

LITERATURE SURVEY

Team members :

- PRAVEEN KUMAR A(TL)
- RAMESH P
- MARIA ANTONY B
- PRASATH V

1. A system having increased functionality and efficiency is made with the help of the concept of Health Indexes, Arduino Uno, Respective Biosensors and ThingSpeak Server and Application Website. Space is maximised for critical cases which require immediate physical attention and care in hospitals and clinics while the cases which just require regular check-ups are managed by the proposed system. An alert is sent to emergency contacts and respective healthcare providers in case the Health Indexes exceed the normal values thereby leading to better prognosis thus preventing the illness before it takes an extreme form. The parameters measured have minimum error as everything is computed using the software thus minimising the ambet of human

calculation error. Real Time Data is being provided to the hospice care specialists which enables them to make informed decisions and provide prediction-based remedies. The patient has the experience of special, quality attention and is prioritised in the Health IoT framework. The framework leads to timely interventions, pre-emptive treatment, and improved accuracy in diagnosis and effective outcomes which further lead to a desirable rise in accountability thus, increasing the overall patient experience. Security and Data Theft is an issue which persists even after the inclusion of the unique API key. Also, for more patients, big data handling might be required to handle the enormous amount of data that is generated. For IoMT to become commercially and publicly available, a more user-friendly UI is desirable. A dynamic multimedia interface would also help to increase usage. Exploring various other sensors which can be attached to sensors other than the Arduino could also be looked into. Another area to be looked into could include these sensors to be integrated into apparel (such as ECG sensor in gloves) and the data

be transmitted through Bluetooth (using the ESP8266, perhaps) so that it becomes much more convenient. Lastly, many other user-friendly automated functions could be added to the project (such as automatic ambulance calling in case of emergencies) so that it becomes even smarter.

2. Smart healthcare is a well-researched area. In the smart health care domain, there is a breadth of literature covering IoT, IoMT, medical signals, AI, edge and cloud computing at various rates and utilizing varied tactics. However, to the best of our knowledge, there was a lack of a thorough and systematic analysis of state-of-the-art IoT, IoMT, AI, medical signals use and fusion, edge and cloud computing, privacy and security in the smart health care domain. The purpose of this survey was thus to offer a formal classification and specific comparative context for IoT, IoMT, AI, edge and cloud computing, privacy and security in smart health care. The survey included the use of IoT, IoMT, and medical signals, the fusion of sensors, and the use of edge and cloud computing in smart healthcare. It

further provided a survey of security and privacy issues involving IoMT devices. Finally, some research challenges and future research directions were discussed.

3. IoT-based smart medical care frameworks are developing from basic models that gather, pre-measure, communicate, and look at the information to current and smart systems that can perform intensive processing and remote data analytics, as well as make intelligent decisions. These high-level models are necessarily require the use of Deep Learning techniques to increase processing capabilities without increasing resource overhead. Since personal and sensitive information is used in medical care frameworks and also information security and preservation is a key objective in a smart healthcare framework. Furthermore, edge-based frameworks have yet to address local storage and information processing management, especially in the context of a dynamic health environment

Reference links:

- <https://ieeexplore.ieee.org/document/8441752>

Health Monitoring & Management using IoT devices in a Cloud Based Framework

Author

➤ Anirvin Sharma

Amity University Uttar Pradesh, Noida, India

Tanupriya Choudhury

University of Petroleum and Energy Studies, Dehradun, India

➤ Praveen Kumar

Amity University Uttar Pradesh, Noida, India

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An Internet of Things(IoT) Based Intelligent Framework for Healthcare – A Survey

Authors

➤ Lalithadevi Balakrishnan

Computer Science and Engineering, SRM Institute of Science and Technology, Chennai, India

➤ Krishnaveni

Software Engineering, SRM Institute of Science and Technology, Chennai, India

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A Comprehensive Survey of the Internet of Things (IoT) and AI-Based Smart Healthcare

Authors

➤ Fatima Alshehri

Department of Computer Engineering, College of Computer and Information Sciences, King Saud University, Riyadh, Saudi Arabia

➤ Ghulam Muhammad

Department of Computer Engineering, College of Computer and Information Sciences, King Saud University, Riyadh, Saudi Arabia