

FABRICATION OF WHITEBOARD CLEANING MECHANISM

ABSTRACT:

In our project, we design an Automatic Board Eraser (Blackboard or Whiteboard). The objective of this project is to minimize lecturer's effort. Our idea is come out for lighten a burden of lecturers. For Automatic Board Eraser, it is not just only save lecturers time but also use that time to do other thing while the machine is working. It is also healthful for lecturers because when cleaning of board by hand, it may cause hygiene problem. As a team, we designed the automatic board eraser. This eraser runs on dc power supply and will make it easier for teachers everywhere to clean their chalk/white board. This project consists of nut and screw mechanism. Square thread screw is coupled to motor. When motor shaft rotating, screw also rotating and nut slides linearly on screw. Duster is attached to nut. When nut slides, duster also slides and we will get desire rubbing effect. We began the project by first attempting to come up with an original idea to fit the problem. After coming up with an idea, we followed the usual design process to finalize our project.

INTRODUCTION:

Therefore another goal was to have the design be quite if not virtually silent. Our group also thought it would be the best to have the unit bolted or clamped on to the wall so that device could be stable & secure however the device should allow for easy removal in case of the maintenance arises. As for the power supply we thought it would be the best to have the unit power 12 V, so that the unit will not require frequent battery changes.

PROBLEM DEFINITION:

To design an automatic board eraser using basic scrap parts like power screw, bearing, nut, eraser, guide ways, power supply. Aim to get cost of model to minimum along with having considerable rubbing effect for general lightening purpose. At present few automatic boards eraser projects are being built in the world. As students, the white board is something we see

very often in our classroom. We realize that most times it takes lecture time away from the teacher to erase the board.

This problem will be eliminated with the development of an automatic board eraser mechanism. The concept consists of a nut & screw mechanism. A square thread screw is coupled to a motor. When the motor shaft rotates, the screw also rotates & the nut slides linearly on the screw. A duster is attached to the nut. When the nut slides, the duster also slides & we will get a desirable rubbing effect.

AIM:

The goal of this project was to create a robot which could erase written text on a whiteboard completely autonomously, i.e. no human interface. The processes involved in this project included devising a method for the robot to search a whiteboard for text, designing a way to physically move a robot to the text, and enabling a robot to erase the text.

FUNCTIONS:

- 1 The Arm can move horizontally and vertically
- 2 The vehicle moves along the sliders