ICARBME

9th International Conference on Applied Research in
MANAGEMENT, BUSINESS & ECONOMICS

16 - 18 April 2025
Athens, Greece

Towards Development of a Digital Platform for The Comprehensive Elderly Care

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Abstract

As the global population ages, the demand for effective elderly care solutions becomes increasingly critical. Addressing the complex needs and diverse characteristics of the aging population requires innovative tools and approaches. This paper introduces a novel elderly care platform, detailing its key components and functionalities.

Central to the platform is a specialized elderly-related ontology designed to structure a vast array of relevant data, encompassing medical histories, personal preferences, and more. This ontology ensures that all aspects of care are harmonized and centered on the individual's needs. We delve into the design of the ontology, highlighting its role in supporting the integration and analysis of diverse data types and enhancing decision-making processes through semantic reasoning.

The platform's core is a dynamic elderly care system that leverages Big Data and IoT technologies to monitor health indicators, manage care schedules, and facilitate communication between caregivers and the elderly. A significant focus is placed on data storage and security, utilizing the proven technology of FIWARE. FIWARE's modular architecture allows for easy scaling and adaptation to new technologies, ensuring scalability and adaptability across different care settings.

In summary, this paper presents an integrated approach to elderly care, combining advanced data management with personalized care strategies to meet the evolving needs of the aging population.

Keywords: Elderly People, IoT, Ontology, Big Data