

Smart health monitoring wristband			
Why is this useful? An advanced health tracking wristband helps users keep track of their health status by continuously monitoring their vital signs including heart rate, blood oxygen level, sleep patterns and mobility. The device can also detect falls and immediately inform family members or caregiver or necessary service providers about the necessity of help. Moreover, the wristband is useful in providing follow up reminders about taking medications and visiting doctors. By granting healthcare workers access to health information, it aids in the early intervention and smart decision-making process. To sum up, an intelligent wristband for health monitoring encourages self-reliance, enhances health results, and gives peace of mind to users and their relatives. A recent report produced by Skills for Health indicates that the number of people suffering from major illnesses such as cancer or dementia in England is likely to rise to 2.6 million by 2040 and the NHS waiting list is expected to reach 7.4 million in March 2025. Smart health monitoring wristbands can reduce unnecessary hospital admissions by providing remote monitoring and early intervention.		Target audience and Impact The smart health monitoring bracelet helps older adults enhance their health and well-being by monitoring key health indicators such as heart rate, oxygen saturation in blood, body temperature, physical activity levels, and sleeping patterns.	Implementations The smart monitoring wristband will be implemented in hospitals, care homes and community health care settings to facilitate continuous health monitoring and enhance patient care. In hospitals, the wristband can be applied to patients needing constant monitoring like older persons or patients with chronic diseases. Medical professionals like doctors and nurses can analyse the data received through the wristband to detect health changes and make decisions related to treatment. In care homes, medical staff can track patient’s vital signs, movements and general condition using the wristband. This will help in early identification of health problems giving chance to people for better independent living and improving their quality of life. In community health care settings, the equipment will provide support for patients living in their homes by allowing medical personnel such as health community nurses remotely monitor their health. It will prevent unnecessary appointments and streamline the procedure of getting support. The device will be delivered through collaboration of healthcare experts, technology developers and supporting staff. The needed knowledge will be delivered to the involved parties to ensure the problem free usage of the equipment, save the private data and contribute to efficient performance of the staff.
		The use of the bracelet helps users to manage their health better as it stimulates them to exercise more, reminds them of taking medicine, and gives personalized health recommendations. The primary population that will benefit from the application of the smart health monitoring bracelet is seniors (ages 60 and older), and especially those living alone or suffering from chronic health issues such as heart disease, diabetes, or high blood pressure.	Technology This smart health-monitoring wristband merges advanced technology with convenient monitoring, user-friendly feedback, and enhanced health assistance. The device is able to measure the user's vital health metrics, such as heart rate, blood oxygen content, temperature, sleep metrics, and activity level. This information is processed and transmitted through an application installed on the user's smartphone. The wristband can apply artificial intelligence to analyse various trends identified in the gathered data as well as detect possible abnormal occurrences in the user’s health indicators. It will be able to warn the user about a slow heart rate or a significant drop in activity level. This wearable technology ensures data protection by applying advanced encryption system. Smartphone applications, AI, and data protection systems allow ensuring real-time monitoring of the user and rapid detection of possible health risks.
Timeline Months 1–2: Research and Design Identification of healthcare necessities to create the mobile application, wristband, and other features of the products Months 3–5: Development Creation of the medical wearable, artificial intelligence, and data security systems Months 6–7: Testing and Approval Conducting tests for safety and precision of the device and ensuring compliance with GDPR and MHRA Months 8–9: Introduction Testing the wearable in select hospitals and care homes in order to understand its working Months 10–12: Full Implementation Implementing the wristband in full scale by training medical staff and raising awareness of the public		Spreading the Word: The Promotion Plan for the Innovation Promotion of the smart health monitoring wristband will take place through social media, online health forums and public health campaigns to promote awareness among the public. Hospitals, general practices and care homes will be given training and information to enable the healthcare professionals to understand how the device can help in treating the patients. The use of demonstrations in health-related events and collaborations with healthcare firms and technology companies will promote the acceptance of the innovation and ensure its trustworthiness among the users.	
		Final Thoughts The intelligent health tracking bracelet is a revolutionary product that aids in regular health tracking, early identification of any health issues, and customized care. By combining the functions of wearable tech, AI, and secure data protection, it assists individuals and healthcare	Development and regulations The creation of the wristband for health monitoring must meet numerous standards of health care and safety. As the device will gather health-related data, it has to follow all the requirements of the data protection legislation, including the General Data Protection Regulation (GDPR). This means that all the personal and medical information of the users must be collected and stored legally and securely and accessed only by the authorized people such as doctors. Moreover, it is necessary to instruct the users on how their data will be used and what rights they will have. In addition, the device must follow relevant medical devices regulations to be safe and effective. In the UK, the device has to meet the requirements set by the Medicines and Healthcare products Regulatory Agency (MHRA) in case it is defined as a medical device. This implies a thorough inspection of health measurements' reliability and risk assessment.
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Module code - BMHP5014

Module - Changemakers: Creativity and value creation

Assignment title - Component 2: Written Assignment
(report)

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Healthcare systems worldwide are under strain due to the increase in ageing population, rise in those with chronic health conditions, and growing need for healthcare. Most health conditions could have been managed better if the appropriate changes had been found earlier, and if people had help in managing their wellness. The Smart Health Monitoring Wristband is developed to tackle these issues with the use of wearable technology, artificial intelligence (AI), and secure digital technologies allowing continuous health tracking.

The main purpose of this invention is to support elderly people and those with chronic diseases in monitoring their health condition, identifying the potential risks, and receiving prompt assistance. Thus, promoting preventive healthcare with the help of this wristband provides better life quality, higher independence, and higher efficiency level of the healthcare system.

The increase in the number of patients with dementia, cardiovascular disease, and diabetes has led to the need for greater emphasis on health monitoring. As per Skills for Health (2024), an increase in the number of patients living with serious diseases such as cancer and dementia will be recorded by 2040. At the same time, the NHS is continuing to feel the pressure of increasing demand with long waiting times affecting service provision.

Traditionally, individuals must visit a medical professional or seek medical assistance when symptoms become visible. Therefore, this can lead to late diagnosis of health issues that require complicated treatment. The Smart Health Monitoring Wristband allows for preventative measures to be taken by allowing people to collect information regarding their health on a continuous basis and alerting people when something strange occurs.

As a result of supporting early intervention, the bracelet can help in lowering hospital visits, improving patient prognosis, and easing the burden of health services.

The Smart Health Monitoring Wristband is a health gadget capable of providing essential real-time health data. It is equipped with various sensors designed to measure health indicators, such as heart rate, blood oxygen levels, body temperature, physical activity, and sleep patterns.

A notable feature of this wristband is its fall detection capability, which can determine when its user needs help. It enables the transmission of messages to family, caretakers, or medical professionals in case the person needs help. Furthermore, the wristband has medication reminder features and appointment notifications.

The wristband sends data to a mobile app which provides the ability to view health data. It employs AI which can recognize patterns and may warn about possible health issues. For instance, any changes in the heart rate or activity level of the user can indicate their need for medical assistance. This, in turn, allows making decisions based on valid information.

The major group of people that can benefit from this innovation is senior citizens aged 60 or older, especially those living alone or suffering from serious health conditions such as heart diseases or diabetes.

The wristband enhances people's health and wellness by motivating individuals to take a more active role in the management of their own health. The availability of reminders, customised feedback, and health updates enables users to be more self-confident and independent. Family members and caregivers can also feel assured that their relatives have been monitored and can be assisted at crucial times.

Medical practitioners such as physicians, nurses and community health workers can benefit from using the information that the wristband collects to make better decisions regarding personalized treatment.

The device should also meet the requirements set by the Medicines and Healthcare Products Regulatory Agency.

Healthcare professionals will be an important contributor towards implementing the innovation. Physicians and nurses can take advantage of health information in aiding clinical choices while caregivers can observe patients in nursing facilities to determine their wellbeing condition. Community nurses can use remote monitoring to assist individuals living at home and minimize nonessential consultations.

Innovation is in line with the objectives of preventive healthcare by promoting early intervention and helping individuals keep independence. Public engagement is imperative for adoption of this innovation. Information campaigns run via social networks, healthcare websites, community events, and health organizations facilitate public awareness about advantages of digital health technologies.

Public should accept the use of smart health monitoring as it gives individuals more control over their health and relieves healthcare facilities. Families, caretakers and communities should play an important role in pushing elderly people to apply modern technologies and act for their wellbeing.

Educating people and gaining their trust will allow a greater number of people take advantages of preventive healthcare solutions and make society healthier.

Nevertheless, to ensure effective usage of the wristband, factors like ease of use and user confidence must be considered. Given that several elderly people do not have any significant experience with digital gadgets, proper instruction should also be given to guarantee the correct usage of the device. Additionally, help from close family members, caregivers, and medical professionals can be essential in educating users about the advantages of this technology and relieving their worries about privacy and usefulness.

The emergence of better and innovative devices designed for medical purposes such as the Smart Health Monitoring Wristband shows that the implementation of digital healthcare innovations already helps improve the healthcare system. As the demand for medical services is growing, technology can provide additional assistance since it will allow more people to be monitored safely outside hospitals. This leads to the enhancement of patient care and helps allocate medical resources in a more effective way.

The wristband for health monitoring is a great invention that brings together healthcare and technology to enhance the process of monitoring, making interventions on time, and rendering personalized assistance. With the help of this wristband, users have a change to monitor their health and have access to healthcare professionals in case of any potential hazards. With the help of compliance with the requirements of the healthcare sector, cooperation with healthcare professionals, and support from the public, this idea can drastically change the way healthcare is delivered. By using the innovative monitoring technologies, the world can help society move towards better healthcare that meets the demands of time.

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