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Design and Problems of Health-medical-welfare Support Information System Utilizing the Information Sent by Inhabitants in Japan

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Author Note: Authors research and develop method, thinking, approach, idea, and technology to survey, analyze, plan, design, implement, and evaluate the health-medical-welfare system, information system, education system, and industrial system in Japan from the viewpoint of information technology, management engineering, social engineering, community healthcare ,and system engineering. Furthermore, authors perform a study making their system an ideal system by applying these results of research to a concrete system, too. This research has been supported in part by JSPS KAKENHI Grant Number 25350450.

Abstract: Various health-medical-welfare support information systems for improving inhabitants' QOL (Quality of Life) have been developed and implemented in Japan. However, most of them haven't used the information sent by inhabitants (inhabitants' information) enough and positively. However it is thought that the inhabitants' information often include various significant contents, attention signal, and useful indication. In particular, in the field of health medical and welfare, it is thought that the inhabitants' information has a lot of contents which are useful for healthcare, treatment, and preventive healthcare.

Therefore, in this research, a new health-medical-welfare support information system utilizing the inhabitants' information positively is suggested and designed from the viewpoint of system engineering, social engineering, and community healthcare. This system gathers, saves, and analyzes, the inhabitants' information, with cooperating with specialized institutions. Then this system analyzes its information as a Wisdom of Crowds and supplies inhabitants and specialized institutions with the results of this analysis as useful information. And this system can provide better information to the inhabitants by showing the inhabitants' information (Wisdom of Crowds) and the information by specialized institutions (specialists' information) simultaneously than the conventional systems.

In this paper, at first current condition of information infrastructure, information technology, network technology, smart device, social networking service, change of concept values, Wisdom of Crowds, and PHR (Personal Health Record) are analyzed. Then condition and problems of the health-medical-welfare support information systems are discussed. And the concept and basic design of a new health-medical-welfare support information system is suggested. Then problems and issues to be solved of the suggested health-medical-welfare support information system utilizing inhabitants' information are reviewed through a case study.

Keywords: Health-medical-welfare Support Information System, Inhabitants' Information, Specialists' Information, Wisdom of Crowds, System Design, Infectious Disease, Prevent of infectious, Approach to Design