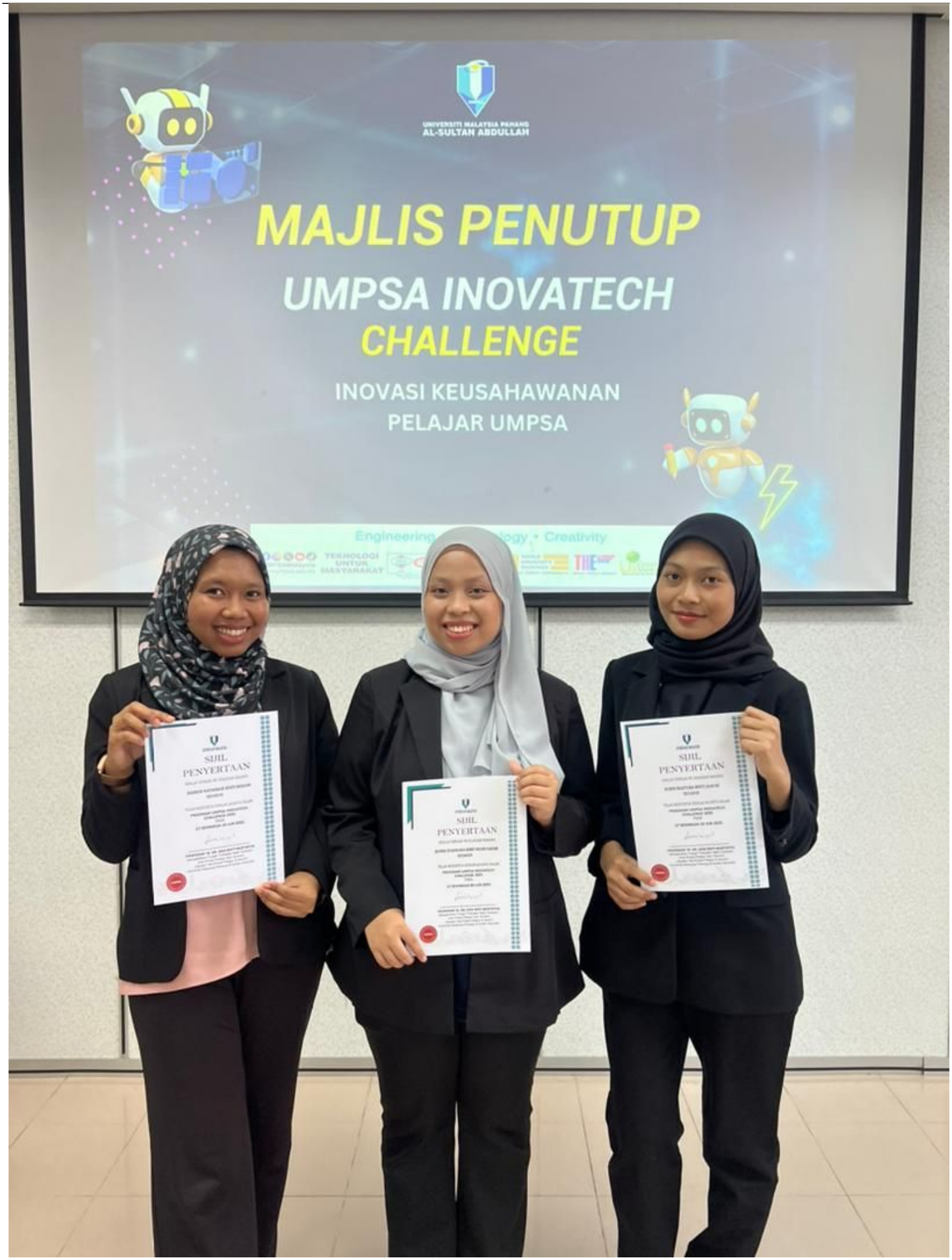
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Student

UMPSA students develop PrEduBuddy smart app to monitor academic performance in real-time

26 August 2025

PEKAN, 25 August 2025 – The research idea for the PrEduBuddy smart app emerged when a group of students from the Centre for Mathematical Sciences (PSM), Universiti Malaysia Pahang Al-Sultan

Abdullah (UMPSA), led by Hasnur Nauwirah Hisham, together with Nurin Mastura Jaafar and Husna Syazwana Mohd Sahar, realised that many students faced difficulties calculating carry marks in real-time.

This situation made it difficult for them to monitor academic progress, identify weaknesses early, and manage assignments more systematically.

This research was also carried out with their mentor, Dr Mohd Khairul Bazli from PSM, who provided extensive guidance on data analytics and the suitability of app functions.

Hasnur Nauwirah said their own experience of having to check marks manually and relying only on basic phone calendars opened their eyes to the need for a more student-friendly solution.

“Inspiration also came from how data analytics is now widely used to generate insights that help decision-making.

“From that experience, we developed PrEduBuddy, a data-based app capable of automatically calculating marks, generating performance analysis in visual form, and providing assignment scheduling and smart reminders.

“Research began in early June 2025 with data collection and system design, while a basic prototype was successfully developed in August 2025,” she said.

She added that the project is still in the improvement phase, particularly in terms of data visualisation

and user experience.

“PrEduBuddy functions based on course data and marks entered by students.

“Its main functions include dynamic assignment management, automatic carry mark monitoring, final grade prediction, performance display in graphical form, and detection of study habits through data patterns.

“All of these analyses are conducted automatically to generate insights that are easy to understand,” she explained.

The ultimate goal of PrEduBuddy’s development is to be commercialised and adopted in both public and private universities in Malaysia.

She hopes the app will help students and lecturers identify achievement patterns, problematic courses, and overall performance.

“In the future, the research team plans to integrate the application with the university’s academic portal, as well as add intelligent features based on artificial intelligence, focused music integration, and a student community space.

“For now, the project has not received any grants or external support, but the estimated development cost for the basic version is around RM6,000 to RM9,000, while the full commercial version could reach RM18,000,” she added.

She further explained that PrEduBuddy successfully placed itself among the top 15 in the Innovatech UMPSA Challenge 2025 and advanced to the second stage of Innovathon Malaysia Season 3, which gave confidence to the research team to take this innovation to a higher level.

“We hope PrEduBuddy will become the official digital learning platform widely used in higher education institutions nationwide, and eventually be commercialised internationally.

“We are confident this app can have a positive impact on the global education system,” she said.

This project is also the first product of UMPSA student research collaboration and marks the beginning of more educational technology innovations that are problem-solving oriented in the future.

Recently, this team was also one of three groups representing UMPSA in the Season Three Innovathon Audition, an initiative under the Ministry of Economy and the Ministry of Science, Technology and Innovation (MOSTI) in collaboration with ASTRO, held on 4 and 5 August 2025 at Universiti Malaya (UM), Kuala Lumpur.

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