

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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78000 Alor Gajah

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 (MIIEX), 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.

MIIEX 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 MIIEX 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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Thank you.

MIIEX'24 ORGANISING COMMITTEE

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	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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Sandal Mop

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Abstract

The Sandal Mop is an innovative cleaning equipment that revolutionises conventional footwear by turning it into a versatile cleaning tool. The product ingeniously combines the convenience of wearing sandals with cutting-edge cleaning technology, transforming walking and engaging in activities into an efficient cleaning method. The Sandal Mop provides a cost-effective, versatile, and environmentally friendly option for maintaining cleanliness in homes and businesses by combining advanced cleaning technologies with everyday sandals. The revolutionary design of this product harnesses the inherent movement of walking to efficiently clean a wide range of surfaces, such as sealed wood, vinyl, tiles, marbles, and glass. The removable microfiber mop guarantees compatibility with sensitive skin, making it appropriate for persons with allergies or dermatitis. The Sandal Mop promotes a global adoption of healthier, cleaner, and more environmentally friendly lifestyles by emphasising simplicity, efficacy, and eco-friendliness. Cleaning has never been more convenient or entertaining, and its inspiring people all around the globe to live greener, healthier lives.

Keywords: Cleaning Tools, Sandal, Mop, Eco-Friendly, Conventional Footwear, Microfiber

1. INTRODUCTION

A ground-breaking cleaning invention that transforms home cleaning into healthy and fun trend activity which is the sandal mop. It brilliantly fuses the practicality of wearing sandal with advanced cleaning technology, turning walking and doing activities into an effective cleaning technique. The Sandal Mop's design, in contrast to conventional cleaning instruments, makes use of the motion of walking itself to efficiently remove dirt and grime from a range of surfaces,

including sealed wood, vinyl, tiles, marbles, and even glass. It is not just during the walking, but by doing an activity while wearing this sandal such as watching the television, tidy up the house, ironing, washing, cooking, working and etc. This creative method encourages ecologically friendly cleaning techniques while also saving time and energy. The detachable microfiber mop on the Sandal Mop is kind to skin, so anyone with dermatitis or sensitivities can use it. Its reusable construction further boosts its eco-friendly appeal by cutting waste whilst wiping off the need for single-use cleaning supplies. All things considered, the Sandal Mop is a major development in cleaning technology, providing a useful, easy-to-use, and ecologically friendly way to keep homes and workplaces clean.

2. OBJECTIVE

The objective of the sandal mop is to revolutionise the cleaning industry by introducing an innovative product that transforms traditional footwear into a multipurpose cleaning tool. Through the seamless integration of cutting-edge cleaning technology with ordinary footwear, the sandal mop seeks to offer a cost-effective, adaptable, and environmentally responsible alternative for maintaining cleanliness in domestic and commercial environments. The sandal mop offers unmatched simplicity and effectiveness due to its innovative design, which makes use of the motion of walking to clean dirt and grime from a variety of surfaces, including sealed wood, vinyl, tiles, marbles, and glass. Moreover, the detachable microfiber mop guarantees smoothness on skin, making it suitable for anyone with allergies or dermatitis. Last but not least, the objective of the sandal mop is to make cleaning easier and more enjoyable while encouraging people all around the world to lead healthier, cleaner, and more environmentally friendly lifestyles.

3. NOVELTY & INVENTIVENESS

The non-traditional approach to cleaning that this creative idea takes is the defining characteristic that sets it apart from competitors. In contrast to traditional sandals, which are designed to shield the feet from grime and dirt, this tool makes the act of walking into an effective method of cleaning. In addition to being able to successfully remove grime and dirt from a wide variety of surfaces, including sealed wood, vinyl, tiles, marbles, and even glass, its versatility ensures that it can be easily incorporated into cleaning routines. These sandals

are designed to effectively remove grime and dirt by using the natural movement that occurs when walking. This not only saves time and energy but also promotes an environmentally responsible technique of cleaning. In order to provide customers with a speedy and efficient method of maintaining cleanliness in their homes or places of business, this innovation transforms footwear into a useful cleaning tool, thereby revolutionising the footwear industry.

4. PRACTICALITY & USEFULNESS

When it comes to domestic tasks, tradition frequently triumphs over innovation. But every now and again, an idea surfaces that upends the existing quo and transforms the way we do routine activities. The sandal mop is a revolutionary combination of cleaning technology and footwear that claims to achieve unprecedented levels of comfort and cleanliness. The sandal mop looks like a straightforward pair of shoes at first glance, but a closer look reveals an inventive design. Subtly tucked under the sandal's sole is an attachable mop made of premium microfiber cloth. With this subtle modification, a regular sandal becomes an all-purpose cleaning instrument that can handle spills, dust, and filth with unmatched effectiveness. The Sandal's microfiber mop is gentle on delicate skin, providing a complete clean without causing any discomfort, in contrast to rough rags or hard brushes. This sandal is perfect if you want to prevent irritation or if you have dermatitis. It's also environmentally friendly. It can feel good about cleaning routine because of the reusable design, which reduces waste and the need for disposable goods. The sandal mop is proof of the ability of innovation to improve and simplify daily living. It offers a useful, effective, and eco-friendly answer to the enduring problem of keeping a clean home by fusing cleaning technology with footwear in a seamless manner. Let's embrace the sandal mop's revolutionary power and bask in the joy of cleaner, cosier living as we confidently march into the future.

5. CONCLUSION

In summary, the Sandal Mop is a shining instance of innovation in the cleaning sector, fusing state-of-the-art technology with common sandals to completely transform how we keep our homes and workplaces clean. Through its reusable construction and eco-friendly design, this innovative device encourages environmental responsibility while also streamlining cleaning routines by utilising the natural motion of walking. The Sandal Mop revolutionises cleaning

techniques with its adaptability, efficiency, and skin-friendly qualities, providing a useful, effective, and pleasurable solution for homes all over the world. We open the door to a cleaner, greener future where everyday tasks become chances for sustainable living and healthier lifestyles as we embrace the transforming power of the Sandal Mop.

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