FACULTY OF ENGINEERING

DEPARTMENT OF COMPUTER ENGINEERING

FINAL YEAR PROJECT REPORT

TITLE: AN INDOOR AIR QUALITY MONITORING SYSTEM

BY

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DECLARATION

I CHELANGAT JOB CHEMORPUT, BU/UG/2017/1855 declare that this project report is original and has not been published or submitted before to any university or higher institution of learning.

Signature: …….

Date: …….

APPROVAL

The project report titled “An Indoor Air-quality Monitoring System” has been under my guidance and is now ready for examination.

Signature: ……

Date: ……

Dr. Ocen Gilbert

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LIST OF ACRONYMS

CO_2	Carbon dioxide
SO_2	Sulphur dioxide
NO_2	Nitrogen dioxide
NH_3	Ammonia
IDE	Integrated Development environment
EPA	Environmental protection Agency
WHO	World Health Organization
VOCs	Volatile organic compounds
LCD	Liquid crystal display
AQI	Air Quality Index
IAQ	Indoor air quality
PCO	photocatalytic oxidation

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ABSTRACT

Worldwide, most modern populations tend to spend approximately 90% of their time in different indoor environments. Along with the penetration of outside air pollutants, contaminants are produced in indoor environments due to different activities such as heating, cooling, cooking, and emissions from building products and the materials used. As people spend most of their lives in indoor environments, this has a significant influence on human health and productivity.

This research focused on addressing the major gaps that have been existing in maintaining good indoor' working conditions. This happens through keeping track of the indoor air pollution levels and controlling their concentrations by varying the indoor air flowrate. The system further automatically produces warning signals (sound) for the worst scenarios.

The system achieves its functionality through the use of sensors that measures pollutant concentration in an indoor environment and control the pollutant levels using a ventilation fan.