Tech Basics Two - Project Description and Reflection

Idea

In Technological Basics 2, I continued work on my TB1 application titled “Free Your Mind”. The concept behind the application is to promote mental wellness by incorporating key features found in paid mental wellness apps, such as meditations and a journaling platform. The objective is to assist users in enhancing their mental wellbeing.

"Mental wellness is an active process of moving from languishing to resilience to flourishing" (cite source if available). Therefore, engaging in daily practices like journaling, active and present reassurance through affirmations and meditations and accessing educational resources are essential steps towards nurturing one's mental state and resilience. It's imperative for everyone to prioritize daily practices aimed at improving mental wellbeing, as ultimately, we all inhabit our minds for the duration of our lives. Why not strive to create a welcoming inner space that we can always return to and call home?

This is why my application holds significant importance to me, and why I invested considerable effort in its development and design. We all deserve to have ourselves as our primary ally and companion. Unfortunately, modern society often neglects the importance of mental wellbeing. My aim is to address this by raising awareness of the issue and offering a solution through this application.

However, it's crucial to distinguish between mental wellness and mental health. My application isn't intended to cure or treat diagnosed mental illnesses such as depression or anxiety. I acknowledge that addressing conditions like depression or anxiety requires comprehensive treatments beyond journaling. Nonetheless, it's often underestimated that actively nurturing mental wellness can serve as a preventive measure, making it more challenging to develop a mental illness. Therefore, prioritizing mental wellness is a necessary step that everyone should take.

Methodology

In order to enhance the functionality of my application, I conducted market research to identify additional features that could be incorporated. I also drew inspiration from class lectures, making it a habit to compile a list of new concepts discussed after each session to ensure their integration into the application. Initially, I envisioned incorporating a music feature and implementing a login or registration option that would grant access to premium content. Subsequently, I decided that the premium content should include guided meditations.

During our discussions, you (Sarah Haq) suggested the idea of incorporating spoken affirmations to facilitate easier repetition for users, thereby enhancing their effectiveness. With these additional features in mind, I proceeded to design them (design provided at the end of this report). After outlining the user flow, I delved into researching text-to-speech conversion in Python and sought out new background images to complement the design.

The concepts for the music page and affirmations were gleaned from our class sessions, which I then modified to align with my vision. Similarly, the login and register pages were adapted from class examples, albeit with improvements made to enhance the user experience, particularly with the login page. It was imperative to me that my code reflected a nuanced understanding of the concepts covered in class.

While the implementation of the additional features was relatively swift, refining and optimizing the code consumed a significant portion of my time. This involved streamlining definitions, improving the user flow, and incorporating new concepts. I endeavored to minimize redundancy by employing reusable definitions (e.g. a definition for menu buttons) and establishing a helpers file. This file contained all textual content used in the application, custom style codes for uniformity, and frequently used definitions (such as adding an image and clearing widgets). The inclusion of the helpers file aimed to enhance code readability and comprehension.

Many of the concepts implemented in my code, which were not covered in class, were derived from sources on platforms like Stack Overflow or GitHub (referenced at the bottom). Additionally, I developed numerous solutions through trial and error, although I made efforts to corroborate my understanding with external sources. In instances where challenges arose, I sought your guidance and expertise for resolution.

Design

The design of my application adds an extra layer of uniqueness and appeal. I invested numerous hours meticulously selecting the perfect background images from sources like Pinterest. Additionally, I curated a color palette to ensure consistency and harmony across every page. My aim was to create a visually captivating experience, and I believe I have successfully achieved that goal.

Utilizing the `place` method afforded me the flexibility to position widgets individually, granting me precise control over the layout and allowing my vision for the application to materialize. Beyond aesthetics, I prioritized ensuring the smoothest possible user flow throughout the application.

Limitations

One significant limitation of the application is that upon logging in or creating an account, only one additional feature, the meditations page, is revealed for premium content. While I could have incorporated more features, the extensive length of my code and the multitude of existing features led me to refrain from adding further complexity. By focusing on the meditations page, I aimed to showcase my understanding of the login feature and present my concept for premium content. Introducing additional features beyond this would have served little purpose.

Another limitation pertains to the slow reaction speed when stopping the spoken affirmations. Upon clicking the stop button, there may be a delay before the affirmations cease. It's important to exercise patience during this process as the functionality eventually stops, albeit sluggishly. Additionally, I didn't implement a mechanism to halt music or meditation playback when navigating to other pages within the GUI. This design choice

allows users to enjoy continuous audio while, for instance, journaling. However, I caution against concurrent use of the meditation or music features with spoken affirmations, as it renders the audio indiscernible and may prompt error messages. Users can always return to the respective page to stop the audio manually. I recommend experiencing each page separately to fully engage in the intended mindfulness experience.

I significantly streamlined my code, but I did not follow PyCharm's suggestion to declare all variables at a module level. Despite the recommendation, I chose to prioritize minimizing the code. So it is easier to follow the code.

Lastly, I encountered a bug related to the buttons' size increment with **`tkmacosx`**. To address this issue, I simplified my code in various areas, particularly within the music and meditations pages, to mitigate the problem.

References

131: https://stackoverflow.com/questions/64918341/python-tkinter-how-to-adjust-the-x-y-default-0-0-coordinates

214: https://tkdocs.com/tutorial/text.html#basics

345: https://gtts.readthedocs.io/en/latest/index.html

361: https://www.geeksforgeeks.org/python-lambda-anonymous-functions-filter-map-reduce/

379: https://docs.python.org/3/library/stdtypes.html#boolean-values

856: https://www.helpguide.org/home-pages/audio-meditations.htm

Webrowser: https://www.reddit.com/r/learnpython/comments/ql3g53/play_spotify_playlist_in_python/

Design Color Choices: https://colorhunt.co

TkMacOSX: https://pypi.org/project/tkmacosx/