

Embedded heart monitoring system

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1 Project description

Our idea is to develop an Holter Monitor: a real time heartbeat screening system. This is a good example of embedded system because it acquires data from the heart sensors, processes and show them in real time. It is also able to save the data and send them via wifi.

2 Primary Objectives

- Acquire and elaborate data from the heartbeat sensor
- Plot the ECG diagram in real time on an LCD screen
- Save the acquired data on the onboard memory
- Send the saved data to a PC via WiFi

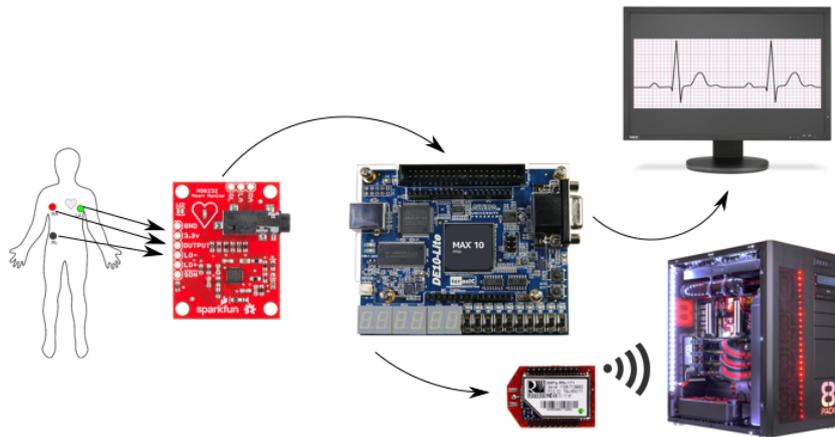


Figure 1: Functional schematic.

3 Secondary Objectives

- Measure the instant heart frequency
- Warning display on critical conditions
- ...

4 Components

- Terasic DE10-Lite board
- Sparkfun SEN-12650 (board with AD8232 heartbeat sensor)
- 3 electrode pads
- RN-171-XV 802.11 b/g Wireless LAN Module
- LCD display