ionidea AI
ENGAGE EXCELLENCE

Case Study | IoT & CLOUD MANAGEMENT

Wireless Vital Monitoring for an Israel Client

Problem

Healthcare providers in Israel needed a reliable wireless vital monitoring solution for extended patient observation.

Existing solutions often lacked sufficient battery life, hindering continuous monitoring.

Inaccurate readings compromised patient care decisions.

Solution

Developed a cutting-edge wireless vital monitor with the following characteristics:

- Optimized battery life through advanced battery management techniques.
- High-speed BLE connectivity for consistent and reliable data transfer.
- Medical-grade SpO2, RR, and PR sensors for precise health measurements.
- Advanced signal processing to reduce noise and ensure data accuracy.

Results

- Enabled extended patient monitoring periods without the need for frequent device recharging.
- Improved the quality of healthcare decisions due to highly accurate vital readings.
- Increased efficiency for healthcare providers through reliable wireless data transmission.

Technology Stack

- **Hardware:** BLE-enabled microcontroller, medical-grade sensors, power-efficient circuitry.
- **Firmware:** Embedded C code for vital sign acquisition, battery management, and BLE data transmission.
- **Mobile/Web Application:** React, Angular.
- **Backend:** Node.js, Python, or Java.
- **Database:** Flexible option depending on data complexity (NoSQL like MongoDB or traditional like MySQL).

Software Development

- **Methodology:** Agile approach for flexibility and rapid iteration.
- **Focus:** User-friendly data visualization for healthcare providers.
- **Compliance:** Adherence to relevant Israeli medical device regulations

Before Metrics

Limitations in continuous monitoring due to short battery life.

Potential for compromised healthcare decisions due to inaccurate readings.

After Metrics

Extended monitoring capabilities for improved patient care.

Enhanced confidence in treatment decisions based on accurate vital sign data.