

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 (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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Helphub

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ABSTRACT

Virtual devices have boosted e-hailing services. This smart transportation system, often known as ride-hailing or app-based transportation, lets users hail rides from local drivers using smartphones. The Malaysian Department of Social Welfare has registered 691,630 disabled people till January 31, 2024. Thus, protecting Persons with Disabilities (PWD) rights to e-hailing services supports societal ideals of equal opportunity. PWDs encounter substantial transportation difficulties with ride-hailing and delivery services due to a lack of suitable help and support. Current platforms' incapacity to meet varied requests to convey preferences, arrange rides, and assure a comfortable journey is a continuing concern. Reduced mobility, social isolation, and dependency on inefficient transportation result from these issues. By developing Helphub, an E-hailing OKU to meet PWDs' special needs with a comprehensive and user-friendly ride-hailing. It wants to make e-hailing more accessible for this group. This smart app provides companionship when running errands or attending appointments with the doctor, unlike traditional e-hailing services. Appreciation for disabled people who have trouble riding normal e-hailing sparked this idea. Collaboration, especially with NGOs, can help promote the app and reach new users. These collaborations may also reveal PWD users' special needs and preferences.

Keywords: Disabilities, Transportation, E-hailing, Ride, Assistance

1. INTRODUCTION

Smart transportation systems often referred to as e-hailing services have been common among normal people. The ride-hailing and delivery services nowadays are not PWD friendly which makes them face significant barriers to transportation access since there aren't enough options for assistance and support that suit their needs (Malaysiakini, 2024). The responsibility of PWD

rights to access e-hailing services that align with societal goals of equal opportunities for all individuals is very important for them too to do their daily lives as normal people. This innovative, Helphub is a smart transportation system that has been modified to specialize for PWDs' needs, which is this smart app offers companionship services to users while running errands or attending appointments, such as visiting the doctor and also providing assistance for them when they use their car for the transportation.

2. OBJECTIVE

The objective of Helphub is to enhance the transportation system that is accessible to the PWD, since common e-hailing transportation may have limitations for people with disabilities to travel conveniently. Therefore, with Helphub, the E-hailing services will provide an alternative mode of transportation that is more accessible, reliable, and convenient for disabled individuals. Other than that, our objective is to improve PWDs' mobility through these services, which will facilitate their travel experiences by providing accessible vehicles and addressing their needs. Thus, they can participate more in life due to greater mobility.

3. NOVELTY & INVENTIVENESS

Unlike standard e-hailing rides, the Helphub was designed specifically for PWD with an emphasis on enhancing their mobilities and equality to be more independent and able to travel anyplace on their own (Cochran, 2022). Our innovative approach also ensures that their need for assistance when using the services is being taken care of. Helphub is also accessible for all users, however, this application system will effectively convey information by checking the profile of the users before using our e-hailing ride to avoid people with disabilities being exploited for their specialties. This strategy breaks down obstacles and encourages equality in sociality while also encouraging people to not look down on PWDs anymore as they also can live as normal people.

4. PRACTICALITY & USEFULNESS

This app designed to assist elderly and disabled individuals serves a practical and invaluable purpose, enhancing their quality of life and providing essential support in various aspects of daily living. Here are some practical uses and benefits of Helphub apps:

1. **Medication Reminders:** Many elderly individuals and those with disabilities may have complex medication schedules. Helphub provides timely reminders for medication doses, helping users stay on track with their prescriptions and reducing the risk of missed doses or medication errors.
2. **Fall Detection and Emergency Response:** For seniors living alone or individuals with mobility issues. These apps use sensors or smartphone accelerometers to detect falls and automatically alert designated emergency contacts or medical services, ensuring prompt assistance in critical situations.
1. **Transportation Assistance:** Getting around can be challenging for seniors and people with disabilities, especially in unfamiliar areas or during peak travel times. Apps like Grab offer accessible transportation options, but it has a limitation where it does not focus on seniors and people with disabilities. So Helphub can solve this problem by helping them to go anywhere just at their fingertips.
2. **Accessibility Tools:** For individuals with visual or hearing impairments, accessibility apps play a crucial role in enhancing digital accessibility. This app provides spoken feedback and navigation assistance for blind or low-vision users and offers real-time speech-to-text captioning for individuals with hearing impairments.

By addressing specific needs and challenges, these apps enhance the independence, safety, and quality of life for elderly individuals and people with disabilities, empowering them to live more fully and participate more actively in their communities.

5. CONCLUSION

The Helphub application is specially created for PWD and the elderly. It was designed to make it easier for them in their daily lives. We hope that the various existing issues can be dealt with through the existence of the HelpHub application. With all the features provided such as medication reminders, fall detection and emergency response, transportation assistance, and accessibility tools, we hope that their life can be easier and more accessible.

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