

SYSTEM AND METHOD FOR HEALTH CONDITION MONITORING

ABSTRACT OF THE DISCLOSURE

A system for health condition monitoring includes a wearable device, a portable device and a server. The portable device is capable of communicating between the wearable device and the server. The system further includes a non-contact ECG acquisition module for capturing ECG signals from a user wearing the wearable device, a non-contact audio acquisition module for capturing a respiratory sound signal and a heart sound signal from the user wearing the wearable device, a first signal processing and analysis module for receiving and processing the ECG signals, the respiratory sound signal and the heart sound signal to perform QRS detection, HR calculation and ECG derived RR determination, and a second signal processing and analysis module for receiving and processing the ECG signals, the respiratory sound signal and the heart sound signal to perform heart sound localization, heart sound cancellation, respiratory sound restoration, and sound based RR determination.

Fig. 3