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"Empowerment of Special Meeds through Invention & Innovation"

# EXTENDED ABSTRACT

# MiiEX'2024

#### **MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION 2024**

"EMPOWEREMENT OF SPECIAL NEEDS THROUGH INVENTION AND INNOVATION"

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# MiiEX'2024

## MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION 2024 "EMPOWEREMENT 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 Ummi 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

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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**

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	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;
- 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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#### **Clothes Button Magnetic**

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#### Abstract

Are you frustrated with fiddly buttons? If so, it's time to ditch them! Our magnetic clothing closures provide a stylish and secure way to fasten your clothes, offering an innovative solution suitable for everyone, especially those with disabilities. We understand the challenges faced by people with disabilities when it comes to dressing, which is why we're excited to introduce an innovative clothing collection aimed at promoting freedom and independence. Our garments feature revolutionary magnetic closures, replacing traditional buttons and making dressing easier for individuals with limited mobility or dexterity. With our magnetic closures, individuals with disabilities can dress themselves, saving time and effort. The Clothes Button Magnetic collection offers trendy designs and styles, allowing individuals with disabilities ease their daily lives through accessible clothing options. We are confident that Clothes Button Magnetic will emerge as the top choice for disabled communities, offering vibrant designs, comfortable materials, and affordable prices. Through our commitment to providing inclusive clothing options, we strive to meet the diverse needs of all our customers.

#### Keywords: Cloth<sup>1</sup> Disabilities<sup>2</sup>, Magnet<sup>3</sup>

#### 1. **INTRODUCTION**

Our magnetic clothes button shines as a light of innovation, ready to transform the way clothes are secured in a world where fashion and function combine. Our product, which meets a variety of needs in the present period, redefines the conventional idea of clothing accessories through a mix of style and accessibility. Conventional buttons cause difficulties for people with limited ability or movement, making it more difficult for them to button their own clothes. A solution that easily incorporates accessibility into regular clothing without compromising style is desperately needed. Thanks to its cutting-edge magnet technology, our magnetic clothes button ensures a secure hold and a smooth fastening experience. With an emphasis on inclusivity, its design not only raises the bar for garment fastening solutions but also revolutionizes the user experience and improves accessibility.

#### 2. **OBJECTIVE**

Thread Trove strives to be the leading brand in adaptive clothing, designed for comfort, style, and functionality. Our company chose this product to ease their burden. With the availability of this product, this group can explore the world of fashion despite their limitations. We cater to the diverse needs of the disability community through innovative designs and high-quality materials.

#### **NOVELTY & INVENTIVENESS**

Thread Trove has introduced several product updates, including the magnetic shirt button line. This innovation replaces traditional buttons with magnets, enhancing accessibility for individuals with disabilities. Additionally, Thread Trove garments serve purposes beyond mere medical functionality. We actively involve people with disabilities in our design process to ensure that our clothing not only meets their unique needs but also exudes aesthetic appeal.

#### 4. PRACTICALITY & USEFULNESS

Thread Trove uses the magnetic clothing buttons for individual's disabilities to provide a simple yet effective solution to the challenges of independent dressing, offering ease of use and practicality. Designed to be easily attachable and detachable, these buttons require minimal effort and dexterity to use, aligning effortlessly with buttonholes and securely fastening garments through magnetic attraction. Their user-friendly design promotes independence by enabling individuals to dress themselves without assistance, reducing frustration and anxiety while enhancing autonomy and self-reliance. Suitable for users of all ages and abilities, these buttons not only improve the dressing experience for individuals with disabilities but also offer practical benefits for anyone seeking convenience and accessibility in clothing fasteners.

#### 5. CONCLUSION

It is very important for our business to help the people with disabilities. one of them is the magnetic shirt button line offered by Thread Trove Our items could be used by people with disabilities. A secure hold and an easy fastening experience are guaranteed by the magnetic clothing button. The clothes we create not only fits their unique needs, but also looks great. thread trove hope that the availability of magnetic clothing will significantly improve the lives of people with disabilities and allowing people to go out their everyday lives with dignity and confidence and express their style and personality effortlessly.

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