Personas is not Applicable:

Local Remedies Interpreted in a Wider Context

Kari Rönkkö
School of Engineering
Blekinge Institute of Technology
Ronneby, Sweden
+46 457 385845

Mats Hellman, Britta Kilander
Interaction Design
UIQ Technology
Ronneby, Sweden
+46 708 576497

Yvonne Dittrich
Design and Use of IT
IT-University Copenhagen
Copenhagen, Denmark
+45-3816-8949

Kari.Ronkko@bth.se   {Mats.Hellman, Britta.Kilander}@uiq.com   Yvonne.Dittrich@itu.dk

ABSTRACT

One of the major problems with participatory design is that it is extremely difficult to apply it to current developments. Software development for the mass market is one aspect of current developments which has been addressed. The problem of how to apply participatory design invariably leads to questioning its relevance to present-day circumstances. It is suggested that new patterns of dominance must be revealed. The usability method known as 'personas' has been demonstrated to remedy the problems of including social and political issues in mass market software developments. This paper demonstrates how the application of personas to a mass market software development project failed because of patterns of dominance in the telecom branch which were unrecognised at the time. The identifying of these patterns of dominance contributes to a better understanding of some of the new patterns of power and domination in mass-market software developments that PD stands before.

Keywords

Personas, Interaction Design, Mass-market Software Development, Participatory Design, Patterns of Domination.

1. INTRODUCTION

This paper illustrates how the personas interaction design technique proved to be unsuitable in developing mass-market software for mobile devices. The problem was not with the user; socio political factors in the branch in which the software was developed proved to be of much greater importance. When developing software for single organizations, political and social issues such as participation, empowerment and development of routines are more evident. The user's interest in cooperation is more apparent. How do you engage users and designers working in a mass market when the complexity and representativeness of

users are hard to identify and portray, and when social and political aspects are filtered out by the field and evaluation techniques used? The personas technique is suggested as a remedy for this problem [12]. A persona is an archetype of a user which purports to give the 'precision' [6, 13, 19] required in design work. Personas also bring social and political aspects to the surface. Personas is not suggested to replace other methods, instead it is considered as a complementary technique.

The challenge of how to adjust to the increasing number of software products designed for the mass-market is a recognised area for improvement in participatory design [1, 12, 10, 13]. How social and political contexts interact with the development of mass-market products is not yet understood. How 'patterns of domination' [1] manifest themselves in technology is dependent not only on how technology is deployed but also on how technology is developed. Therefore it is still an unresolved question how the interests and needs of not only powerful groups of users, but also less influential parts of the society can be accommodated when for example developing applications for mobile devices. Today software companies developing mass market products are not only in the forefront of the challenge to satisfy multiple users of mass market products: multiple clients and levels of clients can also be identified. These software companies have to satisfy layers of different actors, each with their own interpretation of whom the main target group is, how to identify and represent them, and how to satisfy on a technical level the needs identified. Such software companies also try to precede usage by presenting new possibilities arising from new technology. This is a common scenario in telecommunications.

The present authors have tried to implement personas in a joint research project between UIQ Technology AB and Blekinge Institute of Technology. The project has been inspired by Cooper [6] and the methodology has been taken from Grudin and Pruitt [16]. The implementation took place in an industrial software development project with a mass market product for the telecommunications industry. The success rate of the implementation was low. The main reason for choosing personas was to remedy internal problems rooted in a lack of agreement about users' requirements. There arose 'sprawling' of design opinions between interaction designers and software developers in the company about what user actually wants. In the end political and branch-related reasons hindered the implementation of the persona technique. Reduction of the initial requirement scope in the project did not relate first and foremost to end-users' needs

(persona goals). The primary influence was instead new technology, market- and competition-related issues. Different competing clients appeared at different points in time in the project, all with their own private technology prioritisations and plans of when to launch a new version of their product. After some unsuccessful implementation trials we decided to map out why personas proved inadequate in the prevailing contextual circumstances. This paper is based on the results of this investigation.

2. THE PERSONA TECHNIQUE

In the late '90s Cooper introduced personas as part of his goal-directed design concept. As already stated a persona is an archetype of a user and is described in terms of needs, goals and tasks. In this way it gives the 'precision' required in design work. The personas interaction design technique is considered by practitioners and researchers alike [6, 16, 4, 14, 19] to have the potential to include end-user information in the software development process as a basis for evaluating the design solution.

Grudin and Pruitt have applied Cooper's initial persona trials to the development of mass-market software. In comparison with Cooper's trials, in which precision rather than accuracy is emphasised and where interaction with the users is focused on at the beginning of each new software development project, Grudin and Pruitt have a long term engagement in a product family to which they have applied the persona technique for a period of three years, during which time they have brought the method closer to the PD community [13, 12]. The stability of the context enables them continuously to encourage developers to include the persona's opinion, which represents the user's opinion, throughout the software development process. The personas' characters as developed by Grudin and Pruitt focus on accuracy and are based on and updated using rigorously ethnographic and quantitative usability data. Sinha has demonstrated a statistical technique to identify types of user information needs, as important underlying groupings, which can be used in the categorizing of personas [19].

Recognised methods and techniques which may be complemented by personas include prototyping, mock-ups, scenarios and contextual design. Mock-ups and prototypes have been used with success to mediate between developers and users [11, 17]. Scenarios promote work orientation by supporting designers and analysts in their attempts to focus on people's assumptions and tasks [5]. One might even directly involve users in creating and using these. Little is said, however about the actors in the scenarios, and nothing is said about their values or aspirations [13, 16]. Contextual design [2] is another requirement discovering technique (including mock-ups) that can be used as a PD technique [12]. In transferring the use of mock-ups, prototypes, scenarios and contextual design to software development for mass markets, useful elements are lost; empathy, commitment and deep understanding follow with long term engagement, and values, fears and aspirations follow with socio political representation [13].

2.1 Problems Personas Can Solve

Personas can reduce cognitive friction in applications, restricting elastic user-views that allow free code, provide precision in the definition of a user-group, prove a shared base for communication, and provide scenarios for recognizing and challenging political and social assumptions about users. These functions can be understood as follows:

Interaction with software may mean very high cognitive friction. Consider a clock-radio; it has a computer that often handles a variety of features. It is often very hard to know if you have actually managed to select the required function. Some functions may require five or more presses of the same button to be set, and if something goes wrong you have to start all over again [6 p7]. By adopting a senior citizen persona who is used to mechanical alarm-clocks, the unreasonable in a 'five presses solution' would be revealed.

The term 'the user' is sometimes used interchangeably with 'the elastic user', i.e. a user that might be bent and stretched to adapt to technical contingencies. In this way 'the user' provides developers with a licence to code freely [6 p127]. Precise descriptions of users captured in personas restrict such elasticity. Artifacts have users, and users have goals; when the goals are revealed they can be converted, thereby restricting the number of possible functions of an artifact.

The precise user taxonomy in a persona should not be confused with a specific user. The one persona represents many people's goals. In developing personas Cooper [6 p129] argues that the accuracy (identifying representative users) is less important; instead, it is the precision (detailed user descriptions) that should be targeted. Precision is reached by capturing users' goals so that relevant functions can be elaborated on, determined and developed. Grudin and Pruitt [16] agree that precision is important but that it should not be at the expense of accuracy. Accuracy is achieved by means of both qualitative and quantitative [19] information.

Precise descriptions of users provide a shared basis for communication. People are used to engaging with fictional characters, e.g. when reading a book, watching a video, or playing computer or TV games. This form of engagement is deeply rooted and practiced from early childhood. People reflect on both their own personality and others personalities. In this way, information from market research, field research, prototypes and usability tests can rapidly be conveyed to all interests in the persona form in a familiar and engaging way [16].

It is far from clear if and how socio-political aspects can or should be represented when developing applications for the mass-market. Personas constitute a scenario for recognizing and challenging political and social assumptions about users. Each persona has a specific name, age, gender, educational and social status, possessions, ethnicity, occupation, friends, family, home and work environment. When such a scenario is created it becomes obvious when a mistake has been made in relation to the way in which the application is to be used [16]. If for example only middle aged white men are the

targeted end-users for an application to be used by McDonald's restaurants it is obvious that a mistake has been made.

3. UIQ TECHNOLOG

UIQ Technology AB is a young, internationally focused company. It was founded in 1999, and has more than 100 employees in Sweden. It is a fully-owned subsidiary to Symbian Ltd (UK). The company develops and licenses user interface platforms for mobile phones using the Symbian OS. The product, UIQ, is a user-friendly and customisable pen-based user interface for media-rich mobile phones based on Symbian OS. The company operates in a competitive environment with powerful opponents. UIQ Technology develops and licenses user-interface platforms for leading mobile phone manufacturers, in this way supporting the introduction of new advanced mobile phones on the market. Its main assets are technical architecture, a unique product, an independent position (i.e. not being directly tied to a specific phone manufacturer) and skilled and experienced staff. Its customers are mobile phone manufacturers. Some of the leading handset manufactures using UIQ in their advanced mobile phones are Sony Ericsson (P800 and P900), Motorola (A920) and BenQ (P30 smartphone).

The Interaction Design (ID) team at UIQ Technology consists of one manager, a user researcher, and seven interaction designers. They are an integral part of the development department. Their organisational placement has led to a close relationship with developers, which has brought about faster communication processes. Despite the fact that ID constitutes ten percent of the total staff there is no time for month-long exclusive and extensive user investigations involving two or three full time designers. Most of the team's time is devoted to handling continuous ongoing interface prototyping and ratification of the final UIQ design.

An average project at UIQ Technology lasts for approximately one year. In a project, the interaction designers devote most of their energy to the initiation and initial part of the software development process; the evaluation of the design later on in the process takes second place. All interaction designers are part of contemporary social and environmental end-user studies to some extent. The extent to which they are involved depends on ongoing project cycles.

The user researcher works full time with both long- and short-term user groups. He lends advanced mobile technology to long term end users and monitors how different ways of using the technology appear in the real environments in which the trained users of technology work. This is a strategy of technology education that gives the researcher access to technology experienced end-users. This work is complemented by studies performed by others as well as a large network (approximately one hundred people) of available users who are periodically contacted as the need arises to discuss different aspects of usage.

UIQ Technology is active on a market characterised by strong dependency relations. Due to the need for common standards and infrastructure to ensure that 'their' technology works on a social level in society (Bluetooth, 3G, SMS, MMS…etc.) cooperation between competing clients in the branch is necessary.

The fact that end-user input is important is, of course, also a conviction shared by UIQ Technology's clients. The latter do not necessarily have the same methodology standpoint; indeed, they often have different perspectives and different priorities and ways of representing users. Depending on which local position is taken when viewing users, the politics and terminology differ. To the diversity of approaches to usability of mobile products must be added external monitoring by reviewers in technical magazines who influence how to talk about and prioritize usability aspects of the products.

4. COOPERATIVE METHODS DEVELOPMENT

Cooperation between the University and the company takes the form of *cooperative method-development* [9, 18]. In this approach, interpretive ethnographic analysis of studies provides an unbiased 'inside view' as the base for the development of methods improvements, this together with the practitioners involved. Implementation of changes is studied in the same way. A set of consecutive cycles shows which part of the method innovations can be implemented successfully and why others fail to be applicable. In this study the implemented methodology failed at first try, whereby forthcoming consecutive cycles remain to be studied.

The academic researcher contributed with reflections on work and academic surveys to enrich discussions of the specific subjects. The ID team contributed with professional knowledge, work experiences and a context for theory building. The solutions to identified problems were developed together. The idea of implementing personas evolved from early participatory observations conducted alongside ongoing formal and informal discussions between the academic researcher and the ID team at the company. During a twelve month period preceding the 'personas trial', the academic researcher joined (audio-taped) interaction design meetings, interviewed (audio-taped) interaction designers, a usability researcher, sales & marketing staff, managers, developers. The researcher observed interaction designers' and developers' work, had many informal method discussions with interaction designers, their manager and the usability researcher, and functioned as one of many test persons of their product design ideas.

For reasons of confidentiality it is not possible to provide any details about the technology, neither to reveal the entire picture of some internal political courses of events, nor to reveal specific relations with clients in the present paper.

5. IMPLEMENTING PERSONAS

The company has a long history of using one particular archetype, or as the authors have labelled it, a 'shadow persona'. The archetype known as *the travelling business man (TBM)* has been employed at the company from the very start. This shadow persona was inherited from the company from which it is hived. When the company was established its task was to create advanced mobile technology; as the TBM was already established as a concept among both developers and management it continued

to be applied. In the company studied, everybody knew about the shadow persona, but few knew how, why or from where it originated. There is one theory which stems from having always developed advanced mobile technology, i.e. the developers of the early mobile technology belonged to this group and developed applications for themselves. Another theory is that this advanced mobile artefact needed a target group in order to gain user-confirmation; in this way the travelling businessman became a sort of inverted submission of user evidence to justify the need for such technology.

In the beginning, given the advanced mobile functionality and its high price, the interaction design team felt that TBM was the only reasonable user group. User tests were performed on neighbouring developers from the original company. As time passed the ID team widened the target group to include youths; the widespread usage of SMS indicates that they were early adopters of mobile technology and also, hopefully potential MMS users. Shortly after the discovery of youths as a user group it was questioned if this group could afford the advanced technology. As a result, even though TBM was seldom explicitly referred to, it still remained strong and unchallenged as the commonly accepted user representative. Later, with increased usability knowledge and more systematic and extensive user studies, the ID team's understanding of TBM changed. The shadow persona who originated as a middle- age business man ended up as a less clearly definable figure, e.g. a younger careerist of both the male and the female sex, and a diversity of different professions whose common characteristics was mobility, e.g. salesman, plumber, nurse, policeman, veterinary. And even though its meaning is more elastic today, it still is the only widespread and accepted user representative in the company. This has a downside; the ID team have for reasons of professional necessity widened their understanding of TBM, whilst the developers' understanding of it often still refers to its original interpretation, i.e. to themselves.

5.1 Personas to Remedy a Local Need for User Representation

The main reason for the interest in personas was due to the fact that, during software development projects in the company developers became heavily engaged in design tasks and often had strong opinions and made suggestions for changes in initial design. Arguments arose between developers and interaction designers concerning the best way to present functionality in the interface. The Interaction designers often had to confront developers with such questions as – *from whose perspective do you claim that? Is your opinion a fair representation of the user's opinions? (Interaction designer)* The fact that their opinions might not be the same as the target groups was raised. The ID team wanted to remain faithful to the developers' good intentions, their creativity and questioning, but direct it towards a shared user understanding outside their own personal opinions. The idea of having visualized user representatives appeared.

Personas was marketed to 'restrict elastic user-views that allow free code', 'providing precision of a user-group' and 'being a shared base for communication', i.e. all part of the main reason of wanting visualised user representatives. Other secondary benefits hoped for if implementing personas were to reduce cognitive

friction in applications, and produce a scene for recognizing and challenging political and social assumptions about the users. The latter included a hope for a stronger method when it comes to developing for ordinary peoples' needs.

The ID team had heard of the personas method and thought it promising. Personas was an especially interesting technique as it was marketed as a remedy for diversity of opinions regarding design about who the users might be and what their actually needs and desires are. It was at this point in time that our research cooperation started. After several discussions regarding how to interpret the persona concept, a project proposal covering methods was made and accepted by the management. The following definition of the scope was included in the project description: *How do we develop software for products utilizing the latest technology which will help the intended users to achieve their goals in their everyday life? We need ways to understand our target groups and where they are heading. This project is an attempt to create a method that will give us a tool to create and maintain user involvement in the development process throughout a project; this is achieved by widening employment of use cases in the development process with the aid of concept personas.* The aim of the methods-project was to define personas for creating use cases, user case tests and performance testing in a development project as well as to refine personas for Marketing & Sales (M&S) purposes. From a software development perspective, the interaction design team performed the task of creating links to real life and real users as well as shaping persona use cases. From an M&S perspective the purpose was to produce and define the target group/groups for the next version of the product.

Marketing & Sales (M&S) had the most regular contacts with the buyers of their products, and was also internally organised as the product owner in the company. The ID team thus expected the M&S people to decide which personas to use. Since no user directives were given by M&S the ID team created on its own initiative three persona suggestions from which to choose. A 'mass-market problem' was visible in the creation of the three personas; the development of a mass-market product creates by definition a natural resistance to articulating who the end users are. *What if we focus and thereby miss large user categories as a result? (Interaction designer).* The developed personas were not conventional creations in the original sense of persona. Personas are defined by their goals, at the same time as the goals are defined by their personas. Hence, personas and goals are discovered at the same time in the initial investigation of the problem domain. The three personas developed were not derived from a strict process of identifying groups which share the same goal; instead the process combined finding similar goals, trends, age groups, sex, professions and interests and relating these in a creative way to possible usages of mobile smart artefacts. We might ask ourselves, of course, what it actually means to apply the same methodology. Sinha has commented on this issue in relation to personas: *The designer makes a subjective judgment ... Even for experienced designers, personas based on the same user research might vary widely, because there is no tight coupling between user research and persona development* [19]. Understanding of end-users in this project was developed during workshops with working women, teenagers, senior workers and senior citizens. This understanding was mixed with recognized

trends and imaginary usage situations based on existing technology. The work was directed towards producing a creative understanding of how different groups might interact with existing technology. In summary, the fear of missing large groups of users encouraged the interaction designers to do business as usual; technology came first and users second.

The personas developed included a teenager boy, a young female and a middle aged businessman. Application use cases were created for agenda, messaging and contacts. A performance test case was given high priority, and usability metrics were defined for user system verification. Wall charts and prototypes of foldable information text of three personas were produced. This was done within the method projects time frame of three months. A final report describing the personas and their related use cases was also produced. Despite these achievements, no "go ahead" signal was received from M&S to indicate that personas might be useful. Personas and their applicability in the software project remained unclear and a private business for the ID team.

5.2 Seminars for Sharing Knowledge

A survey of the method was performed by the researcher, and an academic view of "personas" was presented to the company. Three discussion seminars were arranged, two with the interaction design team, and one with the marketing and sales team. The aim of the seminars was to learn more about the persona technique in relation to the company's specific needs. The seminars started with a presentation of the personas concept and concluded with a consideration of company-specific issues.

In the first and second seminars with the interaction design team questions and statements such as *What is the difference between a marketing persona and a real persona? (Interaction designer)* were raised. It was suggested that a marketing persona relates to people's self image, their dreams and ideas of who they would like to be or appear to be. As an interaction designer expressed it *–When I see myself in the mirror I am Laura Craft, at least I would like to be her (laughs). The marketing persona is who I want to be and the design persona is who I am (Ibid).* Discussions ensued about whether the M&S team's and the ID team's different needs of representing users had common features. *–There must be a relation between whom the product is targeted against and from whom we take design inspiration. If we take design inspiration from youths and the marketing is directed towards senior citizens, then we are lost (Ibid).* The issue of what relevant and trustworthy design information might be was also raised. *–A persona seems more elastic in one sense, meaning that we can focus on what is important for design. Then the data is also derived from a large group of real people and we don't need to guess (Ibid).* The importance of a business case was also pointed out; stakeholders must be able to make money on the target group. Further, the influences on and differences between how to handle a beginner, a user familiar with mobile systems or an expert were discussed. Additional issues were how many personas should be developed in a project and how these might differ.

One interaction designer joined the M&S seminar; he represented the interaction design team's perspective. After a presentation of the ideas related to personas we discussed what kind of commercial advertising is in use and has previously been used in relation to smart mobile devices. It was suggested that commerce is all about presenting people with a specific attitude. Observations also suggest that much of the use of mobile devices today is stimulated by a desire to play with the technology rather than using it as a tool for accomplishing specific goals. The issue of how to categorise people in a relevant manner was discussed. *– How much of a person's behaviour is related to his or her profession? (Marketing & Sales staff).* The question of how technology-driven this branch actually is was also taken up. The importance of purchasing power was an additional issue. The difference between design and marketing persona was an additional point for discussion: *Of course I understand that there are different ways of using it, but is it still the same person who is used in different ways? (Ibid)* The marketing people also identified a need for what we called *a pre-sale persona,* i.e. a persona that could exemplify use and thereby change technology-centred discussions with clients in the direction of different cases of possible usage and different users of a given basic functionality. Some questions still remained: should design personas be developed for interaction designers and marketing personas for marketing people? If so, what are the common features of these different groups, what differed, and how should they be developed?

One political undertone which featured in the seminars was the relationship between marketing and the development of personas. It became obvious that understanding the difference between marketing and design personas was a very important issue which needs to be solved. Much of the seminar time was spent on revealing similarities and differences between these two forms of personas. The seminars and their ensuing discussions resulted in an even more positive attitude towards personas and it was decided to reinforce the original decision that an interpretation of the technique should be implemented in an identified project.

Marketing & Sales (M&S) was committed to the idea of using personas in a project; however actually making the decision as to which personas to use proved to be problematic. At the same time as personas constituted a remedy to an internal diversification of user ideas, the identification of a user affected external clients and potential future clients. When implemented in a development project, personas became a factor for product managers in their prioritizing of requirements in the high level specification. It is thus reasonable that project clients also give input during the creation of personas. M&S managed to obtain a persona suggestion from one client. Unfortunately this was a marketing persona, something that is made very clear from an interaction designer's comment: *-That is a man that surely lacks mundane troubles, the male counterpart to Laura Craft.* What the client had offered was the opposite of a design persona; an attractive personality who could make use of all the applications and all the functionality in a smart mobile device. *–If the focus is on selling the thing, then a fantasy man is created who can handle all the technology (Ibid).* The marketing persona was created around the technology and not the other way around; a design persona is supposed to be created as a fulfiller of people's goals. The marketing persona could also be perceived in a more positive manner; as the presenter of a vision of possible usage, to be refined and validated against real users at a later stage.

5.3 The Targeted Project Changed Characteristics

As personas and its applicability were discussed, the targeted project took off in a small scale. Each new development project starts with a coherent set of requirements. In this project, personas were included in the high level requirements specification. But when this set of requirements finally reached the project participators, the initial circumstances had changed. Two new clients showed interest in the project and the deadline was prolonged. Negotiation took place; a variety of opinions and visions had to be handled. What happened was that the initial set of coherent requirements was reduced; only separate and isolated requirements were left. From the initial coherent picture of requirements only disconnected component thinking and diverse requirements from a user perspective were left.

When the coherent user view was lost it became very difficult to apply the personas concept. It was also hard to produce a new coherent view from the requirements left. The fact that ongoing negotiations were still taking place within the framework of the development project did not make it easier. How did this new fragmented and non stable view relate to the persona Sandra (one of the personas in the methods project)? Even if it would be possible to relate some requirements to Sandra, what about the other requirements that did not fit? Should the other technically related requirements be treated as a separate part within the same development project?

5.4 The Positive Attitude towards Personas was Re-evaluated

As the interaction design team knew that this persona had to be shared they felt uncomfortable about presenting the official version of it based on their own opinion. Preparatory work from clients presented to the ID team is supposed to have the same focus as the continual work in the development project. The ID team also felt the same insecurity as others with respect to the mass-market problem; if we focus on one particular user group do we miss other user groups? –*What if one of our customers tells us that this is not our target group, what have we done? We want to be sure that all our customers are satisfied (interaction designer).* In this way they experienced the same insecurity as the rest of the 'mass market actors' who were avoiding taking a definite user group stand.

The ID team expected M&S to provide the user confirmation needed to start the usage of the personas. For some unknown reason this never happened. At one point in time a personas introductory meeting was booked for all developers together with the product management in the company. This is an indication of how seriously the persona method was taken. *"It is important for us to have made visible the support from management and M&S when we later on are advocating personas in the development project." (Interaction designer).*

Since the ID team never received a "go ahead" to indicate that the suggested personas were useful for design specification purposes, and the introductory persona meeting was cancelled, they raised the question of whether it is possible or even realistic to expect persona acceptance from one or more clients. The knowledge gained from trying to implement personas caused the interaction design team to re-evaluate their positive attitude towards personas. At this point, we had a meeting and discussed what went wrong.

5.5 Personas was Closed Down

The attempt to implement personas made it clear to us how component-influenced UIQ Technology's development processes actually are. The actors in their branch gave high priority to the launching of new versions and products both at regular intervals and at advertised times. During a meeting we concluded that the rapid development of new technology produces artefacts with potential usability, and not the other way around. As a consequence, it is also implicitly expected that the interaction designers make the technique usable. In a sense this means that making technical components in the mobile device usable has higher priority than satisfying pre-identified user groups. Hence an initial high level requirement scope does not relate primarily to end users needs. Rather it is regular introduction of new or improved technology on the market as well as the level of complication or success rate of the software development project that influences what requirements are excluded (both initially and during a development project). The targeted project was an example of this. Moreover clients use different terminology to describe their users in relation to one and the same basic functionality. As also could be seen in the targeted project, there are clients that might come and go within one and the same project. Hence, there also arise problems of competition and secrecy between clients. Altogether, these facts make our experienced persona problems seem reasonable.

At this point in time we concluded that even though the circumstances surrounding this particular development project were less predictable than is usually the case, it was still business as usual. We decided that enough is enough, personas do not work. Personas was closed down. Instead of continuing to struggle with personas we decided to try to identify the exact nature of the problems with personas in the specific circumstances; this paper is the result of these efforts.

6. DISCUSSION

Despite a positive attitude and similar goals between the academic researcher, interaction design team, management and marketing & sales people, personas were never implemented in a project. Every time the implementation of personas was about to take place new circumstances arose that changed the prerequisites for implementing the technique.

From our experience of implementing personas we have been able to identify branch- and client-related circumstances that led to good internal reasons for not implementing the personas method.

6.1 Branch Related

Clients in the branch prioritize the launching of new versions and products at regular intervals and at the advertised time. The reduction of an initial requirement scope might thus not relate first and foremost to end-users' needs (identified persona goals). Instead, it is often market- and competition-related issues that primarily influence what requirements are to be excluded.

The rapid development of new technology produces artefacts with potential usability, not the other way around. The clients in the branch expect the interaction designers to make the technique usable.

Marketing windows have a 'best before' date: up to a certain point of time new releases of new technology will attract attention from media and buyers. When a company releases similar technology after a competing company's release, the interest from the media is lower towards this second release of similar new technology. The time of the year might also influence when the technology should be released. Christmas is one example of such a period.

The 25 February 2004 it could be read in Today's Industry (claimed to be the Nordic countries largest business paper) how Sony Ericsson's CEO commented the importance of phones having a "wow-factor": '*models that the customer wants in the same moments as he or she gets it in the hand.*' He continued with commenting how difficult it is to put the finger on what 'wow' actually might be, but since he has been in the electronic consumer branch in his entire carrier he recognizes a good product when he sees it [8].

In the same paper the same day Nokia's CEO comments a comparison between the downward pressure on prices in the pc industry and telecommunications situation: '*That is an entirely different branch. What we have to do is to continuously develop so advanced products that they do not end up as staple commodities that anybody can copy*' [7] .

Both statements are representative of how telecommunications clearly focuses on the development of new hot technology.

6.2 Client Related

The company focuses on providing basic applications to be refined by other actors in the branch. Even though specialization is often ordered and performed within and by the company it is still the client's responsibility to detail and specify the final usage.

> Clients have their own ideas about how to represent usage and identified end-users.
>
> There are a number of competing clients in one and the same project. Secrecy is a very important issue; as a result the 'scope' of possible negotiations is substantially reduced.
>
> Clients may appear at different points in time, and be partly or entirely involved in specific parts of, or the entire development project.

6.3 Good Internal Reasons not to use Personas

Once a mass-market product has been developed, resistance builds up to articulating who the end users are. This fear was clearly apparent in the interaction designers' creation of the three personas. This resistance was related to this company's position in the layer of actors. It was positioned above the layer of clients that had the products launched directly to users. It was thus incredibly difficult for the ID team to get M&S or management to make a

stand and specify 'who the main user target group actually is', i.e. identify a persona. M&S and management were in their turn dependent on existing and potential clients making a stand.

The challenge for M&S or management to convince a client that an archetype is an important usability tool is one thing, but the distance is great from there to achieving acceptance of one and the same archetype between competing clients that might enter a project at different points of time. The clients themselves might already also use another kind of user classification category than archetypes in their own internal organizations.

Telecommunications has a tradition of rapid development of new technology. It produces artefacts with potential usability, and not the other way around. Designing new hot and advanced technical components for the mobile device has higher priority than satisfying pre-identified user groups (as implied by Ericsson's and Nokia's CEO's comments). As a consequence, it is also implicitly expected that the interaction designers' mission is to make the technique usable. Thereby UIQ Technology's development projects are also highly component-driven. High priority is given to the launching of new versions and products both at regular intervals and at advertised times. This means that an initial high level requirements scope does not relate primarily to end-users' needs. It rather relates to clients' interest in new or improved technology on the market. As already mentioned clients have their own ideas about how to represent usage and identified end-users in relation to one and the same basic functionality. These are clients that come and go within one and the same software development project at UIQ Technology. Thereby problems of competition and secrecy between these clients also arise. All together, these facts make the problems we experienced with personas seem reasonable.

Furthermore, all actors in the branch are influenced by technical magazines ways of expressing and prioritizing usability aspects of mobile products. Another growing future actor in the mobile branch is service providers. The latter have their own products which are aimed at specific users; these constitute one more layer between users and the companies that launch mobile devices. Vodaphone, and the concept 'Vodaphone live' might serve as one example of this.

Summing up the discussion: It has not been for professional reasons in software development that personas has not been implemented. Constellations of different actors and interests beyond the borders of the development organisation in telecommunications provided good internal reasons not to use personas.

7. RESEARCH CHALLENGES FOR PARTICIPATORY DESIGN AND SOFTWARE ENGINEERING

The difference between the case discussed above and many other cases reported in the PD literature is that the social and political issues that influence the design and development methodology – and therefore the use-quality of the software – are far removed from the context of use. It is not constellations of contradicting interests in the use context or between use and design that result in a hinder for the application of a certain PD method, but the

interaction between different interests and actors within telecommunications.

Our case is also an example how socio political constellations in the wider development context can influence whether and how software design and development methods are deployed. 'Software practice is social practice'! [15] Nørbjerg and Kraft argue in this article that black boxing the development context might jeopardize the very goal of use-oriented and participatory design. This case shows again the importance of not only looking at use practices and bringing design closer to the user but also about reflecting on the socio political constellations in the design and development context that might prohibit the dissemination of such methods into industrial practice.

As one of the reviewers remarked, this paper is a critique of a PD method, grounded in a case that highlights the problems that arise when designers and developers attempt to regulate or make routine the idiosyncrasies and variability of their prospective user and clients. In this case, PD failed in its primary mission to bring social and cultural context into design because the PD methods that have been devised to bring the results of PD 'out' into the software engineering context clashed with aspects of exactly that socio-political context. Methods can supplement but not replace the engagement with the social context both on the use and the development side on 'its own messy terms'.

Last but not least, the failure to implement a certain method not for professional reasons but because of the constellation of actors beyond the borders of the development organization might provide some research issues for software engineering: What factors – beyond the improvement of the concrete development practice – provide obstacles or enable the deployment of certain methods. And how can these factors be included in the reasoning about and the development and evaluation of software engineering methods.

8. CONCLUSION

Initially the Scandinavian approach and PD addressed local empowerment in companies. Later, politics of technology design and workers' skills were the subject of debate. Today there is a new political scene that is different and which is based on multiple and complex dependencies of individuals and collectives [Beck], as well as layers of actors that are both competing and cooperating simultaneously around the introduction of new technology. Mass market software in the telecommunications is an example of the latter. What does it actually mean to approach such a context, and how might users assert themselves in this new political scene?

The usability technique of personas has been shown to remedy the problem of including social and political issues in mass market software development. The present study demonstrates how 'other' socio-political circumstances have made personas too precise a technique to be applied. To apply participatory design with the aid of the personas technique to this mass-market software development scene failed in the circumstances described.

Even if, or indeed because the application of personas was a failure, the present study contributes to the development of a better understanding of some of the new patterns of power and

domination in mass-market software development that PD stands before. We were initially convinced that the power groups that needed convincing were interaction designers, developers, marketing and sales people and management [12, 16]. But in our case, the real power groups and patterns of domination proved to be outside the company in the form of clients, licentiates (owners of the company who also are clients) and other actors influencing the clients, (e.g. service providers and reviewers in magazines), and their interrelations, i.e. in the branch as such.

The indication that the deployment of software design and development methods is made possible or prohibited because of actors and interests that are remote from both the use context and the concrete development context, provides new research challenges for participatory design as well as for software engineering.

UIQ Technology is the scene of future discussion: Is it possible and fruitful to adapt parts of the personas approach; and if so how is this done under the prevailing circumstances? Alternatively, should personas be put aside as they have no greater usefulness in terms of knowledge or experiences? The latter alternative is challenged by an interaction designer's comment: *I have learned lots… and it is unavoidable for me not to use these new design insights on both a conscious and unconscious level in today's design situations.* This raises the question (in the same manner as we previously asked ourselves what it means to follow the same methodology) what it means to put aside a methodology. It also challenges the view of what a successful implementation of a methodology might mean in a company.

10. REFERENCES
Beck, E. "P for Political – Participation is not enough", Scandinavian Journal of Information Systems, 13, (2003), pp. 7-20.

Beyer, H. and Holtzblatt, K. "Contextual Design", Interactions, 6. 1, (1999), pp. 32-42.

Blekinge - Engineering Software Qualities homepage www.bth.se/besq

Blomqvist, Å. and Arvola, M. "Persona in Action: Ethnography in an Interaction Design Team", Proceedings of the second Nordic conference on Human-computer interaction (2002). pp. 197-200.

Carroll, J. "Five Reasons for Scenario Based Design", Proceedings of the Thirty-Second Annual Hawaii International Conference on System Sciences-Volume 3, (1999), p 3051.

Cooper, A. "The Inmates are Running the Asylum", Macmillan (1999).

Dagens Industri, "Avancerade mobiler räddar Nokias vinster" (english: Nokia's profits saved by advanced mobiles), 25 Februari (2004).

Dagens Industri, "Vi är Bättre än Nokia" (in english: We are better than Nokia), 25 Februari (2004), http://di.se/NoFlash.asp?Page=Sitemap

Dittrich, Y. "Doing Emperical Research on Software Development: Finding a Path Between Understanding, Intervention and Method Development", in Social Thinking – Software Practice, editors Dittrich, Y., Floyd, C., and Klischewski, R. MIT Press, Cambridge, Massachusetts, (2002), pp. 243-262.

Dittrich, Y. "We are not yet there", Scandinavian Journal of Information Systems, 13, (2003), pp. 91-94.

Ehn, P. "Work-Orientated Development of Software Artifacts", Arbetslivscentrum, Stockholm, (1988).

Grudin, J. "The West Wing: Fiction can Serve Politics", Scandinavian Journal of Information Systems, 15, (2003), pp. 73-77.

Grudin, J. and Pruitt, J. "Personas, Participatory Design and Product Development: An Infrastructure for Engagement", The Participartory Design Conference (2002), pp. 144-161

Gulliksen, J. and Göransson, B. "Användarecentrerad Systemutveckling", Studentlitteratur, Sweden (2002).

Nørbjerg, J. and Kraft, P. "Software Practice is Social Practice", in Social Thinking – Software Practice, editors Dittrich, Y., Floyd, C., and Klischewski, R. MIT Press, Cambridge, Massachusetts, (2002), pp. 205-222.

Pruitt, J. and Grudin, J. "Personas: Practice and Theory", Designing for User Experiences (2003).

Retting, M. "Prototyping for Tiny Fingers", Communication of the ACM, 37, 4, (1994), pp. 21-27.

Rönkkö, K., Lindeberg, O. and Dittrich, Y. "Bad Practice or Bad Methods: Are Software Engineering and Ethnographic Discourses Incompatible?" The International Symposium on Empirical Software Engineering, (2002), pp. 204-210.

Sinha, R. "Personas Development for Information-rich Domains", short talk: Understanding the Context of Use" Conference on Human Factors in Computing Systems, CHI '03 (2003).

Software Engineering Code of Ethics and Professional Practice, htpp://acm.org/serving/se/code.htm, ACM/IEEE-CS, (1999)