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Abstract
This paper is to improve the former PWV (Pulse Wave Velocity) system. The former system is using non-invaded infrared measurement which has two channels to detect and collect DVP (Digital Volume Pulse) from fingers and toes. Through RS-232 interface transferring DVP to personal computer, we can use our algorithms to attain real-time PWV detection and other common information like HR and Area of under curve under curve of our body. These data could help doctors determine the condition of users' blood vessel.
Due to the former system has already used for clinical diagnosis in the National Cheng Kung University Hospital for a long span, we ameliorate two major infirmities. Firstly, we replace RS-232 interface with Cypress EZ-USB FX2 Transmission Chip and upgrade the RS-232 port to USB 2.0. Secondly, we enhanced clinical database and human computer interface. Patients can check their medical treatment records just by entering ID numbers. Because arteriosclerosis is a kind of chronic diseases, these records are very useful for long-term tracing and analyzing patients' condition.
We choose several samples in the National Cheng Kung University Hospital. These patients are having hypertension and kidney disease. According to these data, we confer the relations on arteriosclerosis and hypertension and kidney disease.
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