



**BUSITEMA
UNIVERSITY**
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FACULTY OF ENGINEERING AND TECHNOLOGY

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS
ENGINEERING**

FINAL YEAR PROJECT REPORT

**AN IMPROVEMENT OF A FLOOR CLEANING MACHINE
WITH A BACKUP POWER SOURCE**

NAMUHENGGE RITAH

BU/UP/2022/1783

SUPERVISOR: MRS. NABWIRE LUCY

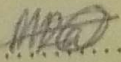
*A Final year project report submitted to the department of Electrical and
Electronics engineering in partial fulfilment for the award of Diploma in Electrical and
Electronics engineering.*

JUNE, 2024

DECLARATION

NAMUHENGE RITAH hereby declare that this final year project implementation report is my own work and has not been previously submitted to any higher institution of learning for achievement of any kind of award.

Further I declare that is my original work and the analysis, and the findings are for academic purpose only.

SIGNATURE.....

DATE...13th/04/2024.....

APPROVAL

This is to certify that this project titled the Improvement of Floor Cleaning Machine has been submitted for examination with the approval of the undersigned supervisor. Department of Electrical and Electronics Busitema University Faculty of Engineering and Technology.

Supervisor

RS. LUCY NABWIRE

SIGNATURE.....

DATE.....13/10/2024.....

DEDICATION

I dedicate this report to my parents, my lecturers, fellow students and friends for their support.

ACKNOWLEDGEMENT

I am overwhelmingly thankful to the Almighty God for his abundant provision and love throughout the years of my life. Express my deep sense of gratitude to my supervisor **MRS NABWIRE LUCY** for providing precious guidance, inspiring discussions and constant supervision throughout the course of this work. Her timely help, constructive criticism and conscientious efforts made it possible to present the work contained in this thesis.

I also express my sincere thanks to **MR. BALIGONZAKI PATRICK** for his support during the project work. I am also thankful to all the staff members of the department of Electrical and Electronics Engineering and to all my well-wishers for their inspiration and help. I am also thankful to my classmates for their help during my project work. I feel pleased and privileged to fulfil my parents' ambitions and I am greatly indebted to them for bearing the inconvenience during my Diploma in Electrical and Electronics course.

May God reward you abundantly!

ABSTRACT

A floor cleaning machine is a machine that enables cleaning of the floor by the help of highly stabilized and rapidly functionalized electrical and electronic control system. Current project work targets to use two power supply sources i.e. AC power supply and a DC backup power supply during cleaning large floor in house-hold purposes and office floors. The cleaning purpose is specifically carried out by continuous relative motion between the scrubber and floor surface. In comparison to the existing machines, my current machine will be made with two power supplies i.e. AC power source with a backup DC power source. The purpose of this machine is to allow continuous usage of the machine in case AC power source is down, the DC backup power source can supply enabling the user not to leave untampered work hence easing and saving time for other pending tasks.

LIST OF ACRONYMS

AC: Alternating current

Amp: Amperes

DC: Direct current

EMF: Electronics force

I: Current

LVT: Luxury Vinyl Tile

RPM: Revolution per Minute

V: Voltage

VCT: Vinyl Composite Tile

W: Watts

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6.3. Critical analysis/appraisal of the project

- The floor cleaning machine with a backup supply system applicable in urban areas was successfully designed as it was stated in the main objective. We did face some challenges such as limited funds, high transport costs, expertise and shortage of components on market and general power issues. Our objectives were successful and we hope it will help in the continuous cleaning process.

6.4. Recommendation

- In further this machine can be converted into a fully automatic unit with the introduction of an automatic spraying mechanism. The solution can be sprayed at regular intervals using a pump and timer-controlled mechanism, resulting in efficient use. In addition, it also saves space and money by reducing the machine's size.

6.5. Challenges faced

- Financial stress was our biggest problem thus attaining money to purchase the necessary components was a very big challenge
- Time provided to do the project was limited where by our first idea was rejected on the proposal presentation hence we had to look for another which put us under pressure.

6.6. Conclusion

In this project, we improved and implemented a floor cleaning machine with a backup power supply system that can clean or mop continuously until the cleaning process is done without any power interruptions.

The main goal of this project is to assist people who basically depend on only this machine to avoid work delay or interruptions caused by power cut off.

6.7 References

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APPENDICES

Appendix A: Project time frame

Table 3 shows the project time frame

S/N	ACTIVITY	2023		2024					
		NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
1	Idea generation								
2	Problem identification								
3	Proposal writing and approval								
4	Meeting supervisors								