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Blood Pressure Measurement using Android.

ABSTRACT - Masterthesis

Blood pressure is one of the most important physiological signs of human cardiovascular health system, accurate and regular measurement of blood pressure is needed in diagnosis and treatment of hypertension, hypotension and other diseases which are risk with blood pressure. Although the Auscultatory method using mercury Sphgmomameter is widely used as "The gold standard" for small clinic and hospital settings for blood pressure monitoring. To date the ban on mercury devices for used for blood pressure measuring which is complicated and need of proper training to handle it. Currently self automatic blood pressure devices are available in world market and widely used at home. Most of those devices are based on Oscillometric method, as it need of less human professional training and is less susceptible to external interference of noise surrounding.

In this Thesis work, the main objective is to develop a cardiovascular monitoring system which can measure essential physiological parameter of blood pressure of human being especially old person and young generation. It is portable, easy to handle and best solution for blood pressure.

Measurements of these parameters help to save from hypertension and other cardiovascular diseases. After detailed study and experimentation of many pressure sensor, pressure sensor transducer with series name ASDXRRX015PDAA5 is selected which can able to calculate blood pressure with arduino Uno microcontroller, more over a wireless data transmission structure is developed to connect blood pressure device to an Android phone using Bluetooth interface system. It will keep recording patient data, and displaying measured values (Systolic and Diastolic Pressure and MAP) and do many other things including like steps to measure blood pressure and contacting doctors in case of any emergency.