

### 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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**ABOUT MIIEX'24** 

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

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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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.

#### **MIIEX'24 ORGANISING COMMITTEE**

COMMITTEE	NAME
PATRON	PROFESOR DATUK DR SHAHRIN BIN
	SAHIB@SAHIBUDDIN
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DEPUTY PROJECT DIRECTOR III	PN WAN HASMAT BINTI WAN HASSAN
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	DR IRFAH NAJIHAH BINTI BASIR MALAN
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	MOHAMAD SHAFIEI AYUB
	MOHD ARIFF MUSTAFA
	FAHMI SAMSUDIN
	MOHD HAFIFI MOHD SUPIR
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	MOHD AZAHAR
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	WAN NUR KHALISAH SHAMSUDIN
JURY SELECTION AND	EN NORAZLAN ANUAL
MANAGEMENT	PN AFZAN NOR BINTI TALIB
	PN NUR HIDAYAH ZAINI
	CIK FARIHA AIZA BINTI RAMLY
	PN NURUL AIN BINTI MUSTAKIM
	PN NOORZALYLA MOKHTAR
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	CIK MILFADZHILAH MOHD JAMIL
	PN NUR HAZWANI BINTI MOHAMAD ROSELI
	PN GLADYS SEBI ENTIGAR
i.	

	PN NASHRAH BINTI TALIB
	CIK SITI NURUL IZZA HASHIM
REGISTRATION AND	DR. SITI FEIRUSZ BINTI AHMAD FESOL
PARTICIPATION	SITI RAMIZAH JAMA
	SITI NURSYAHIRA ZAINUDIN
	BUSHRA ABDUL HALIM
BIRO MEDAL & CENDERAHATI	PN SYUKURRIAH IDRUS
	SITI NAZIRAH BINTI OMAR
	RAFIDAH ABDUL AZIZ
	MASTURA AYOB
	INTAN LIANA BINTI SUHAIME
	DR NORASHIKIN ADAM
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	FAIQAH HAFIDZAH BINTI HALIM
	NORSHAHIDATUL HASANA BINTI ISHAK
	HAZRATI ZAINI
	KHAIRUL NURMAZIANNA ISMAIL
SPONSORSHIP	DR MOHD SYUKRI BIN ABDULLAH
PROGRAM BOOK, ABSTRACT &	DR MAIMUNAH JOHARI
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	PN NOR HALAWAH AHMAD
	PN AZIRA RAHIM
	NORLINDA TENDOT ABU BAKAR
	AFZAN SHAHILLA AMIR HAMZAH
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	DR MOHD SUFIEAN BIN HASSAN
	ENCIK KHAIRI BIN KHAIRUDDIN
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	DR SITI NUR IZYANDIYANA BINTI AB HADI
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	ERRATUL SHELA ESHAK
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	MUNIRAH BINTI MOHD JIDI
	MASLIZA BINTI MOHD RAZALI
TECHNICAL & VENUE	EN MAZ IZUAN BIN MAZALAN
	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**

- 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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#### **Blind Banker Apps**

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#### **Abstract**

Online Banking Application is one of the famous and important technological advancements. Everyone uses the convenience of this online payment application to make payments easily and quickly. But not for the blind. Blind people have difficulty using online payment applications. For example, they have difficulty when there are some important things not voiced by the phone voice. Then, they also need the help of normal people to press the "next" sign button to continue payment after entering the amount to be paid. Therefore, 'Blind Banker Apps' is created to overcome the problems faced by blind people. The 'Blind Banker Apps' are equipped with QR codes and debit / credit cards that are friendly to blind users. For example, users can interact and respond to make payments only through voice. In this application there is also a category for users to pay by using a card like the 'Apple Pay' concept. Therefore, this application provides users to pay via card in the phone and only need to wave at the payment counter. To ensure the safety of the user, after the payment is successfully made, this application will announce that the transaction is successful along with the amount and recipient of the transaction. The application will detect the user's voice to ensure the user's account is secure. No more help required from others to make online payments. It's easier, safer and faster for the blind to go cashless.

Keywords: QR codes, Blind Banker Apps, Voice, Online Banking

#### 1. INTRODUCTION

Online banking or known as internet banking has changed the way individuals and businesses manage their finances. It refers to a digital platform provided by banks and financial institutions that allows customers to carry out various transactions and financial services over the internet. This includes checking account balances, transferring funds between accounts, applying for loans or credit cards and accessing account statements and transaction history. The use of online banking has been made easier by advances in digital device technology such as smartphones, tablets and computers. Online banking has become a part of modern banking services as it offers unprecedented convenience and flexibility to customers in managing their finances.

#### 2. OBJECTIVE

The Blind Banker application aims to help make it easier for blind people to make online payments such as scanning QR codes and credit/debit cards. This app allows blind people to respond by just using their voice and this app will guide the user by talking to the user. The application will also detect the user's voice to ensure the user's account is secure. This can ensure that every QR code and card payment transaction is done safely and securely, including the use of strong authentication methods and accurate data encryption.

#### 3. NOVELTY & INVENTIVENESS

The Blind Banker application was developed to make it easier for blind people to make online payments like everyone else since most shops accept online payments. Therefore, this application becomes more efficient and because the blind people no longer need to carry cash because all transactions can now be done online or virtually.

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#### 4. PRACTICALITY & USEFULNESS

This application is expected to make it easier for blind people to go anywhere without the need for a wallet full of cash since they can make payments by just using a mobile phone. Therefore, they will feel more confident and safer.

#### 5. CONCLUSION

Online payment methods have revolutionized the way transactions are conducted in the modern world. The convenience, security and efficiency offered by online payment systems have significantly changed consumer behavior and business operations. The Blind Baker application really benefits blind people to make online payments easily and quickly as well as feel safer when out and about. This application becomes one of the blind user-friendly platforms that can be used easily, safely, and quickly.

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