



INTERNATIONAL EXHIBITION & SYMPOSIUM ON PRODUCTIVITY, INNOVATION, KNOWLEDGE & EDUCATION

**“Optimizing Innovation in Knowledge, Education and Design”**

## ***EXTENDED ABSTRACT***



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*“Optimizing Innovation in Knowledge, Education and Design”*

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Azni Syafena Andin Salamet  
Nurfaznim Shuib

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Layout : Syahrini Shawalludin

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Assalamualaikum warahmatullahi wabarakatuh,



First and foremost, I would like to express my gratitude to the organizing committee of i-Spike 2023 for their tremendous efforts in bringing this online competition a reality. I must extend my congratulations to the committee for successfully delivering on their promise to make i-Spike 2023 a meaningful event for academics worldwide.

The theme for this event, 'Optimizing Innovation in Knowledge, Education, and Design,' is both timely and highly relevant in today's world, especially at the tertiary level. Innovation plays a central role in our daily lives, offering new solutions for products, processes, and services. By adopting a strategic approach to 'Optimizing Innovation in Knowledge, Education, and Design,' we have the potential to enhance support for learners and educators, while also expanding opportunities for learner engagement, interactivity, and access to education.

I am awed by the magnitude and multitude of participants in this competition. I am also confident that all the innovations presented have provided valuable insights into the significance of innovative and advanced teaching materials in promoting sustainable development for the betterment of teaching and learning. Hopefully, this will mark the beginning of a long series of i-Spike events in the future.

It is also my hope that you find i-Spike 2023 to be an excellent platform for learning, sharing, and collaboration. Once again, I want to thank all the committee members of i-Spike 2023 for their hard work in making this event a reality. I would also like to extend my congratulations to all the winners, and I hope that each of you will successfully achieve your intended goals through your participation in this competition.

*Professor Dr. Roshima Haji Said*  
RECTOR  
UiTM KEDAH BRANCH



## WELCOME MESSAGE (i-SPIKE 2023 CHAIR)



We are looking forward to welcoming you to the 3<sup>rd</sup> International Exhibition & Symposium on Productivity, Innovation, Knowledge, and Education 2023 (i-SPIKE 2023). Your presence here is a clear, crystal-clear testimony to the importance you place on the research and innovation arena. The theme of this year's Innovation is "*Optimizing Innovation in Knowledge, Education, & Design*". We believe that the presentations by the distinguished innovators will contribute immensely to a deeper understanding of the current issues in relation to the theme.

i-SPIKE 2023 offers a platform for nurturing the next generation of innovators and fostering cutting-edge innovations at the crossroads of collaboration, creativity, and enthusiasm. We enthusiastically welcome junior and young inventors from schools and universities, as well as local and foreign academicians and industry professionals, to showcase their innovative products and engage in knowledge sharing. All submissions have been rigorously evaluated by expert juries comprising professionals from both industry and academia.

On behalf of the conference organisers, I would like to extend our sincere thanks for your participation, and we hope you enjoy the event. A special note of appreciation goes out to all the committee members of i-SPIKE 2023; your dedication and hard work are greatly appreciated.

*Dr. Junaida Ismail*

Chair

3<sup>rd</sup> International Exhibition & Symposium Productivity, Innovation, Knowledge, and Education 2023 (i-SPIKE 2023)





## PILGIRMGUARD BAND: PILGRIMAGE EMERGENCY BRACELET

Mohd Zulfahmi Bin Ashan

Faculty of Hotel and Tourism Management, UiTM Sabah Branch, Kota Kinabalu Campus  
Zulfahmie08@gmail.com

Debra Utih Anak Francis

Faculty of Hotel and Tourism Management, UiTM Sabah Branch, Kota Kinabalu Campus  
utihdebra@gmail.com

Floria Ann Anak Dominic

Faculty of Hotel and Tourism Management, UiTM Sabah Branch, Kota Kinabalu Campus  
floriaf353@gmail.com

Stephanie Pilem

Faculty of Hotel and Tourism Management, UiTM Sabah Branch, Kota Kinabalu Campus  
stephaniepilem53@gmail.com

Boyd Sun Fatt

Faculty of Hotel and Tourism Management, UiTM Sabah Branch, Kota Kinabalu Campus  
boyds156@uitm.edu.my

### ABSTRACT

Every year, Muslims travel to Mecca and Medina to perform the religious pilgrimage of Hajj and Umrah. Approximately 4.8 million individuals visited Mecca and Medina (2022). However, the large turnout resulted in several unforeseen incidents during the event. In this context, it is crucial to prioritize safety during Hajj and Umrah. In numerous studies, unexpected occurrences often arise, such as the loss of participants or individuals, fainting due to overcrowding, and other similar incidents. This highlights the difficulties encountered by individuals participating in Hajj and Umrah during the performance of these religious pilgrimages. The researcher made a decision to create a bracelet that would aid in facilitating a smoother and safer pilgrimage experience. The researcher proposed the concept of an emergency bracelet called PilgrimGuard Band. This bracelet is specifically designed for individuals participating in Hajj and Umrah who are visiting Mecca and Medina during their journey. It serves as an emergency tool. The Hajj and Umrah experience will be made easier for participants with the inclusion of several interesting features. With PilgrimGuard Band present, the safety of all participants will be closely monitored and any untoward incidents will be promptly addressed. The tour guide or tour operator will provide participants who perform Hajj and Umrah with an emergency bracelet.

**Keywords:** Safety bracelet, Hajj and Umrah, Pilgrimguard Band, pilgrimage, muslim travel

### INTRODUCTION: THE PILGRIMGUARD BAND

PilgrimGuard Band is the ideal travel companion for a worry-free and secure Umrah and Hajj experience. PilgrimGuard Band guarantees user safety at all times thanks to its advanced capabilities such as GPS tracking, identity storing, and heat resistance. Keep a copy of your vital medical information on hand, and press the emergency button to contact local authorities in case of an emergency. Use audio and visual alerts to be updated about important



announcements, prayer times, and neighbouring amenities. PilgrimGuard Band will be your trustworthy and necessary travel companion because to its durable design and long battery life. Trust PilgrimGuard Band to ease your mind and strengthen your spiritual journey. By having this pilgrim alert bracelet, the tour guide will detect the member from being lost.

## **OBJECTIVES OF THE PILGRIMGUARD BAND**

The primary goal is to guarantee the safety of all participants throughout the Hajj and Umrah pilgrimage. Feeling safe and confident during Hajj and Umrah is of utmost importance. Therefore, PilgrimGuard Band will assist the participants in remaining vigilant against any unforeseen circumstances. The second objective is to help participants carry out Hajj and Umrah. With the help of PilgrimGuard Band, users can anticipate the environmental conditions of a location prior to their arrival. In addition, it can also assist in determining whether the location is suitable to visit at that particular time. Finally, it is important to ensure that the journey for Hajj and Umrah goes smoothly. The emergency bracelet provides various useful features such as weather updates, prayer times, and crowd status, among others, to assist its wearers. The utilisation of PilgrimGuard Band by Hajj and Umrah participants facilitates a smooth performance of the pilgrimage.

## **FEATURES THE PILGRIMGUARD BAND**

The product is equipped with a range of features that make it highly suitable for use by individuals participating in Hajj and Umrah. The emergency band includes features such as GPS and real-time location information. This feature assists Hajj and Umrah pilgrims in obtaining information about the conditions of their desired destination. In addition, it can assist tour operators in locating any pilgrims who may have become separated from the group. The second feature pertains to the identification and provision of contact information. This band will store essential information in case of an unforeseen event. This also facilitates tour operators in acquainting themselves with the pilgrims they are supervising. The third feature of this product is its ability to resist heat and sweat. The band is specifically designed to endure high temperatures and effectively absorb sweat, ensuring optimal comfort for the wearer. The fourth feature includes multilingual capabilities and language translation. The platform is convenient for individuals from other countries as it allows them to translate content into their native language. Additionally, it displays and retains significant health data, including allergies, medical conditions, and hydration levels. In addition to health information, this Band also includes an emergency button. This button is intended for use by congregations that are encountering difficulties or by other congregations that have been impacted by such difficulties. Pressing this button will send a signal to the tour operator. Furthermore, it is equipped with both audio and visual alerts. This feature will issue alerts for significant notifications and warnings. In addition to its primary function, it also serves to inform users of prayer times, nearby amenities, and emergency protocols. The band now features a durable and rechargeable battery. What's most interesting about this band is that it can be charged using solar power. The battery has a lifespan of 5-6 days.

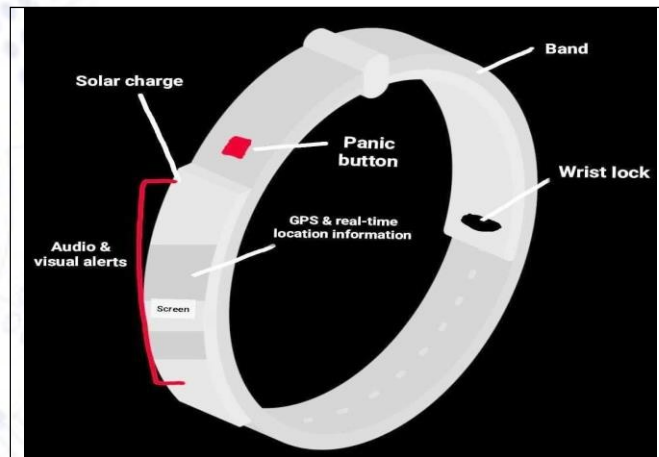
## **NOVELTY THE PILGRIMGUARD BAND**

With the revolutionary PilgrimGuard Band, you can set out on your spiritual journey with assurance and peace of mind. This ground-breaking emergency bracelet combines cutting-edge technology with crucial features that improve safety, convenience, and cultural immersion in

order to specifically cater to the special needs of pilgrims. Firstly, the modern GPS tracking technology built into the PilgrimGuard Band makes sure the user never get lost while on their journey. Their pilgrimage will be a truly transformative experience if they have precise location information at their fingertips so that they can easily navigate through unfamiliar areas and sacred sites. Secondly, safety comes first, especially in busy pilgrimage locations. The user identification information, emergency contacts, and vital medical data can all be stored right on the PilgrimGuard Band bracelet. First responders and other pilgrims will be able to easily access their information in case of an emergency and offer the necessary assistance. Next, the PilgrimGuard Band is heat resistant and built to withstand extreme temperatures, providing dependable performance even in sweltering pilgrimage locations. This bracelet is dependable and tough whether the user hiking in the scorching sun or visiting holy places with extreme heat. Moreover, people travel for pilgrimages from all over the world, and the PilgrimGuard Band welcomes diversity by providing multilingual support. This bracelet promotes inclusion and communication because it can display information in a variety of languages, ensuring that every pilgrim can easily access vital information. Plus, during the pilgrimage, the importance of health and wellbeing cannot be overstated. The user can keep track of important medical data with the PilgrimGuard Band, including allergies, chronic conditions, and prescription drug needs. This information can be very important for healthcare professionals in an emergency situation, ensuring that they will get the immediate care they need. An emergency button on the PilgrimGuard Band activates a distress signal when in distress, alerting nearby authorities or fellow pilgrims. Simply push a button and help is summoned, giving user a sense of never being alone. In addition, as they travel on pilgrimage, PilgrimGuard Band keeps the user informed and connected. The bracelet provides audio and visual reminders of prayer times, so they would not miss anything sacred. Furthermore, it provides information on nearby amenities, such as restrooms, water stations, and emergency protocols, enhancing their pilgrimage. Lastly, using solar power for charging, the PilgrimGuard Band combines sustainability with functionality. A solar panel integrates into the bracelet, allowing power to be collected from the sun without the need to change batteries frequently. Unlike an emergency bracelet, PilgrimGuards Band are transformative companions that empower pilgrims to embrace their spiritual journey with confidence, safety, and cultural immersion.

## PRODUCT COMMERCIALISATION


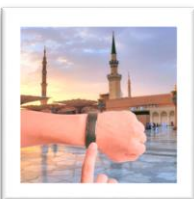

The PilgrimGuard Band has a design that reflects the importance of religion in the Hajj and is suitable for use during religious ceremonies. In addition, this bracelet also has an identification tag including important personal information or a clear and white symbol to indicate the wearer's status as a pilgrim. Furthermore, the emergency messages and symbols on the bracelet are multilingual to ensure they are easily understood by emergency personnel from different countries. This bracelet also has a design and message that respects the traditions and beliefs of the local community. Furthermore, this bracelet is able to withstand extreme weather conditions including high temperature and humidity as well as exposure to sand and dust. This is because, users use it all day so this bracelet is resistant to use in extreme conditions. The design of this bracelet is also compatible with traditional clothes worn during Hajj such as ihram. This emergency bracelet has GPS. This is because it is easier for users to access in case of an emergency and does not require clothing or other accessories to be left behind. This emergency bracelet also does not interfere with religious rituals or traditions and this bracelet must be worn carefully while performing Hajj to prevent the bracelet from being lost. This bracelet should also be owned by all the pilgrims who come so that they can be known if there is an emergency for the pilgrims and it is easy to help them. In addition, this bracelet is very easy to wear because just by pressing the emergency button you will be accessible to rescuers.






**Figure 1. SKETCH FOR PILGRIMGUARD BAND**

Introducing the PilgrimGuard Band – the ultimate companion for your pilgrimage journey. This innovative bracelet combines cutting-edge features to ensure your safety and peace of mind. With solar charging capabilities, it's always ready to go and use. Experience audio and visual alerts for important notifications, while the built-in screen provides quick access to essential information. With GPS and real-time location updates, you'll never lose track of your group. In case of emergencies, the panic button and wrist lock offer immediate assistance. Discover a new level of security with the PilgrimGuard Band, your trusted companion on your pilgrimage adventure.

### PROCESS OF USING THE PRODUCT

	1. How to Use Emergency Button
<p>1.</p> 	<p>a. It is common for pilgrims to get lost during Hajj and Umrah. The pilgrimsGuard band can be helpful for lost pilgrims.</p>
<p>2.</p> 	<p>b. To send an emergency signal and quickly receive assistance from the emergency officer or tour operator.</p> <p>c. Press the emergency button to indicate the location of the emergency.</p>
<p>3.</p> 	<p>d. PilgrimGuard band will send an emergency signal to the tour operator.</p>



<ol style="list-style-type: none"> <li>1. </li> <li>2. </li> <li>3. </li> </ol>	<h2>2. How the Audio and Visual Works.</h2> <ol style="list-style-type: none"> <li>a. If pilgrims confused and hesitate to go anywhere at makkah and medina. PilgrimGuard Band can assist pilgrims to know about their surroundings.</li> <li>b. The PilgrimGuard is capable of detecting its surroundings and determining whether they are accessible at the current time.</li> <li>c. A warning sign will be displayed in the band to alert pilgrims</li> </ol>
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## CONCLUSION

In conclusion, the PilgrimGuard Band for the Hajj and Umrah is a crucial safety precaution for pilgrims performing the Hajj. It gives crucial details, such pilgrims' names, emergency contacts, medical histories, and locations, that can aid in rescue attempts. For the bracelet to be effective, it must be reliable and simple to use. Additionally, it's critical to periodically update the bracelet's information and to always wear it when conducting Hajj. Overall, the emergency bracelet for the Hajj and Umrah is a crucial device that can save lives in the event of a crisis during the Hajj.

## REFERENCE

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