

Automated grass cutter using voice recognition

Muhamad Salihin Nasir¹, Adam Samsudin¹, Ezzatul Farhain Azmi², Norhafizah Md Sarif³, Azmirul Ashaari⁴ and Nur Aiman Hanis Hasim²

¹Department of Electric Engineering Technology, Faculty of Electrical and Electronic Engineering Technology, Universiti Teknikal Malaysia Melaka, Melaka, Malaysia

²Department of Mechanical Engineering Technology, Faculty of Mechanical and Manufacturing Engineering Technology, Universiti Teknikal Malaysia Melaka, Melaka, Malaysia

³Centre for Mathematical Sciences, College of Computing and Applied Sciences, Universiti Malaysia Pahang, Pahang, Malaysia

⁴Azman Hashim International Business School, Universiti Teknologi Malaysia (UTM), Johor Bahru, Johor, Malaysia

E-Mail: adam.samsudin@utem.edu.my

ABSTRACT

Grass cutter is one of the significant home appliances especially among the country side. The existing grass cutter machine in agriculture field usually using kerosene as their fuel source to operate the machine. However, by using fuel source, combustion process will occur and will pollute the environment with toxic gas which can lead to thinning of ozone layer and disease. Moving to improvement of grass cutter machine, we can conclude that with the improvement of the machines comes greater prices. This will make the people comes hard to buy the expensive one. Due to the high price, many people will buy the cheaper machines which they can afford. This can be seen easily in Malaysia where we can see many people will use the string trimmer to cut the grass. The string trimmer is a semi manual machines which requires humans to use it to cut the grass. The machines are quite heavy and after a period of time using the machines; it will lead to shaking and back-ache of the user. This will lead to serious safety issues. The idea of controlling a grass cutter machines is quite simple with the use of Arduino and some electrical devices. The grass cutter machines are control by Arduino which control the directions to moves forward, backward, right, left and stop. The control of direction is being help with the use of L298N motor driver which receive the signal from the Arduino to control the direction of the motor. Besides, it uses a simple voice recognition that all user can get from Google Play store to communicate with the grass cutter machines. The motor has two roles in this system which is to control the direction of grass cutter and also the cutting process of the machines. At last, the goal of creating this grass cutter machines are to create a low cost machines where all people can buy it thus preventing a health issues to the user and also creating a low budget grass cutter machines where all user can afford.

KEYWORDS

Automated; Grass cutter; Voice recognition

ACKNOWLEDGEMENT

The authors would like to thank Centre for Research and Innovation Management of Universiti Teknikal Malaysia Melaka (UTeM) for sponsoring this work under the Grant PJP/2019/FTKEE (3A)/S01655.