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Abstract
Taiwan is a society with a lot of older people nowadays. It is very important to have a system to take care of these older people at home. This article is a medical control system focus on those older people and patient with heart diseases、cerebrovascular diseases、chronic. This system could use to measure their ECG、body temperature . And we could detect if they are falling down. This research use FPGA as the system core. The FPGA we use is Cyclone EP1C6Q240 of Altera. We make a SOC system and use Nicos II as an embedded CPU. We integrate CPU, memory, UART and related peripherals into one FPGA, and we have make it as an IP. In order to reduce the weight of the capture box, we use SPI interface for temperature sensor interface. By using this kind of interface, we could make the patient not impact due to the carrying of the measure device. This research also monitor the patient is falling down or not, except monitor his ECG . And we use the wireless Bluetooth technology; by using this technology, the patient is free to move around. This research make benefit to those older people and those patient who are not good at moving. By using this they could save their time and money to move to hospital and back to home. The doctor could use this device to have a real time feedback to those patient and older people. When there is emergency situation, the hospital and his family could be notified and have some special process for saving the people in danger. This make the patient could enjoy the good medical treatment at home.
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