



RESEARCH ARTICLE

LABVIEW Based Module For Bio Signals Monitoring

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Abstract— This project proposes a miniaturized module of the FPGA interfacing system with Zigbee transceiver. This offer a powerful system, which will monitor the human heartbeat and EEG signals. In existing system NIOS II embedded and MATLAB are used, instead of that we use LABVIEW platform for simulate the response signal. It will reduce the hardware complexity of the system. The main aim of using software in monitoring system is data visualization and analysis. On the system, analog and digital circuits are integrated, whereas field-programmable gate array hardware and LABVIEW are co-operated. FPGA has been programmed with software module. In this monitoring, the unusual reaction in the system will send the information to the doctor via the recorded voice. In this we use Zigbee transceiver for efficient treatment to the patient. The analog section is composed of amplifier, analog to digital converter, signal conditioning unit. Signal capture and amplification are realized by an analog circuit, whereas signal process, signal analysis, and man-machine interface control are implemented on a field programmable gate array digital platform. In addition to this, to pursue high performance and good expandability, LABVIEW is employed and system tasks are partitioned to hardware and software. It is mainly used in the application of brain death detection for coma patient.

Keywords— Field Programmable Gate Array (FPGA); Laboratory Virtual Instrumentation Engineering Workbench (LABVIEW); Electroencephalogram (EEG); Brain Death Detection; Heart Rate Variability (HRV); Zigbee

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