

Security System In Bodaboda Transport

Anderson Mathias Lukas and
Edson Baraka Yombason

Masanga Secondary School



Introduction

Bodaboda transport involves the use of motorcycle to transport people from one point to another. However there are frequent accidents caused by bodaboda driver to run motorcycle without wearing hard cap. It has brought death and severe injuries on head and brain. This research was intended to find out the system that will intervene electrical system in motorcycle. Such intervention involves the introduction of a switch built in hard cap which control flow of electricity between the battery and key. So, if a driver want run the motorcycle should wear hard cap otherwise, the motorcycle will not move.



The government has allowed the uses of bodaboda as means of transport in our society, although the driver are required to follow rules and regulations guiding road traffic including use of hard cap (motorcycle element) for safety measures. Unfortunately, bodaboda drivers have been reluctant to obey this traffic rule. As the results there is frequent accidents caused by bodaboda transport leading to severe injuries on head and brain to drivers, and passengers ,thus bring death or permanent physical impairments. There is no specific reason why drivers are resisting to wear hard cap for safety measure except individual negligence.

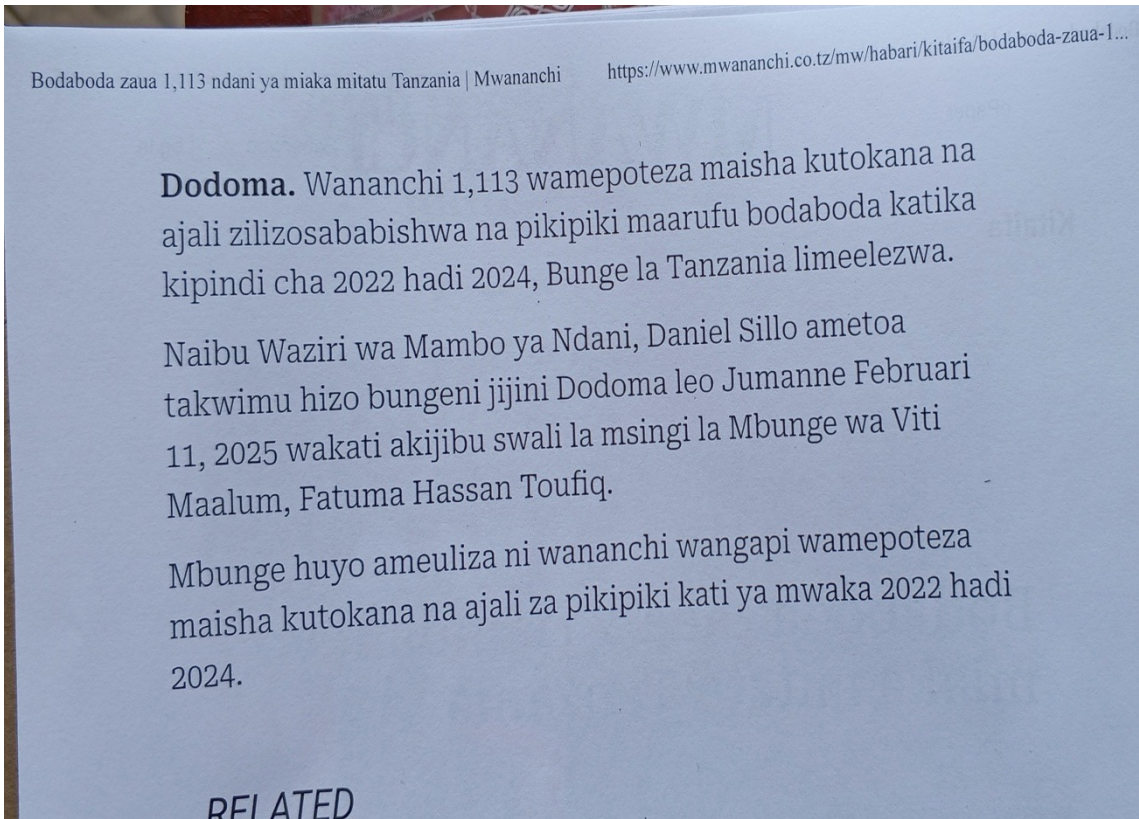
Method

This project is intended to find the way how the motorcycle drivers should be technically enforced to use hard cape for safety measures when they transport people using motorcycles.

Research question:
How severe injuries on head and brain can be reduced in bodaboda transport?
In order to find the answer to this question, the researcher have decided to design a system that will intervene the normal flow of energy in motorcycle system.
Aim: To develop a system that should be introduced to the motorcycle and enforce the drivers to wear hard cap before starting movement of motorcycle.

LITERATURE REVIEW:
Some information from past reports has shown that about 1,113 people have dead due to bodaboda transport for year between 2022 to 2024. Such information was stated by Honorable Daniel Sillo Minister of Home Affairs while responding to the question asked by Hon. Fatuma Hassan Toufiq Who is a member of Parliament ,special seat. in the parliament meeting in 11February 2025.
Source: www.Mwananchi.co.tz/mw/habari/kitaifa/bodaboda zaua) extracted from Google page as it can be seen (in Swahili language)

On the other hand, the the Exacutive Director,Muhimbili Orthopedic Institute (MOI) said that most of bodaboda accidents affect head/brain and back bone
While Police force Traffic section claimed that they had made strong discussion with bodaboda on the case of safety measures in various parts in the country ,unfortunately still they are neglecting to take safety measure including the use of hard cap
This project has been conducted by experimentation and practice.



a)The following required Materials were collected.
Conducting wire (copper),Motor,6 batteries (3.7V) = 22.2V total, Motorcycle Hard cap,Maskin tap,Local Switch,Local motorcycle key,Super glue,Knife/razor blade,Screws,Platex,Useless Slipers
b)Procedures:
i.The above materials were collected from different areas
ii.The Knife and razor blade were used to cut useless slippers into required small pieces in different size.These were used to build the body of local motor cycle using super glue, and screws as it is shown below:



The sketch map of this security system is shown in the diagram below:

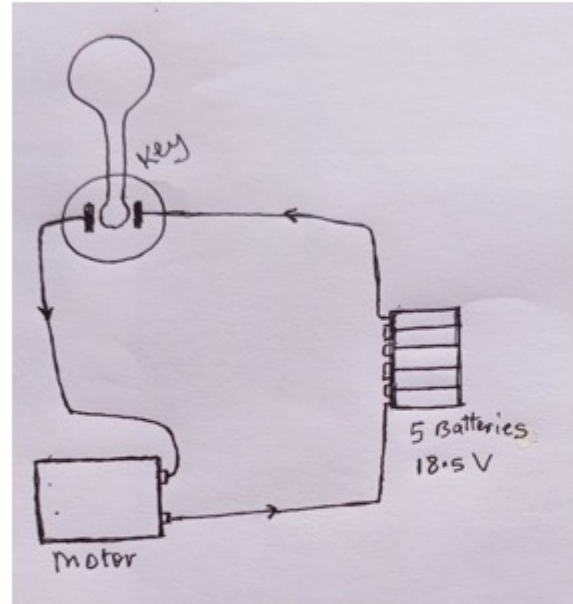


Fig: Normal electrical circuit (DC) flow into motor .
In this circuit,the driver will drive motorcycle Without wearing hard cap

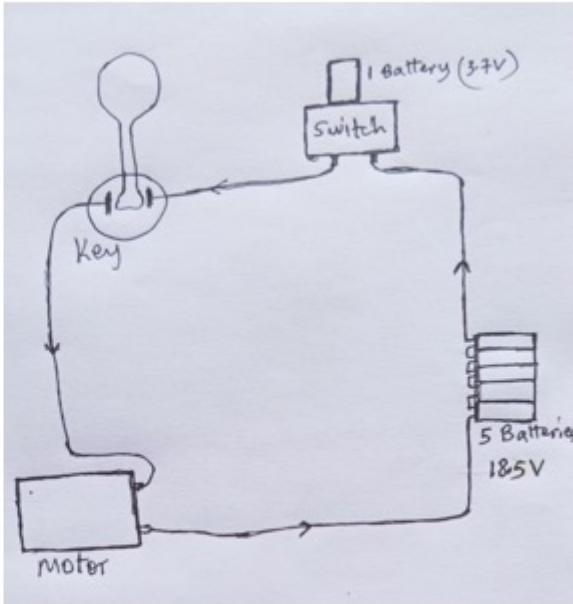


Fig: Intervened electrical circuit (DC) flow into motor .
In this circuit,the driver will not drive motorcycle without wearing hard cap

Conclusion

In this project, it have been revealed that the best monitoring system for bodaboda transport to reduce severe injuries specifically on head and brain is “ to intervene the flow of electrical current from battery direct to electrical motor by introducing a switch built inside the motorcycle hard cap”

