

Ideation Phase
LITERATURE SURVEY
IBM-Project-18767-1659689727

TEAM ID: PNT2022TMID42603

PROJECT TITLE: Personal Assistance for senior citizens who are Self - Reliant

TEAM MEMBERS:

TEAM LEADER: Saibalaji SM (711119104051)

TEAM MEMBER 1: Sathish B (711119104054)

TEAM MEMBER 2: Shakthivel S (711119104059)

TEAM MEMBER 3: Sridharan R (711119104064)

REVIEW-1:

Title of the Paper:

Elderly Care: A Study on Community Care Services in Sleman, DIY, Indonesia

Name of the Author:

Academic Editor: Jean-Francois Grosset

Published on 07 May 2020

Problem Description:

Elderly care services are important to provide in response to the rapid growth of the elderly population. In developing countries like Indonesia, the speed of growth of the elderly population does not simultaneously occur, so the needs for care services vary. This study discusses the emergence of home care services in response to the increase in elderly population. By taking the case of community home care services in Sleman, this study found the pattern and process of the emergence of local initiatives in home care services. This study also revealed an important factor affecting the implementation of community home care services, that is, leadership.

REVIEW-2:

Title of the Paper:

Multidisciplinary approaches to achieving efficient and trustworthy eHealth monitoring systems

Name of the Author:

Ajmal Sawand, Soufiene Djahel, Zonghua Zhang, Farid NaïtAbdesselam

Published on 2014 IEEE/CIC International Conference on Communications in China (ICCC), 187-192, 2014

Problem Description:

The rapid technological convergence between Internet of Things (IoT), Wireless Body Area Networks (WBANs) and cloud computing have contributed to the emergence of e-healthcare, significantly improving the quality of medical care. In particular, patient-centric health monitoring plays a vital role in e-healthcare service, involving a set of important operations ranging from medical data collection and aggregation, data transmission and segregation, to data analytics. This survey paper firstly presents an architectural framework to describe the entire monitoring life cycle and highlight the essential service components. More detailed discussions are then devoted to data collection at patient side, which we argue that it serves as fundamental basis in achieving robust, efficient, and secure health monitoring. Finally, a set of design challenges is particularly analyzed for developing high quality and secure patient-centric monitoring schemes, along with some potential solutions.

REVIEW-3:

Title of the Paper:

Developing the Medication Reminder Mobile Application
“Seeb”

Name of the Author:

Sakineh Saghaeiannejad-Isfahani, Asghar Ehteshami and Ali Samimi

Problem Description:

Today, the structure of comprehensive health care emphasizes self-care more than therapy. Medication therapy is a strong instrument for therapy received through the health setting, especially in medication area. Error in medication administration has produced different problems and they cost billions of dollars every year. Regarding mobile phone extensions, we developed a local medication reminder mobile application called “Seeb” as a suitable solution for decreasing medication errors for Iranians. This application was designed for the appropriate medication administration including time and dosages through: recording patient and medication data; scheduling patients’ medication; and reporting medication administration on progress. Nowadays, using smart phones and mobile applications are increased dramatically, so developing mobile applications in health services (especially self-care) can create the desired effect in the community. Although there are various medication reminder mobile applications, a native mobile application is essential that is developed on the basis of the

specialists' ideas in this field. In addition to remind the medication administration time and dose, "Seeb" reports the analysis of the patient medication administration, as well as displaying suitable picture of the medication and its administration method when reminded of medication use. Existence of these functions in the medication reminder mobile application prevents medication errors by patients and increases medication adherence. Undoubtedly, "Seeb" can play an important role in patient health improvement with the suitable reminder of the medication administration by user friendly interfaces, data processing, correct calculation of formulas and appropriate responds, the display of the medication pictures and descriptions. Therefore, we suggest that health care providers increase patients' awareness and introduce them medication reminder mobile applications to promote these applications utilization and to improve medication adherence as well as decreasing medication errors.

REVIEW-4:

Title of the Paper:

Salubrity-A medicine reminder application using android

Name of the Author:

Shivani Sharma

Published 2018 Medicine, Computer Science

Problem Description:

Nowadays, smartphones have reached every hand and every home. As a result, people are making use of the beneficial mobile applications to make their everyday life easier. This paper focuses on the development of a mobile application to help to provide an effective health care system. This is an android based application in which alarm is used which may be closed by tapping the close alarm button, under the image of the medicine which is to be taken at that particular time. It may even have the contact numbers of the doctors for an emergency. This application will be helping hand for the people who are busy in their day to day life or old age people who forget which medicine is to be taken and when. Many such medicine reminder systems have been developed where a new hardware is required but in our work, we have made an attempt to develop a system which is free of cost, time-saving and supports medication adherence without any extra hardware.

References:

1. A. Sawand, S. Djahel, Z. Zhang, and F. Na. Multidisciplinary Approaches to Achieving Efficient and Trustworthy e Health Monitoring Systems. Commun .China (ICCC), 2014 IEEE/CIC Int. Conf., pp. 187–192, 2014.
2. D. a. Clifton, D. Wong, L. Clifton, S. Wilson, R. Way, R. Pullinger, and L. Tarassenko. A large-scale clinical validation of an integrated monitoring system in the Emergency Department. IEEE J. Biomed. Heal. Informatics vol. 17, no. 4, pp. 835–842, 2013.
3. M. Parida, H.-C. Yang, S.-W. Jheng, and C.-J. Kuo. Application of RFID Technology for In-House Drug Management System. 15th Int. Conf. Network-Based Inf. Syst., pp. 577–581, 2012.
4. L. Ilkko and J. Karppinen. UbiPILL A Medicine Dose Controller of Ubiquitous Home Environment. 2009 Third Int. Conf. Mob. Ubiquitous Comput. Syst. Serv. Technol., pp. 329–333, 2009.
5. A. Kliem, M. Hovestadt, and O. Kao. Security and Communication Architecture for Networked Medical Devices in Mobility-Aware e Health Environments,” 2012 IEEE First Int. Conf. Mob. Serv., pp. 112–114, 2012.
6. S. T.-B. Hamida, E. Ben Hamida, B. Ahmed, and A. AbuDayya. Towards efficient and secure in-home wearable insomnia monitoring and diagnosis system. 13th IEEE Int. Conf. Bioinforma. Bioeng., pp. 1–6, 2013.

7. P. Ray.Home Health Hub Internet of Things (H 3 IoT): An architectural framework for monitoring health of elderly people.Sci. Eng. Manag.Res, pp. 3–5, 2014.
8. S. Huang, H. Chang, Y. Jhu, and G. Chen.The Intelligent Pill Box - Design and Implementation.pp. 235–236, 2014.
9. F.-T. Lin, Y.-C.Kuo, J.-C.Hsieh, H.-Y.Tsai, Y.-T. Liao, and H. C. Lee A Self-powering Wireless Environment Monitoring System Using Soil Energy. IEEE Sens. J., vol. 15, no. c, pp. 1–1, 2015.
10. S. S. Al-majeed.HomeTelehealth by Internet of Things (IoT).pp. 609–613, 2015.