

A Website Designed to Relieve People's Depression

Chuhao Zhou *

Digital Art Industry Institute, Hubei University of Technology

* Corresponding Author Email: zhouchuhao@hbut.edu.cn

Abstract. With time going by, depression is getting more and more concern from society. With depression, they don't have stable emotions, which leads to a problem that they tend to feel hopeless and sometimes even drop into despair when they're viewing webs. Apart from that, there're also lots of people with depression teies. And lots of people are still suffering from the pain of the disease and the effects of depression. Therefore, This study is aimed to design a website for those people with depression and those potential people, aimed to decrease the risk of their getting into disease. My target is to build a healthy and positive online environment, which is beneficial for their mental health. And to research and conclude a series of principle and regulations of the relevant website designing. During the research, the method of issuing questionnaires is adopted, and a lot of websites like CNKI and Web of Science were referred to learn articles published between 2000 and 2024 related to the depressive symptoms and webpage design. A proper website for the specific group has been created, and meanwhile, lots of practical advice are summarized on how to design similar websites. Eventually, hope the work can make an influence to the future research and design in relevant areas.

Keywords: Mood Disorder; Web Design; Depression.

1. Introduction

With the development of society, people pay more and more attention to the group with depressive disorder (DD) these years. And the global prevalence rate is still increasing continuously. The incidence in U.S. was 6.6% in 2003, in France was 5.9% in 2002, in China was 2.1% in 2014, in Brazil was 9.4% in 2007, and in Australia was 4.1% in 2007[1]. Apparently, people with depression are of a large proportion of every country in the current world, no matter how developed and rich those country are. Besides, the rate is still going up high. Relevant research indicates that members in group with DD are very easy to be down in their spirits[2][3].

How to design a website for those people with DD or those potential people tend to get DD, to make it possible to release their symptoms when they're viewing the website? And how to prevent them from getting into worse condition? What kind of design are tent to deepen their bad feeling? I'm going to find a proper way of designing a website aimed to solve above problems.

Based on the previous research [4], this paper's research is to explore a series of principle that would be most helpful for them to release their painful mood and to design a Web finally. Meanwhile the conclusion would provide a valuable designing idea of the coming relevant area. The method that adopted to do the research is to make and send out the questionnaire, and to analyze the data collected from participants. And based on which, I'll make a conclusion to get the most proper designing way.

2. Pre-Work

2.1. Previous Research

A previous study focuses on the product designed for the group with depression[5]. This paper's research will use the reference of that, to find the most proper surface design that can help release people's feeling of depression.

There're several interface designing suggestions are given in that article. It mentions that people with depression prefer white or bright, warm colors. And the interactive interface would better use a warm light blue and bright white layout, which is helpful for relieving the mood of patients with depression. This research is going to send out questionnaires to check out if that's correct and suitable for current society, and to make sure if the method really make sense.

2.2. Relevant Research

To investigate which kind of icon designing is beneficial in recovering patients' mood, several groups of comparison are set in our questionnaire.

As is shown in Figure 1, the icons in the first group differ from each other only in the Saturation parameters in the HSB color display mode. The right column below shows the RGB standard colors. Those three colors correspond to the following RGB values: RGB (255, 0, 0), (255, 255, 0), and (0, 0, 255). Their HSB values are: (359°, 100%, 100%), (60°, 100%, 100%), and (240°, 100%, 100%). And the right column below correspond to the following RGB value: RGB (255, 179, 180), (255, 255, 179), and (179, 179, 255) and HSB values are (259°, 30%, 100%), (60°, 30%, 100%), (240°, 30%, 100%).

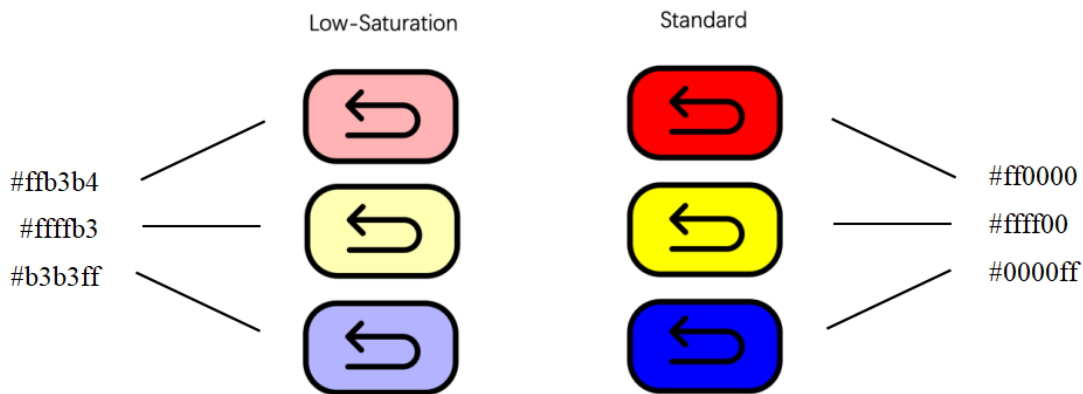


Figure 1. The first group of comparison of color's saturation (Photo credited: Original)

As is shown in Figure 2, the icons in the second group differ from each other only in the Brightness parameters in the HSB color display mode. Their RGB values are: RGB (103, 0, 1), (102, 102, 0), and (0, 0, 102). And their HSB values are (359°, 100%, 40%), (60°, 100%, 40%), (240°, 100%, 40%).

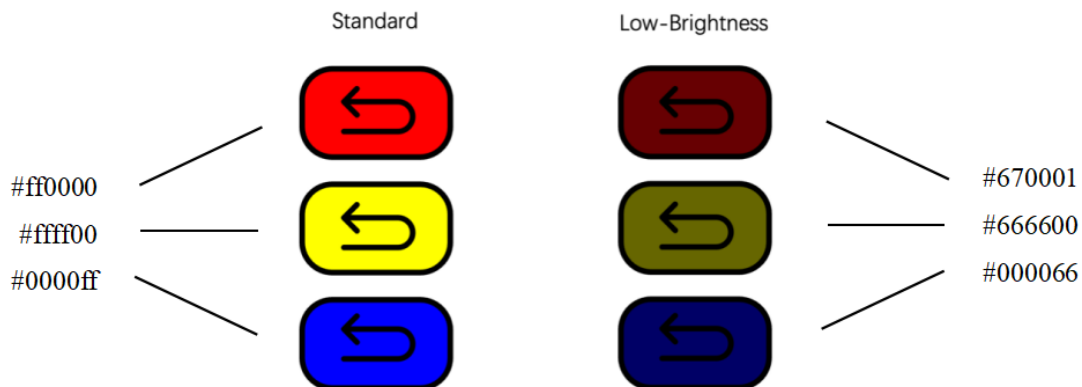


Figure 2. The second group of comparison of color's brightness (Photo credited: Original)

And the third group of icons are about the density of icon's arrangement. As is shown in Figure 3, the space between 2 icons in the first image is the same size as the buttons themselves. The space

between in the second image is 1/2 size of the buttons themselves. In the third image is 1/5 the size of buttons themselves. And in the last image, there's no space between icons.

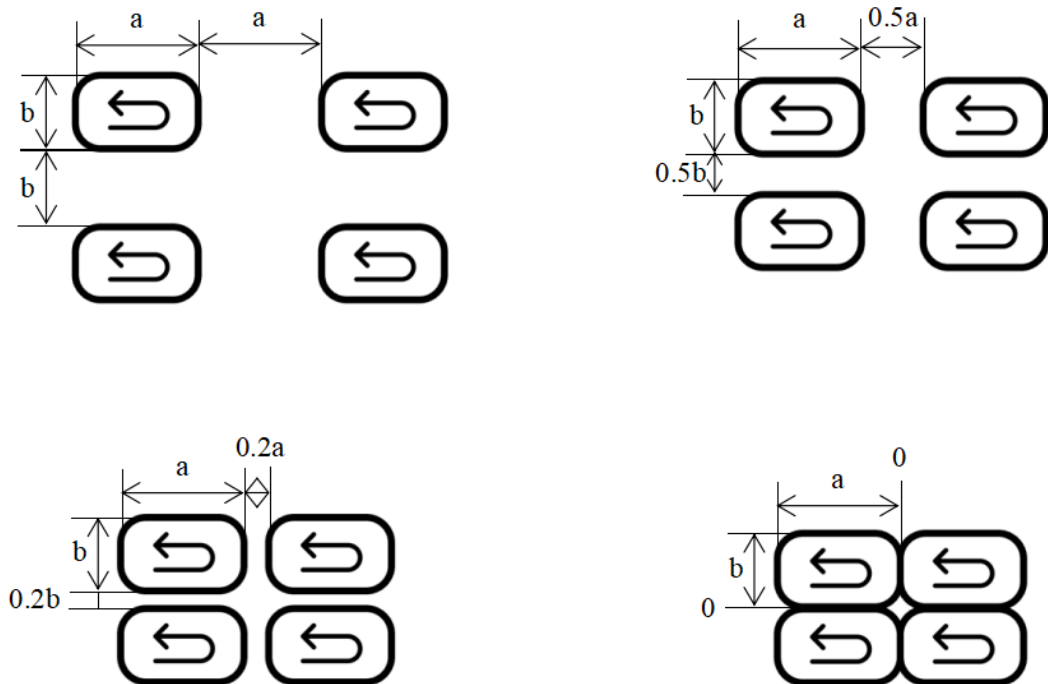


Figure 3. The third group of comparison: Space between icons (Photo credited: Original)

And the fourth group is about the shape designing. As is shown in Figure 4, the left image uses sharp corner, and the right image uses rounded-corner.

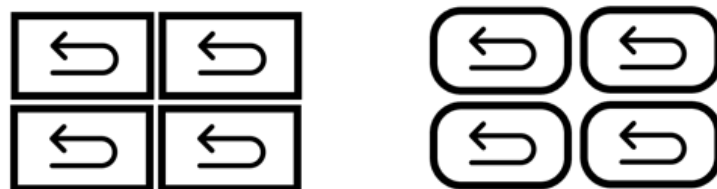


Figure 4. The fourth group of comparison of the corner shape (Photo credited: Original)

The main line is to let participants choose which design offers the best experience to them.

2.3. Questionnaire Designing

At the front of the questionnaire, it's necessary to make sure if the participants who will fill in the questionnaire have DD, as well as the severity of their symptom. So, a Self-rating depression scale (SDS) is put at the begin of the questionnaire, as the first part of the questionnaire, to assess the survey taker's depressive level.

By collect and analyze the score they've got in the first part after they've done SDS, the extent of the participants' basic depression condition can be primarily judged.

The second part is mainly about the designing. As the core part of the questionnaire, the comparison of icon designing which mentioned before is the main part of the questionnaire designing. Letting participants choose their preferred design is our core task. Only based on the result of which option they'll choose, a good website can be designed. It includes differently designed icons from lots of aspects, like icons with different size, different background color, and different shape, etc. This part

is aimed to observe what kind of design can help release their awful mood effectively, and what kind of design is not proper or even cause damage for their mind, like leading them to think about some painful experiences or even worse. The first 4 groups are designed through NPS assessing system, and because of the space between each icons do not fit in this 2-option mode, so it makes users choose which one they prefer most, and meanwhile it also gives 2 other choice, it doesn't matter much and this is not a very important question to determine web designing.

3. Data Analyzing

After placing and receiving the questionnaire, the following analysis are made and the following conclusions are reached.

3.1. Overview of the Result

There have been 200 answers collected in total so far. The questionnaire takers come from different places from all over China [6]. Most of which are concentrated in the east and south part of China. According to the answer they provide, their depressive condition are as follows. 84 people's score are less than 62, and 187 people's score are less than 72 and 200 people's score are less than 63. In general, according to the judging standard [7], 77 people of 200 are under slightly depression, and 103 people of 200 are under middle extence of depression, and 13 people of 200 are under strong depression condition. Because in our feedback, there're only 7 people are not depressed at all, and there're only 13 people are suffering from severe depression. The sample size is too small, leading to a risk that statistical results are too random and accidental. So only middle extence of depression and low extence of depression's figure are adopted to do the following analysis. And in the following statical charts, the low-extensive depression people's result chart is on the left and high extensive depression people's result chart is on the right.

3.2. Color Choosing

After analyzing the data, as it can be indicated in the Figure 5. According to NPS's rule, low-saturation's color is not a key factor that will influence people's depressive extent. It's not very obvious whether they prefer bright colors or darker colors. So apparently, color is not a very important point during our web designing. But it's worth noting that the decrease of Color's brightness doesn't matter much to the user's experience. And it isn't a factor that will release people's depression. So, during the web designing, it's not necessary to use more bright color deliberately. It might even brings opposite and negative effect if designers use bright colors.

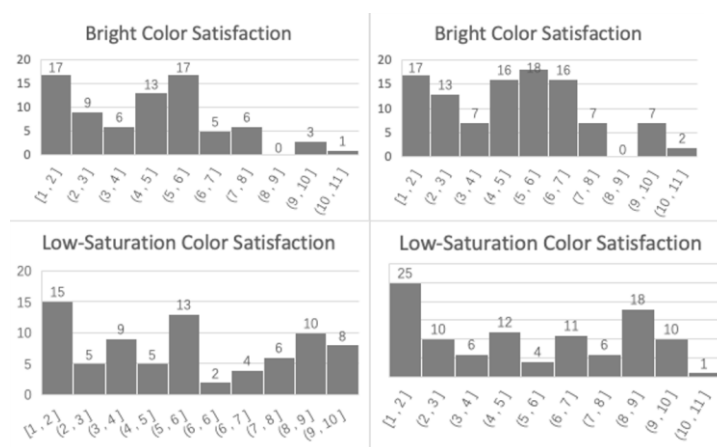


Figure 5. Color Impact Survey Results (Photo credited: Original)

3.3. Spacing Adjusting

It's divided into 6 groups varies from the space between icons. As is mentioned before, the first group is of 1 times of icons' size, and the second group is of 0.5 times, and the third group is of 0.2 times,

and the fourth group is of no space between. The fifth choice is none of the design that have mentioned is good and makes me satisfied. The sixth choice is the choices're similar. The result is shown in Figure 6, and the conclusion shows that no matter the dense design or the sparse dense got similar scores. So it might not be a key factor during the website design.

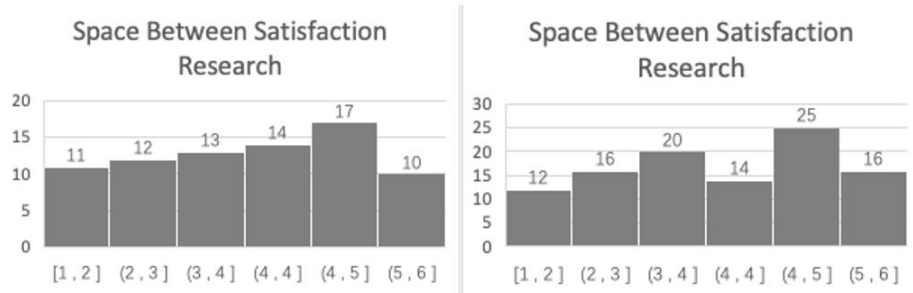


Figure 6. Icon spacing questionnaire results (Photo credited: Original)

3.4. Shape Designing

Based on the data, rounded-corner icons are really popular than the sharp corner icons. The relevant results is shown as follows in Figure 7. So rounded- corner icons will be used widely and properly in website designing.

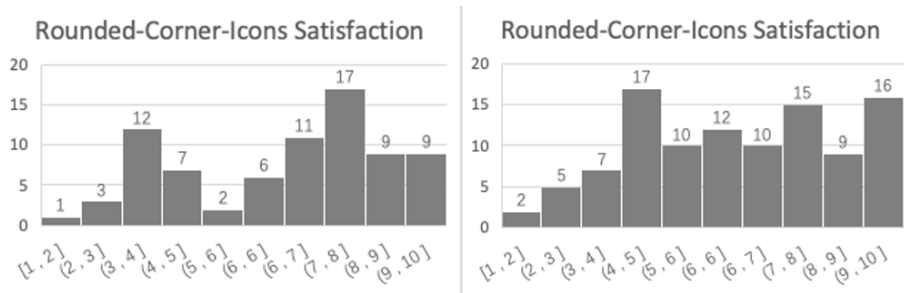


Figure 7. Icon shape survey results (Photo credited: Original)

To sum up, for example, the following is a typical website aimed to release people’s depression mood, which fully embodies the above design rules and principles.

4. Web Design

4.1. Background Part

Based on the result of the research, the background color shouldn’t use bright color deliberately. So, the blue sky image is chosen as the main color of the webpage, which not only avoid too bright, but also build a very relax atmosphere when users are viewing the page.

4.2. Icon Part

The icon buttons should be arranged in order. And base on the research that mentioned before, rounded icons should be chosen when designing. So, in our interface, almost every icons adopts rounded design.

4.3. Layout Part

Layout of the website should be in order rather than in random. Because cluttered layout might cause irritable mood to the website users.

4.4. Content and Information Part

Some helpful information should be put at the bottom of the page to offer necessary helpline number and helpline related websites.

The examples images of the website are as follows Figure 8.

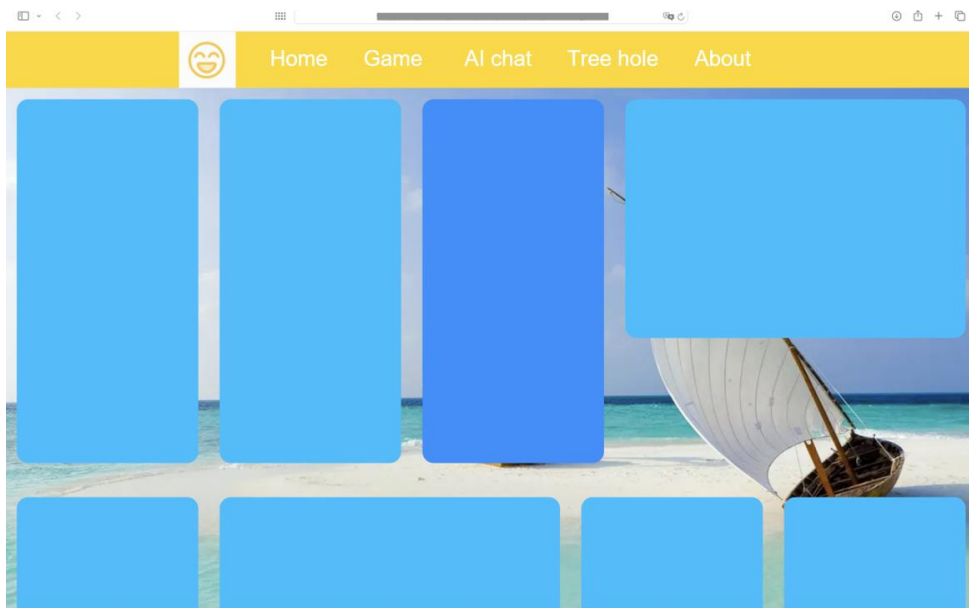


Figure 8. Homepage interface (Photo credited: Original)

Combined with current situation and the user group’s real need, several informations of the ways to access the relevant help are put on the bottom of the page, which is shown in Figure 9.

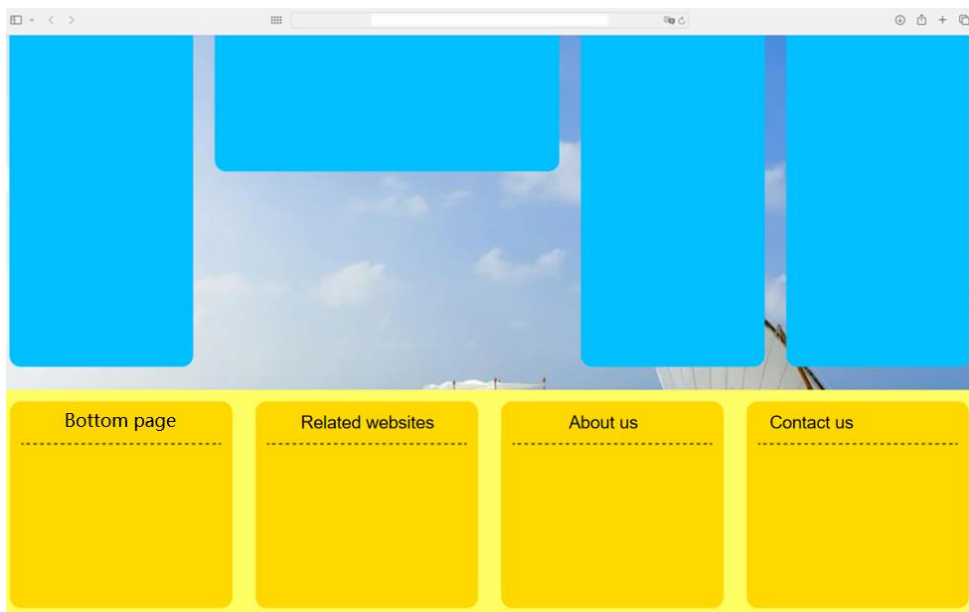


Figure 9. The bottom of the page (Photo credited: Original)

5. Conclusion

Besides the above website, the conclusion can also be used to the similar design in relevant areas. In terms of color, color satisfaction should not be the main factor we consider when designing web pages. Brightness of colors does not necessarily require the use of overly bright colors. If it is possible to use overly bright colors, it may not necessarily alleviate user depression and may even have the opposite effect. The survey results show that most people do not agree that low brightness can bring a good emotional experience. The size of the spacing between controls is not a decisive factor in designing web pages. Surveys have shown that most people do not agree that a certain spacing can significantly alleviate depression, and the proportion of people who prefer each spacing is close. At the corners of the control, more rounded corners should be used instead of sharp Sharp corners, as the participants in the survey have a clear preference for rounded corners. The above are some

research results on webpage design for alleviating depression. Of course, this result is not limited to web design that alleviates depressive emotions, it will inspire ideas for related web design. In the future, professionals in related fields can also use the form of NPS or KANO survey questionnaires to collect some design effects, and then draw conclusions based on the analysis data to design web pages that meet the relevant functions.

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