



CREATIONS de UiTM
INTERNATIONAL MEGA INNOVATION CARNIVAL **2023**
Fostering Innovation to Global Communities

LET'S CRAFT A BETTER WORLD TOMORROW!

ePROCEEDING

20th MAY 2023

UNIVERSITI TEKNOLOGI MARA
CAWANGAN SELANGOR, KAMPUS DENGKIL
MALAYSIA

ORGANISED BY:



UNIVERSITI
TEKNOLOGI
MARA

Pusat
Asasi



Stretchy Duster

***Abdul Rahman Mat Pahang, Nuha Khadija Maarof Ahmad Radhi, Nurul Syazwani Mohd Nor, Nur Afifah Aliah Mohd Khadzir, Nurul Jannah Salahuddin, Nur Rahimatul Hayati Abdul Rahman**

Centre of Foundation Studies, Universiti Teknologi MARA, Cawangan Selangor, Kampus Dengkil 43800 Dengkil, Selangor, Malaysia

*E-mail: 2022644054@student.uitm.edu.my

ABSTRACT

Stretchy Duster is one of the technologies that is made to overcome the flaws of the current eraser. The objective of this innovation is to reduce the time taken by the user to erase the whole whiteboard and to ease the user when holding the eraser. The current eraser that is small in size will increase the time to clear the whole whiteboard. Therefore, we created this innovation that can clear the whiteboard in half the time taken than a normal eraser to clear the whiteboard by increasing the size of the eraser. Other than that, the handle on the stretchy duster eases the users to use the erasers rather than the current erasers that have almost zero comfortability while using it. We plan on selling Stretchy Duster at RM45/each and plan to introduce it to huge stationery companies for mass production and commercial use. Stretchy Duster differs from normal whiteboard erasers in terms of size, durability, quality, and mechanicalistic. Our stretchy duster has user-friendly characteristics such as the length that can be adjusted according to the size of the whiteboard since it has retractable rods where it can go back to its initial position after using it. Moreover, the stretchy duster is created using high-quality materials where it can withstand daily wear and tear, are easy to be washed, and can be reused after washing.

Keywords: Stretchy Duster; eraser; stationery

INTRODUCTION

Whiteboard erasers are not unusual in our lives. It is used in the classroom and in workplaces that are closely related to the education industry. Although this technology was created long ago, it still has a lot of flaws that need to be overcome in order to have the perfect whiteboard eraser. For instance, unfriendly grip shapes cause the user to feel uncomfortable while using the whiteboard eraser and make it easy for it to slip off. Other than that, no specific place to put the whiteboard eraser often causes it to be misplaced and makes it costly since we would need to buy a new one. To add on, low quality materials that are used to make these whiteboard erasers makes it unfit to be used in a long period of time since it will fall apart after multiple use. Lastly, the small size of the whiteboard eraser causes the user to use more time to clear the whole whiteboard, not including hard to clean stains. This is time consuming for the users.

Stretchy Duster is specifically created to cater to all these flaws by making it more grip-friendly by adding a holder. Any hand size and hand strength can use this product without putting a lot of force into it. Other than that, Stretchy Duster is specifically created to be able to stay on the whiteboard by equipping it with a retractable component that would make the product hug the whiteboard. This can not only decrease the time and space to store and find the whiteboard eraser, it can also decrease the cost to buy new erasers since it won't be misplaced. Moreover, high quality materials that are used to make Stretchy Duster ensures that the eraser

will last longer and can withstand daily wear and tear in its daily use. This whiteboard duster is large in size causing it easier to clean the whiteboard, meanwhile for the hard to clean stain, stretchy duster is equipped with a spray that squirts out alcohol to clean the stains. This reduces the time taken to clean the whole whiteboard to at least half the time. This promotes maximum time in learning and working.

The main objective in creating Stretchy Duster is to make sure that the time used during learning and working is maximised on learning and working instead of unnecessary time waste on cleaning the whiteboard. Other than that, Stretchy Duster can also save the users money from buying cheap and low-quality erasers. Stretchy Duster is undeniably more expensive than regular erasers, but it would be a better option since it is created by using high quality material. It is a profitable investment.

INNOVATION DEVELOPMENT

Stretchy Duster is built larger in size to increase the surface area while erasing the whiteboard. We made the conclusion where the larger the surface area of the duster, the less time needed in order to clean the whiteboard. This overcomes the flaw of normal whiteboard erasers that takes too much time to clean the whole whiteboard. Other than that, the Stretchy Duster is also equipped with a retractable rod so that it can stretch and retract according to the size of the whiteboard. This makes Stretchy Duster inclusive to any size of a whiteboard may it be big or small. Stretchy Dusters also have built in “sliders” to ease the movements of the duster across the whiteboard may it be horizontally or vertically. To add on, this whiteboard duster is also portable. The retractable rod plays a huge role in making sure that the stretchy duster is at its smallest size while in transport and can be stored easily without it taking much space. It is also equipped with a handle to ease the process in transporting the stretchy duster.

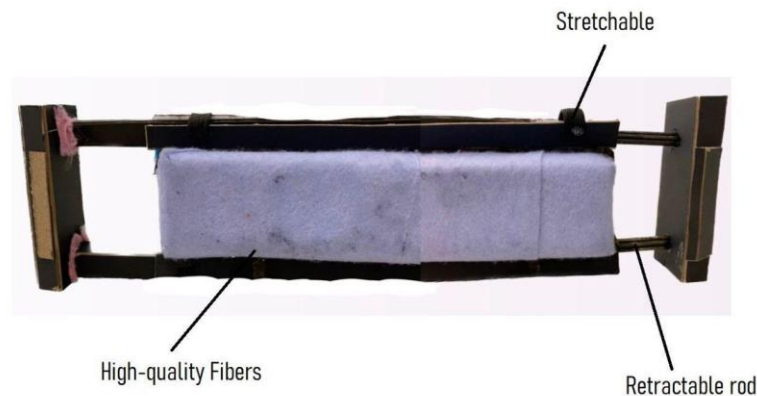


Figure 1: Stretchy Duster (Front view)

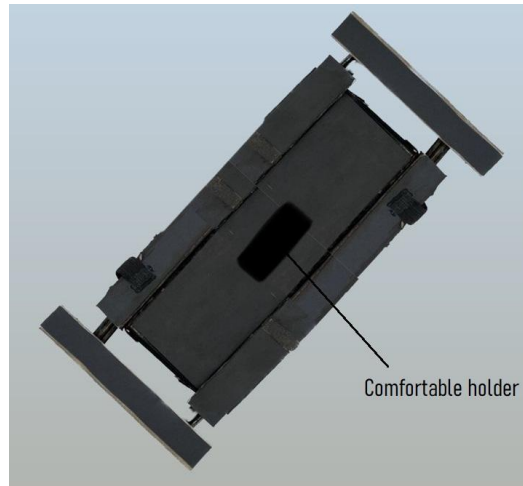


Figure 2: Stretchy Duster (Rear view)

COMMERCIAL POTENTIAL

Stretchy Duster focuses on the Educational Services Sector and Administrative and Support Services. The sales value of manufactured stationery in Malaysia was approximately RM 1.23 billion as reported in 2020 [*Statista*, 2022].

CONCLUSION

Stretchy duster can ease the lives of its users not only by reducing the energy needed to erase the whiteboard, but stretchy duster can also increase the quality of learning or discussion among the users. Since online is no longer the medium to discuss and learn, the use of whiteboard erasers has drastically increased, and stretchy duster has been created to make sure that the users no longer feel burdened while using it. Now it is up to the users to make the smart decision in choosing whiteboard erasers. Though stretchy duster has been innovated to be the perfect product, it still lacks in some parts. For instance, the retractable rod that is used to extend and reduce the lengths of stretchy duster is still flimsy and easily breakable if enough force is acted upon it. We plan on using a rod that is larger in diameter so that stretchy duster can last even longer and be hard to break. Other than that, we plan on changing the duster on stretchy duster to be detachable so that the users can still erase small parts of the whiteboard without having to erase the whole thing.

ACKNOWLEDGEMENT

The authors are grateful to Centre of Foundation Studies UiTM Cawangan Selangor Kampus Dengkil for their support in completing the innovation project.

REFERENCES

- [1] Coupland, N. (2022, September 19). Whiteboard Vs. Dry Erase Board – Which is Right for You? *Whiteboards and Pinboards*. Retrieved April 1, 2023, from <https://www.whiteboardsandpinboards.com.au/whiteboard-vs-dry-erase-board/#:~:text=Melamine%20is%20the%20type%20of,made%20from%20an%20inexpensive%20laminat>.

- [2] Embassy OFD. (2015). What makes our dusters so irresistible?. Retrieved April 1, 2023, from <https://embassyfeatherdusters.com/what-makes-our-dusters-so-irresistible>
- [3] Leverette, M. M. (2023). The 4 best dusters we recommend to keep your home clean and help ease allergies. *Insider*. Retrieved April 1, 2023, from <https://www.insider.com/guides/home/best-duster>
- [4] Lewis, V. (2019). Benefits of a Microfiber Duster — U.S. Duster Company. *U.S. Duster Company*. Retrieved April 1, 2023, from <https://www.usdustercompany.com/duster-blogs/2018/10/9/benefits-of-a-microfiber-duster>
- [5] M. A. Sulaiman and Khairul Anuar A. Rahman (2008). Design and Development of an Automated Whiteboard Eraser. <https://doi.org/10.13140/2.1.4101.7923>
- [6] M. Suresh et. al (2018). Design and Development of Automatic Whiteboard Cleaner for Effective Cleaning Mechanism Using Arduino. <https://doi.org/10.17148/IJIREEICE.2018.696>
- [7] Sales value of manufactured stationery in Malaysia from 2012 to 2020. Retrieved April 1, 2023, from <https://www.statista.com/statistics/644649/sales-value-manufactured-stationery-malaysia/>
- [8] Stephen Morin, B. R. S. (2022). Best whiteboard eraser. Retrieved April 1, 2023, from <https://kdvr.com/reviews/br/office-br/office-supplies-br/best-whiteboard-eraser/#:~:text=Most%20traditional%20whiteboard%20erasers%20are,attaching%20directly%20to%20the%20whiteboard.>