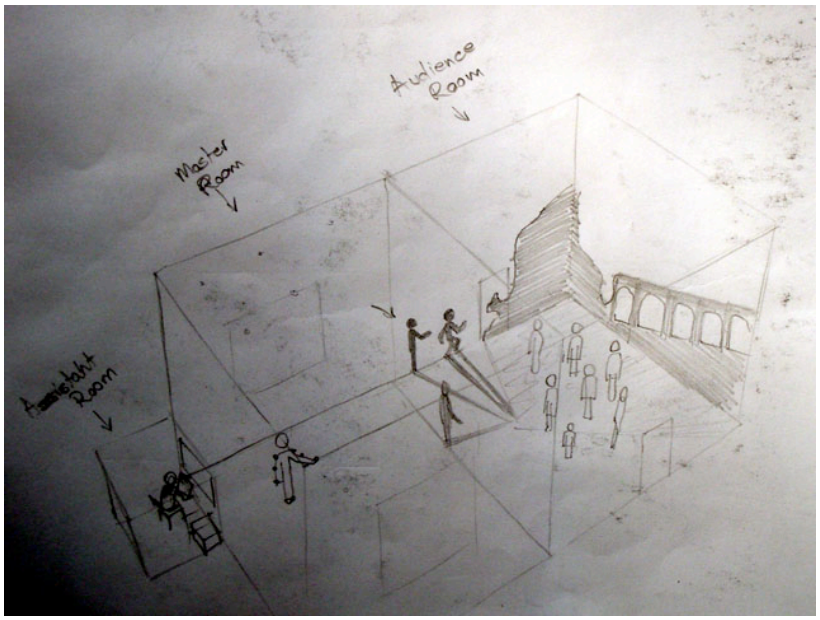

Figure 6. Example of a detailed sketch

1.5 Video Sketching

According to John Zimmerman, sketching with video is a popular and reliable method among the field of interaction design (2005). The term *video sketch* is used by Zimmerman, the same sketching method is also named as *animated use sketches* by Jonas Löwgren another researcher in the field (2004). I prefer to use Zimmerman's term because in this thesis I mostly refer to the realistic photographs and videos, instead of animations and illustrations. Generally *video sketch* and/or *animated use sketches* are the use of video (this can be an actual video record, an animation or still images with transitional effects) to narrate a case where the design idea is potentially taking place. So the general purpose of such a tool is to narrate a potential case of the potential user. For example, the case of a potential user interacting with an existing automated teller machine (or a proposed implementation of it) can have its *video sketch* as the filmed encounter of the potential user with the machine.

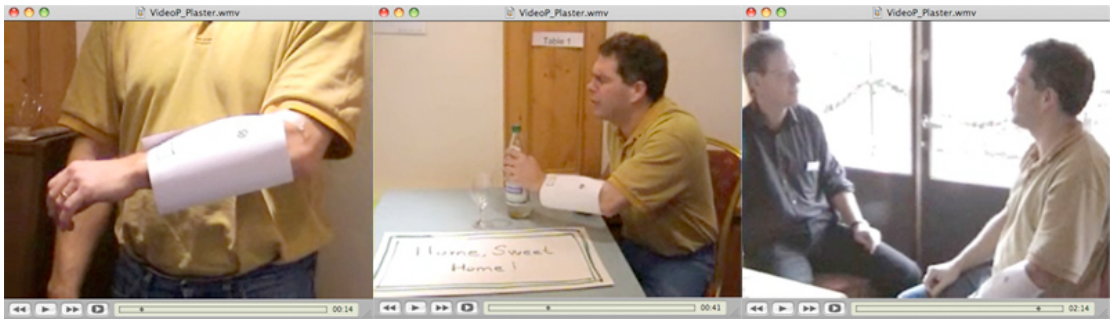

Figure 7. Frames from a video sketch that is about an interactive plaster cast.[2]

[2] The project belongs to Claus Bossen, Pelle Ehn and Per Linde in the Palpable Computing project (2004)

Zimmerman defines this tool as “video sketches significantly reduce production effort and cost by eliminating synchronous sound and reducing many visual continuity issues”(2005: 1), emphasizing its practicability of production and its powerful narrative.

Besides Zimmerman and Löwgren, who give information for the current and potential users of this method, I claim that video sketches are one of the most suitable tools for interaction design. Because as I explain in the introduction, interaction design products can mostly be thought as processes, therefore there is a need to make people see and interact with the designed product. This nature of interaction design products also causes them to be best understood by watching the process unfold in real time.

1.6 Use of Personas

Personas act like an interface to the demographic research notes of a project. They are fictional characters to represent the goals and behaviours of different user groups. Thinking about the demands of a persona, designers may also find an opportunity to think about the needs of real users. In interaction design, a persona briefly portrays potential behaviours of a user type.

Based on the targeted demographic, the designers should define representative user profiles to be used through the planning and presentation processes. A decision must be given on the user profiles to be represented.

The term *persona* also exists in marketing. A brief distinction of the same term in two different fields is made by Mads Soedegaard who says that personas in interaction design need to be made for the current design problem and they are not context-independent like the persona in marketing (Soedegaard 2007).

1.7 Use of Prototypes

Whatever value a storyboard has for a movie, a prototype is for an interaction design product. A storyboard is both a preview and a guideline of the motion picture that is going to be shot. Similarity to the final product in terms of functionality defines the fidelity of a prototype as high or low.

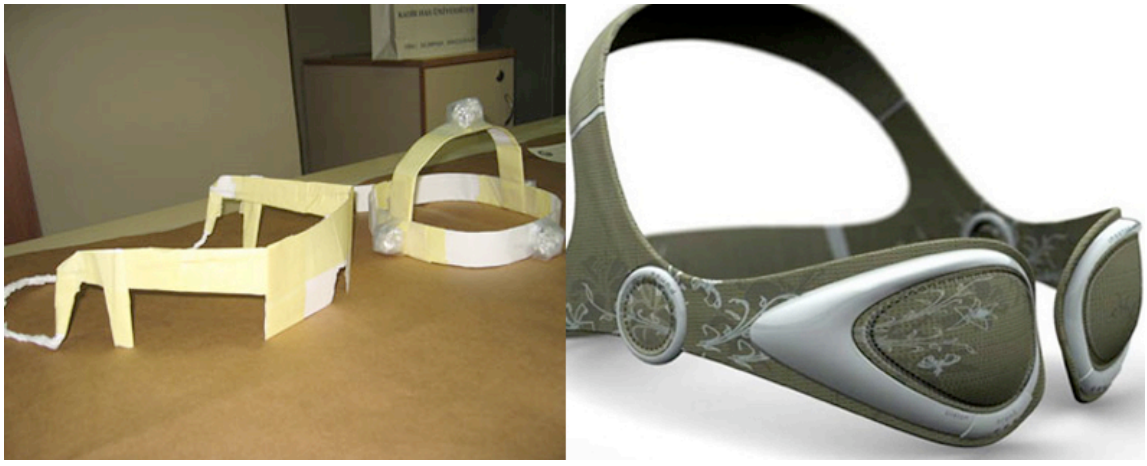

Figure 8. Examples of low (left) and high (right) fidelity prototypes of the same product

Assuming that the original product is virtual reality goggles, the pictures on Figure 7 are examples of low and high fidelity prototypes. The picture on the left is a prototype made of paper and tape, used to represent the shape of the original product. The one on the right side is an example of a high fidelity prototype. Not only it imitates

the form, but also its functions are closer to the ones of the original product. Depending on its fidelity to the final product, a prototype can be considered as a representation of the design idea that allows the design team to simulate the potential confrontations between the users and the product itself. Therefore it is a test instrument. In a presentation, prototypes act as accessories and physical tools of communication.

In the field of interaction design, one can claim that the history of sketching (and prototyping)[3] is progressive in terms of functionality. Starting from pencil-and-paper sketching until video sketches, each new medium contributes the field by patching the deficiency of the former one. In this progressive history, I position "role-playing in interaction design" as an external element that works as a supportive technique in the pursuit of interaction design.

1.8 Role-Playing in Design

According to askoxford.com, dictionary definition of *Role-Playing* is:

> The acting out of a particular role, either consciously (as a technique in psychotherapy or training) or unconsciously (in accordance with the perceived expectations of society).[4]

[3] History of sketching and prototyping based on the information from Jonas Löwgren's writings on http://webzone.k3.mah.se/k3jolo/Sketching/sk81.htm, June 16th, 2009

[4] Askoxford.com, search result retrieved on 28th of July, 2009

Throughout the thesis, I use the term *role-playing* instead of *acting*, because its performability is more widespread than the one of acting. Acting simply connotes professionality, which is rare to be found among designers and/or potential users.

Role-playing, unlike acting, provides a distance for the audience to identify themselves with the personas. Therefore, it allows them to focus on the interaction instead of dramatic issues.

Sketches allow the designers to sketch the interface whilst role-playing allow them to sketch the *interaction*. Due to the nature of interactive products, simple presentations, one-sided speeches, non-interactive films can hardly be enough to describe a design idea. Simply because one needs to go deeper and understand the way in which people interact with it, by questioning the assumptions. By "*nature of design products*" I once again want to refer to my argument saying that interaction design ideas must be taken as processes instead of moments, thus their presentations need to inspire from various disciplines. Because they are evolving ideas, that keeps on being updated throughout the usage. During that usage, there is a high contribution that comes from its users and this requires the users to be taken into consideration, in all the phases of the interaction. A good and easily perceived example of interaction design products are Automated Teller Machines (ATM). From the welcoming screen until the money is put in the wallet, you are acting in the context of the designer's scenario. By this point of view, the process looks like a destined theater play you are drawn into. Throughout the process there are people who are completing their mission in 10 mins, as well as people who try to withdraw money as quick as possible, mostly in seconds. Watching them

doing that in many ways gives an idea about how diversified the persona of an ATM can be. Observing them can give you the idea to organize the steps of interaction. For example if you observe many customers who forgot their cards on the machine, it is quite possible for you to claim that this happens because the customers concentrate on the money, which is their primary need at that moment, and they completely forget about the card. Depending on the analysis of your observation, you may intervene and change the order of user-machine interaction by first giving the card, then the money. So you claim that their yearning for the money will keep them more tolerant and attentive until the last step of interaction. You will present this idea as a helpful alternative to the ATM case, telling people that changing the order of the steps can provide less cards to be forgotten.

Of course, the observation shouldn’t only depend on various user profiles. There are many factors behind the user’s actions including the environment, time of the month (whether it’s a payday or not), location of usage, rate of lost cards, noisy environment and many more conditions like these. Therefore, not only personalities but also the environmental conditions need to be taken into consideration while making a study of user interactions. A generalization about the behaviours of a persona is inaccurate without thinking taking environment into consideration.

For the ATM case, a presentation consisted of bullets explaining the process step by step with difficult terminology can work as long as your audience is consisted of engineers. But such a presentation won't make any sense to the people who are not familiar to the field. Such a presentation isn't genuine as the audience of the idea will

always be limited. Departing from that case, use of role-playing gains great importance as it builds a common language that encloses everyone and makes the case apprehensible/accesible for everyone to discuss and be involved in the process. In that sense, role-playing also acts like an interface that presents all the statistics and rational data behind the case in a perceptible way. A part of the interaction that occurs between the user and the machine is like a participatory scenario where a user joins in and expresses her opinions. This nature of interaction design is a proximity with role-playing, it is one of the reasons why role-playing is a usable tool for describing potential interactions.

1.9 Bodystorming

As one understands from its etymology ("body" replacing "brain" of brainstorming), the term bodystorming is used to define the way of thinking, brainstorming by the use of one's body and gestures. In interaction design, the term mostly refers to the initial/preproduction phase of design, as an attempt to understand design issues through physical interaction with the prototypes in an observable environment. It's commonly used in cases where motion is a factor in the design. According Pruitt and Adlin, personas of a product need to be represented in order to communicate with the product's potential users who will willingly contribute to the future of the idea (Pruitt and Adlin 2006). Also for designers, bodystorming acts as a transformator of the abstract ideas into physical experiences. It allows playing out a scenario to physically test an idea. Just like prototypes, which represent the design idea

of the product itself, bodystorming is used to debate on the potential users. Compared to brainstorming, bodystorming can also provide tactile and more physical experiences for a designer. It is also another way that helps to iterate and verify the design ideas.

Figure 9. Bodystorming example from Interaction Design Summer School, Kadir Has University, Istanbul, 2006

I find it necessary to make a differentiation between these two terms: *bodystorming* and *role-playing*, as they seem to be close in meaning. Although bodystorming employs role-playing, they are distinct from one another. In bodystorming, one's expressions come out mostly by the use of her body, but in role-playing it's also possible to create *as if* situations just by sitting around a table. Both techniques' fields of use should be different. In a case where the representations of body is primarily important, bodystorming can be a more useful choice than role-playing, as the discussion needs to be positioned around the interaction of the body and the product.

If the product requires heavy involvement of the user's body, then bodystorming can give better ideas about the alternative uses of the product, as it turns the designers' focus on the relationship between the body and the product. Role-playing and bodystorming are techniques for the designers to act and represent the roles of the potential users.

2. DESIGN THEATER

2.1 Forum Environment in Interaction Design

By using the term *forum environment* I imply a space where the qualities of a traditional Roman Forum (such as debate, discussion, presentation and critical expressions) exist. This space is completely ageless, independent from time. A modern example of this could be a video conferencing room where all the users participate the discussion and where they feel no oppressions over their freedom of speech. Although a moderator may still exist, her/his visibility to the others makes the difference between a forum environment and a discussion platform.

The moderator exists in all places where a discussion is taking place, but in all environments its invisibility (as if she doesn't exist) is proportional to the crowd's feeling of freedom. If there is no one who's given the role of the moderator, then the discussion goes unorganized, thus it remains useless for the elaboration of the design idea. Usually she's the one who's expected to lead the discussion to the advantage of the design idea. In design meetings (or debates), the role of the moderator is given to (or naturally taken by) someone who has to filter the discussion in order to harvest useful

arguments and/or critics.

A forum environment can serve the field of interaction design as a space where the debates over ideas are made. This can be useful for the cross-checking of the ideas and can make useful critics come into the picture.

Not only I use the term forum in its Roman sense, but also I derive it from Boal's *Theater of the Oppressed*, also known as Forum Theater. Boal uses the term forum in order to imply the relationship between the play and the spectators which is different from what one knows as theater. There, the spectators are given the privileges to become actors and interact with the play, to express their alternative outcomes to the ongoing story. Boal examines and undertakes theater as a medium for reflecting and contributing personal and social problems. He claims that the engagement of the crowd is essential in order to understand and discuss their opinions about a case in the scenario. Whenever a spectator disagrees with the flow of the events, at several points she has the rights to intervene the play by stopping it and take an actor's place to act her solution to the situation. She can either challenge the product or the decisions of an actor. If she wants to raise an objection against the product, she has to do it by acting. She has the freedom to oppose the flow of the play, only if she is going to replace an actor on the stage and as long as she doesn't violate the rules explained by the Joker.

In Forum Theater, Joker is the moderator of whole session. She is responsible for explaining the rules to the audience and moderating the discussions. If the debate goes in a way that seems to be ineffectual to the main idea, Joker has the right to intervene and remind the rules to the participants.

Another important term in Forum Theater is *magic*. In a Forum Theater session, it's used to define a proposed solution as impossible and/or illogical. Use of this term is managed by Joker, who is in charge of the discussion's flow.

Many solutions can be proposed during a debate on the problem of lost cards in ATMs. An example of magic can be a proposal saying that the machine can print a new card for the customer, by asking several security questions. There are two main reasons for this to be considered as magic:

1) It simply looks like a divine intervention,
2) It doesn't contribute to a discussion that needs to focus on the user-machine interaction, it only offers a miraculous solution for a persona.

The limits of magic and the discussion of what is magic and what is not should be done early in the sketching phase. If a solution that is assumed to be magic comes out in role play, Joker should at least have an explanation of why it's considered to be magic.

For a forum environment to be useful in interaction design, the existence of the moderation, with the concepts of *magic* and *joker* is essential. The environment I am offering is by no means a way to get rid of a moderator or the discussion's leader, it's just a method to give the participant more freedom and to conduct the debates in a better way. In the eyes of the participants a forum environment must provide the feeling of freedom, which is indeed a limited freedom when thought parallel to the term's sense. There is still a moderation that defends the benefits of the design idea and tries to deduce

from the ongoing discussion.

The structure of the Forum Theater and its approach to the moderation is quite inspiring for me to appropriate it in order to replace design meetings and sessions where designers and potential users discuss an interaction idea. Such a structure can motivate the meeting's participants to express more ideas (sometimes problematics) to be taken into consideration in order to be used during the debugging process. Forum environment, as discussions, can especially encourage the potential users, who are not mainly considered as sides of the debate. Therefore, the disappointments that generally happen after the launch of the product can be minimized, with measures applied in the planning process.

2.2 Persona and Character in Design Theater

Before the theatrical discussion of the design idea begins, what is important for the design theater's audience is a clear explanation about personas (characters in theatrical sense). Usually in the initial phase of design, some data about potential users is collected or preplanned based on an ethnographic research or predictions of the design team. This data is generally the basis of the persona creation. An interaction design persona is an archetype that can be created from a composition of several real people.

In the stage of design theater, there exists two sides: the persona and the product. The topic of discussion will be various reactions of different personas towards the unique product. Whilst the design product remains constant, persona changes in each confrontation. Personas can be used to form different scenes (chapters, sessions) of the play that are independent units but somehow related to each other as each persona will

react to the same product.

The personas should be constructed by a designer (possibly a member of the design team) before the roleplay begins. It is also very important to inform the audience about the user profiles as they must be ready to reflect their own outcomes (that need to be logical according the context) by replacing the original actors.

2.3 Spectactor in Design Theater

Another term derived from Boal's Forum Theater, spectactor is the combination of two theater-related terms spectator and actor. It is used to define the audience that is given the privilege to intervene the play by becoming *actors* in terms of engagement. Besides the interaction design product and persona who are on the stage and Joker who moderates the reactions, the third part of design theater is the audience, in Boalian terms *spectactors*.

Alone, this term describes the role of the audience in participatory design. Although each member of the crowd is a spectactor by herself, there shouldn't be any limitations on the amount of the spectactors who can exist in the stage simultaneously. This amount depends on the scenario, as an interactive product can sometimes be an object for multiple subjects and/or the confrontation of a persona can be affected by a spectactor, creating a *what if* situation. One can claim that only one spectactor should exist on the stage, in order to prevent other spectactor's interruption to the proposed idea. This is a problem that needs to be solved by the Joker, who needs to remind the following participant that her role should remain supportive (adjuvant) to the first spectactor. So that the existence of multiple spectactors is a possibility, as long as the

debate doesn't get affected by the cacophony of the ideas that don't form an organized discussion. Depending on the situation, Joker can block the engagement of the second spectactor and offer her to join afterwards.

2.4 Heuristics of Participatory Design

According to a categorization suggested in *Interaction Design: Beyond Human-Computer Interaction* (Preece, Rogers and Sharp 2007: 14) there exists seven techniques to involve users in different stages of a product's design and development processes. These are listed on Table 1.

Technique	Purpose	Stage of the Design Cycle
Background Interviews and questionnaires	Collecting data related to the needs and expectations of users; evaluation of design alternatives, prototypes and the final artifact	At the beginning of the design project
Sequence of work interviews and questionnaires	Collecting data related to the sequence of work to be performed with the artifact	Early in the design cycle
Focus groups	Include a wide range of stakeholders to discuss issues and requirements	Early in the design cycle
On-site observation	Collecting information concerning the environment in which the artifact will be used	Early in the design cycle
Role Playing, walkthroughs, and simulations	Evaluation of alternative designs and gaining additional information about user needs and expectations; prototype evaluation	Early and mid-point in the design cycle
Usability testing	Collecting quantities data related to measurable usability criteria	Final stage of the design cycle
Interviews and questionnaires	Collecting qualitative data related to user satisfaction with the artifact	Final stage of the design cycle

Table 1. Design techniques where the user is involved, according to Sharp H., Rogers Y. and Preece (2007)

The techniques listed under the column Technique (of Table 1) can be considered as heuristics of user-centered design, where the users are considered to be a part in the planning and design process. This is where one needs to differentiate the terms *involvement* and *participation*. If involvement is simply the situation where the users are taken into consideration, there is a still a chance that the user will have a passive role. Therefore, their role as participants or the term *participatory* is questionable.

For a user centered design, what is important is not whether the participants give feedback or not. Alone, taking feedback from them doesn't make a design *user-centered*. The observer's primary task should be understanding the context of use, designing solutions and tests within that context that allows the user's feedback to come out in a proper way. Same applies to Forum Theater and role-playing methodology as well. Moderating the discussion is as important as providing the audience the freedom of speech.

The difference between the terms *spectator* and *spectactor* gives a brief idea over the user's nature as either active or passive. For the design theater, the user (the audience) must be given rights to debate on and even to experiment with the product/artifact.

3. FORUM THEATER IN INTERACTION DESIGN

In interaction design, role-playing is a supportive method that can be used in the all stages of design. In early stages, it can be used by designers as a sketching method to produce and express interaction design ideas. It also allows to test/sketch these ideas in accordance with an assumed persona. Departing from these qualities of role-playing, one shouldn't go into the delusion that this method works with all cases of the field. Peyrichoux opposes the tendency of believing that role-playing works in every interaction design case, by projecting risks of it as "identifying false usability issues", "overlooking serious usability issues", "losing opportunities to gain important insights" and "calling the reliability and quality of study findings into question." (Peyrichoux 2008)

3.1 Deconstructing Design Ideas

However, as long as it depends on some prerequisites and systematic, Role-Playing can be improved and/or used in a more effective way. Therefore it needs to be customized and planned each case, where a represented confrontation between the user and the product occurs. Role-playing shouldn't be seen as a tool that only facilitates the communication of an idea, it is also a tool for testing. For such a systematic to be formed, one should start by determining how to deconstruct a design idea into parts, that can allow the designers to write scenarios, make communication analysis and create cases based on several criterias.

From the forming phase to the moment of externalization, I divide the process into four parts which are: Social Context, Prototype, Dramaturgy of Roleplay.

3.1.1 Environment & Social Context

The group of conditions that encloses the environment, the time and the mood is what I call *environmental & social context*. This criteria should respond to the questions like:

where the product is confronted by the users ?

was there any other people around when the user interacts with the product ?

how the physical and social environments simply affect the user's interaction ?

Social and environmental context has a strong effect over the users' behaviours. Therefore it needs to be thought in design theater sessions as well. The only elements aren't the persona and the product but there is also the place. For example, for the ATM case, context is very important in defining user's behaviours. If the user is withdrawing money in a district that has bad reputation in terms of security, the user's reactions will be far different than the ones who experience the same process inside a bank.

3.1.2 Prototype

Being representations of a design concept, prototypes work together with sketches in different stages of the design process. According to Buxton a differentiation between the two is that "sketches dominate the early ideation stages, whereas prototypes are more concentrated at the later stages where things are converging within the design funnel" (2007: 139).

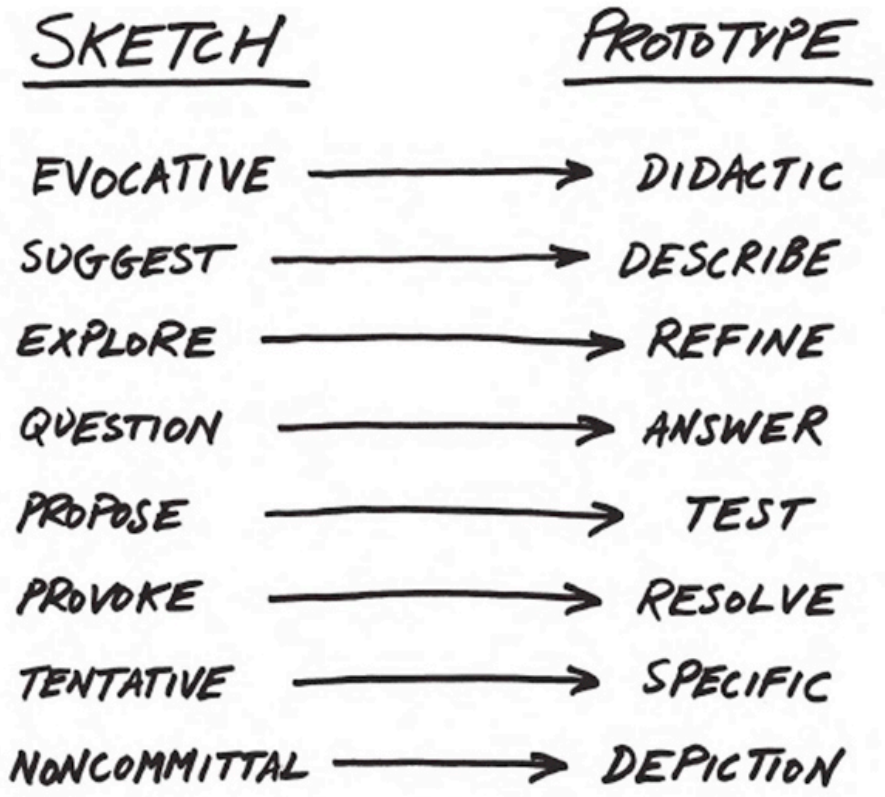

Figure 10. A comparison between sketch and prototype (Buxton 2007)

Besides criterias such as the material, form and shape of the product's prototype, another important representational quality of a prototype is its fidelity. Usually the terms

high fidelity and *low fidelity* are being used to define the resemblance of the prototype to the original product. The user's conception of fidelity is a subject to many works and experiments. Bill Buxton, in *Sketching User Experiences* (Buxton 2007: 383) talks about a study that questions the fidelity of software prototypes in software. The research has been made in 1997 by Wiklund, Thurrott and Dumas. Four software prototypes, each different by its rate of fidelity (from the lowest to the highest) is tested by the users. According to the study's results, the existence of four prototypes with different fidelities, didn't bias for or against the prototypes's perception (Wiklund, Thurrott and Dumas 1992).

In design theater, the fidelity of the prototype needs to be at the lowest level as the participants' attachment to the design is needed. High fidelity, realistic representation of the product can make the user focus on the material instead of the design idea behind it, therefore causes a distraction.

3.1.3 Dramaturgy of Role-Play

As I claimed before, role-playing should never be seen as a simple method that only provides the better communication of the idea. The dramaturgy of role-playing (or the design of the roles) in interaction design needs to be thought from a theatrical/artistic perspective. It needs to be thought as an independent module of representation just as the design of prototypes. In *On Dramatic Interaction*, Brenda Laurel explains this fact by talking about the dominance of the *scientific approach* in the design of human-computer interaction. I think not only the design but also the perception of communication (or externalization) is a victim of the same dominance. Role-playing is not inquired,

analyzed as a separate module and is seen as a lesser, undiscovered notion that serves the others.

As another representational tool of interaction design, dramaturgy of role-playing should work/be thought together with representational values of the prototype. Fidelity of a role (coherence to the user type it represents) must work together with the fidelity of the prototype to its product.

3.2 Creating Cases for Participatory Interaction Design

In many forms of externalization including video sketches, video prototypes, pitch movies and animated use sketches one sees the linearity and one sided communication of the idea, unless an exceptional question and answers session comes after the presentation. For design ideas whose features reside in highly interactive behaviours, new models of communication and debate are required. I claim that a way of thinking with alternative paths and possibilities (for each situation) is required to create more debatable interaction design cases. In order to adapt interaction ideas into the forum environment, a structure with many branches (representing alternative outcomes of a moment) is a must.

Interaction design ideas need to be debatable –therefore adaptable to a forum environment- as most of them evolve and get debugged thanks to the feedback coming from the users, or sometimes designers who bodystorm based on the user behaviours.

Whatever the medium for externalization is, the forking structure must be applied as long as a debate is needed. Figure 9 describes the two structures (linear and forking ones) based on the ATM case. For a presentation that only uses role-playing, the

forking structure creates an environment similar to *Forum Theater* where the users have the rights to intervene at some points (let's say 2nd step), suggesting other options (either 2a or 2b) to be acted out. Such a structure forces the designer to prepare her presentation with more cases than a single option. Although the audience's freedom is limited based on the options created by the designer, it's still a freedom in the eyes of the audience, when compared to the linear scenario which talks about one option. The amount of these options also signify the limits of debate, a place must always be left for more possible occasions. I mean that a character similar to *Joker* in *Forum Theater* must exist in the place, who needs to judge if the feedback coming from the audience is valuable/accurate enough create another option such as 2c. This can also be helpful to the designers in case if they missed some points while defining all the possible outcomes of a design idea.

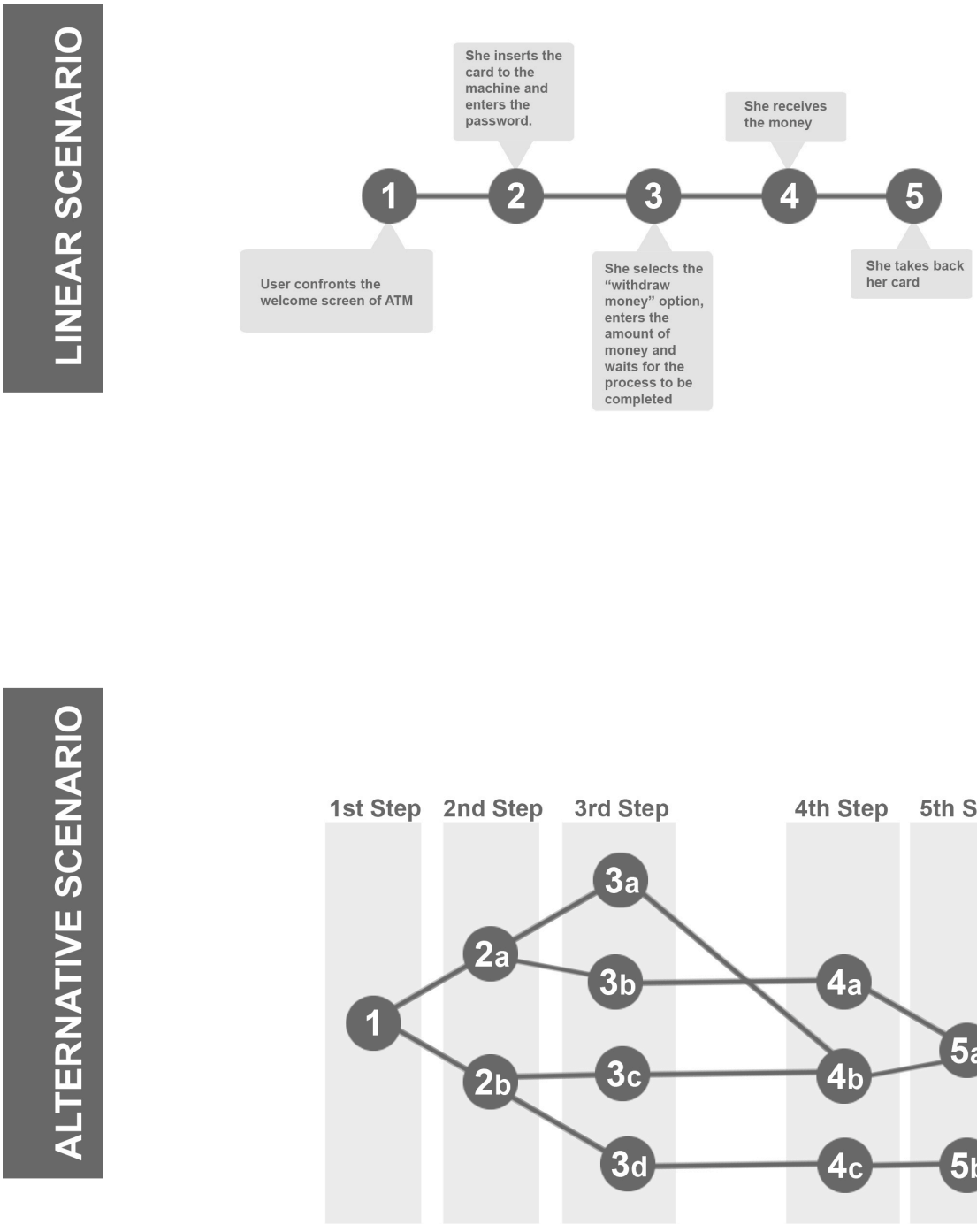

Figure 11. Linear scenario and an alternative model

The existence of Joker is extremely important for the session to be conducted in a proper way as she acts as a bridge between two sides, while collecting feedback from the audience. This role must be given to someone who doesn't act like a judge and who knows how and when to intervene without destroying the crowd's feeling of freedom and diversity.

For a video sketch to be adapted into a hypertextual structure, it needs to be constructed on an infrastructure of interactive video, as inspired from interactive fiction. But the main and most important difference between interactive fiction and forum environment is that, most of the possible outcomes of a step should be presented to the audience. At least a member of the crowd needs to be informed that other options are also available. Because providing the user a navigation like 1, 2a, 3b, 4a, 5a still gives her the feeling of linearity which only allows her to think about one occasion.

This situation unfolds the truth that as long as the design idea is presented to the audience member in a first-person environment, there is a chance that she will perceive it without being aware of the other paths. Therefore a need for a forum environment, a crowded environment is required for a better debate to occur. That's the reason why meetings in real life are organized, before realizing individual ideas. The debate in a crowded environment forces the bunch of ideas to be filtered out, making well-composed music instead of cacophony.

3.3 Methodologies for Prototype Design and Users' Representation

Throughout an idea's presentation, prototypes and user roles act as the representational part, they are complimentary elements that need to be thought together.

Several approaches have been made in the field to find the most accurate way to represent the users. Nielsen (2002) states that a rounded character should represent the user in order to maintain the designers' empathy with the user. I think besides the designers, the empathy should also be thought for the crowd. It must trigger the audience to give feedbacks by a feeling of proximity towards the presented cases. For me, its relationship with the prototypes is more important than the characteristics of the represented user.

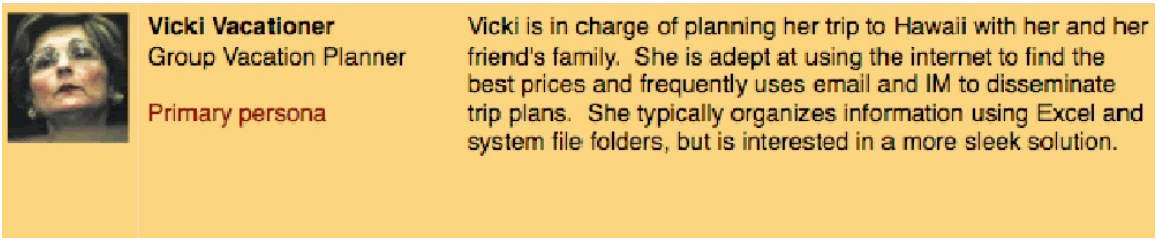

Figure 12. Example of a persona with insufficient information

According to Pruitt and Grudin, use of personas in the presentation phase can cause several problems that are:

1) The characters are not believable, they are not based on the collected data, or the data is not clear.
2) The characters are not communicated well. They are simply made posters without elaboration.
3) There is no real understanding about the use of the characters.

I think the problem doesn't (or at least shouldn't) lie simply within the use of personas. Their misuse is the reason why the personas become unbelievable and are not communicated well in the eyes of the audience. By misuse, I mean the tendency to design a persona by using non-realistic and ridiculous approaches. Personas shouldn't be designed in this way unless it's specially required. For example, the persona on Figure 10 is a good example of a badly designed one as only a little information exists about her life facts and that she's given a non-realistic last name.

An effort for the audience's adaptation could as well be useful. Before the forum session begins, a brief introduction telling about the rules, right and roles can provide useful information for the ones who are strange to the forum methodology, who might as well be questioning the need for such a meeting.

4. DESIGN WITH/BY ROLE-PLAYING: A METHODOLOGICAL PROPOSAL

Majority of my inspiration for *design theater* grew out of some methods used in tabletop role-playing games. I, as a roleplayer and a fantasy role-playing game master for many years, think that tools and methods such as character sheets and game master's ways of writing can be adapted into forum environment in interaction design. This method can be considered as role-playing game techniques and Forum Theater serving interaction design purposes.

Primarily, this method is a replacement for design meetings, focus groups and in-depth interviews. But different from regular meetings that are made by sitting around a table, role-playing allows designers to be involved in a deeper and better way. Not only it allows designers to feel more comfortable and straightforward, but also it allows them to experience the case. A similar difference also exists between *tabletop role-playing games* and *live action role-playing games*. In tabletop role-playing games, all players are immersing into various characters. But the empathy with the characters and with the imaginary world is stronger in live action role-playing. Thus, to have the feeling of the persona and the context also requires some acting. This is where role-playing appropriates the environment of the Forum Theater.

By the interaction designers' point of view, the overall chronology of design theater (the design process + Forum Theater method) can be divided into three steps:

1) **Production**

   This part encloses writing of scenarios, defining the personas and the roles of the design team.

2) **Forum Theater**

   Where the role-playing happens and the design idea is discussed by participants.

3) **Evaluation**

   Based on the Forum Theater performances, an evaluation of the design team over the design idea.

4.1 Converting interaction design ideas into design theater scenarios

Based on my differentiation of linear and non-linear (forking) design scenarios, my proposed scenario structure is closer to a game than it is to a film. In order to be make Forum Theater more compatible with scenarios related to the design, I propose a structure with moments of decision left for the user. These moments must be marked in advance, as they will pretend to play the same role as the climaxes or the anti-climaxes do in dramatic narratives. These are users' moments of decision where they need to make a choice among several options. The dots in light gray are possible outcomes of a decision moment where a member of the audience comes and replaces the actors on the stage, in order to express her proposal. By the way, the dark gray ones form the *expected flow* of the play, as predicted by the designers beforehand.

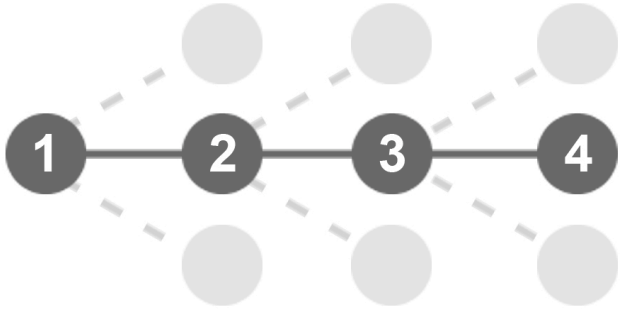

Figure 13. Scenario structure of a design theater session

Mindmapping (in x axis) can be a good technique for writing a forking scenario like this. Not all the steps need to have two alternatives. There may be many more alternatives to a single moment. One person from the design team should keep the initial scenario data, in order to make its comparison with the flow of the play on the stage. This is for seeing the difference between designers' predictions and unforeseen user actions.

Before the roleplay session begins, the design team can write whole scenario in order to preview all the possible decisions that can be taken by the user/spectactor. Of course not all the possible user decisions are predictable. But this scenario method can later be used to see the accuracy of the designers' foresight over the potential user behaviours.

4.2 Defining and Representing Personas

In role-playing games there exists a paper called character sheet, that defines traits in a character. This definition is quite cursory, as the information on the sheet is always variable depending on the player's actions and decisions. But it is very helpful

when a roleplayer needs initial information about her character. Character sheets are similar to the character descriptions given to the actors in the preproduction stage of a movie, in order to let them know their roles better. I think the use of a similar sheet for defining personas can be reasonable, as their role in design theater is similar to the player character's in role-playing games.

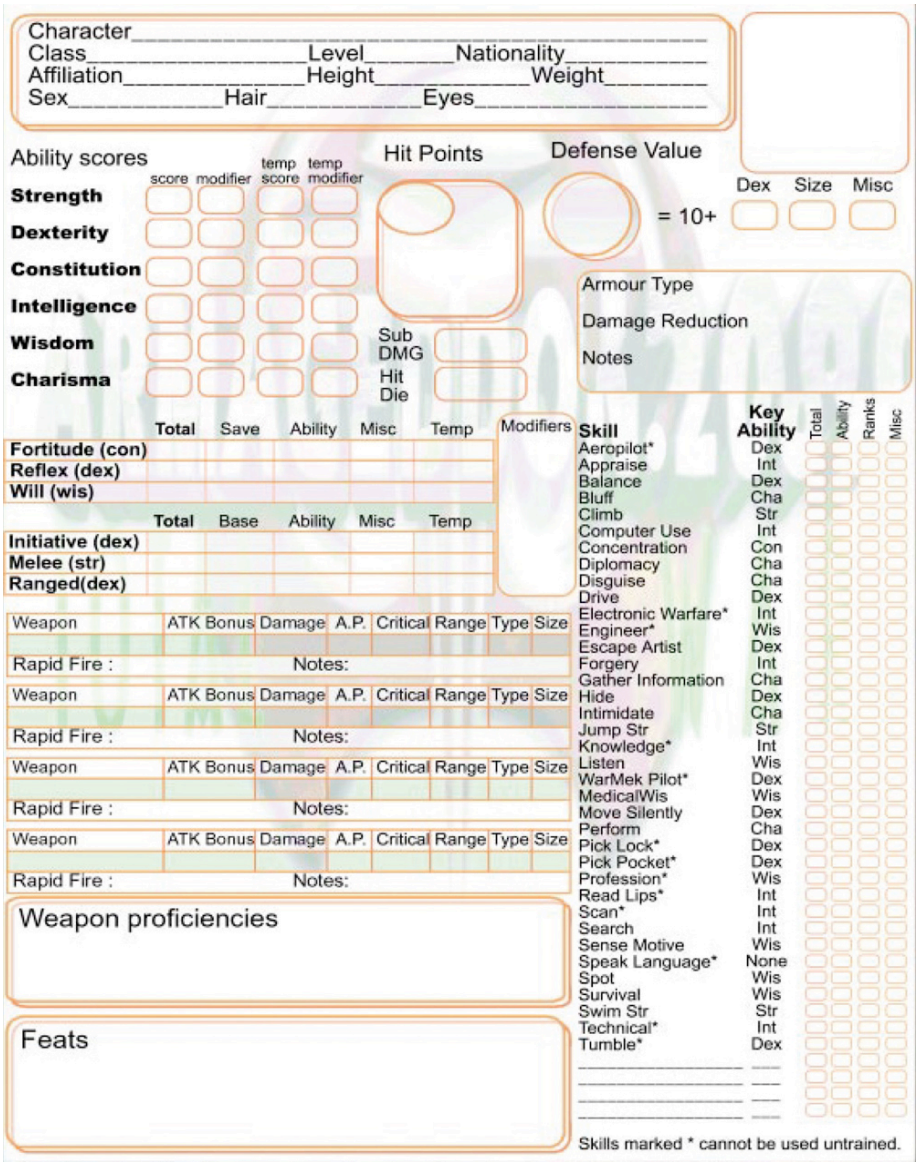

Figure 14. Example of a character sheet used in Fantasy Role-playing Games

Compared to the persona card I presented in part *3.3 Methodologies for Prototype Design and Users' Representation*, a character sheet can provide the participant, all the vital information and life facts of the persona.

Name: Simone Gauvin

Age: 29 Sex: Female

Height: 170 (cms) Weight: 55 (kgs)

Hair: Blonde Eyes: Brown

Lives in (city/district): Paris

Monthly Income (if any)

3300 EURO

Disabilities (if any)

-

Lives with (family members)

Mother, Father

Hobbies & Interests

Fashion, Tourism, Diving and Extreme Sports

Relationship with the product:

She never asks for a receipt from the ATM

She never puts the withdrawn money in her wallet. She uses her pockets instead

She never uses her card in districts she finds unsafe.

She only uses the card to withdraw money

Other Details (if any):

Last year, she applied for a new card (3 times)

She's known as a forgetful and unorganized person.

She works in a tourism agency as a brand manager.

She never uses her card for online shopping

Figure 15. A Character Sheet for Personas

Inspired from character sheets of Fantasy Role-Playing Games, I exemplify a persona character sheet like the one in Figure 13. Giving rational and detailed facts about a persona triggers a better representation of her on the stage. For example instead of giving little information that looks like a short biography, it's better to present a user profile based on rational facts and let the audience imagine a possible representation of this user. Of course the facts must be well designed for not letting the audience have a diverse array of representations in their minds. Because this can weaken the audience's focus on the interactions.

4.3 The Roles of Design Team and the Audience

In design theater, designers have two roles to be taken. Firstly, one designer must act the Joker, as that role requires competence in the topic discussed on the stage. The Joker will be the hidden moderator, whose job is to intervene only when it's required. Therefore it would be good to work with a cold-blooded person (or one trained in critique) who doesn't have an impulsive character.

Design team's other role is to become the initial actors of Forum Theater's each session. Among the design team, people who are eager to roleplay can be given that role. These members need to play according to dark gray zones of the scenario. Although there are many companies in the industry that conduct forum theater sessions for other companies, I think these roles don't require to be acted by professional actors. Because for design theater, the knowledge about the product is more important than the acting knowledge and as theater in interaction design is a form of sketching, it doesn't need to

be polished. This is similar to the difference between a painting and a sketch. Also, the existence of a character who acts on the stage in an excellent way is risky for the participation of others. Simply because there is a possibility that the ones who are not trained in acting will see themselves as lesser roleplayers, or in other terms *strangers to the stage*. This is a fact that I saw many times in tabletop and live action role-playing games, while I had/played with players who were (semi-)professional actors. The existence of one player who acts far better than the others, caused the discouragement of other players, soon as they became spectators to the better actor. A solution to this situation was a change in the behavior of the better actor. As long as she considered herself to be a roleplayer, but not an actor, I noticed no discouragement among other players.

Each session of design theater is formed by a persona. It means, as in Figure 2, in each session the product/idea remains the same but the user profile changes.

4.4 The Flow of Design Theater

Although professional acting experience is not a requirement in design theater, the participants need to be eager to express their ideas through role-playing. That requires an introduction phase before the forum session begins. A short seminar (of 10-15 mins) where Forum Theater and Augusto Boal is explained to the audience can be useful in order to show the audience how they can participate and express their ideas. This session can also be followed by a short discussion (with the audience's participation) about Forum Theater and purposes of using it in interaction design. The audience members should be either designers or design-related people. The speaker must

have a welcoming attitude and should consider the audience as a valuable source of knowledge, instead of seeing them only as test subjects.

Two other important criterias are place and the population. The place in its basic structure, should at least have a spatial differentiation of the stage and the spectators' zone. I mean a space where there is a part reserved for presentation and/or acting, and the other part where one can become spectators. Thus, even a classroom or a conference room with above qualities are usable for such an activity. The ideal population of spectactors (according to the proposed schedule) should be at least 5 and no more than 15 people.

Daily schedule of design theater can possibly look like this:

1) Introduction of goals and methods, brief information about the project, this part can be narrated through the use of other media (like video) as well. (15-20 mins)
2) Basic explanation of Forum Theater, Joker and the audience's rights to participate (15-20 mins)
3) Session 1 (60-90 mins)
4) Break (10-15 mins)
5) Session 2 (60-90 mins)
6) Break (10-15 mins)
7) Session 3 (60-90 mins)
8) Break (60-90 mins)
9) Evaluation of performances and product (together with the audience) (40-60 mins)

10) Break (10-15 mins)

11) Design Team's Meeting and Evaluation (40-60 mins)

Right after the daily schedule is completed, a period of time needs to be dedicated for the postproduction. Members of the design team should go over the footage and/or taken notes to discuss what is learned, how the user reacts in certain situations and how the design theater's feedback can be used to elaborate the idea.

On Figure 14, the exemplary interaction idea is about an alarm system. It can be used in places where an epileptic can live a crisis alone. The system aims to inform the relatives of the epileptic by phone. The device starts to alarm when someone lies on the ground for more than 5 minutes.

- A acts the epileptic
- B is acting the relative
- and C is a member of the crowd (and the design team)

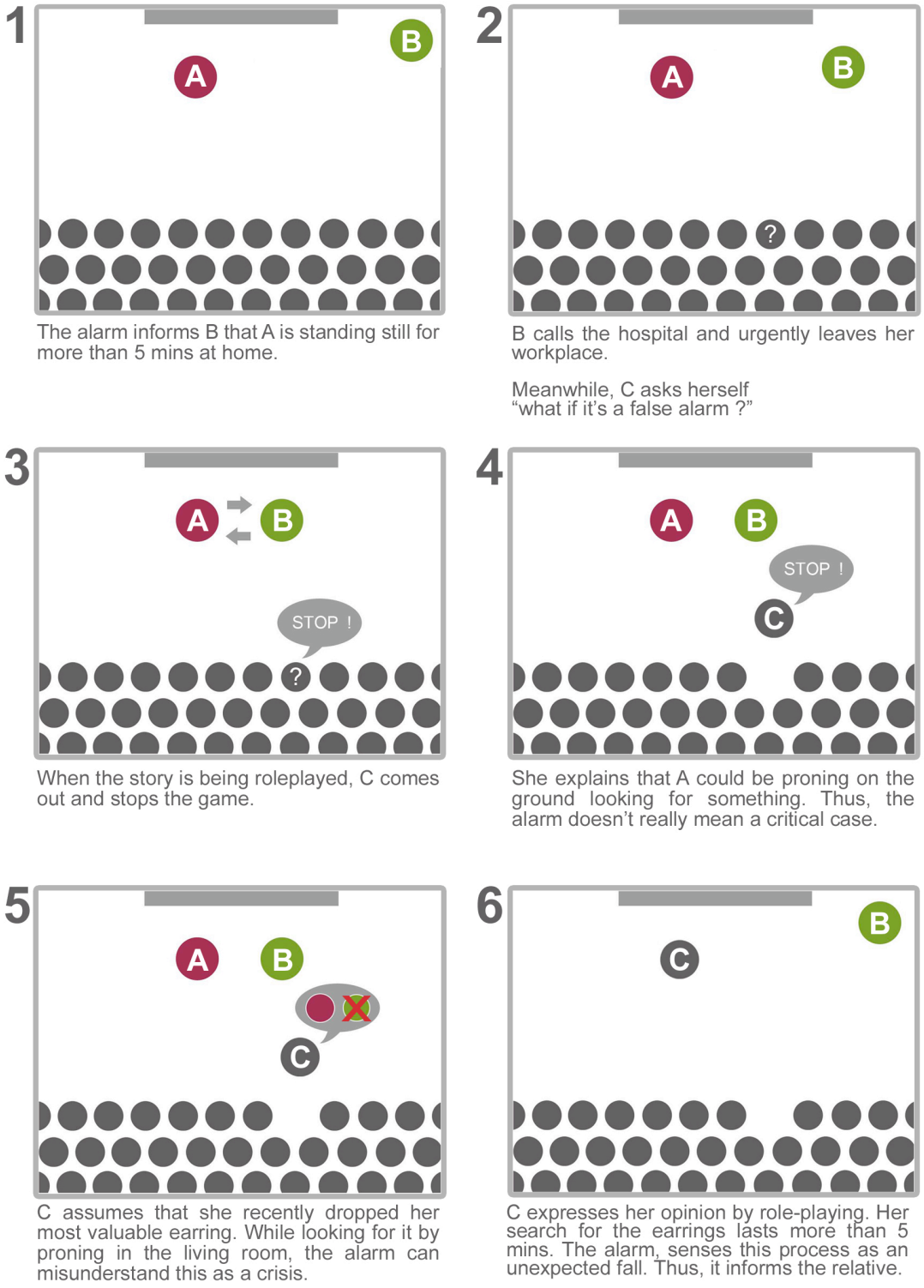

Figure 16. Step-by-step flow of design theater

4.5 Documentation

According to Simsarian, videotaping the performances not only provide documentation but also they sharpen the performances (2003). In my opinion, this idea might be correct for some but one can't expect it to be universally and individually valid. Because the relationship with the camera can change from an individual to another. The existence of the camera can also make the spectactor lose her concentration about the product, which I think would be the biggest problem of it all. On the other hand, using a hidden camera raises ethical issues and if it's discovered later, it can cause bigger problems of concentration.

I propose the use of a stationary camera. Even if it makes problems at the first sight, its existence will be a temporary problem after the person on the stage gets adapted to it. Also, the possible affection of the camera is not vital for the performance, as it should be evaluated as sketching.

CONCLUSION

Role-playing and Forum Theater have potentials to work together as a sketching method in the pursuit of interaction design. Not only serving as a means to reflect the users' opinions but also they provide a realistic atmosphere for gathering useful and correct information from the potential users. From the designers' point of view it works as a more entertaining simulation of a design meeting, with the participation of the user representatives.

The role of the spectator is the backbone of a forum environment. But in this research I also noticed that together with spectatorship, one should also discuss the role of the moderator, which is as important as the spectator is. This also gives an idea on how to read Augusto Boal. At the first reading of *Theater of the Oppressed*, one thinks that it's mostly about the salvation of the spectator. But a better study of it shows that the problem is two sided and a change in the role of the moderator is as important as the one in spectator's.

My primary goal in this thesis wasn't just to suggest new heuristics for participatory interaction design, like many other researchers do. I tried to contribute the field by presenting new approaches towards the concepts of interaction design. Although I proposed a method, this thesis only plays the role to show the bases where a possible methodology should be built on.

Bibliography

About Interaction Design. 2009. Ixda.org. Retrieved 14 July 2009 from http:// http://www.ixda.org/about_interaction.php

Boal, A. 1980. *Ezilenlerin Tiyatrosu.* N. Hasgül (tr.) İstanbul: Boğaziçi University Publications

Freire, P. 1974. *Ezilenlerin Pedagojisi.* Dilek Hattatoğlu (tr.) İstanbul: Ayrıntı Publications

Buxton, B. 2007. *Sketching User Experiences: Getting The Design Right and The Right Design.* San Francisco: Morgan Kaufmann Publishers.

History of mindmaps. 2009. Mindmapper.com. Retrieved 24 June 2009 http://www.mindmapper.com/mind/mind2.asp

Zimmerman, J. 2005 "Video Sketches: Exploring Pervasive Computing Interaction Designs" *IEEE Pervasive Computing* October-December 2005: 91-94

Sharp H., Rogers Y. and Preece J. 2007: *Interaction Design: Beyond Human-Computer Interaction.* Wiley

Peyrichoux, I. 2009. "When Role Playing Doesn't Work: Seven Guidelines for Grounding Usability Testing in Participants' Real Lives" Uxmatters.com Retrieved 20 June 2009 http://www.uxmatters.com/mt/archives/2008/09/when-role-playing-doesnt-work-seven-guidelines-for-grounding-usability-testing-in-participants-real.php

Wiklund M., Thurrott C., Dumas J. (1992) "Does the Fidelity of Software Prototypes Affect the Perception of Usability ?" *Proceedings of the Human Factors Society 36th Annual Meeting,* 399-403

Soedegaard, M. 2007. "Personas" Interaction-Design.org (2007). Retrieved 12 July 2009 from http://www.interaction-design.org/encyclopedia/personas.html

Frasca G. 2003. "Simulation versus Narrative." The Video Game Theory Reader (pp. 221-235). Wolf, Mark J.P. and Perron, Bernard. New York: Routledge.

Nielsen, L. 2002. "From User to Character: An Investigation into user-descriptions in scenarios." Designing Interactive Systems: Proceedings of the 4th conference on designing interactive systems: processes, practices, methods and techniques (pp. 99-104). New York: ACM Press

Pruitt, J. and Adlin T. 2003 The *persona lifecycle: keeping people in mind throughout product design* (pp. 144-161) Morgan Kaufman Publishers

Simsarian, K. 2003 "Take it to the Next Stage: The Roles of Role Playing in the Design Process" *CHI 2003: New Horizons* 1012-1014

Rosson M., Carroll J. 2002. "Scenario-Based Design" The Human-Computer Interaction Handbook: Fundamentals, Evolving Technologies and Emerging Applications. (pp. 1032-1050). J. Jacko A. Sears, Lawrence Erlbaum Associates

Svanaes, D., Seland G. 2004 "Putting the users center stage: role playing and low-fi prototying enable end users to design mobile systems" *In Proceedings of the SIGCHI Conference on Human Factors in Computing System CHI 2004 (pp.* 479-486) *New York:, ACM Press*

Newell A.F., Carmichael A., Morgan M., Dickinson A. 2006 "The use of theater in requirements gathering and usability studies" *Interacting with Computers* 18, (pp. 996-1011)

Interaction Design. 2008. Interaction-design.org. Retrieved 14 July 2009 from http://www.interaction-design.org/encyclopedia/interaction_design.html