

The Role of Wearable Technology in Caring for Senior Citizens

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Abstract

The thought of increasing human capabilities through wearable techniques has engaged people's mind for a long time, starting from inventing eye glasses and pocket watches to enhance vision and keep track of time; to developing the concept of attaching "artificial devices" to human organs to boost senses; such as hearing and touch.

With the enormous development of digital technology nowadays, along with the expansion and shrinking size of computes; wearable technology seeks to blend computers and sensors with the human body, to facilitate communication between individuals and the computerized contents they wear. Thus, technology has been integrated into clothes, jewelry and accessories; e.g. watches and eye glasses; and all other items that humans can wear, to simplify the wearer's daily life and grant them pleasure and luxury. Modern flexible display techniques, electronic textiles and physical computing provide the opportunity to consider combining these technologies to offer their users a tool to interact with digital information, while moving around in their physical world (during daily life).

Wearable technology can play an important and basic role in caring for senior citizens, facilitate their lives and daily activities, help them care for themselves and support their independency; sensors and tracking devices can be utilized to remotely observe their vital functions, follow up their health condition and send SOS's in case of emergency.

The problem of this research is based on the fact that; as humans grow old, their vital functions, physical and mental abilities decrease; and they face difficulties in using and interacting with advanced technology. Thus; seniors need special devices and applications that can help facilitate their lives and daily activities; and at the same time; take into consideration their physical and mental needs and capabilities.

On the other hand; many senior specialized wearables have a mechanic or medical appearance, which may cause them to feel embarrassed, helpless and that care for themselves; which may discourage them to use these wearables.

Therefore; this research aims to utilize the enormous technological development and wearable technology in caring for senior citizens and remotely provide their physicians with their vital information and indicators in an easy and periodic manner. The research also aims to design these wearables in aesthetic forms; such as jewelry and fashion accessories; to save them from feeling embarrassed or appear as patients that need special care.

Key Words:

Wearable Technology -Senior Citizens - aging- in- place - Health Care.

Research problem:

The problem of this research is based on the fact that; as humans grow old, their vital functions, physical and mental abilities decrease; and they face difficulties in using and interacting with advanced technology. Thus;

- Seniors need special devices and applications that can help facilitate their lives and daily activities; and at the same time; take into consideration their physical and mental needs and capabilities.
- Many senior specialized wearables have a mechanic or medical appearance, which may cause them to feel embarrassed, helpless and that care for themselves; which may discourage them to use these wearables.

Research Objective:

- This research aims to utilize the enormous technological development and wearable technology in caring for senior citizens.
- Identify the needs and requirements of senior citizens in wearable technology.

Research importance:

- Identify wearable technology, its uses and importance.
- Enhancing the role of wearable technology in daily life use for senior citizens and remotely provide their physicians with their vital information and indicators in an easy and periodic manner.

Research Themes:

- Wearable Technology.
- Identify the categories of elderly and their daily needs.
- The role of wearable technology in meeting the needs of senior citizens and their health care.

Results:

- The concept of enhancing human abilities through wearable technologies is an ancient idea.
- Providing aiding health technology is a main determinant for good health during old-age and enables senior citizens to remain in their homes; as the development in wearable technologies and sensors has improved the aiding services systems for seniors.
- Wearable technology designed for caring for seniors can be categorized into three types; locating their whereabouts, identifying their daily activities and monitoring their vital signs.
- Most seniors find it difficult to use new technologies, thus; it is crucial to study their special requirements in any wearable technology; and take them into consideration during the design process.
- The design of wearable technologies for senior citizens should consider the factors of appearance and aesthetic concepts to spare them any feeling of embarrassment for being regarded as patients who need special care.

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