POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
College of Engineering
Computer Engineering Department

CMPE 30193

Methods of Research

TITLE PROPOSAL

Proponents

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Title: Elderly Monitoring with Activity Detection using Smart Assistant Health Bands

Rationale:

There are 727 million people aged 65 or over across the globe in the year 2020. It is vital that new approaches to the management of elder health be developed in light of the escalating expenses of healthcare and the challenges imposed on healthcare facilities to provide acceptable care. Researchers, caretakers, family members, and elderly people themselves are seeking for new solutions as the pool of direct service workers shrinks and senior people who want to remain independent in the community grow. This wristband is exclusively for seniors and incorporates functions like fall detection and emergency monitoring, allowing them to monitor their own health, live more independently, and access entertainment while giving an extra layer of safety in the case of an emergency.

Statement of the Problem:

The goal of this research is to design, build, and test a smart wristband that will allow independent seniors to live their lives while providing an extra layer of protection in the event of an emergency. To obtain all necessary information, the research ought to answer the following questions:

1. What are the advantages and disadvantages of using this assistive bracelet as alternative care assistance for the elderly/seniors?
2. How can this assistive wristband be a real option for users in terms of:

    2.1 Cost

    2.2 Durability and Longevity

    2.3 Connectivity

3. What are the percentages of the microcontroller's accuracy in:

3.1 Fall Detection

3.2 Temperature

Scope and Limitations:

The scope of this study is to develop a smart assistant health band for the elderly that might monitor their behavior and activities and, if necessary, alert a family member in the case of an emergency. This device will also assist medical professionals in keeping a close eye on the behavior and activities of their patients by making use of the data collected by the sensor contained within the smart health band. The fact that this device is not waterproof and does not have a GPS system is two of its downsides. Instead, it focuses solely on monitoring the routines of senior citizens.