UI/UX Research and Implementations to add to Brainsprout

Final Report Contribution

In regard to our current project. Some research was done on possible implementations and changes to our UI/UX for Brainsprout. We have to consider the ease of use and accessibility of our clients, and especially in regard to those with memory loss or other factors such as vision impairment like our initial designs considered.

Possible considerations I have researched so far are changes to our color palette based on research with color psychology and how it effects mood. According to one article I read in my research, colors such as green or blue will be effective in giving our users feelings of relaxation, contentment, or relief [1]. Green has been shown to give the former, and blue has been shown to give the latter. We implemented some of these colors in our beta and they seem to have a good success with creating a more accessible and effective application for our purposes.

Research was also done on ways to increase contrast for those with vision impairments or general memory issues. According to some design guidelines by The Lighthouse Foundation, some things we implemented and can improve on are the use of contrasting neutral tones using color theory, for example the use of a high contrast white text on our neutral green backdrop. We also took care to avoid contrasting hues from adjacent places on the color wheel, as well as effective use of hue lightness to avoid readability issues. [2]

Finally, font was considered as well. I did research and a study conducted in 2023 by Katsumi M, Et. Al. [3] concluded that “In people with low visual acuity caused by ADOA, the combination of serifs and a uniform stroke width resulted in better text legibility than other combinations of uniform/variable stroke widths and presence/absence of serifs”. We implemented this as best as we could and it seems to be effective, however more testing and feedback could be done in this regard.

Challenges I faced during this project was finding updated research that could be applied to our application specifically. There is a large amount of research on color theory and design implementations in the UI/UX field, and it was a bit difficult to sort through all this research and information. Another issue was also regarding testing. There simply wasn’t enough time and a large enough sample size for me to confidently conduct feedback research, so more time would be needed to create more optimizations.

Places where we can improve and further plans for my part in this application is to conduct more user testing with different color palettes as well as more research into new fonts or possible improvements. I also want to directly do more research and testing in regard to the UX design specifically, especially with the expansion of our AI feedback as well as the implementation of voice features, however due to our time constraints this was not possible.

Citations and Sources:

[1] <https://www.verywellmind.com/color-psychology-2795824>

[2] <https://www.thc.texas.gov/public/upload/preserve/museums/files/Accessibility%20Resources.pdf> “Lighthouse Guild Effective Color Contrast” and “Smithsonian Guidelines for Accessible Design”

[3] Katsumi Minakata, Christina Eckmann-Hansen, Michael Larsen, Toke Bek, Sofie Beier,

*The effect of serifs and stroke contrast on low vision reading*,

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