Fog and Cloud Computing based Smart Healthcare: A Framework

Abstract

Current era of smart and green enabling technologies makes smart city and its applications realizable. Smart healthcare is indispensable in a smart city to make citizens’ life easy and comfortable. Advancement in internet-of-things, cloud computing, big data, machine learning etc. lead to successful healthcare monitoring and support. Such application demands stringent low latency performance along with other requirements. To facilitate this strict delay limitation specifically in emergency or critical health condition that needs quick response, fog computing can be exploited. Fog computing ensures processing of data closer to its origin thus reducing communication delay and network congestion hence quick feedback in case if an emergency has been identified by processing health data at fog devices. Fog layer does screening of health data based on threshold value or rate at fog layer and if emergency is identified then data is directly sent to doctor/caregiver otherwise data is sent to cloud layer for further processing, storage, offline access etc. An architecture, flowchart and algorithm have been framed to detail working of the proposed framework.
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References


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Index Terms

Computer Science

Distributed Systems
Keywords

Smart application, end-to-end delay, emergency or critical health condition, sensors, fog, cloud etc.