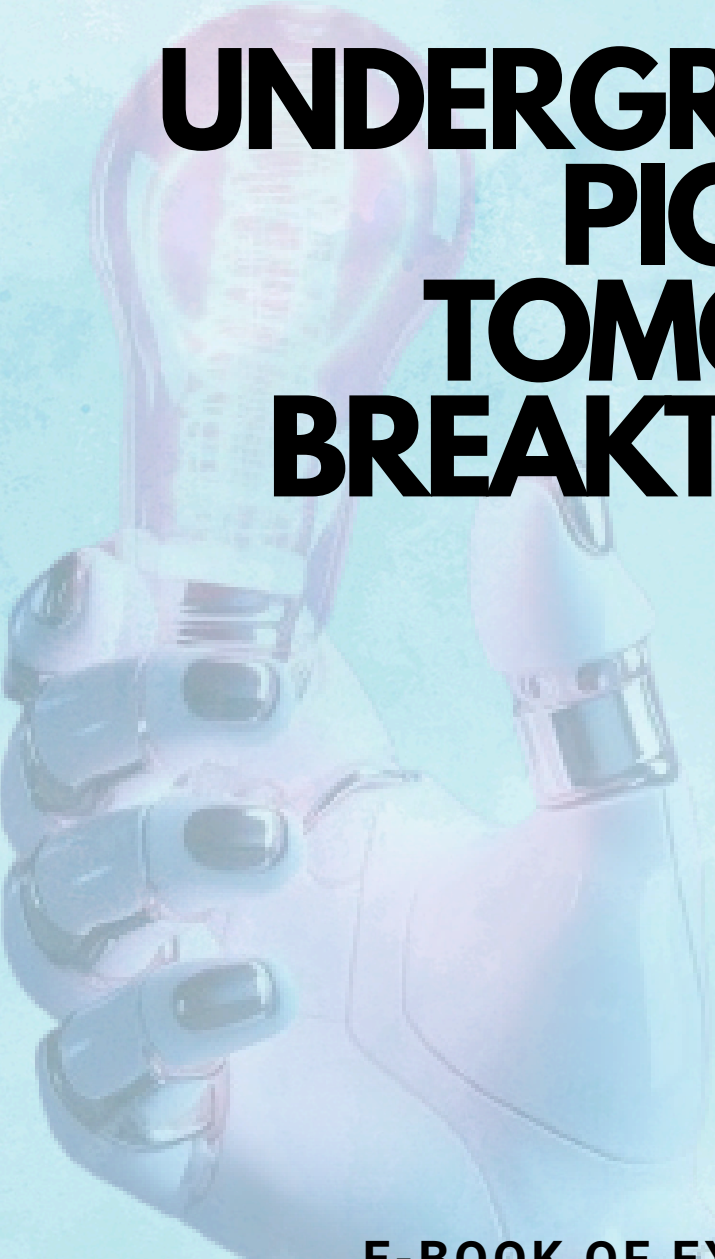


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**INTERNATIONAL UNDERGRADUATE RESEARCH
INNOVATION, INVENTION AND DESIGN**



**UNDERGRADUATES
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E-BOOK OF EXTENDED ABSTRACTS

UniVent: AN AI-ENHANCED SMART PLATFORM FOR UNIVERSITY EVENT MANAGEMENT AND STUDENT ENGAGEMENT

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ABSTRACT

University life involves more than just academic learning. Participating in campus events plays an important role in helping students develop soft skills, expand their networks, and enrich their educational experience. At UiTM Seremban, many students struggle to stay informed about campus events due to scattered announcements, manual registration processes, and a lack of centralized tracking tools. To address these issues, our team created UniVent, a smart platform designed to simplify how students and organizers manage university events. UniVent allows students to explore events, register with ease, receive timely reminders, scan attendance via QR codes, track merit points, and download digital certificates. For organizers, the platform provides tools to create events, manage participants, monitor statistics, and gather feedback through an integrated dashboard. Automated features such as real-time notifications, attendance recording, and certificate generation help save time and reduce paperwork. What makes UniVent unique is its use of artificial intelligence to recommend events based on each student's interests, academic background, and participation history. This personalised approach encourages higher engagement and supports better decision-making for students. By combining multiple event-related functions into one platform, UniVent supports UiTM's digital transformation efforts and promotes sustainable practices in line with Sustainable Development Goals, particularly Goal 4 (Quality Education) and Goal 9 (Innovation and Infrastructure). The system was developed by students to solve real campus challenges and is ready for integration with tools such as iStudent and Google Calendar. UniVent has strong potential to scale across campuses and foster a more connected, active student community.

Keywords: Smart Campus, Event Management System, Student Engagement, Artificial Intelligence, Digital Transformation

INTRODUCTION

Co-curricular involvement is an essential part of student life, helping learners grow beyond academics. However, many students at UiTM Seremban still face challenges in keeping up with university events. Much of this is due to disjointed communication, manual event processes, and the absence of a central system to manage event attendance or achievements. Commonly used platforms like WhatsApp or Telegram are helpful but not ideal for managing structured information. This often causes students to miss important announcements or lose track of event schedules (Zhao, 2024).

When students lack timely access to information or the ability to monitor their own participation, they may miss out on valuable learning experiences (Akour & Alenezi, 2022). On the other hand, organizers also experience difficulties, particularly in handling registrations, tracking attendance, managing payments, and collecting feedback (ELSHAPASY & Mohamed, 2024). These recurring issues prompted the development of UniVent—a student-centered mobile platform aimed at streamlining the way events are promoted, tracked, and experienced on campus. With built-in intelligent features and a clean, user-friendly design, UniVent encourages more active participation and smoother event management.

OBJECTIVE

The main goal of UniVent is to redefine how students and event organisers interact with university programs. It does this by offering a centralized solution that resolves common pain points such as scattered announcements, repetitive registrations, and delayed communication (Seitbatkalova et al., 2023). Rather than asking students to hunt for information or submit repetitive forms, UniVent provides a comprehensive portal listing all events with full details. Whether it's a seminar, sports day, or academic workshop, each listing is updated in real-time and linked to a smooth registration and payment system (Amin & Paiman, 2022). This helps students register with fewer steps and receive instant confirmation.

Another aim is to improve engagement using real-time notifications, reminders, and personalised dashboards. These dashboards allow students to view their past participation, earned merit points, and downloadable certificates. For organizers, the platform offers a dashboard to monitor registrations, view demographic breakdowns, and collect feedback in a structured way. By combining these goals, UniVent aligns with UiTM's push toward digital transformation while also improving the campus experience for all parties involved (Mutizwa et al., 2023).

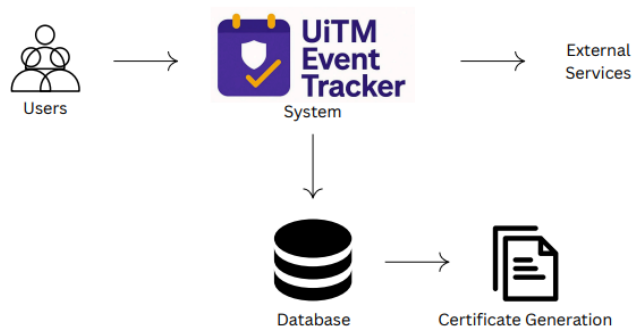


Figure 1: UniVent System Architecture

DESCRIPTION

UniVent is a mobile-first application, built specifically for UiTM students and staff. The interface is designed with simplicity in mind—students can browse upcoming events using filters like event type, faculty, or date, while event pages clearly display key information such as location, time, fees, and benefits (Phuengrod et al., 2023). If payment is required, students can complete it securely using online options and receive immediate confirmation. Push notifications ensure that students stay informed about changes or reminders. One of UniVent's most useful tools is its personal dashboard. This feature helps students track event attendance, merit points, and access downloadable certificates for past events.

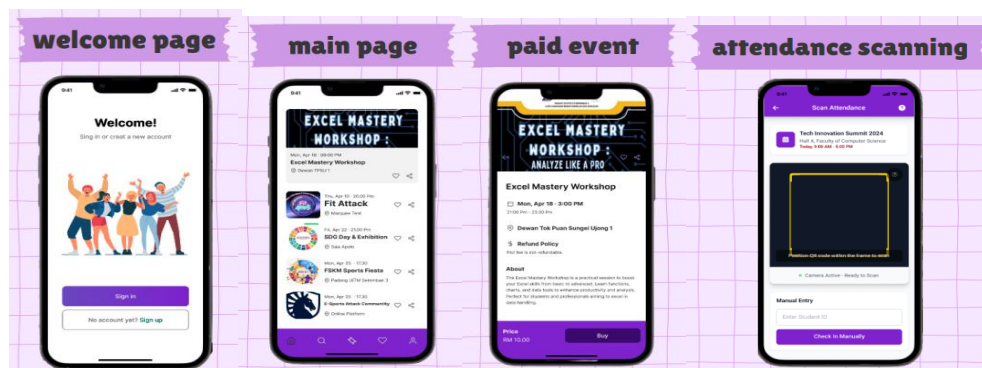


Figure 2: Student Dashboard UI

For event organizers, UniVent offers a back-end dashboard that supports event creation, real-time registration tracking, and automated QR-code-based attendance. Organizers can also upload posters, manage participant limits, and view live analytics. Feedback is gathered through built-in forms and displayed using graphs that summarise participant satisfaction, attendance, and faculty representation. Data is securely stored on the cloud, providing continuous access and protection for both students and staff. All these features are designed to reduce paperwork, streamline communication, and provide better data for decision-making on campus.

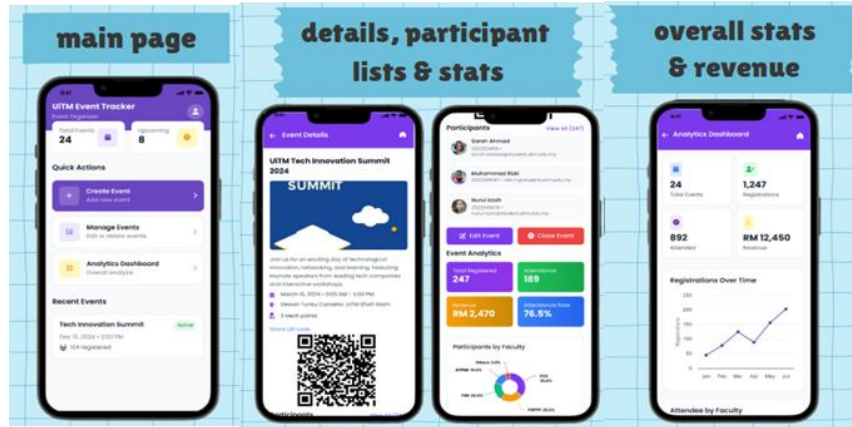


Figure 3: Organizer Dashboard Analytics

NOVELTY

What makes UniVent stand out is its ability to bring everything together in one platform. Unlike typical form-based systems or external tools like Eventbrite, UniVent was built from scratch to serve the unique needs of universities. Students no longer have to juggle multiple apps or links just to sign up, pay, check in, and later download certificates (Thin, 2024). A key innovative feature is the use of artificial intelligence for personalised recommendations. Based on students' faculty, interests, and event history, the system suggests relevant future events. This makes it easier for students to discover meaningful activities and increases the likelihood of participation (Li et al., 2024).

For organisers, automation is at the heart of the platform. QR codes link directly to each student's profile, eliminating manual attendance sheets (Bsisu et al., 2024). Feedback is gathered automatically and presented in simple visual reports. These tools make it easier for faculty and student groups to organize impactful events without getting overwhelmed by logistics. Even more importantly, UniVent is built with scalability in mind. While it was initially developed for UiTM Seremban, the platform can be connected to tools like iStudent or Google Calendar for broader use across other campuses. It supports UiTM's digital transformation roadmap and promotes sustainability by reducing paper usage and manual work. Ultimately, UniVent represents a smart, future-ready system that benefits everyone in the campus community.

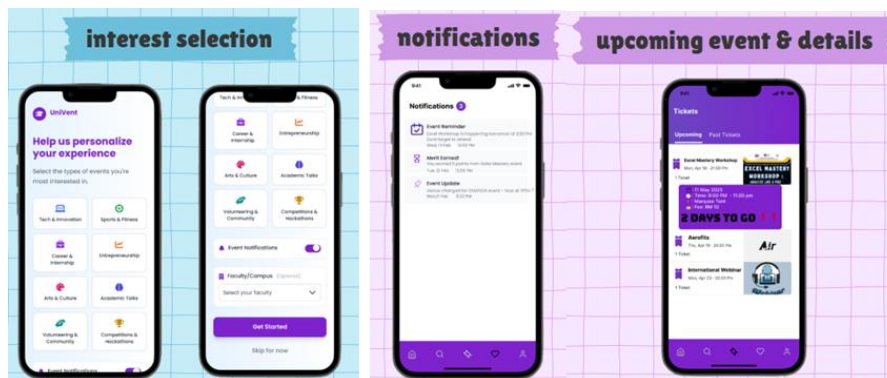


Figure 4: AI for Personalized Recommendations

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