The Living Area – An exploratory approach to awake empathy in female youth in public urban areas

Søren Husted Nielsen M.Sc. Interaction Design, Malmö University, Sweden sorenhusted@gmail.com

ABSTRACT

Public urban spaces are often misused and vandalised, as people in the neighbourhood do not feel responsibility and emotional engagement towards them. This project started in collaboration with the municipality in Malmö, who wanted an interactive concept for a, not yet built, public activity area in Rosengård, Malmö focusing on young girls as its primary users. The theme for this project was 'Embodied interaction', so it had to involve a high level of physical interaction from the users.

The project idea is based on the basic human quality; empathy – the ability to care about other living things. The hypothesis was that by appealing to the public area users' sense of empathy, we would create emotional engagement and a feeling of ownership among the users. In order to succeed in this, it was evident that the area should be brought to life somehow. The notion of a public area that could act and react according to the presence and behaviour of the users quickly became the idea that suited our hypothesis the best.

Through a participatory and exploratory design process involving both the municipality and residents in Rosengård, a prototype was designed, implemented and in the end tested at a Christmas market situated in Rosengård. The findings from this project is discussed and the end of this paper.

KEYWORDS

Embodied interaction, participatory design, exploratory design, empathy

INTRODUCTION

This project is made in collaboration with four other group members and all design processes have been a part of group discussions. The design process of this project has been partially participatory and partially exploratory.

Firstly, this paper will describe the development of the design concept and from there go into a more detailed description of the final concept.

Secondly, it will address some of the most important design decisions and their grounds.

In the last section a description of the prototype will be presented and in the end the matters addressed in this paper will be discussed and concluded.

CONCEPT DEVELOPMENT

The idea of making a public area come to life was among others inspired by the installation 'Fühl-o-meter' in Berlin (Wilhelmer) (see fig. 1). In this installation a giant smiley face changed its facial expression based on the collective mood of the city, gathered from cameras tracking the citizens' facial expression. The elements that the installation changes dynamically over time, and that people interact with it by simply being at a specific location were very appealing, and those two elements became a core part of The Living Area.



Fig. 1 - Official photograph of the Fühl-o-meter (Wilhelmer)

One challenge that quickly emerged was that The Living Park was first and foremost a conceptual notion of having a public area express human characteristics, and that this notion could be concretised in a wide range of different ways with many different forms of inputs and outputs. A number of different concrete concepts were developed and the choice fell upon a concept based on the physical phenomena of shadows.

SHADOW CONCEPT

The concept revolves around the concept of shadows, which is believed to be phenomena that everybody can relate to, but in this case the shadow that is cast, is an augmented version of the user. It will react to the user's bodily movements as a real shadow will, but the movements will not be exactly precise and the physical appearance will be a simplified version of a human.



Fig. 2 - A sketch of the shadow concept

The grey box to left in fig. 2 resembles a projector that draws graphics on top of the user's real shadow to give the illusion of another person standing in front of him/her and mimics his/hers movements. If two or more people would use it simultaneously the shadow would expand to fill out the empty space between them, thus establishing a connection between them.

The Living Area is also designed to have an online social media part, for people to be able to interact with it without physically having to be at the public area. Those online activities will also have influence on the behaviour of the shadow character. Apart from the physical and web inputs, we distinguished between instant output where the user gets immediately feedback in his/her actions and then aggregated output where the input is collected over time for later feedback. Together, this combination of short-term and long-term interactions would create an interesting and future ready installation, as it has the capability to adapt to the behaviour of the local people and the ever-changing trends in society.

Fig. 3 shows an example of different inputs and should not be considered a complete list.



Fig. 3 - A table of examples of inputs and their relation to the output

The shadow character is designed to be a combined representation of:

- a. The current user(s)
- b. The living quality in the public area

In this way, the user is interacting with The Living Area in a very easy understandable and playful manner, in order to emotionally engage the user.

THE SHADOW CHARACTER

The shadow character turned out to a very important aspect in terms of empathy. We wanted to give it a personality for it to seem more emotional appealing to the users, and we took our starting point in real people. It is commonly said that the personality is shaped by a combination between the surrounding environment and the heritage and this notion was then applied to the shadow character.

The environment part of the character is all inputs it gets, among others users' movements, online social activities, weather conditions etc. These input will keep evolving the character over weeks, months and years to avoid it go out-ofdate.

The heritage part of the character is in other words all that is designed by the group behind this project, which includes its appearance, various constraints and then we gave it a friendly and agreeable nature. A study done in Spain with boys and girls in the age 12-17 showed that empathy strongly correlates with friendliness and it also showed that the girls generally have higher levels of empathy and friendliness than the boys (Del Barrio et al., 2004). This study is here compared with another study investigating the link between personality and friendship and it showed that agreeableness (which is closely related to friendliness and empathy) has the strongest relationship with a healthy friendship and furthermore it supports the claim "that agreeableness facilitates more positive experiences in social situations" (Demir et al., 2007). These two studies in combination suggest a relation to the design decision to make the shadow character friendly and agreeable, in order to awake empathy in girls in particular and to emotionally engage them in the interaction.

The way the shadow character was designed to be friendly, was simply to give it a big smile. The smile is based on the 'broad smile' as proposed by Ewan C. Grant (Grant, 1969), but in a slightly more extreme fashion. The smile is believed to be a very recognisable expression of joy and happiness, and on the other hand a mouth cornering downwards is an expression of sadness, and was chosen to be the only expression of the character's mood in the prototype.

As shown in fig. 2, the shadow character is a very simple humanoid figure. It has no ears, fingers and legs, but still it is easy to see that it resembles a human. The inspiration for this design decision is found in the concept of 'the uncanny valley' (Mori, 1970), which is shown in fig. 4.



Fig. 4 - The graph of the uncanny valley (Mori, 1970)

'The uncanny valley' is a concept originally used within the field of robotics, but since then it has also had its influence within animations. It basically describes that the more an object looks like a human, the more familiar it seems and we can to a higher degree emotionally engage in it. But there is a gap in this relationship when approaching a real healthy human. Objects that fall into the 'valley' is perceived as unfamiliar and uncanny, and it is often concerns objects that pretend to be human. As Mori explains it with the case of a prosthetic hand "So if we shake the hand, we are surprised by the lack of soft tissue and cold temperature. In this case, there is no longer a sense of familiarity. It is uncanny." (Mori, 1970).

We, as humans, emotionally engage with abstracted figures because we subconsciously suspend disbelief, but once a thing becomes too realistic we are more concerned with criticising the ways it is not perfect. The shadow character's appearance is therefore designed to be within the safe side to the left of the valley.

PROTOTYPE

The prototype made in this project was from the beginning meant to be a proof of concept and therefore only included what was believed to be of most importance, namely the physical input with instant output, which can be seen in fig. 2 and fig. 5. It made sense only to test this part and thereby exclude web activity and the aggregated outputs, as we would test it at a Christmas market for a few hours only.

The prototype was altered a bit to give a more realistic appearance, which meant that if the user was standing still for at least 5 seconds, the smile would turn into a sad face, but when the user started moving again the smile would come back. In this way, the expression shifted between sad and happy throughout the test, which seemed more in connection with the idea of a living organism.



Fig. 5 - A local girl trying out the prototype

DISCUSSION

The main focus of this paper is to investigate the emotional response towards the shadow character of The Living Area. The test showed a lot interest towards The Living Area and even small children about 3-4 years of age tried it out with the a lot of enthusiasm. All the participants seemed to become immersed fairly quickly when trying out the installation and did not seem to take much notice of the people looking at them.

Nobody seemed to be intimidated and scared by the character even though it is almost twice as big as most of the participants, which supports the design at being on the safe side of the uncanny valley (Mori, 1970). Participants also tended to want the character to smile, even though they did not know how to do that. This behaviour could be an indication that the participants felt empathy towards the character.

In regards to the concept of the character representing both the user and the living quality of the area at the same time, the test showed interestingly that some of the participants seemed to have non-verbal communication with the character. They reacted instantly when the character shifted to a sad face expression and also by some of the slightly imperfect movements. It is believed that it because of the elements of unpredictability that makes the experience much more meaningful for the user as it is a series of actions and reactions from both parts.

CONCLUSION

The prototype tested in this project did only include the physical input and instant output and does not at all take the long term perspective into account, which is an important part of the sustainability of the installation.

The emotional engagement that was observed at the test cannot be verified from a single test and furthermore the importance of the theories can neither be verified.

However, the rather immersive experience, intuitive interaction and the positive emotional response from the girls who tried it out, suggests that further investigation should be carried out in order to clarify all the variables and their respective importance.

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REFERENCE

- [1] Wilhelmer, Richard.
- http://richardwilhelmer.com/projects/fuhl-o-meter
- [2] Del Barrio, Victoria; Aluja, Anton; García, Luis F. Relationship between empathy and the Big Five personality traits in a sample of Spanish adolescents. Social Behavior and Personality 32(7) (2004): pp. 677-682.
- [3] Demir, Melikşah; Weitekamp, Lesley A.. I am so happy cause today I found my friend: Friendship and personality as predictors of happiness. Journal of Happiness Studies 8.2 (Jun 2007): pp. 181-211.
- [4] Ewan C. Grant. Human Facial Expression. Man, New Series, Vol. 4, No. 4 (Dec., 1969): pp. 525-536
- [5] Mori, Masahiro. The Uncanny Valley. Energy. (1970): pp. 33-35