Result

Users generally had a good impression of the initial setup of the app. The device pairing received an average rating of 3.6, indicating a fairly smooth experience. Creating and choosing user profiles were rated as being a bit less intuitive, with an average rating of 3.4, and it was observed that some users experienced minor usability problems during this phase. The same login pages for new users as well as existing user was confusing for some participants. Initiating a measurement received an average rating of 3.8, indicating that most users found it fairly easy.

The application received favorable evaluations regarding its clarity and the responses from users. The presentation of measurement outcomes was deemed clear, achieving an average rating of 4.6. Additionally, visual representations like gauges and progress indicators garnered positive feedback, with a mean score of 4.4. Importantly, the color-coding system (e.g., red/orange/green indicators) attained an impeccable rating of 5.0, highlighting its efficacy in assisting users with the interpretation of their physiological condition.

The explanatory material presented in the application (e.g., within the information dialog) was perceived as being useful (3.7); one participant noted, however, that the quantity of the information could be viewed as excessive.

All participants preferred graphical to tabular presentation of data. Although the usefulness of graphs in assisting users to make sense of trends was rated very highly at 4.4, most participants did not notice the “last 30 day” graph was scrollable and/or touchable. This resulted in some wrong minimum and maximum readings by using this graph. However, the minimum and maximum rows of data displayed in table form were rated much lower at 2.6, suggesting that this form of data presentation may be confusing or meaningless to users.

The history function itself was considered moderately (3.6) easy to access, while filtering by date range was perceived as intuitive (4.4).

Participants indicated that there was a high degree of convenience in accessing and adjusting the gauge settings, with an average rating of 4.8. Perceived usefulness of the settings, however, was more neutral at 3.0. This indicates that although the function was readily accessed, its functional value may not have been clearly communicated or even fully valued by each of the participants.

Overall ratings of the program were favorable. The program was rated as easy to use (3.6), having a high degree of functional integration (4.2), and low scores for perceived complexity (2.0) and technical support dependency (1.4). A majority of subjects felt that the program could easily be learned by novice users (3.8). Yet, the motivation to utilize the app on a daily basis was quite low (2.6), suggesting a potential lack of perceived long-term need or value. Although the trust to use the app was moderate (3.2), the necessity to learn large volumes of knowledge prior to initial use was rated as low (1.8), suggesting an easy learning curve.

Discussion

Findings from the user study offer insightful information regarding usability and user experience related to the health monitoring application that was developed. Overall, the respondents had favorable responses towards the majority of the application's features, especially regarding visual feedback and clarity of information.

The high scores for the ease of understanding of result presentations (4.6), usefulness of visualizations (4.4), and particularly the use of color coding (5.0) indicate that the app is effectively conveying stress information to users. These elements seem to play an important role in enabling the interpretability of physiological status.

Relatively favorable scores of device pairing (3.6) and profile setup (3.4) suggest that, although the app is generally easy to use, there is nonetheless some scope for making the onboarding process even more streamlined. More instructional content, utilization of visual cues, or simplification of workflows can enhance the experience of new users even more.

One finding of interest concerns the presentation of historical data. Although graphical presentation was favored by users, the min/max rows of data in table view were rated negatively (2.6) and may not offer beneficial value or perhaps even cause confusion. Redesigning or perhaps removing this feature may increase overall user satisfaction. Furthermore, including a better indication that a graph is scrollable and/or touchable is needed for better graph interpretation results.

The gauge settings feature had polarized outcomes: the participants rated the accessibility and tunability of this feature highly (4.8), yet its perceived usefulness was neutral (3.0). This gap could result from insufficient understanding of the feature's effect, pointing to a requirement for more in-app clarification or more understandable use cases stressing its advantages.

Interestingly enough, intention to use the app in the future was relatively low (2.6), which may be a sign of a perceived lack of long-term utility. This contrasts with high marks on consistency of the app, ease of use, and low complexity. The disparity implies that although the application is technically sound and easy to use, its value proposition or engagement model may have to be enhanced. Adding personalized feedback, goal tracking, or gamification elements could possibly enhance user retention.

Also, the low scores of items such as "I needed technical support" (1.4) and "I needed to acquire a lot of knowledge prior to start-up" (1.8) point to the reality that the application is not difficult to learn and is accessible to the majority of users, something that is more important to broader adoption, particularly for non-technical demographics.

Furthermore, relocating the measurement buttons to the appropriate parameter window or retitling the 'Start Measurement' button to something more descriptive, such as 'Select Measurement Type', can further increase the usability.

In general, the application has solid usability and interface design principles but can be improved in certain functionalities and refinements in sustained user engagement. Future application development should emphasize the clarification of underutilized features, the inclusion of perceived value, and the customization of feedback mechanisms to meet the distinctive requirements of each individual user. Furthermore, future research can test if a “guide through” function may be useful for some users to understand every features purpose and position.