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Smart IoT-Based Healthcare Monitoring System

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Abstract: *Many peoples or usually elders peoples needs to regular monitoring of their basic health parameters Heart rate (BPM), Blood oxygen saturation (SpO2), Body temperature. Usually, this monitoring is done manually like only during hospital visits, it takes more time, which is not convenient for continuous observation and also for elders peoples. It makes difficult detect issues, especially when person is at home or far from hospital. In this situation there is a need, simple and*
Affordable and easy to carry health monitoring device, which helps to continuously monitoring these health parameters, shows result display on screen and send alert message on telegram through doctors if health parameters are abnormal and also generate report of these parameters. These report can convert into PDF and that PDF is shareable. This can send to doctors or family members. Health data can be viewed remotely through an IOT dashboard, Which is useful for caretakers and supervisors. In this paper to enhanced performance using ESP32 Dual-core WIFI enabled microcontroller, MAX30105 optical pulse Oximeter & heart-rate sensor, local display for vitals, USB/5V regulated power supply, Required IOT and telegram for WIFI network component, for sending alert message sensors are used for sensing each health parameter, their and different sensors are used. The positives are low cost and affordable, easy to use, Real-time Monitoring, Remote accessibility, alert message.

Keywords: Smart Health Monitoring System(SHMS), Alert Message, BPM, SpO2, Body Temperature, IOT, health parameters, ESP32, MAX30105

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