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2024



International Industrial Revolution 4.0 Exposition

"INNOVATING IDEAS, TRANSPIRING DREAMS"

ABSTRACT BOOK

Strategic Partners:



Perpustakaan
Sultan Badlishah

Organized By:

**COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS,
UNIVERSITI TEKNOLOGI MARA, KEDAH BRANCH**

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UiTM Cawangan Kedah Channel

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IREx 2024

The successful inauguration of IR4.0 Exposition IREx 2019 has witnessed ground breaking initiatives, ideas, and innovations materialised into numerous practical devices today. Treading on the same triumph, the College of Computing, Informatics, and Mathematics, UiTM Kedah is thrilled to announce the continuation of said event, IREx 2024 with the theme: *Innovating Ideas, Transpiring Dreams*.

The IREx 2024 aspires to incorporate even more exciting new technologies including, but not limited to, Information & Communication Technology (ICT), Educational Technology & Innovation (ED), Operational Excellence (OE), Internet of Things (IoT), Process Improvement, Ideas & Design, Multimedia, and Electronics that will chart new milestones in human history. This will serve as an excellent platform for scientists and innovators alike to meet the like-minded individuals and showcase inspiring ideas and notable innovations.

PROGRAM SCHEDULE

International Industrial Revolution 4.0 Exposition (IREx 2024)
21ST May 2024 (Tuesday)
Dewan Perdana, UiTM Kedah Branch

TIME	EVENT
8.00 – 9.00 am	Registration & Booth Set Up
9.00 am – 12.00 pm	Exhibition & Judging Session
12.00 pm – 2.00 pm	Obedient Drone Session & Break
2.00 pm – 5.00 pm	Official Closing & Prize Giving Ceremony
5.00 pm	Program Ends

Official Closing Ceremony

International Industrial Revolution 4.0 Exposition (IREx 2024)

TIME	EVENT
2.00 pm	Arrival of Guests and Participants
2.30 pm	Arrival of VVIP
	National anthem - Negaraku And Wawasan Setia Warga
2.40 pm	UiTM
	Welcoming Speech
3.00 pm	Rector's Welcoming Speech
	Officiating Speech
3.10 pm	Gimmick & Montage presentation
3.30 pm	Prize Giving Ceremony
4.00 pm	Photography
5.00 pm	Program Ends

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IRX082	MULTIPURPOSE SOAP	5
IRX083	PUFFER FISH BOAT	6
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CATEGORY A

INOVASI RUHGUARD: SISTEM PINTAR PENGESEAN KESELAMATAN DI PADANG SEKOLAH

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ABSTRAK - Projek RUSHGUARD (React Urgently, Shield Health, Guard Using Action for Recreation Defense) oleh pasukan Cactus Innovaid bertujuan meningkatkan keselamatan di padang sekolah. Menggunakan teknologi mikropengawal seperti Arduino Uno dan modul GSM, sistem ini dapat menyampaikan maklumat kecemasan dengan cepat. RUSHGUARD dirancang untuk mencegah kemalangan maut yang sering berlaku, seperti insiden di mana murid dihempap tiang gol. Sistem ini menggunakan sensor suara untuk mengesan bunyi kecemasan dan mengaktifkan pelbagai tindak balas seperti buzzer, lampu LED, dan servo motor yang mengawal pintu pagar dan payung keselamatan. Apabila sensor suara mengesan jeritan, buzzer diaktifkan, lampu LED merah berkelip, dan servo motor membuka atau menutup pintu pagar serta payung keselamatan. Apabila keadaan kembali normal, buzzer dimatikan dan lampu LED hijau menyala, menunjukkan keselamatan. Prototaip padang sekolah telah dibangunkan untuk menunjukkan aplikasi praktikal sistem ini. Langkah pemasangannya mudah dan boleh dilakukan oleh mana-mana sekolah, dengan harapan mengurangkan risiko kematian dalam situasi kecemasan. RUSHGUARD merupakan inovasi penting yang diharapkan dapat membuka pintu kepada lebih banyak penambahbaikan dalam sistem keselamatan pendidikan.

Kata Kunci: padang sekolah, mikropengawal, sistem pintar



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