
FACULTY OF ENGINEERING

DEPARTMENT OF COMPUTER ENGINEERING

**SENSOR BASED HEALTH CARE WASTE SEPARATION AND
MONITROING SYSTEM**

BY

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Declaration

I, Ayiko Mike, do hereby declare that this report is an outcome of my efforts except where explicit citation has been made and that it has not been presented to any institution of learning for an academic award.

Sign:

Date:

Approval

This final year report on Sensor Based Health Care Waste Separation and Monitoring System was compiled and submitted for examination under the supervision of Mr. Bwire Felix

Sign:

Date:

Abstract

The management of health care wastes presents an exceptional growing problem in most health units and societies in Uganda, this is realizable on the impacts on human health and environment, when not appropriately handled. On the other hand, proper health care waste segregation promotes better transportation, treatment, disposal and even collection of these wastes resulting into reduced instances of infections and injuries to humans and the environment and it's therefore paramount that all health care facilities implement proper waste segregation if their precarious impacts are to be minimized; yet, studies show that manual segregation of health care wastes, given their large and increasing quantities generated is highly risky to human health and environment, very expensive and time wasting.

This study was to develop a sensor based health care waste separation and monitoring system. The sensor based health care waste separation and monitoring system uses electronic sensors to detect and categorize health care wastes, dump the segregated waste into its appropriate collection bin and reads level of the waste in the collection bin, which result is read on the systems web platform connected through a Wi-Fi module. This eliminates the need for persons to manually sort the wastes and routinely check the level of in the bins hence reducing the risks of infections and injury, while reducing errors realized during segregation of wastes and maximizing on the number of attendants needed for waste management in the health facilities.

Tests done with surgical blade and razor blade as metallic waste samples, cotton wool and gauze swab in wet and dry states show that the system effectively separates wastes into the three considered categories of metallic wastes, wet wastes and dry wastes.

Adopting this system will eradicate the extending challenges health care facilities in developing countries face with management of wastes.

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