Face-back: Who is the illiterate again?

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Abstract

Mutual respect and appreciation are the keys for integrating different groups into the society. We address in our work the special case of illiterate craftsmen in Egypt. Our research has shown that due to the illiteracy, they are excluded from the social mainstream, while paradoxically, we felt as illiterates in their world. Current solutions and services do not provide a two-way communication between illiterate and literate people that would help closing the gap. Face-back is a service that aims at bringing both worlds together by taking away the anonymity that leads to stereotypical ways of thinking.

Keywords

Culture, illiteracy, handcrafts, microfinance, web-based service, localized service, user-centered design, NGOs

ACM Classification Keywords

D.2.2 Evolutionary prototyping; H.1.2 Human factors; H.5.2 User-centered design; H.5.3 Asynchronous interaction; H.3.5 Web-based services

General Terms

Design, Human Factors, Economics.

Introduction

Psychologists have proposed several motivation theories that can affect the behavior of individuals. One

Figure 1: an illiterate craftsman sewing a handmade shoe.

Figure 2: a workshop of a traditional craft.

of these theories is the Expectancy Theory by Victor Vroom [8], which stated that individuals make decisions based on the expected outcomes resulting from them. We took this theory as the underlying philosophy for approaching the given design challenge. Our first group is the craftsmen in general and the illiterate people in specific. In general, the members of this group are motivated by expected earnings from selling their products and especially by feeling appreciation for their technical abilities. The second group is the literate part of society. This group's motivation to participate in our system is stimulated by the expected long-term results appearing as changes in the lives of those they help. The main focus of our project is the Greater Cairo area in Egypt.

Looking at the 2000 millennium developmental goals of the UN, Egypt's indicators are not so promising. There is 9.4% unemployment; 20% of the population is below the poverty line; literacy rate is 71.4%. And the gap between the social segments keeps widening as poverty causes households to send their children to work leading to lack of schooling and more illiteracy [3].

We have basically followed the grounded theory approach for our research process using structured and semi-structured interviews with the target groups [4]. Each additional interview was based on the findings of the previous ones till we have reached the desired design idea. 38 illiterates and 8 experts working in the illiteracy field have been approached.

The Ethnographic research has shown that illiterates report the following; others mocking them, looking down on them, refusing to help and some got conned due to their illiteracy, where literate people typically associate illiteracy with backwardness [2]. Craftsmen specifically feel highly underappreciated in spite of their capabilities in handcraft and the creation of art. Unlike foreign tourists, locals do not appreciate the authenticity of the illiterates' handmade traditional crafts, which affect their income. They also report that their earnings are so low that they will never consider passing the skills to their children as they want their children to break from this poverty cycle. Hence, these skills are becoming a scarcity. The wrong adoption of globalization has led to the ignorance of the cultures' specificity, which the traditional craftsmen are protecting [1]. Additionally, the different technological systems developed nowadays are mainly designed for literates. This further denies the illiterates the chance to benefit from them and escape the poverty cycle [2].

Our project takes these findings into account and works toward supporting illiterates by supporting their skills in crafts since the disappearance of the traditional crafts will critically affect the illiterates' situation in the society. They will not lose only their income but more importantly the only possible social and psychological appreciation. The aim behind our system is not charity. It is, however, the social development of this group through the recognition of the society of its contributions. This group has abilities and under-utilized skills that require attention. However, it lacks the resources to get itself heard, market its products and earn the income needed for a healthy and promising life. The result is a system that addresses the above presented problem and creates a communicative cycle between both groups.
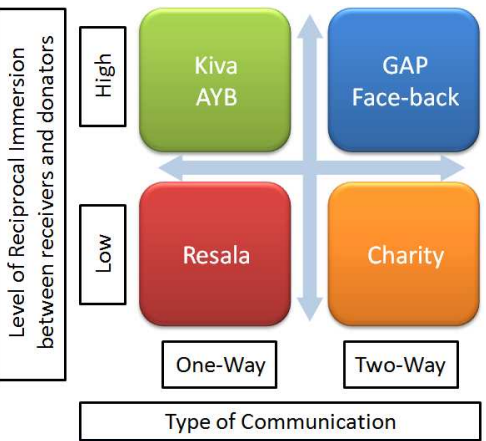
Figure 3: two-dimensional matrix showing existing systems

Figure 4: brainstorming using affinity diagram

Other systems that are trying to address this issue were grouped into a two-dimensional matrix [see figure 3]. The matrix is based on Porter's competitive strategies [5]; however, the cost leadership was substituted for the "type of connection" which indicates whether there is a two-way communication between the donators and the receivers or is it only one-way. The second dimension is called [Level of Reciprocal Immersion between donators and receivers] and it addresses the type of services offered: whether the receivers get loans or donations and the methods provided for the donators to reach the underrepresented (for example providing words of appreciation, seeing progress in the receivers' lives…).

Kiva.org [7] is one example of an online initiative that links lenders and people who require funds to do their business. Lenders browse online profiles of different people and choose whom to lend. The money is delivered through partners from microfinance institutions. On Kiva.org, however, the lenders see the people they are going to lend, while the borrowers do not see them.

AYB "Alashanek Ya Balady"[9] is another example of a local initiative. It is an NGO that aims at offering the under-represented the concept of "the total product" or improving their lives in a comprehensive approach. It seeks improvement of the whole family; giving human development classes to children, providing literacy classes to young men and giving microloans to their mothers. However, donators and the targeted groups do not get to see or appreciate each other as work is done through the NGO.

Resala is a third example of a local NGO. It works through the conventional ways of simply providing those in need with donations. Both donators and the targeted groups are unfamiliar with their each other.

Other charities are individual initiatives as some people prefer to choose someone and donate directly to him/her. The transaction happens on the spot and the two entities meet. This is, however, for short-term and the donator does not get to see the results following from his donations.

There is a clear gap as no known initiative offers both the donators and the receivers a chance to communicate or get to know their each other. Hence, our idea of giving both donators and unappreciated people a face to each other was born: Face-Back.

The User-Centered Design Process

In order to get started, we developed an affinity diagram to identify possible topic areas and groups of interest: Bedouins in Sinai or the Oasis of Siwa, people with disabilities, peasants and agriculture, illiteracy, migration and centralization of Cairo and societies of the aged.

We designed the following set of criteria in order to decide the topic we would go for:

- Social and geographical accessibility of target group.
- Open-mindedness of target group towards external interaction.
- Potential impact of the design idea on the target group and the society.
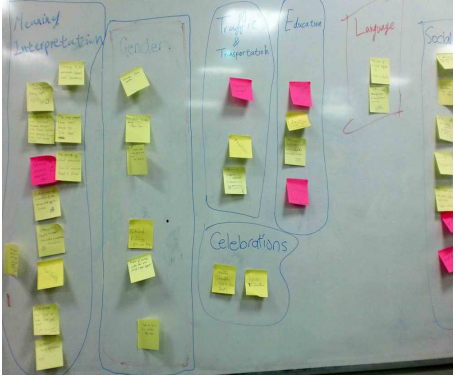
Figure 5: group discussion about the notion of appreciation

Figure 6: Maslow need hierarchy [6]

- Availability of external help or previous experiences by our team members that can facilitate approaching the target group.

After considering these aspects and after conducting some preliminary interviews we decided to go for the target group of "illiterates" as they satisfy the mentioned criteria due to the following:

- There is a significant amount of illiterate people in different places around Egypt including Cairo that are as well easily accessible.
- Illiterate people are being underappreciated in general when their contribution to the society is compared to that of literate people.
- Several NGOs and governmental organizations are active in the field, which could be of help for the implementation of any kind of project

The research team conducted interviews with tutors who give literacy classes in order to be aware of the behavioral, social and linguistic patterns that should be put into consideration when dealing with illiterate people. After that we conducted participant observations with illiterate people attending a literacy class (by one of our team members attending the class). In addition, we conducted interviews with illiterate people directly to confirm our previous results and deeply understand their need for better appreciation and representation.

As an outcome of the interviews with literacy tutors and literates, as well as observations, we concluded the following:

- The economic and cultural value of the handmade goods is not appreciated by the Egyptian society.

- Most of illiterate people suffer poor or less than average financial conditions.
- Illiterate people are generally oriented towards providing better life conditions for their children.
- Hence, they wish education for their children, but they are forced to send their children to work so as to fulfill the very primary need of food and drink which they lack (belonging to the physiological needs according to Maslow need hierarchy [6], see figure 6), rather than the secondary need of education (self actualization).
- Illiterate people perceive their surrounding literate peers as looking down on them.

The absence of two-way communication between literate and illiterate people minimizes the chance of mutual understanding and leads to a tremendous gap between both groups. Also, it causes some to be unaware of the existing gap and its magnitude. We then conducted further interviews with active personnel and board members of NGOs, like "AYB", "Caritasse" and "Sunna' El-Hayat", to estimate the level to which such NGOs are able to approach the illiterate sector of the society. Furthermore, the intent of these interviews was to form a set of goals for the design idea based on their current activities. We deduced that NGOs already have numerous projects. We also deduced that the focus of such activities is either providing literacy classes or providing donations for the illiterate.

Based on these research activities, we set the goal of our design idea to reduce the existing gap between literate and illiterate people by enabling a two-way communication.

Description of Web Service

General design requirements

- Provide psychological support to illiterate people, so as to alleviate the negative consequences of illiteracy previously mentioned such as mocks and unrespectable looks, while providing support for their skills to protect the crafts from extinction.

- The psychological backchannel must be in a medium that is understandable by the illiterate, who is really an oral user requiring an oral or non-textual means of communication [2].

- Providing a backchannel from the literate user to the illiterate to demonstrate the appreciation, this backchannel has two main sub channels. First, money since it is a basic need that is highly required by most of the illiterate sector, and second are other forms of admiration to the product manufactured by the illiterate like comments; so as to focus on the psychological aspect as well.

- Cooperation of NGOs in delivering the financial support to the illiterate, and monitoring the ways in which it is used, as well as providing a benefit to the business owner. NGOs were selected as they have experts in the field whom can deliver the money with low costs. Additionally, they will be able to monitor how the money is used which prevents the illiterates from misusing the financial loans.

Detailed system description

Illiterate craftsman attaches a label containing a barcode and a URL to each product. This label is originally generated and distributed by NGO personnel to the craftsmen. The barcode acts as identifier for the craftsman and the product. After purchasing the craft, the user takes a picture for the labeled barcode using any camera. When that picture is uploaded to face-back.org homepage the profile of the craftsman will be displayed along with information about his life circumstances, his craft and his other designs.

At this point the user has two possible features: either to share his experience regarding product, or to support the craftsman. The *insight* behind this is to fulfill the psychological and physical requirements. The "Share Your Story" feature allows the user to write comments or upload a picture of the actual product that he/she bought. These pictures are printed by the NGO and distributed to the craftsman along with the barcodes, which forms the act of appreciation from the side of the user toward the craftsman. On the other hand, the "Support Me & My Craft" feature allows the user to donate in order to finance different purposes depending on the life circumstances of the craftsman; the expense of those donations is monitored by the NGO personnel. Finally, the website allows the user to track the progress of the craftsman to whom he/she donated.

Final User Experience Check

The website was tested by possible users on several steps. The team first visited a location known as "El Moez Street" in Old Cairo which has a number of workshops producing handmade products to conduct a paper prototype testing with possible users on site. After that the website was tested online by users at their homes. It was conducted on nine persons; two NGO personnel, one craftsman and six users, three of which are foreign tourists and three are Egyptians.
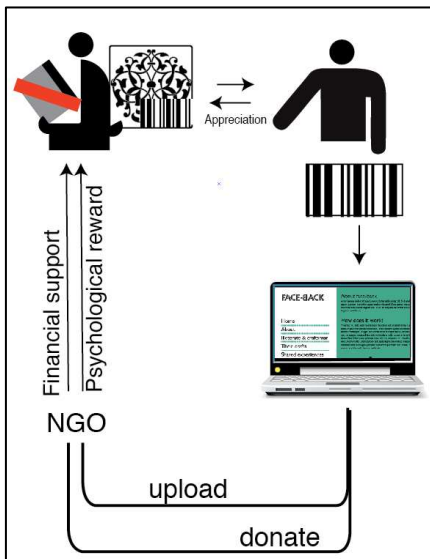

Figure 7: process visualization

Figure 8: screenshot of face-back.org

In general the users approved the system and the interface, they could easily reach all their goals, yet they had some comments about the system; most of the users didn't easily understand the purpose of "Share your experience" button, they also thought that the size of the button for "Scan barcode" was too small compared with its importance to the homepage. All these comments were handled in the system.

Conclusion

Our research has showed that there is one social strata, namely craftsmen, that has hidden capabilities and is searching for appreciation and understanding. The designed system addresses the gap between those underrepresented and the rest of the society. Face-back provides two-way communication between both groups. As the underrepresented strata is provided with the means of marketing its products, showing others what it is capable of. And, in return, the craftsmen get monetary incentives in the form of loans in addition to psychological incentives in terms of words of appreciation. On the other hand, the rest of the society is given the chance to truly know the craftsmen, their work and their capabilities. Our system is one that is aiming at creating long-term development of the society and addressing the social problems it faces.

Future Work

The web interface can be extended to support iPhone, Android and hand held devices. It is possible also to provide a Location Based Service or an on-site service, where people visiting the workshops can get to see the design process and the story of the person who designed the product. The idea can be scaled and tailored to the demographics of other societies similar to Egypt. On the other hand, the backchannel provided to the illiterates could be extended to include ways of solving the problem of illiteracy such as funding projects for educational programs, for adults as well as children, or building schools.

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