

FLORS: AN INTERACTIVE SPACE FOR DESTRESSING PROPOSAL REPORT

TEAM MAMI

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Semester 1, 2021

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FLORS

TEAM MAMI

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 PHYSICAL COMPUTING & INTERACTION DESIGN STUDIO PROPOSAL
 26/03/2021

THE CONCEPT/INTENDED EXPERIENCE

Our project's topic is recreating sensation; our team members started discussions and investigations around this topic. Firstly, we focused on the stressed people, how to help the stressed people go well from negative emotions to positive feeling experiences that are the design direction. The idea is to create a bunch of pressure balls, which looks like a bunch of flowers. A Chanel exhibition (figure 1 and figure 2) inspired the concept. People can enjoy the view of flowers, and those paper flowers give off a fragrance to make people immerse in the environment.

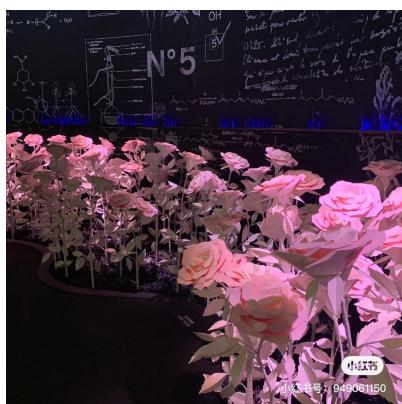


Figure 1: Exhibition Mademoiselle Privé ("Chanel flower show shanghai," 2019)

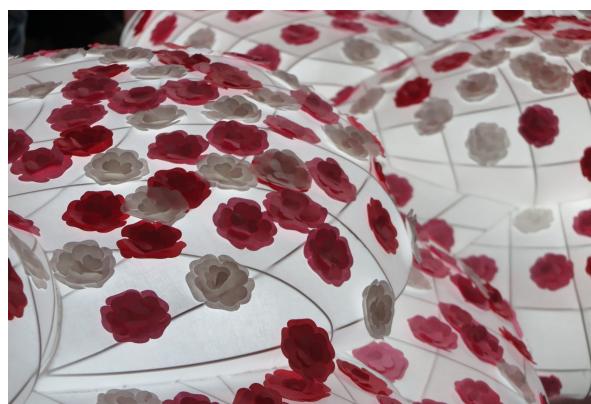


Figure 2: Exhibition Mademoiselle Privé (WYTANE, 2018)

Our team decided to make the product's appearance as flowers (figure 3.1) from the inspiration. We also borrowed an idea from the practice that aroma can make people emotionally stable so that the design adds scent function. The product can spray scent to make people calm down when people use this product. On the other hand, based on an investigation, stressed balls can relieve people's stresses when they squeeze the stressed ball (figure 3.3). Therefore, the pressure ball was chosen as the main product of our design. An increasing number of people face various pressures in their lives, and anxiety has penetrated different aspects of life. The original intention is to allow users to keep their pressure outside their homes. We expect that the stressed groups can release the tension of life by squeezing stress balls, and the stress ball can also display colours by people's temperatures (figure 3.2). The whisper

function is another function of the design, and people can relieve pressure through encouraging words (figure 3.4).



Figure 3.1:
Storyboard (step 1)

Figure 3.2:
Storyboard (step 2)

Figure 3.3:
Storyboard (step 3)

Figure 3.4:
Storyboard (step 4)

Figure 3.5:
Storyboard (step 5)

The scene of this design is presented in a public place. Initially, our group set the stage in offices or schools because more people are under pressure in these two places. However, we discussed that putting it in a public place can satisfy more people under pressure, and finally, we set the design place as the public areas nearby (figure 3.2).

DESCRIPTION OF THE CONTEXT/DOMAIN

WHO IS IT FOR?

We design for people under high levels of stress. If they used a word to describe their childhood, it probably would not be happiness(Freeman et al., 1999). They may have a negative communication pattern in their family where their parents put flooded expectations on them(Agliata & Renk, 2007). They tend to hold back their emotions and stay strong along with their growth. They are often shy to express themselves on social occasions and feel less desirable to control their life (Huang, 1999).

They would feel ashamed of failure and thus pay a lot of time studying but often feel strengthless to make changes(Varghese et al., 2015). They are most affected by significant changes and daily hassles as they treat them as threats and challenges which will burn them out(Lazarus & Folkman, 1984).

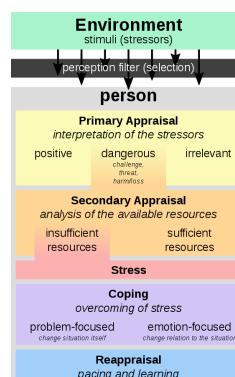


Figure 4: The cognitive appraisal model which indicates the generation of stress (Lazarus & Folkman, 1984), source from the Internet (Guttmann, 2016)

WHAT AND WHERE IS IT FOR?

Out of the audience's inner factors, researchers also identified various stressors that universally appear in the workplace (Williams, 2003), family (Forehand et al., 1998) or even daily social occasions (Witzel et al., 2018). Considering the generality of the problem, we believe it should be placed as public service universally, allowing access freely. Nowadays, public services put efforts into supplying drinking (Water refill stations, 2017) and exercise equipment (Exercise equipment in parks (outdoor gyms), n.d.) fundamental to people's health and well-being. With evolution beyond society's imagination, people would face dramatic lifestyle changes, which calls for more emotional support. Furthermore, we would say it would be better to install the device near *workplaces, educational institutions and hospitals* where high tension is more likely to appear.

WHY IS IT INTERESTING?

We believe it would be interesting to work similarly to the play therapy method (Drewes, 2009). The interaction would enable the users to explore what they can do with tuition and gain feedback with mixed, changing sensations, making it a play status.

FEEL FREE TO 'PLAY'

We will create an escape from stress for users. In this space, danger and tension have to be reduced as much as we could. In such a safe environment, we hope people would feel it easier to interact with our device. The aesthetics and texture would give people a satisfactory mixed interaction while exploring how to play.

SENSATION OF SELF

The space we create would be in a different logic from the real exhausting world. The sense of stress is performed as the sensation of vibrating. People would feel the vibrations generated according to their grip strength, which can be seen as the externalised form of stress. With the sensation shift, they would feel their inner pressure seems like leaking out. We hope identifying and coping with those unpleasant feelings could be more accessible.

POWER AND EMOTIONAL VENTILATION

The squeezy material enables people to give out considerable strength. With its softness, people could change the shape and status of one seemed-normal objects effortlessly with their hand. The interaction tends to make people feel more control over and positively impact everyday things on their own.

RELATED WORK [YIHE]

EMOTIONS AND COLOURS

People have various kinds of psychological perceptions in different colours. Colour & Imaging Institute and the University of Derby(2002) have studied the relationship between colour emotion and colour preferences. The experiment tested ten bipolar scales on participants. The researchers found that people would get different responses and feelings feedback according to their identity backgrounds, such as gender and country. The interaction of changing colours gives visual feedback or colour stimulation to users and brings back different feelings and emotions associated with their background culture and psychological perception. Everyone can get a multiple, comprehensive, and unique interactive experience in dynamic colour change. Besides, colours have different influences on people's stress perception. Teresa M. Kutchma(2003) has explored a study about the effects of stress perception on room colour. They mainly focused on red and green environments. Participants need to stay in green, red, and white rooms for 5 minutes and complete a series of tests. The result proves that red has the highest stress rate score, compared to green and white. But this situation would change based on participants' countries' background culture. For example, people in some Asian countries have particular preferences in red. The above are just conclusions based on the articles; the specific results need to be determined based on our detailed research. Maybe users would have their personal preferences.

MATERIALS SELECTING

The next point we should focus on is what direct interaction is suitable for targeting the issue of relaxing and relieving mental pressure. We mentioned that soft materials are often and widely used in relaxing and removing negative emotions, which has been becoming more and more popular. It can be seen and noticed as a recommended tool of helping people release mental pressure on many social media sites and e-commerce platforms. People get a certain degree of psychological comfort in the process of squeezing, pinching, and shaping objects with their hands. Stuart Brown, M.D(2020), the founder and president of the National Institute for Play, has said that this comfortable feeling has roots in physiology: "A symphony of neurotransmitters and activity is triggered. Endorphins are released. Those produce a feel-good experience." Therefore, in the assumption of material selection, pinching something in hands may be a good idea to consider. The material of the object should be soft, shapeable, and pinchable. Therefore, that is the reason why we want to choose sponge-like materials.

THE USE OF STRESS BALL

When we are thinking of a particular way of interactions, the stress ball concept has given us a lot of inspiration. Medical research(2018) has explored how stress ball use assists patients

facing Skin Cancer Excision to relieve anxiety. The patients with a stress ball in hand under the local anesthesia were measured in terms of the level of pain and user satisfaction. As a result, It is found that it works well(relieves anxiety, reduces the level of pain and increases user satisfaction) in a group of people who have a high level of pressure at a baseline. It may prove that the use of stress balls can help people relieve stress to a certain extent.

Another similar example is using a stress ball to diminish anxiety in nail surgery(2020). The patients were given stress balls made of closed-cell polyurethane foam rubbish before surgery, and they can hold and squeeze the stress ball freely when they feel uncomfortable. At the end of the experiments, it is shown that holding and pressing a flexible stress ball works effectively can facilitate both anxiety and pain for the patients. Meanwhile, researchers also found that the behaviour of squeezing a stress ball provides feelings of empowerment that make them feel like having direct control over the object. The authors hope that stress balls should be widely accessible and popularized in surgery medical areas. With the insights we got from the stress ball, especially its remarkable effect in relieving people's psychological stress, we believe that adopting the stress ball concept into our installation design would be a pleasant and intriguing idea.

RESPONSE TO FEEDBACK

Based on the feedback that we have received, firstly, audiences provided two new methods: shaking function and colour change based on the temperature. Secondly, how to improve the experience such as foot in the sand, opening area or privacy. Lastly, audiences might have some questions about the prototype itself; they are interested in the prototype size, materials, and carriable. Therefore, we can divide them into three different types of feedback: the interaction method, the prototype itself, and the user experience.

INTERACTION METHOD

For the interaction method, we accepted those interaction methods and almost cancelled the old one. According to the research from the related work section, colour change can influence a user's emotion, which helps relieve stress. Thus, the colour changed based on the temperature would be one of the main interaction methods. In addition, adding shaking function is also an excellent way to recreate sensation. As the user interacts with the prototype, the more pressure he puts in, the faster the shaking will be. The strain represents the stressful level and the shaking recreating the sensation. These two interaction methods are a very joyful way of interacting with our prototype. The prototype was designed using voice control and touch control as the beginning. Therefore, we will focus on developing vibration with pressure control and colour change materials in the next stage. We do not accept some interaction, such as foot in the sand, because of public health issues.

FLORS

PROTOTYPE

We supposed the prototype should allow the user to use a hand to control and interact with it during the meeting. It is because small objects can be controlled by most of the body parts. In addition, it is carriable, and users need to stay at the specific spots to the interaction that will be described deeply in the following detail. The prototype materials will be soft, flexible, which is based on the research from previous sections.

USER EXPERIENCE

We had discussed using sand as one of the interactions, but we both disagree to use it because of health issues, and sand is hard to clean. The primary reason is taking off the shoes will increase the time spent, which does not fit our primary purpose - "Relieve stress in a short time". Therefore, we had to use some staff to replace sand such as ice or carpet, which is hard to clean. Finally, we decided to use the original plan without foot interaction. For the environment set up, the prototype chose to use a private area in a public space. In the beginning, the prototype was designed to sit on some crowded open areas such as library, street, office. However, some feedback suggests private regions will provide a comfortable, personal and relaxed place to the user. We also did some research about personal space and will influence stress's level. Therefore, we will make a box human-size to allow only one person to get in with the prototype.

DISCOVERY AND CONSTRAINTS

It is an opportunity to learn together and to learn from your peers. Through and feedback from classmates, we still have controversies about the interaction method. The team members are not sure what kind of interaction should be used to make the user have a better experience.

In terms of users, the project's primary target users are stressful people, and in this process, the team members engage in iterative thinking. Through feedback, team members felt that there were elements in the dark, small space that made the users more afraid. During team discussions, it became clear that there was no guarantee that all users would feel relaxed in such an area. However, our target audience was a stressful group of people, as we espoused the theme of "don't bring your pressure to home".

In addition, for the critical issue of the concept, the team members clashed over the venue; some of them thought it could be placed in a relatively public scene, such as an office building or a library. In contrast, others thought it needed to be put in a relatively private place, such as inside an apartment. Although both are public areas, there would be somewhat more strangers in a library or office building than inside an apartment, and such a placement might make users feel uncomfortable.

Another issue worth exploring concerns the user. Some of them like to play with each other through feedback, but some prefer individual thinking. For the above problems, the team still needs more profound investigation; in the inquiry process, we will use the questionnaire to get more precise feedback from users and use the TAM method to investigate user satisfaction. In this process, the team members use quantitative and qualitative research, and the two methods are combined to get satisfactory results. Qualitative research is flexible, open and variable. Thus, the results are closer to the actual satisfaction of users.

In our concept, the project scene carries out in a small dark box that can allow only one person to get in. The interior of the stage was decorated with environmentally friendly paper flowers. Due to limited funds, we unified the idea of arranging 1-3 flowers in the scene; other flowers are pasted around the stage as decorations to give users a feeling and mood of being in a sea of flowers (Figure 6).

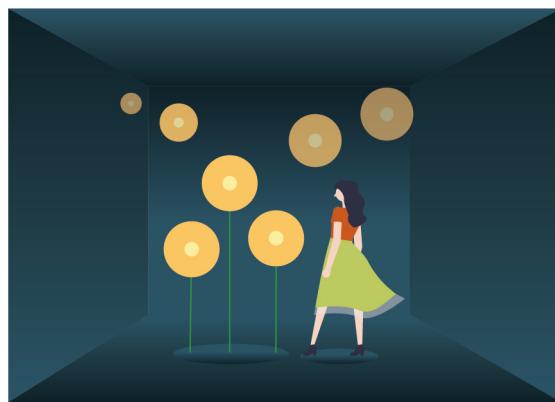


Figure 5: Concept mockup thinking

Another idea to think about is to let the public use the project together (Figure 7). When the public plays the project together, maybe the background colour or interaction will change. It is worth noting that if it is intended for the public to enjoy together, making everyone happy is the most important thing. The community is too broad that there may not be a way to accommodate the whole group. Thus, we are going to interview people between the ages of 20-25 and get feedback.



Figure 6: Social play

For the survey method, we decided to use the interview method to conduct a large-scale survey because it has a relatively accurate direction. Influenced by the COVID-19,

the team decided to choose the ZOOM online method first and then discuss the need to conduct offline interviews under the condition of ensuring safety. We will interview at King George Square.

We chose to conduct interviews because they are more interactive and participatory; they are more realistic and of better quality. Another benefit of conducting interviews was that it allowed us to extrapolate from the individual situation to the social status while strengthening our subsequent analysis. Within the group, we have two external students and three students in Australia. This combination allows us to get better data for analysis, such as different perspectives in different cultures.

INTRODUCTION TO THE TEAM

There are five team members, two of them are the external students (Kwan Ho Yip and Yihe Chen) and others are in Australia (Mengling Wang, Yawen Deng and Zhanmei Zhao).

Kwan Ho Yip (Alan):

I am studying for a bachelor of IT of User experience. I have two years programming experience because I finish most of the programming courses in IT. I love teamwork and I am good at organizing the project plan for example, milestones, task sheets for tracking the progress every single week. My weaknesses are shy to present myself so sometimes I am not active in doing discussion. My aim for the course is to learn some experience of developing the project with weak coding skills. I will use my knowledge based on any Deco courses to help the project doing correctly.

Yihe Chen:

I am a Year two master student who is studying interaction design. I am good at graphic design and prototype making. As an external student, I cannot do something physical in reality for the team. Thus, I would like to make more contributions on coding progress and overall physical design plan. I will try my best to help my teammates in the project.

Mengling Wang (Eve):

I am a Year Two postgraduate student majoring in Interaction Design. Benefited from solid fundamental learning in design thinking, I contributed to identifying the initial concept's domain and interactions. Empathy and ideation are my strength, as well as visual design and digital prototype making. Compared with the above, handcrafts are my biggest weakness but also huge interests, which I would like to further develop through the involvement. As a team player, I would help keep the discussion on track and deliver high-efficiency work. Through the semester, I would like to improve my project management and team collaboration skills to smoothen the teamwork and help achieve satisfying goals for this course.

Yawen Deng (Iris):

This is my last semester studying the master of interaction design, I can give some suggestions for the interaction part and the user testing part. Since I graduated with the field of industrial design previously; in terms of this project, I will help my team to change the product modeling, if we need. I will also be involved in the handwork of product appearance. As the leader of this group, I will adjust the communication issues discussed by members and the tasks of the assignment. In addition, I will also clear the doubts that the team members have.

Zhanmei Zhao (Kelli):

I am a graphic designer and I will be responsible for the aesthetics and scenography in this project, while I will also share the programming part of the project. My strengths are more on the aesthetic side, the programming part is a bit weaker, thus, I will do my best to complete the programming part of the group in this process, if I encounter difficulties, I will choose to consult tutors to make sure the project goes smoothly. I will be able to take on most of the manual projects to support my team's work in team projects; at the same time, I will do more research for my team members, and data plays an undeniable importance in every project. In addition, for the goals of this project, I want to stay as close to our original idea as possible, so that the public can feel the best user experience.

PLAN OF WORK

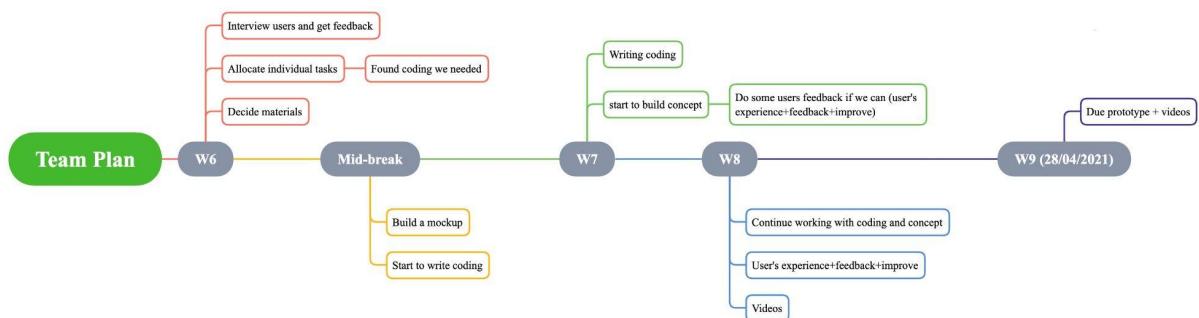


Figure 7: Team MAMI future work plan

Week6: This week, we will briefly wrap up last week and start doing interviews. Firstly, we will do our interviews in one day, our target group is employees, and the interviews will take place in King George Square. Secondly, we will be assigning tasks; the two students overseas will be mainly responsible for the programming part. The three students within Australia will carefully think about and determine the material to be used (the assignment of tasks will be consistent with the team charter).

Mid-Break: During the Easter break, we will start to get into the details of the product and start making a mockup, which will be a challenging process, and also begin to write coding.

Week7: In week 7, the programming part continues, and the product project will undergo a more extensive scale planning (materialization). Simultaneously, simple user testing will ensure that we get positive feedback on product development and make changes and improvements.

Week8: As same as week 7, the product project will enter its final step. This week, product testing will repeat to ensure that the product and programming are working correctly and a video recording is planned.

Week9: The product project is completed, and the video recording is confirmed to be completed, and the task will be explained in advance at 1 pm on April 28th.

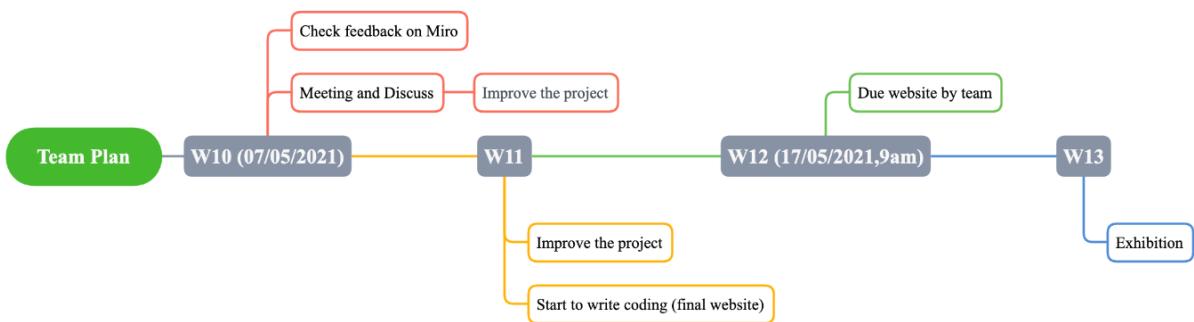


Figure 8: Team MAMI future work plan 2

After week 9, the project will be the final step; we will continue working.

Week 10: In week 10, we will have feedback via Miro. This week, we will make adjustments and enhancements to the program through a day of group discussion and feedback.

Week 11: This week, we will improve our product and start writing a website as a team simultaneously.

Week 12: Website due and prepare for the exhibition and test projects to ensure the project's integrity and fluency.

Week 13: Done everything and exhibition beginnings.

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