



DEVELOPMENT OF FPGA MICROBLAZE PROCESSOR AND GSM BASED HEART RATE MONITORING SYSTEM

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Abstract

The research work presented in this paper shows the development of a system capable of sending the real-time heart rate of a patient under observation on a cellular phone in the form of Short Message Services (SMS). The system makes it possible to keep in touch with a physician; especially, when the patient's heart functioning shows some kind of diseases like arrhythmia. By observing any of the unexpected heart rates on the cellular phone itself, the consultant may ask the patient to do some essential exercises so as to avoid any life threatening situation. The Universal Asynchronous Receiver / Transmitter (UART) Soft IP Core was designed using Xilinx MicroBlaze Processor to send necessary Attention (AT) commands and drive the Global System for Mobile Communication GSM Module. Xilinx Field Programmable Gate Array (FPGA) Spartan 3E device was selected for implementation of the MicroBlaze processor Soft IP Core.

Keywords: FPGA; GSM; Heart Rate; MicroBlaze Processor; SMS; UART

Full Text: www.ijcsma.com/publications/september2013/V1I307.pdf