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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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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.

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Thank you.

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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;
- 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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Empower Shop Innovation

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Abstract

This innovation is called 'Empower Shop' where it is an application for disabled people to sell their product through an application. A dedicated platform or an application that empowers disabled people to showcase and sell their handmade products, providing them with equal opportunities and a supportive community is needed. The reason why we chose to create this application is because we found that disabled have difficulties in gaining income on their own as they have less opportunities in getting a job in Malaysia. The objective of this application is to drive innovation by leveraging the unique perspectives and talents of individuals with disabilities in product development and empower individuals with disabilities to thrive. We also want to empower disabled people by giving them the authority or power to do something that can also make them stronger and more confident, especially in controlling their life and claiming their rights. Through this application disabled people could boost their confidence as it is flexible and can reduce physical barriers that allow them to sell their products independently. Users can use this application to support their business by buying products from this application. 'Empower Shop' is where disabled people can have a huge impact on the economy as their standard of living will get better because they can generate income from this platform. Our application is also different from other applications like 'Shopee' or TiktokShop'. Through 'Empower Shop', users can also donate to organizations that only focus on charity for people with disabilities.

Keywords: Empower, Disabled people, Application, Supportive Community.

1. INTRODUCTION

People with disabilities are often excluded through direct and indirect discrimination from the workforce and from education. According to (Elsevier Ltd, 2021), half of all people with disability are unable to afford healthcare, compared to a third of people without disabilities. People with disabilities commonly face barriers such as lack of transportation, inaccessible health-care facilities and non-disability-friendly equipment or procedures. Hence, this innovation is called 'Empower Shop' where it is an application for disabled people to sell their product through an application. This application was innovated from the problems faced by disabled people who find it difficult to work due to their health and physical problems. They are given the opportunity to sell and buy goods from their own hands. Empower shops help them to increase self-confidence and can improve their economy and standard of living. According to (Smith, 2021), disabled people find it difficult to get a permanent job in Malaysia due to their physical disabilities, this application can help more disabled people to get continuous income by selling their goods via this platform.

2. OBJECTIVE

'Empower Shop' aims to drive innovation by leveraging the unique perspectives and talents of individuals with disabilities in product development and empower individuals with disabilities to thrive. It is also determined to empower disabled people by giving them the authority or power to do something that can also make them stronger and more confident, especially in controlling their life and claiming their rights.

3. NOVELTY & INVENTIVENESS

Empower Shop is the one of the applications that different from other online platforms such as TikTok, Shopee, and Lazada that it gives their own uniqueness which is more convenience and speciality to the potential disabled people that want to engage with the business industry without having to have a physical shop and help them minimize their insecurities. Firstly, as part of the buy and sell platform, customers or sellers also can donate directly through the application in different disabled charity clubs. Besides that, this innovation creates and promotes awareness among the community about disabled people's issues. Secondly, this application is convenient for disabled individuals to use because it has an easy and

understandable system. Thirdly, this application is cost free for customers and sellers who want to sell their products especially for the underprivileged disabled people. For example, disabled customers that want to buy something via this platform could just click at their fingertips as this app is very user friendly and direct forward. They can order at their own comfortable time and the products will arrive at their doorstep.

4. PRACTICALITY & USEFULNESS

In a global perspective, the World Health Organization estimates that around 285 million people are visually disabled with 2/3 of them over 50 years old. Every smartphones comes with touch screen assistive technology like Voice Over for iOS or TalkBack for an android where can support speech interaction between visually disabled people and mobile devices (Berglind F. Smaradottir, 2018). So, they can use these features that have already been embedded on every smartphone where people with vision problems could just need to press any feature on their smartphone and Voice Over and TalkBack will read it for them. It gives the disabled opportunities to buy themself anything without any help from other people. It is user friendly especially for disabled individuals.

People with disabilities often face challenges when accessing physical stores due to mobility issues or inaccessible environments. Online shopping apps eliminate the need to go to a physical shop and provide a comfortable shopping experience from anywhere with an internet connection (Scanlan & Mark A, 2017). Users can shop at their own pace, take breaks as needed, and have 24/7 access to a wide range of products without the constraints of traditional store hours.

5. CONCLUSION

In conclusion, the emergence of online shops that are tailored to meet the needs of disabled individuals marks a significant step towards inclusivity and accessibility in e-commerce. Empower Shop will really benefit disabled people in many ways like giving them the opportunity to gain profit from this platform by selling products that they expertise in. All the features in this application are simple, easy-to-use, practical and user friendly to create a supportive and inclusive environment for individuals with disabilities. From this application, it will create awareness about disabled people that also need support from others and realize

that technology can be a powerful tool for breaking down barriers and promoting equal opportunity for all regardless of their physical and mental condition.

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