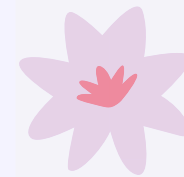


SERENILILY



Final report

B2 Collective Stress

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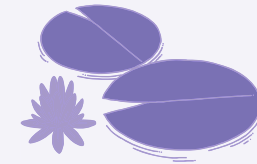
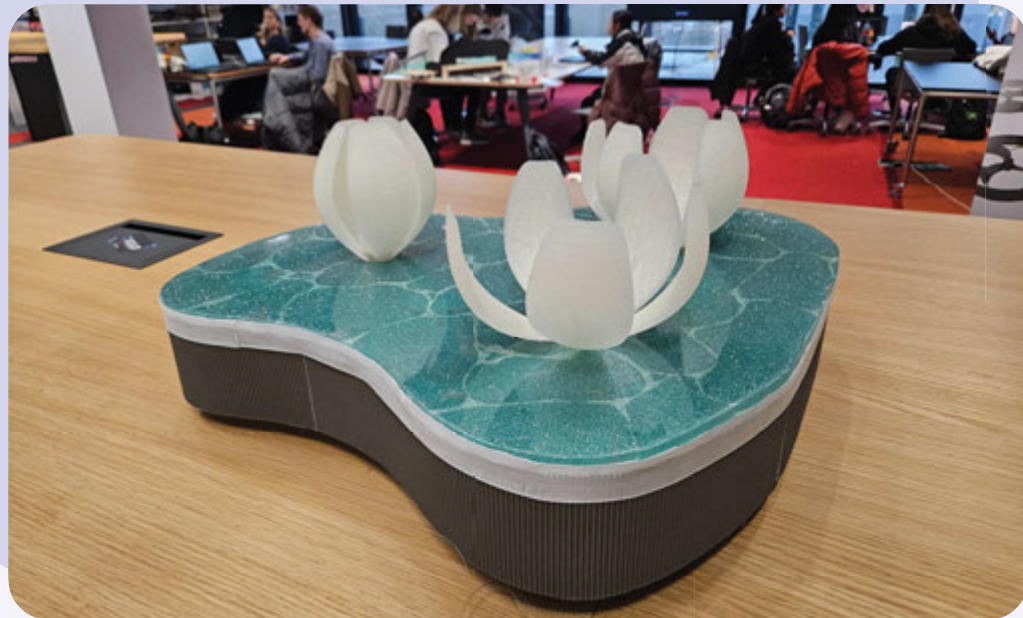


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Fig. 1 The evolution of Serenilly



EXECUTIVE SUMMARY

This project was in the Health and Inclusive Design squad, focused on addressing collective stress in shared workspaces. Using the RTDP design cycle, we designed our products through feedback from peers and users. This report is going to answer the design brief: How to engage workplace stress reflection on objective stress-related psychological data using digital or physical visualizations?

Our final design emphasizes the visualization of personal and collective stress, as through our research we have found that most workers struggle to communicate their stress levels to their peers. The goal was to create a fun but privacy-conscious workplace design that reflects on the stress levels as a collective and as an individual.

Our design was presented on Demo day where we showed how it would work in the preferred setting (fig. 2).



Fig. 2 The final Demo day with the group.



INTRODUCTION

The third project we designed for our squad Health and Inclusive Design this year, focused on addressing collective stress within a shared work environment. This project marked our first experience working with real clients. Throughout the process, we followed the RTDP design cycle, refining our work based on valuable feedback from both peers and users [1].

The design brief that was given to us revolved around collective stress in the offices. The focus was on the individual and organizational stress within the group. The research question that was given for this project was: how to engage workplace stress reflection on objective stress-related psychological data using digital or physical visualizations?

Before starting on the design, we looked at the different types of stress that workers experience, as stress is a big and sometimes vague topic. The stress we focused on was environmental stress, this stress is caused by external workplace conditions such as sound and privacy [2].

In our final design we focused more on visualizing personal and collective stress, as most office workers find hard to communicate that they experience stress in the workplace (see Appendix 2).

Our goal for this design was to create something unique in the workplace that would reflect on the individual and over all stress in the workplace, with the focus being the privacy of the workers themselves.

In collaboration with our client, Vitality Hub, we created “SereniLily” (fig 4). Derived from the words serenity, meaning calm and peaceful, and the water lily symbolizing enlightenment [3].

SereniLily lights up and opens based on the stress level of the user (fig 3). The more stressed the user is the more open and lighted up their own lily is, with each worker having their own lily in the pond. This design is meant to engage the user and let them reflect on their stress level.



Fig. 3 The final Demo day set-up.



Fig. 4 Workplace vitality hub logo [4].

RELATED DESIGNS

The design and concept of SereniLily were finalised using insights taken from existing research, related products, and prior studies. These resources provided knowledge about stress and its impact and helping us create a solution that addresses collective stress in workplace environments.

The problem

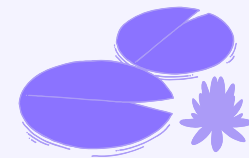
To determine the cause of collective stress we have to look at existing research on stress in work environments and understand contributing factors, types of stress, and potential solutions. We need to look at studies that answer questions such as: *What could be the probable causes of workplace stress? What distinct types of stress could show in the employees? And what can be done to minimize the stress?*

Ganster and Rosen's research focusses on addressing workplace stress by combining organizational interventions with individual support systems. According to their paper there are multiple potential causes of workplace stress. They argue that high job demands combined with low control over tasks increase stress levels as well as an effort-reward imbalance, long working hours, and job strain. These could all lead to mental health problems. Stress can show itself in multiple ways where Gangster and Rosen focus on acute stress, which is the immediate reaction to short-term work demands and can often be linked to affective responses like anxiety of mood fluctuations, and chronic stress, which shows itself after prolonged exposure to workplace demands and results in mental and physical health issues such as depression. They propose certain practices to lessen stress, one of them is by using health interventions such as programs targeting mental and physical health as well as stress control strategies and supportive leadership. [5]

Natalie Peart talks about how to reduce employee stress and make the work more engaging. She mentions implementing stress-reduction programs that focus on mindfulness training and stress management workshops as well as encouraging regular breaks. By taking regular breaks, workers can mentally disengage from their work for the next couple of hours. [6].

The job demand-control (JDC) model, created by Robert Karasek, explains why work stress is the result of two factors; job demands and decision control. Job demands are the psychological stressors such as the workload, time pressures, and task interruptions. Decision control is the amount of control that employees have over their tasks such as having opportunities to use skills and develop new ones and having the ability to influence decisions about their job.

The JDC model categorizes jobs into four categories: High strain (high demands, low control), low strain (low demands, high control), active jobs (high demands, high control) and passive jobs (low demands, low control). The high strain jobs will cause the highest amount of stress, and the active jobs might encourage the most amount of personal growth. Later, the model was expanded to include social support at work which created the Demand-Control-Support model. The combination of high demand, low control and low social support or iso-strain poses the greatest risk to the employee's health [7].



RELATED DESIGNS

Gaining data

The Empatica watch [8] is equipped with sensors to measure stress and other health responses. It measures electrodermal activity, which are the subtle changes in skin conductance, which are indicators of stress. Additionally, it tracks pulse rate variability, respiratory rate, temperature, and physical activity, which can also provide information about the stress levels of the wearer. [9]

Design inspirations

Lotus (Fig. 5) is an actuated device that resembles a plant. It is a prototype used to calm the user down and guide the user through breathing exercises. It measures the heartrate of the user to detect elevated levels of stress and guides the user through the breathing exercises by the movement of the petals. [10]

Jason Suter created a night light in the shape of a flower (Fig. 6) that is fully articulated, WiFi-enabled and 3D printed. It features an electrical system that opens and closes the petals similar to our product as well as lighting. [11]

Jiri Praus made a mechanical tulip with petals that slowly open and close (Fig. 7). It features multiple possible light colours. The flowers contain a unique opening/closing mechanism similar to our own. [12]

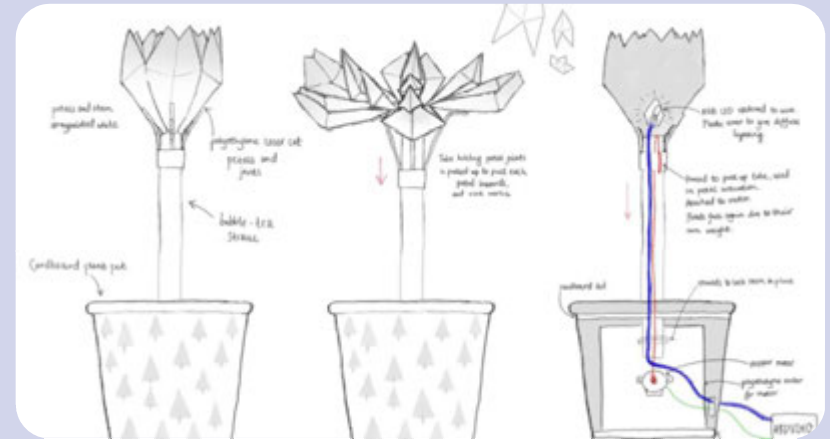


Fig. 5 Final design of the Lotus: Mediating Mindful Breathing



Fig. 6 Blooming Marvelous Flower Lamp



Fig. 7 Ever Blooming Mechanical Tulip

DESIGN PROCESS

To kick off this project, our squad started with a "pressure cooker", which aims to develop a quick, low-fidelity prototype with light validation to jumpstart an idea. Our first step was to research stress, stress relief, and related designs in collective stress environments. After considering various user groups, like 112 operators, we chose office workers, since a broader and more flexible usergroup allowed for a more elaborate design (Fig. 8).

This led to the idea of a flower that opens and closes based on stress levels. We chose a waterlily-inspired design, since waterlilies are often associated with calmness and serenity, inducing peaceful feelings through their connection to water [3]. Also, lilies are one of the only flowers that open and close regularly, without dying [13].

For our initial presentation, we created a very low-fidelity prototype of this concept (Fig. 9 & 10). At first, we envisioned the lily closing during stress, symbolizing tension and stress. However, feedback from the presentation suggested the opposite would make more sense. The lily should open during stress to provide a calming effect, and close when stress levels are low.

We decided that this calming effect would be achieved by incorporating features like glowing petals and aromatherapy that turn on when stress is measured and the lily is open. The design serves a dual purpose: to raise awareness of stress levels and to help relieve stress using light and scent. We developed a concept where each desk would feature a small lily, that would focus on individual stress relief through light and aromatherapy, while a larger lily in a central office space would display the average stress levels of the entire workplace (Fig. 11 & 12).

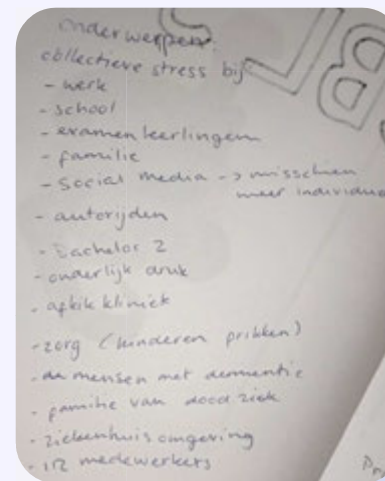


Fig. 8 Exploring the user group.



Fig. 9 First prototype, closed.



Fig. 10 First prototype, opened.

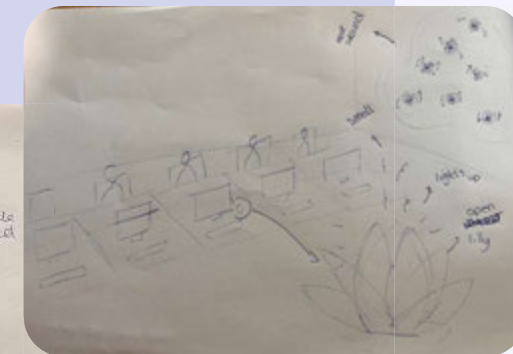


Fig. 11 Sketch of prototype in the setting.

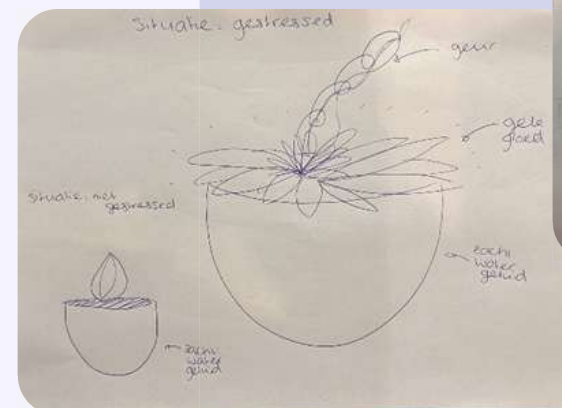


Fig. 12 Sketch of the prototype.

DESIGN PROCESS



Fig. 13 Second prototype, closed.



Fig. 14 Second prototype, opened.

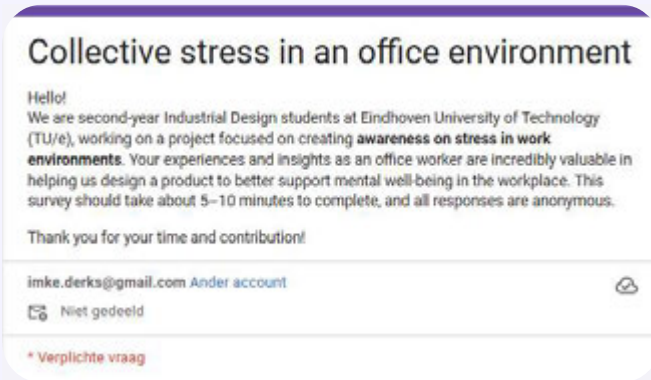


Fig. 15 Survey for office workers.



Fig. 16 Personas.

Next, we developed a higher-fidelity prototype (Fig. 13 & 14) to better convey our concept during the midterm Demo Day. Using the feedback we received there, along with insights from our client, we refined the design. We held contact with our client, Workplace Vitality Hub, via Bernard Grundlehner, who provided valuable input. To deepen our understanding of workplace stress management and existing tools, we conducted a survey (Fig. 15). The results showed that most people are already aware of how to relieve their stress and don't necessarily need additional help. Also by incorporating personas, a storyboard and opinions (Fig. 16 & 17 and Appendix 5 & 6), we discovered that individual stress indicators, like the lilies placed on desks, could actually increase stress. People expressed discomfort about their stress levels being visible to coworkers. This insight prompted us to move more toward a collective, anonymous design that focusses on raising awareness while maintaining privacy. We shifted the focus of our concept to emphasize building awareness rather than providing direct individual stress feedback.

To keep structure and keep our client informed, we maintained a Research Design Workbook (Fig. 18) [14]. As it was updated weekly, it documented our entire process and served as a valuable tool for both our team and our client. This, together with a shared planning, kept us and our client on the same page during the project.

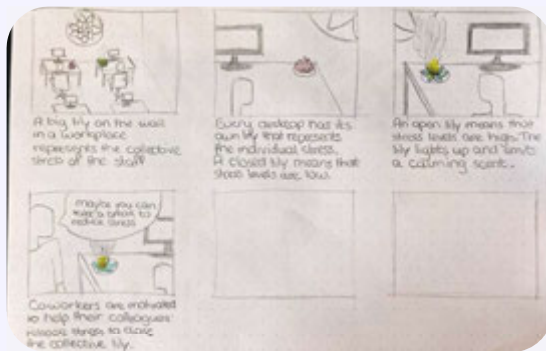


Fig. 17 Storyboard.



Fig. 18 Design Research Workbook.

DESIGN PROCESS

To summarize the changes for our new iteration of the lily, we aimed for a design that was more anonymous, focused on creating awareness of stress rather than direct relief, and balanced both individual and collective elements. With this in mind, we decided to create a "pond" of lilies, where each lily represents one coworker, instead of separate individual lilies and a single collective one. These lilies open and light up when stress is measured using an Empatica wristband [8] provided by our client, or through an interface where users can manually input their own stress levels.

To begin work on the physical prototype, we started by creating a pond. We painted a shaped piece of MDF to resemble water and added layers of resin mixed with glitter in three batches to create a shimmering water effect (Fig. 19 & 20). For the lilies, we aimed for softer, more natural-looking petals compared to the previous prototype, which used melted and molded plastic. To achieve this, we experimented with 3D modeling and iterated on the design. The first model produced petals that were too thick, so we refined the shape, making them thinner, and tested various printing materials to find the best for light refraction and weight. Ultimately, we chose transparent EBS, printed using an FDM printer (Fig. 21, 22 & 23).

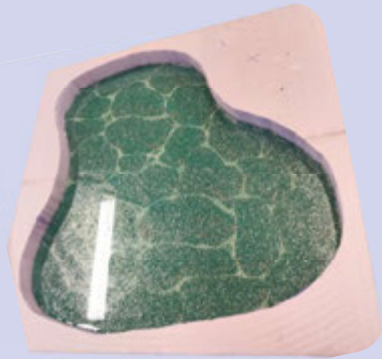


Fig. 19 Creating the pond.

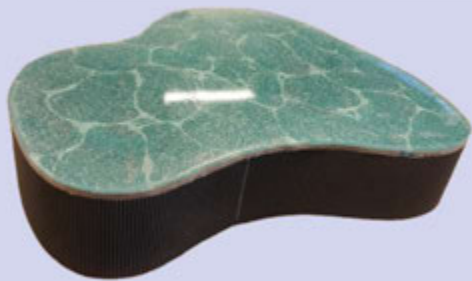


Fig. 20 Final version pond.

Fig. 21 Correct 3D model.

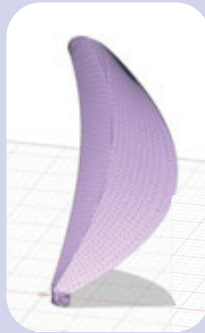


Fig. 22 PLA material iteration.



Fig. 23 Final version petals (left).

Since we were not very content with refraction the petals gave to the light in the middle, we decided to enhance the effect by adding fiber optic lights (Fig. 24 & 25) to mimic the flower's stamen and redirect light toward the top of the design. For the light source, we used an RGB ring light (Fig. 26), as it provided stronger illumination than a standard RGB light and its circular shape fit well beneath the lily. We chose blue as the light color, since research has shown this to be one of the most soothing and calming colours, which can slow heartbeat and breathing [15].



Fig. 24 Fiberlight.



Fig. 25 Fiberlight.



Fig. 26 RGB ring light.

DESIGN PROCESS

For the mechanism to open and close the lilies, we took inspiration from our first prototype (Fig. 28), but significantly improved the execution. We used a metal wire circle suspended in the center of a hole in the pond with clear fishing wire. Each petal was attached to this ring using a modeled base that allowed the wire to pass through (Fig. 29). Additional fishing wire was threaded through small holes at the tops of the petals. By pulling these strings from underneath, the lily would close.

To automate this, we connected the fishing wires from all five petals to a servo motor beneath the pond. This was linked to an interface where users could input their stress levels from a scale to 0: not stressed, to 5: very stressed. During user testing (see Appendix 8), we encountered the question, "How do I know which lily represents me?" To address this, we added a map to the interface that showed users their corresponding lily (Fig. 30).

Finally, we assembled the flower stems, integrated the fiber optic lights, and connected everything to the electronics. With that, SeriniLily was complete! (Fig. 31)

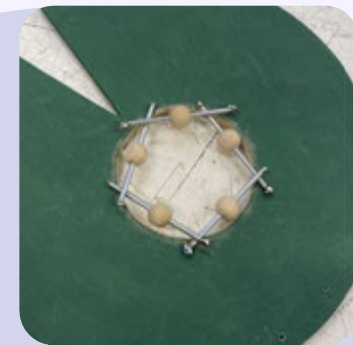


Fig. 28 Old mechanism.



Fig. 27 One flower attached with fiberlights (that still needed trimming)

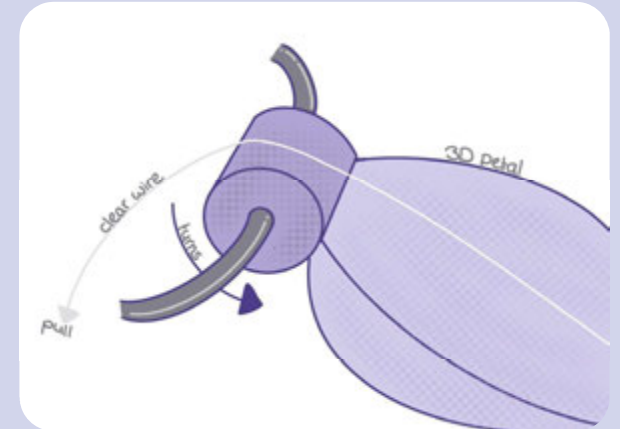


Fig. 29 Sketch new mechanism.



Fig. 30 User interface.



Fig. 31 Finished flower

FINAL DESIGN

Stress is becoming increasingly common in workplaces. In the Netherlands, 15% of workers have a stressful job and 38% think that measures should be taken to reduce work-related stress. 19% of workers are overworked or experience burnout symptoms [16]. Stress can arise from various factors, such as a heavy workload, work-life balance or an unpleasant working environment, just to name a few. While user testing showed that some stress can enhance focus and help meet deadlines (see Appendix 8), excessive stress can have detrimental effects on mental health, physical health and overall productivity. This stress and psychological workload, stemming from high pressure, emotionally heavy work, conflicts and transgressive behaviour, contribute to absenteeism costs for employers amounting to 4.4 billion euros [16].

In collaboration with Workplace Vitality Hub, we developed a project called SereniLily. Workplace Vitality Hub serves as a living lab where innovative projects related to mental and physical health can be tested. Our goal is to raise awareness of stress levels among employees, both for themselves and their colleagues.

SereniLily helps coworkers become aware of their stress levels by visualizing this stress as a pond filled with water lilies. Each lily represents one of the coworkers anonymously. An open lily indicates high stress levels, while a closed lily indicates low stress levels. Workers can input their stress through an interface based on how stressed they are feeling. When a lily opens based on the stress input, its leaves and stamens light up in a calming blue colour. The more stress there is, the brighter the lily will glow.

From a survey, we concluded that workers are already familiar with managing stress when they are aware of it. Therefore, we focussed on creating this awareness through visualization, encouraging coworkers to support each other in reducing stress using methods they already know and are available to them.

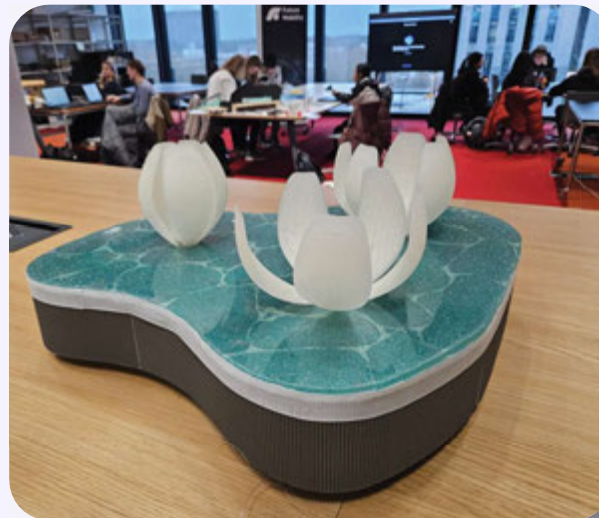


Fig. 32 SereniLily in a workspace



Fig. 33 SereniLily in a workspace

EXPERTISE AREAS

Creativity & Aesthetics

This expertise area is always one of the most important ones in a design. Making a design look aesthetically pleasing attracts users and possible clients and stakeholders. For us, it was important to create a design where we could incorporate nature, something that our client, Vitality Hub, was quite fond of.

When designing for a client, it is essential to consider the branding of the design. Branding plays a crucial role in making clients and users remember a product. We prioritized colour and style in our branding approach. We began with a purple colour scheme and a clean and neat aesthetic. The purple or lilac colour stood out from the other colours on the midterm demo day, which we quite liked so we continued with that. The clean aesthetic was important to showcase our design without overloading viewers with information and photos (Fig. 34 and Appendix 3).

Another key aspect that worked in our favour, was creating a pond that actually looked like a pond. This meant that we painted a water design and used resin to resemble a quite realistic water look (Fig. 35). This captured the attention of most visitors when they viewed the final design. They liked the aesthetics and our client was pleasantly surprised by the resin and the final outcome.

Our aesthetic was an important aspect of the prototype and our posters, we think that it has worked out quite well and are proud of how we incorporated this expertise area.



Fig. 34 The branding with the posters.

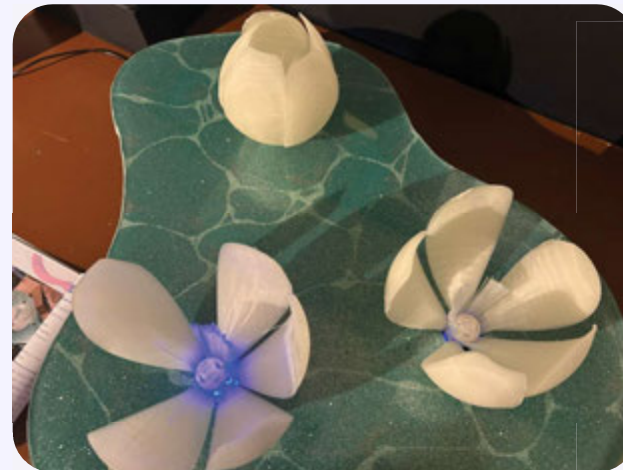


Fig. 35 The pond with the water painted on.



EXPERTISE AREAS



Technology & Realization

We wanted our flowers to light up and to move the petals when stress is detected. That is why we used Arduino and Processing to create that (see Appendix 9).

Our initial idea was to create these movements and lights when the user's heartbeat changes, as the heartbeat can change when someone is stressed [17]. We wanted to use the Empatica band that our stakeholder, IMEC offered us but due to some scheduling and coding conflicts, we were unable to obtain the Empatica band.

We then resorted to using an interface on the laptop to have the user manually change their level of stress to open up the lily. This would have them actively thinking about the stress that they experience.

After the user changes their stress level the flower would open accordingly, the more open the flower the more it is lighted up and the higher the stress level.

The stress levels range from 0 to 5. This is mostly due to the limitations of the servo motor (Fig. 36).



Fig. 36 The interface created where it shows the stress level.

Business & Entrepreneurship

One of our biggest focuses in this project was business and entrepreneurship. Our design brief stated that we needed to design a product for Workplace Vitality hub.

We contacted their spokesperson, Bernard Grundlehner, to explain our design brief and we got inspired by the workspace at Vitality Hub. We maintained ongoing communication with Mr. Grundlehner and created a design research workbook to keep our client updated on our progress.

We scheduled meetings with Mr. Grundlehner every other week to show our physical product and ask him for feedback on the design. He was quite happy with the design process and gave us valuable insights.

Working with a client has taught us the importance of incorporating client feedback into our design. Their feedback helps to refine our concepts and create even better outcomes.

We also created an onion map to show the different layers of the stakeholders and clients to show how close they are to the design process and who it influences (Fig. 37 and Appendix 7).



Fig. 37 The onion map.

EXPERTISE AREAS

User & society

For this expertise area, we focused on having the user be a bigger part of our design process. We started off with a survey we sent out to people who work in shared workspaces. We wanted basic information about stress and how they feel about communicating and working with stress (see Appendix 2). This gave us valuable insights about how people in the workspaces deal with stress and if they feel the need to tell people that they are experiencing stress symptoms. This gave us the space to see if we wanted to design for stress relief or stress awareness. We chose the latter option.

Later in our design process, we started on the user testing. Here we wanted the user to experience the final prototype and see how they would interact and react to it (see Appendix 4 and Appendix 8). We wanted to have them work with it in a duo to see how distracting it was, and after to answer some questions. This gave us insights into how people respond to being made aware of their stress through physical visualisation.

Math, data & computing

To get more information and data we created a survey, as stated earlier. After getting a few answers we then analysed the data we had gotten. We created a survey with graphs and open questions (see Appendix 2). This was to show how the division was in age, how long the person was working in that expertise area and what the nature of their work is (Fig. 39).

The open questions were more about how the user works with and around stress, if they experience stress, and if and how they would talk about their stress with colleagues (Fig. 38).

These answers have given us a lot of useful insights, as stated before, and helped us a lot when choosing directions.

How would you say stress impacts your typical workday?

15 antwoorden

How do you respond when a colleague is experiencing stress?

15 antwoorden

Fig. 38 Examples of two open question prompts.

How would you describe the nature of your work?

 Diagram kopiëren

15 antwoorden

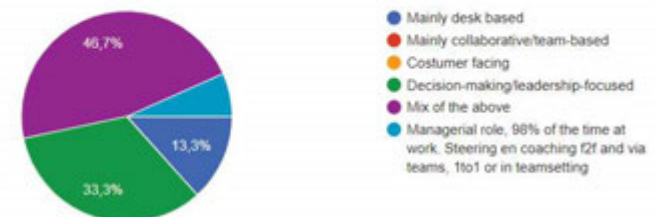


Fig. 39 The pie chart created to see the division in roles.

EVALUATION

After showing our design on Demo Day we evaluated the feedback we had gotten and looked for helpful improvements to our design for in the future.

One of the points of feedback we received was the use of the interface. Through our client, we got access to an Empatica band that measures data which is then sent via the cloud to our product, which our product then gives feedback to. Some people really liked this idea while others were more fond of the idea of using an interface. This made us reconsider both options. We had talked about it and came to the conclusion that if you want a more hands-on approach, you could use the interface, and if you would like a more in-the-background approach the Empatica band could be of good use [8]. So the user will have the option to use either of both options for stress input.

The second improvement we could make would be the amount of lilies. Our final design is a pond with three waterlilies. This is very limited as most of the workspaces have more than three people working in a shared office. We had gotten the feedback that creating the ponds in a way that they could fit together perfectly could answer the question: How can we have more than three flowers in the pond? If we could create designs that could click together, multiple ponds could be ordered and could therefore be combined to create a bigger pond with more lilies. This is also more accessible and easier for us as designers to do, so we do not have to custom-make every pond. We could create the pond shape in for example the form of tessellations (Fig. 40).

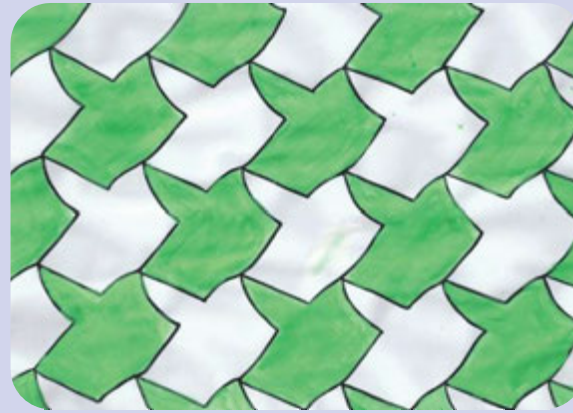


Fig. 40 An example of a tessellation [18].

The overall fidelity of the prototype could also be improved upon, as the mechanism in combination with the servo that we used was not as smooth in motion as we aimed for. This could be improved by using a servo that moves in a smoother motion, this is a limitation in what is financially available to us at this moment in time.

The petals of the lilies could also be improved. Due to some printing errors, they came out to be a little less high quality than what we wanted them to be, and because of what printing film we used they did not refract the light in the way we wanted.

When doing the material explorations we explored PLA as well using an SLA printer.

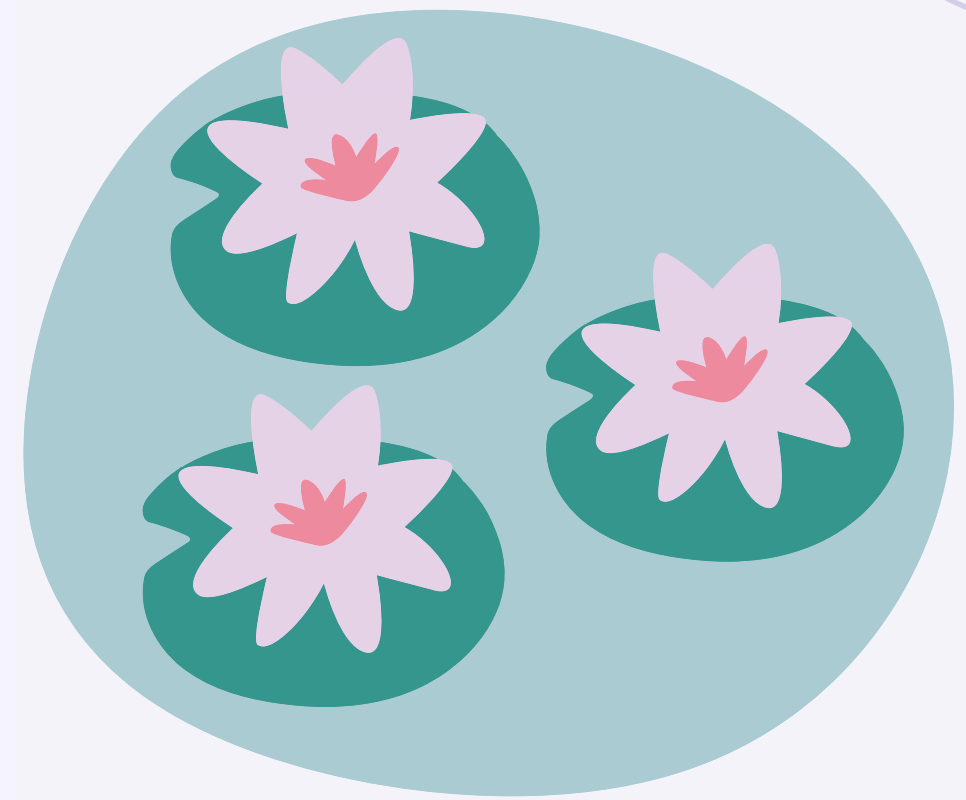
The SLA printer created a much nicer-looking petal that also refracted light much more. However, the disadvantage to this material was that it was heavy and our servo would not be able to pull the petals to open and close the lily. For these reasons, we chose the lighter weight but “less nice” looking option of ABS petals as they made the flower functional and helped show the concept better. However, with a bigger servo the PLA flowers would have been the better choice.

CONCLUSION

SereniLily addresses the collective stress in workplaces by visualizing the stress levels of individual employees in a collective pond. We did this by creating a prototype in the shape of a lily that opens and closes depending on the stress levels of the individual workers and adding a blue, calming light that gets brighter when the lily opens further. The lilies are anonymous to promote employees checking up on each other. The design focuses on raising awareness of stress rather than directly reducing it, which allows the employees to reflect on and manage their stress themselves. The feedback we received from Workplace Vitality Hub helped shape our product and offered great insight.

We made sure to shift a lot of our attention towards the importance of the serene and visually calming nature of the design. The water pond and glowing lilies are key to attracting attention and creating calmness within the users. In the future, we would like to create smoother mechanical movements and redesign the petals to include a better material for light diffusion. We want to redesign the ponds to create a modular design to make it possible to scale up for larger offices. Lastly, we want to explore the possibilities of integrating alternative stress detection methods, like for example, behavioural analysis or wearables.

Overall, we are very satisfied with our final design. SereniLily creates more awareness for stress, which improves the mental health of the employees, but also maintains privacy and aesthetics.



TASK DISTRIBUTION

Name	Main task	Additional tasks
Imke Derks	<ul style="list-style-type: none"> • Creating the final prototype - pond • Contact with the client • Creating and writing the design research workbook • Planning and organising • Prototyping 	<ul style="list-style-type: none"> • Leading client and coach meetings • Creating persona's • Creating the survey • Client poster for demo day • Create the video for demo day • Research about stress • Report <ul style="list-style-type: none"> - Design process
Megan van Gerwen	<ul style="list-style-type: none"> • Executing user test • Planning and organising • Storyboard • Prototyping 	<ul style="list-style-type: none"> • Poster design process demo day • Took notes during meetings with client and coach • Poster final design demo day • Pitch demo day • Stakeholder onion map • Creating the survey • Research about stress • Report <ul style="list-style-type: none"> - Final design
Tijne Kieft	<ul style="list-style-type: none"> • Creating the code for the electronics and the code for the interface • Creating the mechanism • Write report on the survey • Prototyping • Planning and organising 	<ul style="list-style-type: none"> • Leading client and coach meetings • Creating persona's • Creating client posters • Interface layout for demo day • Research about stress relieving colours and aroma's • Report <ul style="list-style-type: none"> - Executive summary - Introduction - Expertise areas - Task division
Anish Nellore	<ul style="list-style-type: none"> • Creating final prototype - petals • CAD iterations for petals 	<ul style="list-style-type: none"> • Creating the mechanism • Executing user test • Took notes during meetings with client and coach • Research on the mechanism • Material exploration petals • Stakeholder onion map • Report <ul style="list-style-type: none"> - Evaluation
Susan Oude Vrielink	<ul style="list-style-type: none"> • Executing and writing out user testing • Prototyping initial designs 	<ul style="list-style-type: none"> • Research about stress and how to measure it • Sketching mechanism • Report <ul style="list-style-type: none"> - Related designs - Conclusion

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APPENDICES

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Appendix 2: The survey

Imke Derks, Megan van Gerwen, Tijne Kieft, Anish Nellore, Susan Oude Vrielink

For our third project in our Bachelor of Industrial Design, we focused on collective and personal stress in shared work environments. In this survey we wanted to get more insight into how most users deal with stress and how productive they become.

GENERAL QUESTIONS

When asked what stress meant to the person the responded put down that stress mostly meant the mental tension and losing the ability to regulate how their body and mind reacts to different situations.

We then asked the participants how they felt when they were stressed. Most responded that they slept badly, felt restless were less focused when they were working and that they were easily irritated, on the other hand they believed that there could be some positive effects of stress such as being on higher alert and having a stronger focus and direction, they were also more motivated to work on the deadlines that they had.

WORK AND PERSONAL STRESS

After we had gotten the basic information about how stress felt for them, we went on and talked about the difference between personal stress and work-related stress. This was for us to see if anything could overlap in their daily lives. We first asked how they would manage the two different stresses. Most said that, when experience work related stress, they were inclined to delegate tasks to others in order to reduce their work load or put off the less important parts of a deadline and finish another day. When talking about personal stress they were more inclined to talk about it with family members or use exercise as an outlet. Something that was not mentioned when talking about work-related stress.

How effective do you consider these stress-management methods?

15 antwoorden

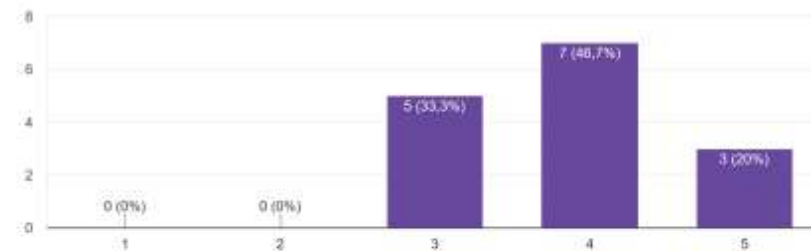


Figure 1 Graph of effectiveness of personal stress-management methods.

When asked about how effective their personal methods were, most answered that their way of managing very effective was, with most being on the 4 scale of the 1-5 options (see fig. 1).

When talking about the workspace the responders had different opinions, as some said that having a shared space was not suitable for the way they worked, and they would get easily distracted. But others were positive about their shared workspace saying that they were more productive because others were also working, which gave them motivation.

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EXTERNAL RESOURCES TO HELP WITH STRESS

In the survey we asked the people if they had gotten external resources from their companies to help reduce the stress they have during work. 2/3 of the participants said they did, 1/3 did not.

The people who did told us that they had gotten toolboxes from their HR department, or they have workshops that can be attended on a voluntary basis, but most of the participants did not use the resources provided by their company.

Do you feel comfortable discussing high stress levels with your team or supervisors?

15 antwoorden

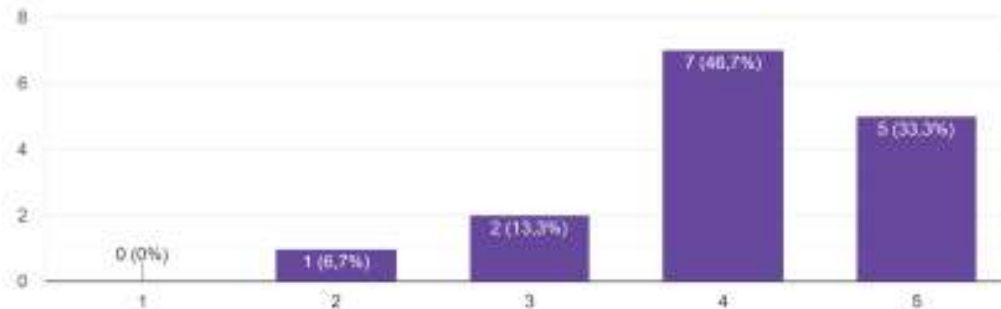


Figure 2 Graph of comfortability of talking about stress with supervisors.

After this we asked how comfortable the survey takers were to talk to their supervisors about the stress levels they were having. With most of them filling in that they were at least a 4 or 5 on the 1-5 scale (see fig. 2). This means that they are comfortable in their workspace to talk to supervisors, they were a bit more reluctant to talk to coworkers about this.

When talking about the stress levels affecting the quality of work the answers were along the lines of, if the stress is positive enough their quality of work is better because they are focused and productive. When it is above the threshold their quality of work declines and the deliverables are not as perfect as they would like it to be.

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To what extent does stress among your colleagues affect you?

15 antwoorden

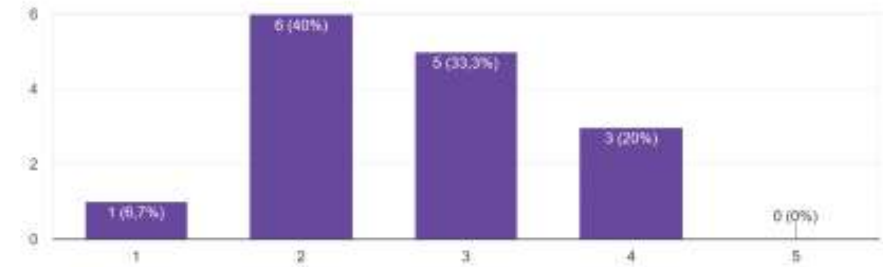


Figure 3 Graph about the stress of your colleagues.

We asked the participants to rank how badly the stress of colleagues that work around them in the same workplace would affect them. Here it is quite divided as some say they are very distracted by it and others say that it has little to no effect on them.

And lastly we asked them how they would give advice to others who are also experiencing stress. Here they answered that making a to do list and evaluating the work load helps out, taking some time away from what is giving you stress and see if you can ask others for help.

CONCLUSION

When looking at these answers we see that the participants are well aware as to how to reduce their own stress levels, but outside of family and supervisors they find it hard to communicate to coworkers that they are experiencing stress. These insights really help us to choose the direction that we want our design to go in: stress awareness instead of stress reduction.

We would like to thank the participants for taking time and helping us broaden our understanding of stress in shared work environments.