**VitalBand**

**Problem Definition**   
The rising prevalence of chronic diseases and the increasing demand for remote patient monitoring necessitate wearable devices capable of effectively tracking and monitoring health data. Traditional health monitoring methods like regular check-ups and hospital visits often lack real-time insights crucial for managing chronic conditions and preventing complications.Although smartwatches are widely available, they primarily focus on features like notifications, activity tracking, and entertainment, with health monitoring as a secondary function. Consequently, their ability to provide accurate health data may be limited compared to dedicated health monitoring devices.This limitation challenges healthcare professionals who rely on timely and accurate data for informed patient care decisions. Without access to real-time health data, they may struggle to monitor patients effectively and intervene promptly when needed.Hence, there's a need for wearable devices prioritizing health monitoring, offering healthcare professionals access to accurate, real-time data. These devices should cater to patient and healthcare professional needs, facilitating seamless data collection, analysis, and communication. Addressing these challenges can revolutionize remote patient monitoring, enhancing healthcare outcomes for individuals with chronic conditions.

**Background Information**Wearable technology has seen significant growth in recent years, with devices such as smartwatches and fitness trackers becoming increasingly popular. These devices are capable of tracking a variety of health data, including heart rate, activity levels, and sleep patterns. The healthcare industry is also beginning to embrace wearable technology, with the potential to improve patient care and outcomes. Wearable devices can be used to monitor patients with chronic diseases, such as diabetes and heart disease, and can provide early warning signs of potential problems. The development of new wearable devices with advanced sensors and data analytics capabilities is an active area of research. These devices have the potential to revolutionize the way health data is collected and used, empowering individuals to take control of their health and improve their quality of life. The development of a smart bracelet that can provide real-time health data to healthcare professionals has the potential to significantly improve patient care and outcomes.

**Objectives**

* Algorithms for analyzing user data and identifying potential health risks or trends. This could involve features such as early detection of potential health issues or predicting potential complications based on gathered information.
* People can track the location and health status of their sick or elderly family members through the application.
* This device utilizes algorithms that can automatically detect stress. These algorithms analyze the user's heart rate, activity level, sleep quality, and other factors to identify stressful situations.
* The application performs minor functions such as water intake reminders, step counter and activity reminders, sleep monitoring and improvement with the help of the wristband.

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