Nobia Glasses Proposal

Project Team Members

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1. Executive Summary (Overview)

Let no fears stand in your way with Nobia glasses. The Nobia glasses are a pair of tech glasses designed to counteract common phobias for the user as a form of aversion therapy. These glasses would be used in a medical setting, offered by therapists and psychologists to help individuals recover from debilitating phobias. Many individuals experience phobias that interfere with their day to day life, and exposure therapy might be too much to handle. Nobia glasses provide a more high tech and modern solution to an ongoing problem.

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2. Market Research and Need Justification

[1] https://www.narbis.com/

[2] https://arxiv.org/html/2403.03875v1

https://www.verywellmind.com/what-is-aversion-therapy-2796001

Using AR glasses for focus / to block distractions has been shown in a paper by JangHyeon Lee and Lawrence H. Kim and by products of the company Narbis. This is relevant since it supports the possibility of using AR to block out other things (such as phobia triggers). People have already tested and shipped glasses that block distractions. Expanding this to other categories, such as phobias, is a clear extension of the existing market and strategies for the technology, and could broaden the horizons of AR in general.

Lee and Kim successfully demonstrate the use of AR glasses to hide a phone from the user's view by covering it with both semi-realistic and unrealistic blocking objects, which could logically be expanded to block out phobia triggers (such as certain animals). Along with this, modern image recognition can easily separate those objects, so processing power and overall potential for this to exist is almost unlimited, as each of the individual technologies has already been created.

Narbis has shipped a product which is meant to limit distractions by using visual stimuli produced by AR to train yourself to stop negative behaviors. This implies visual stimuli could also be used to train someone out of a phobia, by slowly exposing them to it or associating it with something more positive.

Aversion therapy has been studied as a method of preventing many things that result from bad habits or reactions to things. As VeryWellMind describes, it can be used to stop things such as alcoholism by creating negative associations. In a sense, this is the inverse of what Nobia glasses plan to do. With these glasses, non-negative environmental things (such as spiders or other typical phobias) will be replaced with more positive symbols or ideas, so that you aren't as scared. This is not to say that it labels all things as good; Nobia glasses will avoid hiding or diminishing the appearance of truly harmful things, so that you are aware of them and continue to avoid truly negative things. The main purpose of Nobia glasses is to prevent irrational fears from negatively impacting people's lives.

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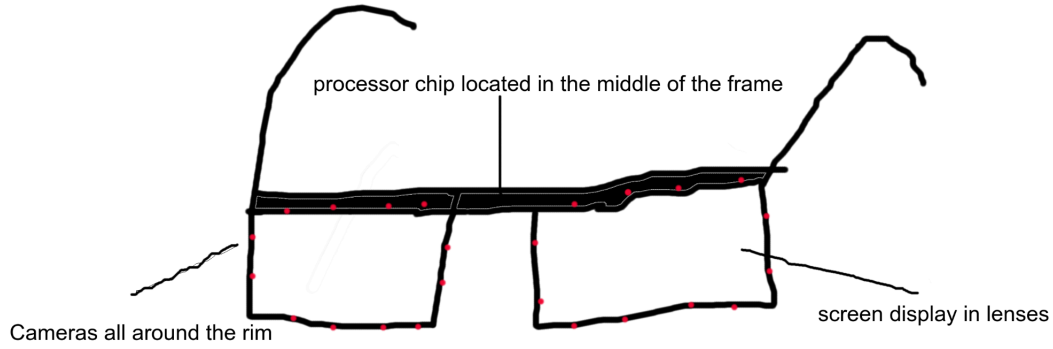
3. Product Description

Features:

- Phobia Censoring
    - Selected phobia will be configured into non triggering visuals through the glasses' lens
    - Whenever a phobia triggering creature or object comes in view, it will be blocked and covered in whichever way the user chooses
- Censor customization
    - The user can select which phobias to be censored and how they will be censored
    - Done through an app that the user can pair their glasses with
- Warning System
    - When applicable, the glasses will have a warning system that activates whenever they detect an actual threat (i. e. A venomous snake)
    - A popup highlighting the threat will show to the user, suggesting the user to remove the glasses for safety

The product we have is a lightweight computer processing unit that is attached to a pair of glasses. Additional components to the product include two small but powerful camera systems,

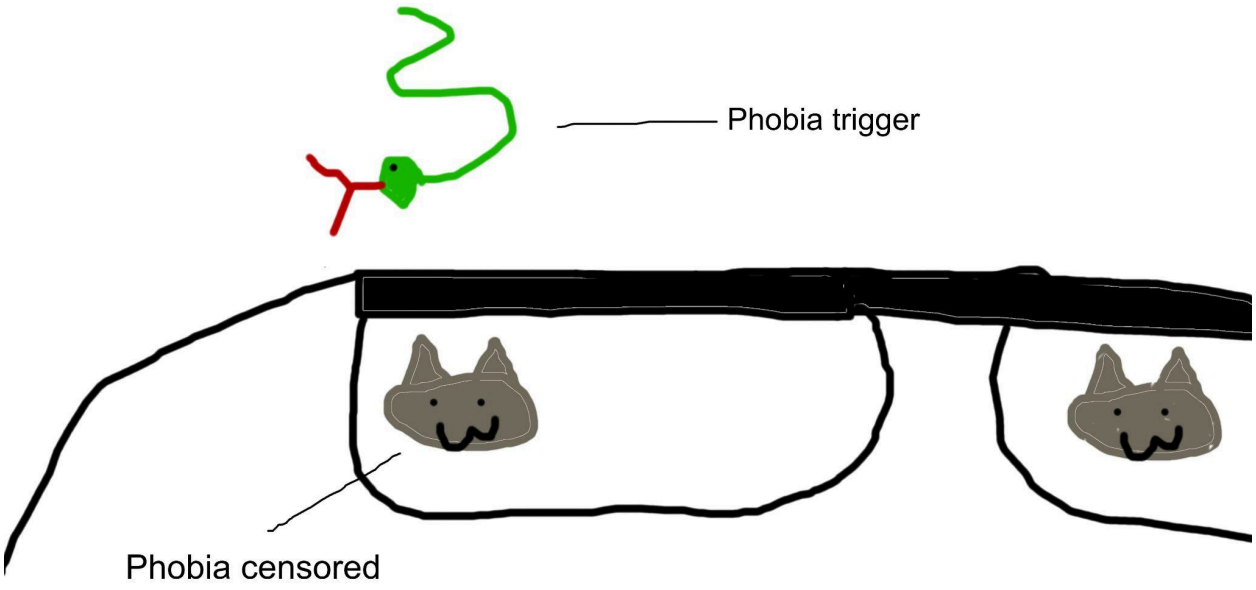
one of both lenses of the glasses, and a screen on the lenses to shield the viewer from their phobias.



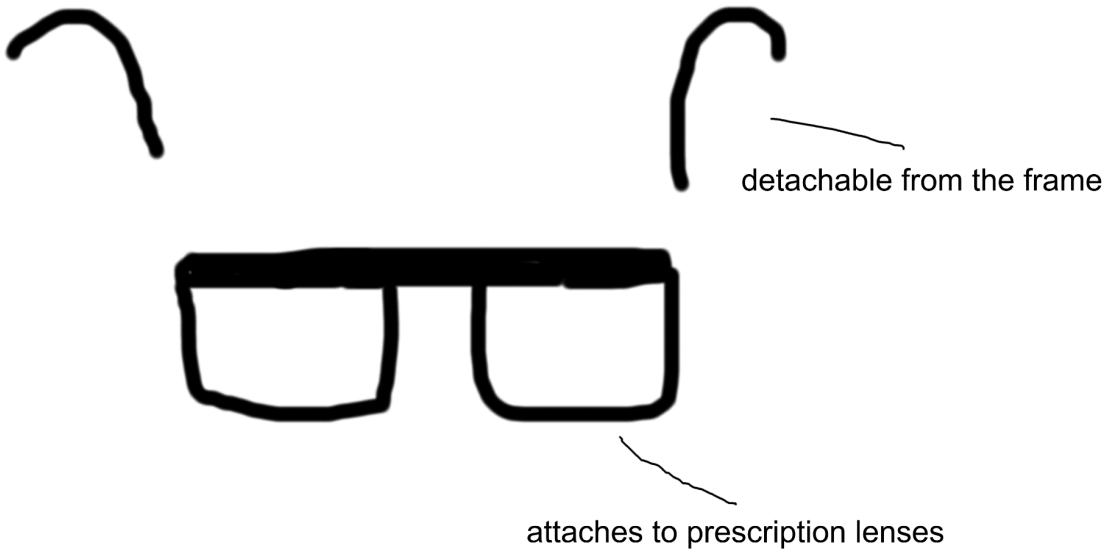
The processing unit is equipped with a neural network designed to be able to detect if the user is encountering something that could be triggering their phobia. When the visual information is received it is analyzed for images that are identifiable as a trigger set by the user, then the processor generates the appropriate censor onto the screen attached to the lenses. Both the censor and the phobia can be selected by the user on a corresponding app.

For the cameras there are a total of 24 small ones, 12 surrounding each of the lenses. The large amount of cameras are able to give the glasses a greater sense of depth and more able to track the location of the phobia. The cameras are designed to work better at closer ranges as they are more likely to have triggering images to the user.

The display is of low brightness in order to not cause damage to the user's eyes after prolonged use, however the images are very opaque in order to make it so the phobia is still effectively censored. The images displayed are decided on positioning based on the position calculated by the cameras and moves consistently with the phobia trigger.



The glasses themselves have a pair of arms that are detachable in order for the main body to be able to be locked onto a user's prescription glasses. This can allow users who have prescription eyewear to use the Nobia glasses while still being able to see normally. The arms of the glasses are attached magnetically to the base and are very hard to remove without using a small built-in button used as a release mechanism for the arms.



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4. Possible Issues and Counterarguments

While AR glasses are a very clever solution to our problem, they still fall to major issues that follow within AR, and specifically long term AR. Some of the largest issues are as follows:

- Danger and lack of sense of reality
    - One of the major issues behind our glasses is the fact they hide things that are legitimately dangerous like snakes, spiders, etc. We can only cover up something so much before we need to back away from it, and with how it will be covered up, you won't be able to tell whether you are in immediate danger or things are relatively fine unless you take off the glasses and look at the thing you're afraid of.
- Current lack of standards with AR

    - Another major issue with AR is the lack of standards for AR based products. There isn't any defined baseline to base the product off of besides the few existing AR glasses that already exist, most of which being nothing more than neat little things to have.
    - Lack of use case that isn't just "something neat"
        - Currently in the AR development space, most tools are minor things that improve life, but not enough to be sought after/fought for if removed (ex. AR Furniture Scaler from IKEA).
        - I believe our product falls under this, as while it can be somewhat useful, it cannot be a full time accessory
- Cost
    - One of the last major issues in AR glasses is cost. This is because the technology is still in its infancy and optimization of pieces is very early, so construction of a device like this would be fairly expensive.

Even though these challenges are in our way, we continue to work to overcome them. For example, we would like to include differing censors for fears with variation such as dangerous animals, with more fun and silly replacements to cover less dangerous, everyday animals, while for example a Rattlesnake will still be covered, but with a red box that encourages wearers to back away in a safe manner. **We also plan to encourage users not to wear constantly, which is already an important part of AR glasses, as the hardware needs time to cool, and you should not be in contact with your phobias at all times, we would encourage to keep them in a purse or pocket to pull out in the situation you do run into one of your fears.** We can also hope to help progress this industry as it is still in its infancy. We hope to help influence directions for a baseline standard in AR glasses moving forward, as well as help cut down costs in both pieces in efficiency. Overall, the future of our product seems hopeful, as ever without the hardware, the software can still be a major piece in AR casual wear moving forward.

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5. Conclusion and Recommendations

The Nobia tech glasses are meant to be a solution for overcoming fears that hold people back. Everyone deserves equal opportunities and shouldn't be restricted by irrational fears that otherwise would be harmless. This product could open new doors for individuals who are looking to take a step forward towards conquering their fears, and help combat the stigma against common fears to hopefully make them feel more approachable. Nobia glasses should be implemented into therapist offices and practices that deal with helping individuals with this

kind of struggle. Giving people options when it comes to exposure therapy and aversion therapy, and making them feel safer, is the best thing you can offer when dealing with immense fears.

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6. Appendix

- Images on the product description are made by Zoe DeVore using Pixlr.

Citations

(Reminder to organize via alphabetical order)

Augmenting Reality to Diminish Distractions for Cognitive Enhancement. https://arxiv.org/html/2403.03875v1. Accessed 8 Sep. 2025.

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