

**DEVELOPMENT OF LOW COST BLOOD PRESSURE SIMULATOR FOR
AUTOMATIC NON-INVASIVE BLOOD PRESSURE MONITOR**

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

DEVELOPMENT OF LOW COST BLOOD PRESSURE SIMULATOR FOR AUTOMATIC NON-INVASIVE BLOOD PRESSURE MONITOR

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It is important to maintain our health by making a visit to a doctor to get our vital signs measured. Our vital signs consist of blood pressure, pulse (heart rate), body temperature and breathing rate. Basic principle of blood pressure monitor is to measure our systole and diastole respect to our heart rate. Human blood pressure affected by many parameters, it is difficult to get the same blood pressure value in repeated measurement from a patient. Calibration is a process that under specified conditions establishes a relation between the quantity values with measurement uncertainties provided by measurement standards. The traditional relies on the use of the stethoscope, while the digital relies on the process called oscillometric. The concept behind oscillometric process is to simulate every beat of the pulse during a manual blood pressure reading. Automated monitors sense the oscillations of the pulse to establish the average or mean arterial pressure (MAP). Once MAP has been determined, the blood pressure can be obtained using mathematical calculation. Further upgrades could be done such as preset for several blood pressure and those who has arrhythmia, which will be intended for future research.

Keywords: Oscillometric Blood Pressure Monitor, Non-Invasive Blood Pressure Monitor, Blood Pressure Simulator, Arduino.



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DEDICATION

I dedicate this works for my family, my best friends and also people all over
the world.



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