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CYBERSECURE VR: IMMERSIVE MICROCREDENTIAL IN THREAT SIMULATION AND RESPONSE
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UMPSA Researcher Assoc. Prof. Dr. Mohd Faizal develops Virtual Reality-Based Cyber Training

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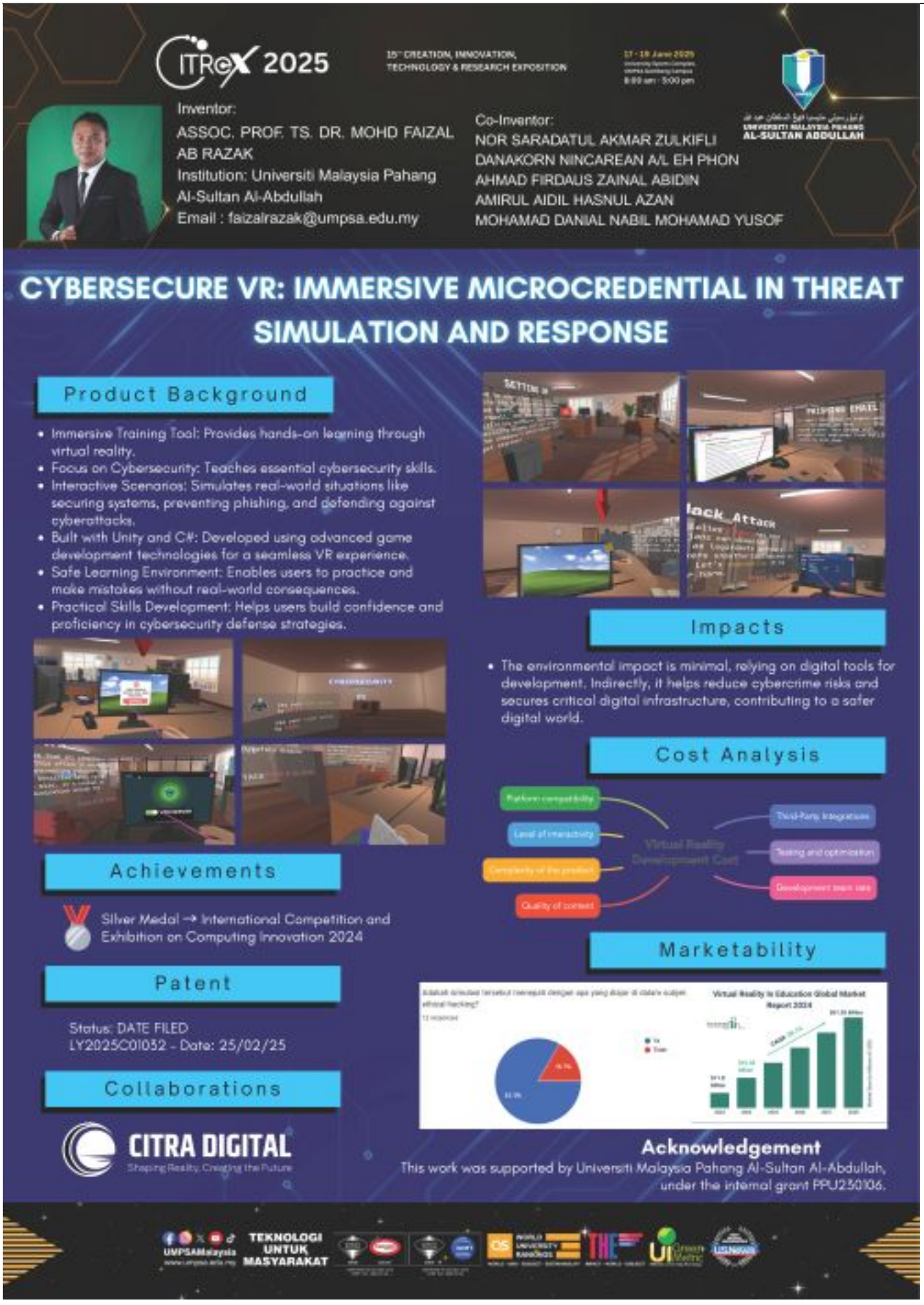
PEKAN, 6 August 2025 – Recognising that conventional cybersecurity training often has limited impact due to the lack of realistic simulation elements, a research team from the Faculty of Computing (FK), Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA), led by Assoc. Prof. Dr. Mohd Faizal Ab Razak, has developed CyberSecure VR—an immersive and interactive virtual reality (VR)-based training system.

The research team also includes Prof. Dr. Danakorn Nincarean a/l Eh Phon, Prof. Dr. Ahmad Firdaus Zainal Abidin, and Prof. Dr. Nor Saradatul Akmar Zulkifli, as well as representatives from Citra Digital, Amirul Aidil Hasnul Azan and Mohamad Danial Nabil Mohamad Yusof.

According to Dr. Faizal, CyberSecure VR is designed to enhance the ability of students and professionals to respond effectively to cyber threats.



“Users wear a VR headset and interact in a virtual environment that simulates a real workplace.

They are required to respond to threats such as phishing attacks in real time, and every action is tracked and analysed for learning and evaluation purposes," he explained.

The research, which began in January 2024, has gone through two key phases: the development of a micro-credential module completed in June 2024, followed by the creation of a VR prototype and learning scenarios, which are expected to be fully completed by December 2025.

CyberSecure VR has received support from the Centre for Academic Innovation and Competitiveness (PIDA) through a Teaching and Learning Grant (PPU230106) worth RM27,000.

"Our goal is to make this platform widely accessible as a cyber competency training tool to increase public awareness of cybersecurity.

It also supports the development of micro-credential modules for courses such as Ethical Hacking, in collaboration with CIREL UMPSA," Dr. Faizal added.

The project has already achieved recognition, winning the Nova T: Emerging Tech Award and the Outstanding Business Management Micro-Credential Award at the UMPSA Creation, Innovation, Technology and Research Exposition (CITREX) 2025, held on 18–19 June 2025 at the UMPSA Sports Complex Hall, Gambang Campus.

Looking ahead, the team plans to expand the system with additional simulation modules, including crisis management and cyber forensics.

They also aim to collaborate with professional training bodies to certify the programme as a Continuing Professional Development (CPD)-recognised module, further enhancing the marketability of both graduates and the workforce in the rapidly growing cybersecurity sector.

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