

IoT-Based Virtual Primary Clinic: Remote Patient Monitoring and Consultation System

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Abstract: *Using Internet of Things technology, the Virtual Primary Clinic project is a cutting-edge healthcare endeavor that enables remote patient monitoring and consultation. The project collects essential health metrics including body temperature, oxygen saturation, heartbeat, and ECG signals by integrating a variety of sensors, including NodeMCU ESP32, SpO2, DHT11, and AD8232 ECG. The information collected by these sensors is sent via API to a specially created website and an online platform called ThingSpeak. With features including patient registration, appointment scheduling, access to medical histories, and doctor-patient contact, the website acts as a comprehensive interface between patients and physicians. Patients can register on the website, provide their medical information, and get medications sent to them remotely based on their conditions. However, without having to see patients in person, doctors can examine patient data, diagnose ailments, and write prescriptions or offer medical advice. The Virtual Primary Clinic project intends to improve healthcare accessible, especially in remote or underserved locations, by enabling remote monitoring and consultation. In addition to providing healthcare providers with an effective platform for remote patient care, it gives patients the ability to take charge of their health. This project is a major step toward using cutting-edge IoT-based technologies to improve patient outcomes and democratize healthcare.*

Keywords: Remote healthcare, Remote Patient Monitoring, Healthcare Innovation, Consultation System, IoT (Internet of Things), Virtual Primary Clinic.

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