

MELAKA
INTERNATIONAL
INTELLECTUAL EXPOSITION

MIIEX'24

12 JUNE '24

Dewan Taming Sari,
Universiti Teknologi MARA Caw. Melaka,
Kampus Alor Gajah, Melaka

*"Empowerment of Special
Needs through Invention
& Innovation"*

**EXTENDED
ABSTRACT**

MiiEX'2024

MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION 2024
**“EMPOWERMENT OF SPECIAL NEEDS THROUGH INVENTION AND
INNOVATION”**

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UiTM Cawangan Melaka
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Melaka Bandaraya Bersejarah
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MiiEX'2024

MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION 2024

**“EMPOWERMENT OF SPECIAL NEEDS THROUGH INVENTION AND
INNOVATION”**

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INNOVATION, INVENTION, AND DESIGN

FOREWORD BY THE RECTOR OF UiTM CAWANGAN MELAKA



Professor Ts. Dr. Mohd Rasdi bin Zaidi

Rector, Universiti Teknologi MARA (UiTM)

Cawangan Melaka

Welcome to the Melaka International Intellectual Exposition 2024 (MIIEX '24). It is an honour for me, on behalf of UiTM Cawangan Melaka, to thank all of you for joining MIIEX '24. We are proud to inform you that this is the 13th consecutive year that UiTM Cawangan Melaka is organizing this exposition. Since 2009, UiTM Cawangan Melaka has successfully hosted this innovation exposition. Not only have we succeeded in organizing the exposition, but we have also successfully embarked on commercialized products.

2024 is a special year where MIIEX 2024 emphasizes the development of special needs. As we know, special needs indicate a limitation in a person's ability to engage in and benefit from various aspects, such as daily activities and education. Hence, with the theme "Empowering Special Needs Through Invention and Innovation," it is a platform for industries, professionals, academicians, students, and communities to share their innovative ideas and products to increase accessibility for those with special needs.

The successful implementation of MIIEX '24 is our joint success. This event was supported by the Melaka state government through YB Datuk Fairul Nizam bin Roslan, the EXCO of Science, Technology, Innovation, and Digital Communication. I also want to express my

gratitude to Universitas Negeri Padang, Indonesia, Universitas Muhammadiyah, Makassar, Indonesia, the International Association of Economic and Businesses (IAEB), Universiti Sains Islam Malaysia, Ibnu Umami Maktum Research Center (UMMI), USIM, and The Southeast Asia Minister of Education Organization Regional Centre for Special Educational Needs (SEAMEO SEN) as our co-collaborators for MIIEX 2024.

The collaboration from various parties in MIIEX '24 is a platform that will improve cooperation and interweaving among industries, professionals, academicians, students, and communities in shaping their potential in developing innovation products. This exposition also serves as a platform to cultivate and uphold the nation's innovation culture by presenting new ideas and research by young people, especially from academia and universities. Indirectly, MIIEX '24 will encourage all inventors towards empowering Science, Technology, Engineering, and Mathematics (STEM), especially in primary and secondary schools.

The new digital landscape also inspires more innovation and new ideas that contribute to various activities, such as business and industries. As a university that encourages "Research and Innovation," we aim to foster more innovative products that benefit scholars, industries, and communities, addressing issues to improve our present and future life.

This exposition would never happen without dedication, teamwork, and commitment. A round of applause should be given to the committee teams, who are the backbone of this exposition. Their hard work, effort, and time made this exposition possible.

Finally, I would like to conclude this brief remark by thanking all the participants and stakeholders for joining the exposition. We hope that this collaboration never ends here.

Thank you.

FOREWORD BY THE DEPUTY RECTOR (RESEARCH & INDUSTRIAL LINKAGES)



Associate Professor. Dr. Nur Hayati binti Abd Rahman

Deputy Rector (Research & Industrial Linkages), Universiti Teknologi MARA (UiTM) Cawangan Melaka

With much passion and privilege, let me warmly welcome all of you to the Melaka International Innovation Exhibition (MIIEEX), UiTM Cawangan Melaka's flagship event. I firmly believe that events such as these demonstrate the gradual evolution of this platform in terms of its significance and its governing principles within the sphere of learning and the broader scholarly society.

The theme for this year, "Empowering Special Needs Through Invention and Innovation," strongly connects to our mission of using research and technology to make a positive impact on the world we live in. Besides enforcing the message of diversity, this theme also reaffirms our focus on creating products to improve the lives of people with disabilities (PWDs). Such innovations are vital as only through focused constructive changes can society become more sensitive to the needs of all members.

MIIEEX allows researchers, students, and industry professionals to come together, share their innovative research, and develop viable research partnerships. It has been great to see the enthusiasm of the participants and the efforts they put into their projects, which can offer various social and economic benefits. This is why one can state that MIIEEX is a great

opportunity for creating connections between the academic environment and industry, facilitating the implementation of innovative and promising projects.

Finally, I would like to express my sincere appreciation to all the members and supporters of the organizing committee, all the participants, sponsors, and everyone involved in preparing this event. I want to express my gratitude for your commitment and involvement, as the success of MIIEX and the development of an active culture of innovation in our university and beyond is partly owed to your support.

Thank you

FOREWORD BY THE PROJECT DIRECTOR



Dr Zulkefli bin Muhamad Hanapiyah

Senior Lecturer

Assalamualaikum and Warmest Greetings,

It gives me a great pleasure, on behalf of the organizing committee, to welcome all participants and speakers to the Melaka International Intellectual Exposition 2024 (MIIEX '24) with the theme "Empowering Special Needs Through Invention and Innovation." We are honoured and pleased to welcome all participants to this biennial event.

MIIEX '24 is a platform that gathers experts from local and international industries, academia, scientists, researchers, and the community to contribute to the advancement of scientific and technological knowledge. This knowledge helps develop disruptive innovation products that improve daily activities for businesses and the community, especially those with special needs.

MIIEX '24 provides an atmosphere for inventors of all levels to gain new exposure and collaborate. Indirectly, this promotes a collaborative and innovative culture that focuses on cutting-edge technologies and new standards in technology and creativity.

MIIEX '24 is anticipated to serve as an arena for participants to acquire and disseminate revolutionary information on ideas and innovation. It is intended that the competition will expose the contestants' minds to the latest technologies and designs, aligning with the government's goal of encouraging innovation in Malaysia.

Finally, I want to compliment my fellow committee members on their amazing efforts, which were vital to the event's success. In addition, I want to thank our co-organizers, event sponsors, and participants. Optimistically, we hope that all new knowledge discovered, invented, or innovated will lead us toward future sustainability.

Thank you.

**FOREWORD BY MELAKA STATE EXCO OF SCIENCE, TECHNOLOGY,
INNOVATION AND DIGITAL COMMUNICATIONS**



YB Datuk Fairul Nizam bin Roslan

Melaka State Exco of Science, Technology, Innovation and Digital Communications

Welcome to the Melaka International Intellectual Exposition 2024 (MIIEX '24). It is an honor for me, on behalf of UiTM Cawangan Melaka, to thank all of you for joining MIIEX '24. We are proud to inform you that this is the 13th consecutive year that UiTM Cawangan Melaka is organizing this exposition. Since 2009, UiTM Cawangan Melaka has successfully hosted this innovation exposition. Not only have we succeeded in organizing the exposition, but we have also successfully embarked on commercialized products.

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Finally, I would like to conclude this brief remark by thanking all the participants and stakeholders for joining the exposition. We hope that this collaboration never ends here.

Thank you.

MIIEX'24 ORGANISING COMMITTEE

COMMITTEE	NAME
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	BUSHRA ABDUL HALIM
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	FAIQAH HAFIDZAH BINTI HALIM
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	AFZAN SAHILLA BINTI MOHD AMIR HAMZAH
	MUHAMMAD FURQAN BIN AZHAR
	KHAIRUL AZHAR BIN LOCHMAN

ABOUT MIIEX'24

MIIEX'24 is an innovation competition annually organised by UiTM Melaka with the intention to bring together ideas and inspiration that could fit in for commercialization needs.

This event creates a platform for researchers to establish networking, partnership and opportunities to collaborate with industries.

OBJECTIVES

1. Encourage and instil passion towards inventing and innovating among UiTM Cawangan Melaka staff, students and academicians of local and international higher education institutions;
2. Highlight distinguished talents of skilful inventors and exhibit intellectual products, inventions and innovations among local and private tertiary institutions, government and private agencies, including international participants;
3. Become an effective Business Matching platform for participating research products, matching industries and partnering government agencies;
4. Recognise, inspire and promote invention and innovation products to be patented and commercialized;
5. Increase passion towards inventing and innovating through research and boost interests of government and non-government agencies to obtain consultancy services from a line up experts of higher education institutions and UiTM Cawangan Melaka.

THEME

'EMPOWERMENT OF SPECIAL NEEDS THROUGH INVENTION AND INNOVATION'

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Magic Lighters

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Abstract

The ability to take notes in an efficient manner is an essential skill for students of all ages, and the use of colourful highlighters can be an effective tool that significantly enhances the process. The use of highlighters not only makes it simpler to recall important information, but they also make the process of studying and reviewing notes more pleasurable. However, there will be times when students slip up and want to erase the area to start again. Notwithstanding, when students need to erase the highlighter ink due to mistakes or other reasons, this can be difficult and can cause more damage than good. Thus, in order to solve the issues of erasing the unintended highlighting the text on papers. we decided to develop a magic lighter where it can be deleted if students make a mistake on the note. Additionally, we prioritize the use of high-quality materials in our products. For instance, fluorescein, plastic cap, plastic barrel serves as a key component.

Keywords: Highlighters, Erasable, Colorful, Stationery

1. INTRODUCTION

Activities that involve reading can be divided into two categories: silent reading and oral reading. Furthermore, according to Brown and Lee (2015), when it comes to reading, silent reading can be classified as either extensive or intensive reading. Due to the fact that the learning goals of these two styles of reading are not the same, students need to be aware of how to make use of both of these methods in order to improve their reading comprehension. According to Taniguchi, Shimada, Yamada and Konomi (2019), using highlighters on textbooks is considered as one of the important learning activities of students. When it comes to stationery, one item has long dominated the market as a need for professionals, academics, and artists alike: the highlighter (*All Guides: Taking Notes: Highlighting Method, n.d.*). However, what if we informed you about

a recent development that elevates highlighting to a whole other airline? We intend to produce this erasable highlighter to cover up the negativity about the highlighters that most people dislike about it in terms of permanent with the bright colors. In this instance, our goal is to modify the erasable highlighter to replace the ones that are currently in use, enabling users to get rid of wrong keywords using this new capability. Furthermore, neither professionals nor students typically highlight keywords without reading entire paragraphs and fully comprehending the content, making it simple for them to miss marking the appropriate keywords. By that, it means that the best way for them to resolve this issue is to correct their errors and easily undo the incorrect highlighter keywords. In addition, because this product is environmentally safe, the paper won't break no matter how much highlighter ink is removed from it. To strengthen these problems, we will include the proof right here.

2. OBJECTIVE

Erasable highlighters encourage people to take risks and not be afraid to make mistakes because they can be easily corrected. To create an erasable highlighter that can be used for precise highlighting and simple correction, giving users a flexible tool for taking notes, studying, and organizing documents. The goal is to develop a highlighter that combines pencil erasability with the neon visibility of standard highlighters so users may highlight essential information without worrying about leaving behind permanent markings. With this erasable highlighter, users can easily highlight, edit, and arrange their notes, increasing productivity and efficiency in both professional and educational contexts.

3. NOVELTY & INVENTIVENESS

We intend to let the consumers feel comfortable while using our product by adding a groundbreaking tool that offers unmatched accuracy, adaptability, and simplicity in one package, revolutionizing the way you annotate, organize, and study features brilliant, fade-resistant ink that produces strong, vivid highlights to help you quickly capture important information, and with sophisticated erasing technology that guarantees clean, smudge-free removal so you can easily fix errors, edit annotations, and reuse documents. Our erasable highlighters are ideal for professionals, students, and voracious readers alike. They enable you to confidently highlight

and precisely erase, opening up countless opportunities for your academic and professional pursuits.

4. PRACTICALLY & USEFULNESS

Erasable highlighters offer numerous perks, one of which is their capacity for fixing errors. Erasable highlighters let you delete highlights without affecting the underlying document, which is useful if you unintentionally highlight the wrong word or wish to remove a highlight entirely. More precision and flexibility are offered when emphasizing significant information with this function. Erasable highlighters are a more environmentally responsible option than standard highlighters because they can be reused. Erasable highlighters contribute to waste reduction efforts by minimizing the need for single-use paper or plastic highlighters, thereby encouraging sustainable behaviors. This may appeal to customers who value eco-friendly items and are concerned about the environment.

5. CONCLUSION

In conclusion, we guarantee that clients who buy our erasable highlighters will be happy with these highlighters after using them. Furthermore, our items will guarantee that the item is authentic and reasonably priced, particularly for professionals or students who wish to purchase them. Since stationery is typically used by people in large quantities, we want to give them the finest and most advanced version of our product. Possessing excellent stationery to assist you in your career also contributes to the outcome. Not to mention that everyone may use our product with ease in their daily lives because it is user-friendly.

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