

### 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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FOREWORD BY THE DEPUTY RECTOR (RESEARCH & INDUSTRIAL LINKAGES)

FOREWORD BY THE PROJECT DIRECTOR

FOREWORD BY MELAKA STATE EXCO OF SCIENCE, TECHNOLOGY, INNOVATION AND DIGITAL COMMUNICATIONS

**MIIEX'24 ORGANISING COMMITTEE** 

**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.

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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|                             | PN NOOR RAFIDAH BINTI IBRAHIM            |

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|                           | PN NUR HAZWANI BINTI MOHAMAD ROSELI      |
|                           | PN GLADYS SEBI ENTIGAR                   |
| i.                        |  |

|                          | PN NASHRAH BINTI TALIB                |
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|                          | BUSHRA ABDUL HALIM                    |
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|                          | FAIQAH HAFIDZAH BINTI HALIM           |
|                          | NORSHAHIDATUL HASANA BINTI ISHAK      |
|                          | HAZRATI ZAINI                         |
|                          | KHAIRUL NURMAZIANNA ISMAIL            |
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| PROGRAM BOOK, ABSTRACT & | DR MAIMUNAH JOHARI                    |
| PUBLICATION              | PN MAYMUNAH ISMAIL                    |
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|                          | PN AZIRA RAHIM                        |
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|                          | AFZAN SHAHILLA AMIR HAMZAH            |
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|                          | ERRATUL SHELA ESHAK                   |
|                          | NUR FAITHZAH JAMIAN                   |

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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**

- 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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#### **InsureQuest: The Insurance Adventure**

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#### **Abstract**

Attention Deficit Hyperactivity Disorder (ADHD) is a prevalent mental health condition that affects individuals from an early age to adulthood. People suffer from ADHD tend to have problems sustaining focus to gain informative content such as financial knowledge. The scientific studies that have been performed have reported that adults with ADHD have lower income levels and savings—income ratios, are more often financially dependent, have more self-reported financial problems, have difficulties saving money, more often exceed credit card limits, and more often buy on impulse as compared with adults without ADHD (Koerts, J., Bangma, D. F., Mette, C., Tucha, L., & Tucha, O. ,2023, March 6). Hence, this project's goal is to recommend insurance education materials by introducing a gaming platform named as "InsureQuest: The Insurance Adventure". The objective is to provide education about insurance toward people who suffer from ADHD and also to enhance decision-making skills especially in financial situations. InsureQuest provides insurance education using tests and modules and also it allows users to create their own avatar and to explore an online city, experiencing real-world situations where insurance is crucial.

**Keywords: Attention Deficit Hyperactivity Disorder (ADHD), Financial Situations, Gaming Platform, Insurance Education** 

#### 1. INTRODUCTION

Attention Deficit Hyperactivity Disorder (ADHD) is a neuro-developmental disorder that starts in childhood and has a persistent pattern of behavior involving lack of attention and/or hyperactivity-impulsiveness that interferes in social, academic or work processes, or reduces the quality of them (Espinosa et al., 2019). People with the inattentive subtype of ADHD have difficulty focusing, finishing tasks and following instructions. They are easily distracted and forgetful. They may be daydreamers who lose track of homework, cell phones and conversations with regularity (ADDITUDE & Dodson, 2019). People with ADHD learn best through engaging activities, visuals, and short bursts of information. Movement breaks, immediate feedback and positive reinforcement keep them focused and motivated. The emphasis on identifying action elements of learning style can improve the concentration of people with ADHD towards learning (Ghani, 2020). Recognizing the unique learning style of individuals with ADHD, a gamified approach has been developed to teach general insurance knowledge. This approach provides interactive challenges and engaging visuals that are enjoyable and effective for them.

#### 2. OBJECTIVE

The primary objectives of creating "InsureQuest: The Insurance Adventure" are to educate individuals, particularly those with ADHD, about the importance of general insurance and enhance their understanding of insurance concepts such as policy terms, coverage options, premiums and claims processes. It is specifically crafted to mitigate impulsive spending behaviors associated with ADHD, assisting in organizing and tracking finances effectively. Additionally, the game aims to promote risk management skills and informed decision-making regarding insurance coverage while fostering engagement and motivation through gamified learning experiences. Ultimately, "InsureQuest" seeks to empower players to make sound financial decisions and protect themselves from potential risks in real-life situations.

#### 3. NOVELTY & INVENTIVENESS

The charm of "InsureQuest: The Insurance Adventure" lies in its innovative use of gamification to teach complex insurance concepts in an engaging and accessible manner. Unlike traditional educational materials that may be dry and text-heavy, InsureQuest offers interactive challenges, visual aids and personalized feedback that cater to diverse learning styles, including individuals with ADHD. By incorporating elements of gameplay, such as rewards and levels, InsureQuest keeps users motivated and actively involved in the learning process. Furthermore, InsureQuest stands out by emphasizing real-world application, guiding users through practical scenarios where insurance knowledge is essential, thereby bridging the gap between theory and practice.

#### 4. PRACTICALITY & USEFULNESS

Upon launching the application, players are welcomed into a captivating experience where they can meticulously craft their avatar. Through a series of intuitive menus and interactive options, players are empowered to customize every aspect of their avatar's appearance to reflect their unique identity. Then, players move on to the city selection interface where they navigate a map displaying five virtual cities which are medical and health insurance, travel insurance, motor insurance, personal accident insurance and fire/ house owner/ house holder insurance. Hence, users will encounter various interactive challenges that simulate real-life scenarios where insurance coverage is needed such as hospitalization and surgery, trip cancellation, accidental injury, car collision and property loss due to fire. Meanwhile, they are able to discover comprehensive learning modules that cover a spectrum of essential topics. From clarifying policy terms and coverage options to simplifying concepts like premiums, deductibles and claims processes, it will establish players to develop a solid understanding of insurance fundamentals. This knowledge empowers individuals to protect themselves financially against unforeseen events and make sound decisions regarding their insurance needs. Once players finish the learning modules, they will take guizzes at the end of each level to test their understanding about the insurance concept. In fact, players will earn experience points (xps), badges as well as achievements for those who complete quests, mastering concepts and achieving high quiz scores. Ultimately, the existence of leaderboards further enhances the sense of competition and motivation among players, driving them to strive for excellence and continually improve their performance. Furthermore, several mini games like hangman, crossword and puzzle are being implemented to optimize the overall gaming

experience. In this context, players will be able to collect diamonds which they can use to unlock new avatar's outfits, accessories, xp booster and extra life. Apart from that, there is a noticeable button shown on the screen which is labeled as "Insurance Assistance". This feature reflects real-life insurance consultations, where individuals can connect with knowledgeable professionals for guidance on insurance products seamlessly.

#### 5. CONCLUSION

The development of the game application "InsureQuest: The Insurance Adventure" presents an innovative approach to educating individuals with ADHD about insurance concepts. By gamifying the learning process, it makes complex insurance topics more accessible and understandable. At last, "InsureQuest" has the potential to revolutionize insurance education for individuals with ADHD by providing a fun and engaging platform that enhances comprehension and retention of insurance knowledge in a way that traditional methods may struggle to achieve.

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