

Aesthetic and social factors for designing Non-Profit websites and apps

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Abstract

The aim of this study was to combine both aesthetical and social factors to improve an existing application on blood donation named 'BeDonor' to achieve more appealing, engaging, gamified and most importantly, overhauled experience that is both easy to use and help solve the problems with existing approaches to Blood Donation App design. To find-out about various such approaches, many research studies were consulted and out of all, ten of the research studies were found to be most applicable for the topic of Non-Profits. The findings provide many unknown insights and factors which affect the users' intention to use a non-profit website/app and intention to donate. To show how the research studies helped in improving the existing design, Artifacts were designed and discussed about the change. Though the current research is helpful in determining some of the very important factors which helped in improving the existing experience, there are still some more factors which need to be researched upon. Even though the current research is not complete for this research topic, it was very helpful in achieving the objective of this research review by combining the findings.

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Introduction

This research study is about what are the aesthetical factors that lead users of a Non-profit website or an app to trust the organization, donate to them and keep returning for timely donation, and what Psychological factors make users to trust a website or an app, what makes them donate or what makes them attempt a physical task and how gamification can lead to user engagement.

The spark of designing this idea came to mind when a relative needed a rare blood type and was struggling to find a suitable donor. Just like this English proverb “Necessity is the mother of invention”, this situation provided a new idea to work on. The initial design was accomplished in 2015 but was missing key research principles. Thanks to Prof. Hank Streeter’s motivation and continued guidance, I was able to take-up the project again, but this time to find and apply all the missing pieces of research.

Literature Review

Aesthetics of websites for Non-Profit organizations

Unlike regular websites, Not for Profit (NFP) websites do not sell anything, they work on generously donated money for which they must generate the urge in visitors' minds to donate. And, to generate this urge they should have an influential design of their website or app. To generate such design, they need to adhere to the aesthetical factors such as colors, shapes, font formatting (Schorn, Brunner-Sperdin, & Ploner, 2014) as well as layout, and imagery (Kensicki, 2003). These are the factors that make or break the users' decision to use that service and to donate.

(Schorn et al 2014) in their research conducted an experiment with 396 students from a European University to determine how color, shapes, and font formatting drives the consumers' perception towards an online drug store. The authors used 2x2x2 approach between-participants' factorial design consisting of color (yellow vs blue), design (circular vs angular), and font formatting (standard vs bold). The findings indicate that consumers find an online drugstore to be capable if their website uses bold fonts and integrity is generated via circular elements. Furthermore, the researchers did not find any influence of color, shape or font formatting on a drugstore's benevolence. The authors did not find any effects of yellow and blue on trust and loyalty contrary to a previous research study.

A similar study was conducted by (Kensicki, 2003) in which she examined the impact of colors, imagery and layout of a NFP website on its credibility. She conducted an experiment with 266 college students on basis of internet usage demographics. She used structured symmetry vs organic asymmetry as layout, images vs no images, cool & muted colors vs warm & bright colors, and credibility vs intended participation. Her findings suggest that a NFP website should use photography and warm, bright colors and should use organic asymmetric layout if the design must resemble kindness. Both studies (Schorn et al and Kensicki) suggest that the color selection is based on the idea that a designer is pursuing, and same color cannot be applied to every type of NFP website. Furthermore, images make the website more trustworthy and help the content stand-out. Also, the selection of images is also related to the topic of the website.

Another study by (Dobra, 2015) talks about visual communication in interfaces via colors. This study, unlike others, isn't an experiment but a thorough illustration of why color is very important aspect of interface design. In her study she talks about color spaces such as RGB (Red, Green, Blue), HSV (Hue, Saturation, Value)/HSB (Hue, Saturation, Brightness), HSL

(Hue, Saturation, Lightness), Dithering, and most importantly, color uses. This study provides meaningful insights into colors, their meanings, pros & cons, cultural associations and their usages in different contexts of interface design for visual communication.

Then, a research conducted by (Shiu-Li Huang & Hsiao-Hsuan Ku, 2016) shows how a positive brand image can lead to more donations. This study intends to answer if website generated band images increase the viewer's intention to donate, what type of image should a brand have to influence users, and how types of information on a website can impact a NFP's image among people. To start with, the author used previous study to list out the scales of images on a qualitative scale such as: Usefulness, Efficiency, Affect and Dynamism. The author conducted Content analysis and Card sorting to answer their hypothesis. The findings say that information items regarding Operational management, and Communication and consultation will produce an image of usefulness, and it will help in elevating the users' intention to donate. This study also provides the guidelines for NFPs to organize information on their websites. They also found out that the website's usability is related to efficiency, and its attractiveness is related with dynamism.

Social Factors of websites for Non-Profit organizations

Aesthetical researches show how a great design can engage users and how colors, images, fonts and layouts can help in urging visitors of the website to donate to the organization. But there's more than just design, there are many social factors that can help make a website that can keep users motivated so that they keep on returning or how to attract users via some unique offerings of the website or how to gamify the process of donating.

Two of the most important articles on motivation, out of all the articles that were studied are written by (Kuska & Żukowska, 2017) which talks about mobile apps that can serve as motivation for users to engage in physical activity and a study conducted by (Lee & Jaehee Cho, 2017) which explored how the approach of satisfaction can be used as source of motivation for users and how to use that approach on users to make them return and keep using the application. (Lee & Jaehee Cho, 2017), to conduct their study, first identified various motivational factors such as recordability, networkability, quality of information, intention to continue use, etc. And then conducted an online survey in northeastern part of United States with university students. The results from the survey show a positive sign towards a smartphone application which offer recordability of health data, networkability with other similar users, is trustworthy, have comprehensibility of data and follows the latest trends would motivate users and make them continue using the application.

Apart from motivating users to keep users using the apps, there is also another approach that can help people reach their intended goals. The approach is to gamify the process of physical activity and donation and that's what (Cugelman & Eysenbach, 2013) and (Hammedi, Leclercq, & Van Riel, 2017) have talked about in their respective articles. The research done by (Cugelman & Eysenbach, 2013) illustrates the different aspects of gamification. It talks about what gamification is and what it is not, the gamification tactics, strategies to achieve gamification, and the criteria of evaluating a gamification regarding a particular intervention. According to the authors, there are 7 strategies to achieve gamification: Goal setting, Capacity to overcome challenges, Providing feedback on performance, Reinforcement, Progress comparison, Social connectivity, and Fun & Playfulness. The findings of this research can be very helpful in building a gamified donation system and supports the idea of this research as the underlying idea

is to gamify the process of blood donation so that users feel attached to the process and perceive the whole process as a multi-level game. The effective use of this technique is offered in the research by (Hammedi et al, 2017). The purpose of this research was to investigate the effects of gamification on user engagement in gamified healthcare services. They conducted in-depth interviews with the patients, members of medical staff such as occupational therapists, physiotherapists and nurses. There were 12 patients and 12 members of medical staff who were interviewed. According to their findings, gamification produces 4 distinct experiential outcomes in patients: challenge, entertainment, social dynamics and escapism. They also found the tactics to be helpful in keeping the users motivated as they can track their activity and provide feedback on their performance. The overall results found to be shaping patients' experiences. However, when patients were exposed to the same gamification techniques again, the results differed. So, it is suggested that the same approach should not be used again and again because it tends to make the users feel bored.

Another research which is very unique and modern in its nature is the use of Emojis in various forms of visual communication and is done by (Kaye, Malone, & Wall, 2017). It illustrates the different aspects of visual communication where emojis can be used such as reducing the ambiguity of the situation or getting feedback from the user. New emojis are being introduced based on different human expressions of the situations such as happy, angry, joyful, annoyed, thinking, out of clue, and hundreds of others. According to this research, emojis can help generate insights about users' personality. And, they can also be used to regenerate the expressions just like it happens in face-to-face conversations. The author illustrates the communicative power of emojis via an example conversation to show how they can be used to reduce/eliminate the ambiguity during an online conversation. Another example was to use

emojis as Likert Scale to get feedback from users about a service or a process, which can be seen nowadays almost everywhere on the internet.

Discussion

Limitations of these studies

The limitation of study conducted by (Schorn et al 2014) was that they used just two colors, two shapes and they did not include other supportive elements such as user reviews, iconography, etc. These factors limited the scope of this study, but the factors researchers included in the research generated some very meaningful insights on basic color, shape and font formatting.

As noted in many researches (Schorn et al 2014), (Shiu-Li Huang & Hsiao-Hsuan Ku, 2016), (Kensicki, 2003), (Burt & Gibbons, 2011) and (Lee & Jaehee Cho, 2017), these researches were conducted among students just for the sake of convenience, which can be said as convenience sampling. Hence, they neglected other parts of the population who could be more inclined towards Non-profit organizations.

Future Direction

When it comes to the topic of this research, there are a lot of topics which are needed to be explored and current researches are limited to a few elements of a research. For example, a study can be conducted on how users perceive various hues of a color and which hue of a color is best connected with the user's intention to use a website or a study can be conducted on what kind of images are best suitable for a non-profit blood bank's website. Moreover, there is not much similar research on application design, so a study can be conducted on what kind of content is preferable on a news feed of a non-profit blood bank's website.

Conclusion

Research Objective

The objective of this research review was to learn about the personality traits of colors, types of fonts to be used for representing information, font styling, layout of the content, what kind of image should a brand have to generate trust among users, how an application can be used to make users perform a physical activity and how to improve the existing gamification tactics.

How combination of Aesthetics and Social factors can lead to better User Experience

All the researches leading to improving user experience, provide amazing detailed insights about the aesthetical and social factors of NFP website/app design which can be combined and implemented in various forms and aspects of the design and development process. For example, the (Schorn, Brunner-Sperdin, & Ploner, 2014) research can be used to make a NFP website more trustworthy as there are so many fake websites on the internet or the research by (Dobra, 2015) can be used to understand the use of colors and then that understanding can be applied to design a very appealing and human-centered interface. Similarly, the research by (Kuska & Żukowska, 2017) can be used to understand gamification strategies and tactics and then the research by (Hammedi, Leclercq, & Van Riel, 2017) can be used to make a very engaging gamified approach for a website or a mobile application.

All the researches helped in vastly improving the current interface design to a much more meaningful, refined and gamified design. The improvements can be compared in the appendix section to explore the differences between the past and latest application interface for BeDonor project. (How I achieved the objective and how the objective was achieved in appendix).

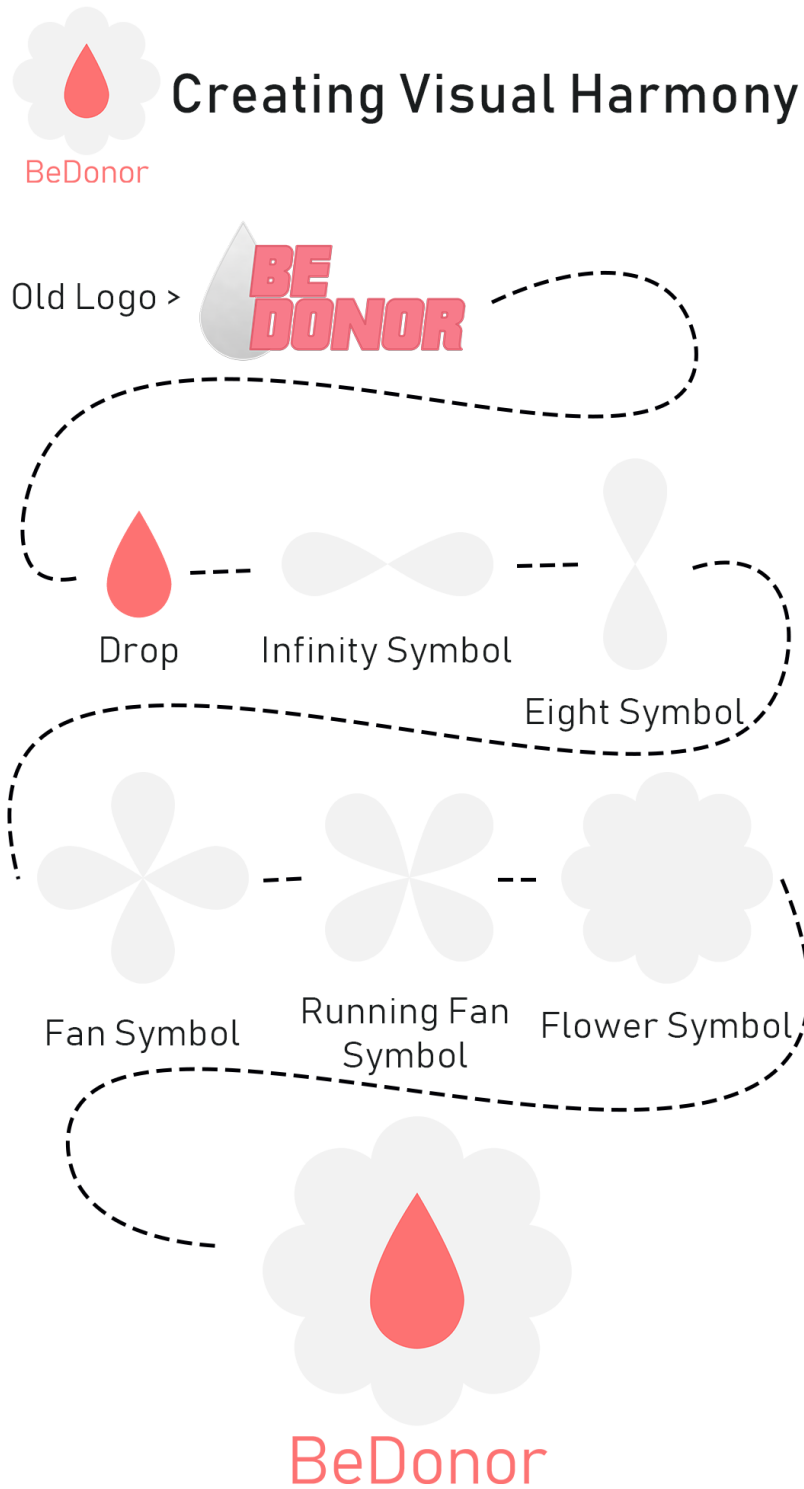
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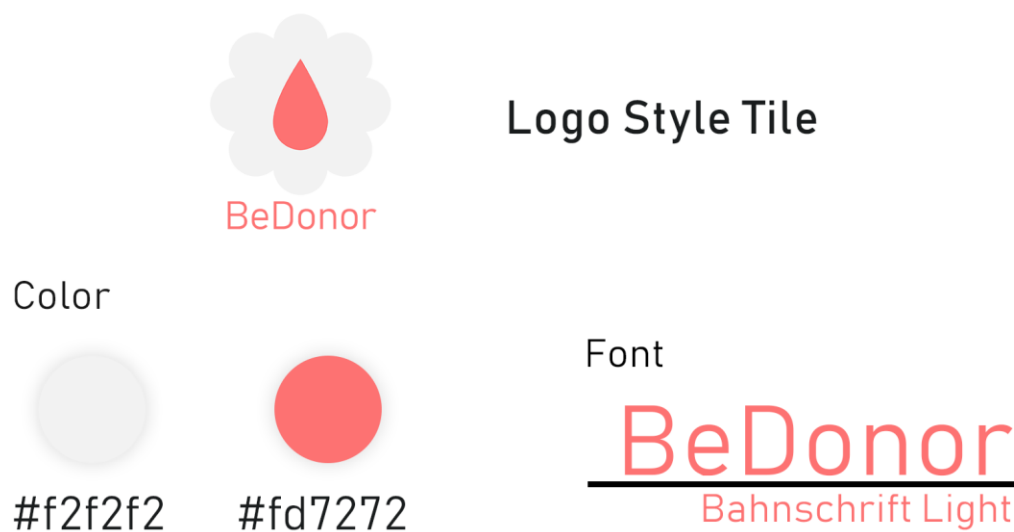
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Appendix A

Logo



The research by (Schorn et al 2014) suggests that a healthcare website should use circular elements and the research by (Kensicki, 2003) suggests that a website that promotes kindness should use bright, warm colors. Combining both ideas, the result produces a very beautiful image that is both visually appealing and is synonymous to tenderness or kindness, is also symbolic to dynamism as described in (Shiu-Li Huang & Hsiao-Hsuan Ku, 2016)'s research.

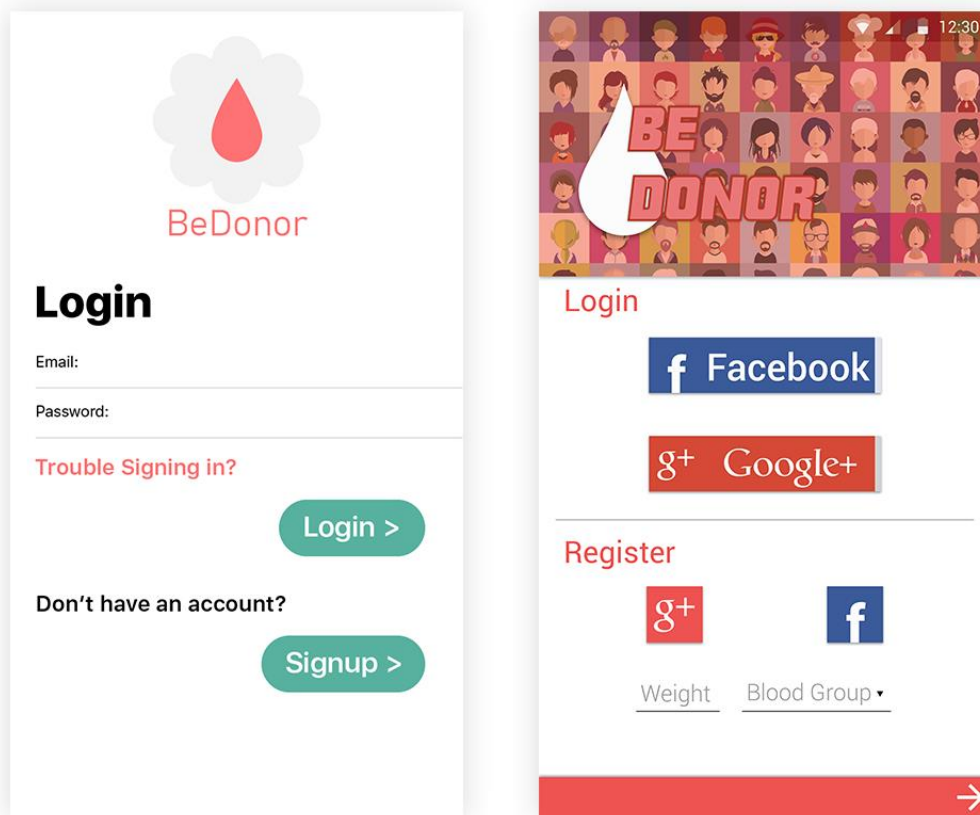


The colors, as suggested in (Kensicki, 2003)'s research are both bright and warm. Along with the colors, the accompanying font face of the product's name, Bahnschrift Light, is fitting very well.

Screen Mockups

The existing design used Google's Material Design UI, which was very heavy on aesthetics because it uses Shadows to define depths in objects and it also considers Z-plane to make their designs appear 3-dimensional. On the other hand, the new design uses iOS Flat UI which is, as the name suggests, is flat. Below is the comparison of existing design and updated design, which is both more aesthetically pleasing and more meaningful.

Sample Screen Mockups

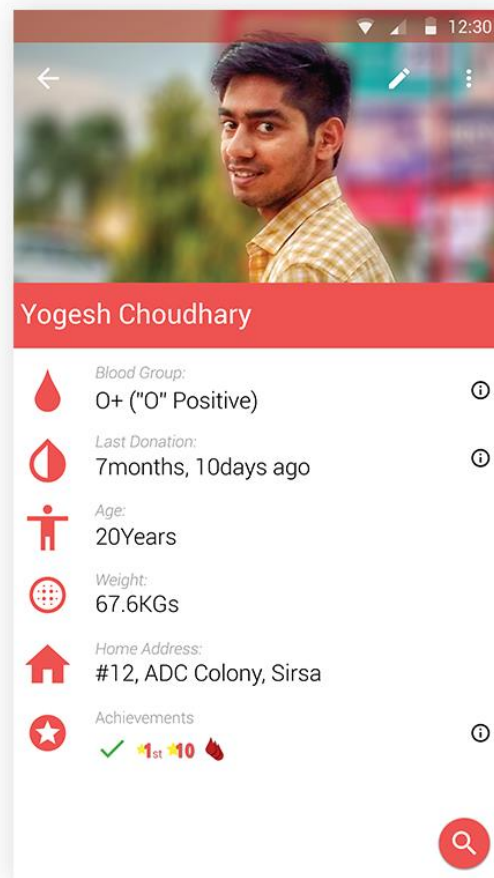
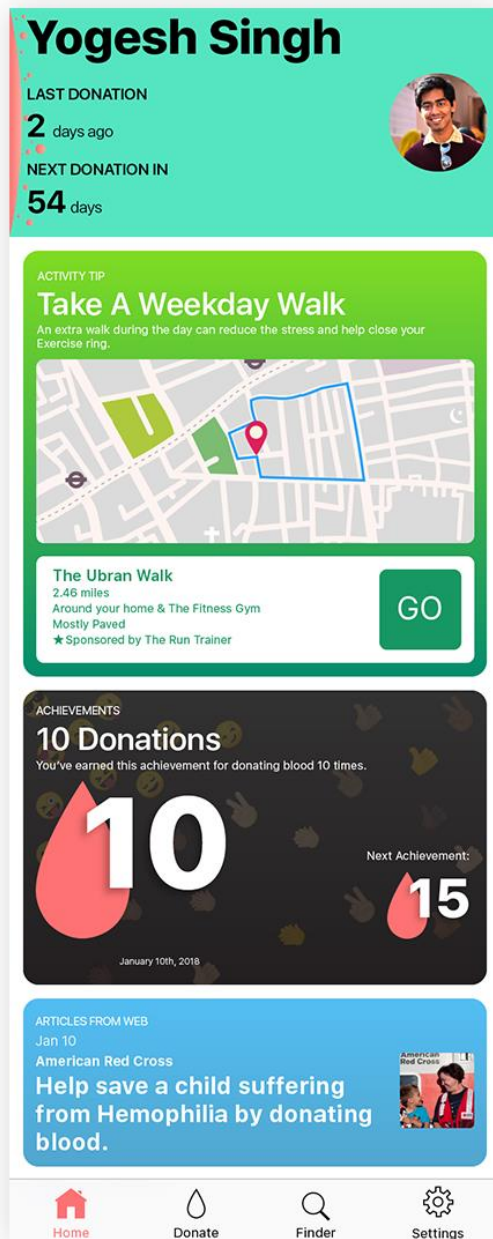


New Login Screen vs Old Login Screen

The colors on the existing screen mockups are too bright and heavy as well as the content is redundant. As described in (Dobra, 2015)'s research, red color represents Aggression and the description in (Kensicki, 2003)'s research points out that NFP websites should have images on the front. So, the latest version overcomes all these problems and eases the cognitive load on the user. Along-with aesthetic appeal, the latest version also improved upon the gamification techniques by utilizing the research by (Cugelman & Eysenbach, 2013), (Hammedi et al, 2017). Below is the comparison of Home screen and Achievements screen from the existing version and the latest version. As it is notable in the latest version, the Home screen shows the suggestions,

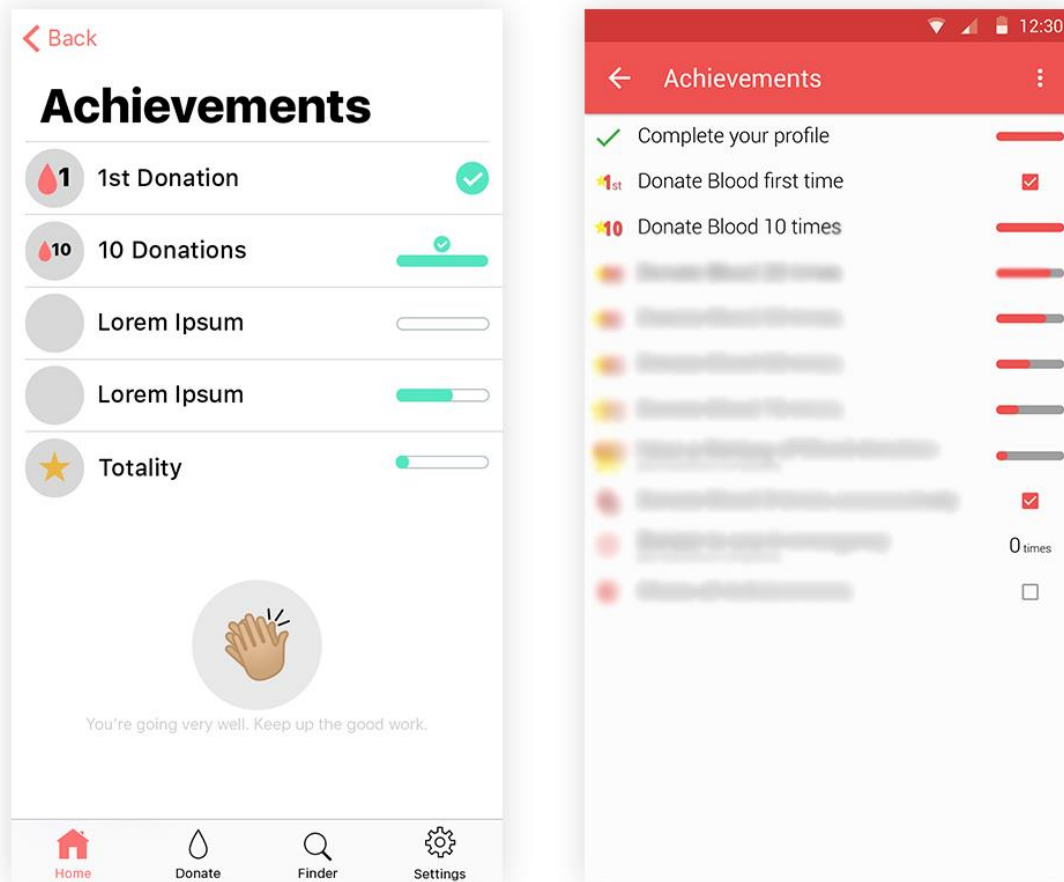
progress of the user and news. The top portion of the Home Screen in new layout keeps the user engaged by telling the user that he has just donated blood and he will be ready to donate blood in 54 days. Also, the dynamic progress bar behind the header text is trying to do the same. The research by (Kaye, Malone, & Wall, 2017) suggests the use of emojis for effective communication. The findings of this research are applied in the Achievements widget on Home screen to communicate playfulness and emoji on Achievements screen applauds the user on his achievement. The accompanying text is there to let the user know that there are more achievements to pursue. Whereas, on the existing home screen, there is no sign of progress or statistics or suggestions. The achievements screen is cleaner in looks and each achievement is differentiating itself from others through a horizontal line. Then there are progress bars which show how much the user has achieved their goal and how much is left. If the user has achieved a goal, the progress bar converts to a check-mark letting the user know that this goal has been achieved.

Sample Screen Mockups



New Home Screen vs Old Home Screen

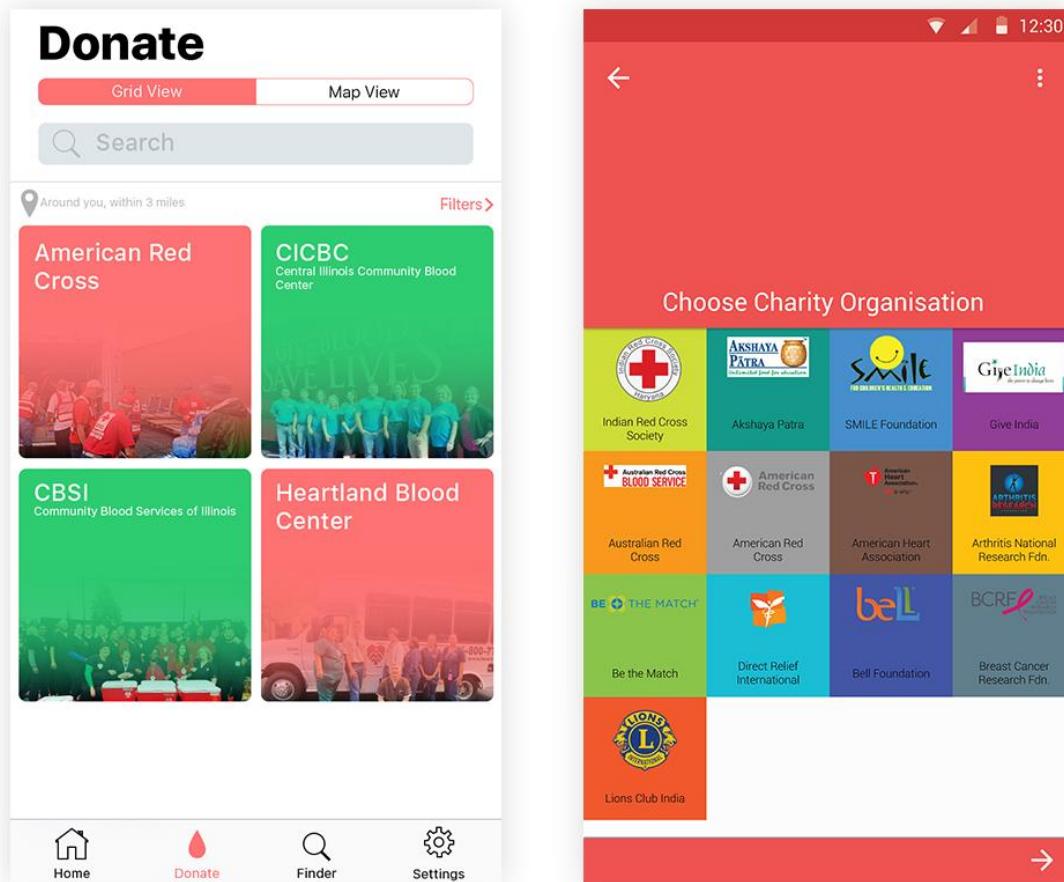
Sample Screen Mockups



New Achievements Screen vs Old Screen

Then there is Donation screen which is based on (Shiu-Li Huang & Hsiao-Hsuan Ku, 2016) which suggests that a NFP website should use actual scenario images to engage users. The top of donation screen allows user to see a grid of nearby facilities to donate or a map view. If the user already knows where to go, he can simply search for that facility and book a meeting in advance. Whereas on the existing screen, the icons are smaller and there as a lot of colors which are not relevant to the NFP organization, and the top bar is taking too much space.

Sample Screen Mockups



New Donate Screen vs Old Donate Screen