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INNOVATION IN ACTION: TURNING IDEAS INTO REALITY



Chapter 53

Smart Mirror Integrated with Health Insights: Enhancing Personal Wellness Through Real-Time Health Monitoring

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ABSTRACT

In today's fast-paced lifestyle, many individuals, especially adults, often ignore their physical and emotional health due to time constraints, lack of awareness, and the inconvenience of using separate health monitoring tools. To address this issue, our group has developed an innovative concept product called Smart Mirror with Health Insights. This smart mirror is designed to provide real-time health insights and mental wellness support in a seamless and user friendly way. This smart mirror combines multiple technologies into one simple mirror. It includes sensors that monitor vital signs like heart rate and temperature, as well as a facial recognition system that detects the user's emotional state and skin condition. What makes this mirror unique is its Calm Space Mode technologies, which automatically activates when the user appears stressed or anxious. The mirror will offer calming sound, soothing music, and positive affirmations. The mirror also displays gentle daily reminders and motivational quotes to support mindfulness and emotional well-being. Additionally, users can set personal goals (such as hydration and steps) and receive ongoing encouragement through the mirror interface. Its eco-friendly design also reflects a sustainable approach to wellness technology. Our goal is to integrate health monitoring into everyday life without the need for multiple apps or devices. This mirror aims to promote healthier habits and improve quality of life through everyday interactions. This concept not only supports physical health but also addresses emotional needs. By integrating smart technology into a familiar object, it promotes self-care in a simple and practical way.

Key Words: smart mirror, wellness, mental health, daily reminders, health technology

1. INTRODUCTION

The fast-paced world of today has never made personal well-being more important. The Smart Mirror with Health Insight is a revolutionary product which brings healthcare to the home by combining real-time health tracking with a smart reflective surface. The product tracks key health metrics like body temperature, heart rate, BMI, and facial fatigue and stress indicators through in-built sensors, artificial intelligence, and data visualisation software. With an instant feedback in the guise of a mere stand before a mirror, shoppers receive data analysis of their health figures at that moment, and become an integral part of routine life. Easy to use, discreet, and convenient, the intelligent mirror nudges customers toward healthy behavior and informs customers of their own healthcare. Its enabling technology, in essence, is designed to close the gap between lifestyle and health care and facilitate healthy living with seamless, intelligent integration.

2. LITERATURE REVIEW

A literature review is a collection of new and existing research and studies about a product or topic. The review is intended to identify what needs to change or what needs to be improved in an effort to enhance the product compared to those that already exist. Based on learning about previous research, the review helps us figure out how the product is produced, what materials are used, and what method is followed. The main objective is to determine whether the product meets customer's demands and needs, or does have any lack. For that, the review uses various research methods, survey, observation, and the analysis of existing products. The information is extracted from various resources, such as websites, scientific publications, and expert or user interviews. After we have compiled all this information, the review also takes into consideration the strengths and weaknesses of the product or topic. By observing both the positives and negatives, we can come up with ways to better the product and make it better for consumers. Understanding what customers actually need is the key to getting past any hindrances and developing a product that works well for them.

3. METHODOLOGY

This methodology focuses on the entire process of creating the product concept of the Smart Mirror with Health Insights. Our main goal was to develop a product that will assist users in improving their physical and mental health in their daily life. We want to create an innovative product concept that is practical and relevant to working adults. We started by identifying the main issues that many working adults deal with. According to the observations and discussions, we found that most people often feel tired, stressed, and unable to keep track of their health due to busy schedules. As a result, we were able to identify what was needed and the challenges of our target users.

To generate ideas, we then had a brainstorming session. Our goal was to create something useful, applicable, and a part of daily life products. At that point, we had the idea to transform a standard mirror into a smart wellness tool. This is because people use mirrors in their daily routine. By adding smart features to it, we can assist working adults enhance

their well-being without disrupting their daily routine. Next, we develop the concept of wellness by listing down important features such as health tracking (heart rate, skin condition), AI-Emotion Detector, AI-Powered Personalization, Calm Space Mode technologies, daily affirmations and wellness reminders. All these ideas were combined into one smart mirror concept.

Lastly, we also shared our concept with a few students and working adults to get their opinions. Their feedback helped us improve the features and ensure the product would be user friendly and suitable for real life use. This approach made it possible for us to create a product that fulfills actual demands while coming up with a unique idea. In addition, we discussed how to raise awareness about the product. Since our target users are working adults who spend a lot of time online, we plan to promote this smart mirror mainly through social media platforms, influencer marketing, and digital advertisements. These channels are effective in reaching busy individuals and can help highlight the benefits of our product in a relatable and engaging way.

In conclusion, this methodology reflects the full product making journey. From identifying the problem to forming an innovative and user-friendly solution. We used creative thinking and simple tools to design a product that meets real wellness needs.

4. RESULT AND DISCUSSION

4.1 Result

The evolution of the concept for the Smart Mirror with Health Insights revealed a strong desire for well-being tools to assist working individuals. Our research, as well as casual chats, revealed that the majority of the population is stressed and exhausted as a result of their hectic schedules. This verified the existence of a product that was health-focused and could be smoothly integrated into daily routines.

Aside from that, the answer involved creating an original yet familiar smart mirror wellness device by changing a standard mirror. Clinicians may now use a single device as a multi-functional tool thanks to heart-rate monitoring, emotional detection, and Calm Space Mode technologies, which enable complete self-care. Reminders about wellbeing, personalised goals, and affirmations helped users maintain a healthy lifestyle.

We presented the concept to our students and other working adults, receiving quite useful feedback. Most of them liked the idea of combining wellness technology with an object that is already in use, considering it easy to use. From their suggestions, we incorporated additional features that enhanced them to meet the expectations and needs of the users.

4.2 Discussion

We also identified prospective markets for the Wellness Glass. Given the growing interest in smart home gadgets and personal health technology, this product is relevant to today's markets. Nonetheless, its success will be dependent on precise, user-friendly metrics, a simple design, and a robust digital advertising campaign. Marketing on social media and endorsements from wellness influencers would aid in promoting the product and reaching the

intended demographic. Glass's ergonomic design has the potential to revolutionise user access to wellbeing. It creates a user-friendly gadget, a modern method to improve lifestyles while actively attending to health concerns.

5. CONCLUSION AND RECOMMENDATION

In the end, the smart mirror is not just a reflection. It is a personal wellness companion integrated with health insights assisting the users in health awareness, making it a real-time and relevant product with innovative technology. Through emerging market feasibility and financial viability emphasizing the development efforts will sustain the brand reputation to launch a successful product with the best quality and high demand in the market. However, success will depend on providing accurate, user-friendly features and conveying the value of the product effectively through targeted marketing.

To ensure the product's success, it is advisable to enhance user experience by giving utmost priority to product design in simple and user-friendly interface, with features like voice recognition, privacy options and app syncing to heighten user satisfaction. Apart from that, it is also advisable to concentrate on digital marketing through collaborative alliances with health-conscious or fitness influencers in illustrating product benefits in real-time on social media platforms like Instagram and TikTok. This indirectly builds awareness and also educates the followers about how the product works effectively. Last but not least, the control of component costs should be prioritized too, especially the costs related to key hardware components such as AI personalized features and smart displays to ensure the final product remains competitively priced without compromising quality.

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