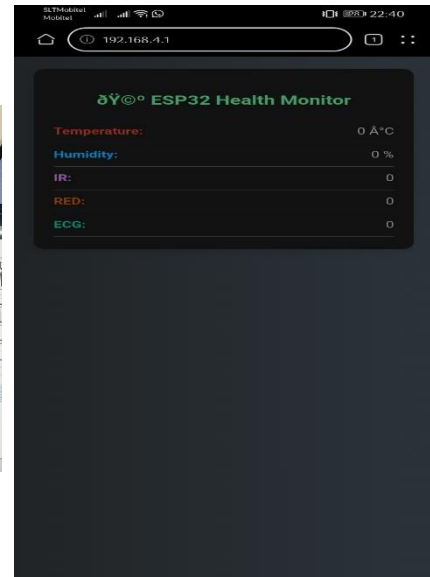**Health Detection Smart Watch**

Project Details:-

Vital Guard is a smart wearable
device for the medical centers in Sri
Lanka that tracks heart rate, oxygen
level, body temperature, and ECG in
real time. It uses Medical Sensors
with an ESP32 and shows the results
on a small LED Screen. The details of
the health vitals are displayed on
any smart device via WIFI.

Key Points:

- Objective: To create an affordable, wearable device for real-time monitoring of critical health vitals to prevent medical emergencies.
- Components: ESP32, MAX30102, AD8232, MLX90614 , 2.4" TFT Display, DF Player Mini, Arduino Mega, Arduino Uno

- Methodology: Sensor data acquisition and processing via ESP32, with logic-based analysis for abnormality detection, Arduino-Mega and Arduino-Uno Boards used to code the 2.4" TFT Display for the Smart Digital vital framework.

- Benefits: Low cost, proactive health alerts, and designed for Sri Lankan environmental conditions.

- Future Considerations: Integration with mobile health platforms and cloud-based data logging.

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