



E-PROCEEDINGS

INTERNATIONAL TINKER INNOVATION & ENTREPRENEURSHIP CHALLENGE (i-TIEC 2025)

"Fostering a Culture of Innovation and Entrepreneurial Excellence"



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23 January 2025
PTDI, UiTM Cawangan Johor
Kampus Pasir Gudang

ORGANIZED BY:

Electrical Engineering Studies, College of Engineering
Universiti Teknologi MARA (UiTM) Cawangan Johor
Kampus Pasir Gudang
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PREFACE

It is with great pleasure that we present the e-proceedings of International Tinker Innovation & Entrepreneurship Challenge (i-TIEC 2025), which compiles the extended abstracts submitted to the International Tinker Innovation & Entrepreneurship Challenge (i-TIEC 2025), held on 23 January 2025 at **PTDI, Universiti Teknologi MARA (UiTM) Cawangan Johor, Kampus Pasir Gudang**. This publication serves as a valuable resource, showcasing the intellectual contributions on the invention and innovation among students, academics, researchers, and professionals.

The International Tinker Innovation & Entrepreneurship Challenge (i-TIEC 2025), organized under the theme "Fostering a Culture of Innovation and Entrepreneurial Excellence," is designed to inspire participants at various academic levels, from secondary students to higher education students and professionals. The competition emphasizes both innovation and entrepreneurship, encouraging the development of product prototypes that address real-world problems and have clear commercialization potential. By focusing on technological and social innovations, i-TIEC 2025 highlights the importance of turning creative ideas into viable, market-ready solutions that can benefit users and society. The extended abstracts in this e-proceedings book showcase the diverse perspectives and depth of research presented during the event, reflecting the strong entrepreneurial element at its core.

We extend our sincere gratitude to the contributors for their dedication in sharing their innovation and the organizing committee for their hard work in ensuring the success of the event and this publication. We also appreciate the support of our collaborators; Mass Rapid Transit Corporation Sdn. Bhd. (MRT Corp), Universitas Labuhanbatu, Indonesia (ULB), Universitas Riau Kepulauan, Indonesia (UNRIKA) and IEEE Young Professionals Malaysia, whose contributions have been instrumental in making this event and publication possible.

We hope that this e-proceedings book will serve as a valuable reference for researchers, educators, and practitioners, inspiring further studies and collaborations in both innovation and entrepreneurship. May the knowledge shared here continue to spark new ideas and market-ready solutions, advancing our collective expertise and fostering the growth of entrepreneurial ventures.

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A-SS004: SMART APPLICATION FOR STUDENT'S DAILY LEARNING MANAGEMENT

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ABSTRACT

The "Smart Application for Student's Daily Learning Management" is a mobile-based application designed to assist students in organizing and optimizing their daily learning activities. This innovative solution was developed to address the common challenges faced by students in managing schedules, tracking assignments, and achieving academic goals. By integrating smart features such as task management, schedule reminders, progress tracking, and gamification, the application provides a user-friendly and efficient platform for students to enhance their productivity. The application's main advantages lie in its intelligent recommendation system, which suggests optimized study plans based on workload and deadlines, as well as its motivational gamification elements that reward students for task completion. Its uniqueness stems from the combination of AI-driven analytics and an engaging, interactive interface tailored for young learners. This innovation has significant socio-economic and environmental impacts by fostering better time management, reducing academic stress, and encouraging students to adopt sustainable digital solutions. With its scalable design and versatile functionality, the application holds promising commercialization prospects for schools, educational institutions, and individual users seeking effective tools to improve learning outcomes.

Keywords: Learning Management, Smart Application, Educational Technology, Student Performance Improvement, Time Management

1. Product Description

As illustrated in **Figure 1**, the smart application's workflow provides a comprehensive and intuitive approach to student learning management. The flowchart demonstrates the systematic process of user interaction, beginning with login and progressing through key functionalities. Students can effortlessly add assignments, set strategic reminders, and organize their schedules with precision. The visual representation highlights how the application enables students to input their academic tasks, track progress, and receive personalized performance insights in a seamless, user-friendly manner. Each stage of the flowchart emphasizes the app's intelligent design, showing how students can navigate their academic responsibilities efficiently. From initial task entry to performance analysis, the flow showcases how the application transforms complex learning management into a streamlined, accessible experience. By following this intuitive process, students can optimize their study strategies, stay organized, and ultimately enhance their academic performance through a smart, technology-driven solution.

2. Flow Charts

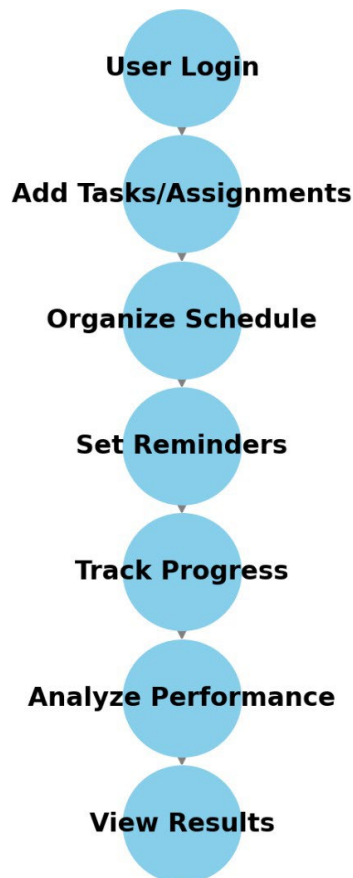


Figure 1. This flowchart illustrates the process for using a smart application designed to enhance daily student learning management

3. Novelty and uniqueness

The flowchart represents a unique approach to managing daily student learning through a smart application. What makes this system novel is its seamless integration of task organization, scheduling, and real-time progress tracking within a single platform. The user-centric design of the flowchart reflects an intuitive and efficient process, starting with simple user login and moving through a series of actions such as adding assignments, setting reminders, and organizing schedules. What sets it apart is the feedback loop where the system not only tracks progress but also analyzes performance, providing personalized insights for students. The combination of these features in a single workflow ensures that students can manage their studies effectively, while also receiving timely reminders and performance evaluations. This integration of both learning management and performance analysis in real-time is a key innovation, addressing the common challenges faced by students in staying organized and improving their academic outcomes. This approach is

uniquely tailored to help students make informed decisions about their learning path, offering an optimized and adaptive system for better educational results.

4. Benefit to mankind

The Smart Application for Daily Student Learning Management offers numerous benefits to mankind by enhancing the education experience for students. It helps students stay organized, manage time effectively, and stay on top of their academic responsibilities, leading to improved productivity and reduced stress. By offering personalized schedules, task tracking, and performance analytics, the app empowers students to take control of their learning, fostering better time management, self-discipline, and academic success. Moreover, it supports educators by providing valuable insights into student progress and helping tailor teaching strategies. With seamless integration with school calendars and other digital tools, the app simplifies the learning process, making it more efficient and accessible. Ultimately, this application contributes to building a more educated, capable, and motivated generation, enhancing the quality of education and preparing students for future challenges in a rapidly evolving world.

5. Innovation and Entrepreneurial Impact

The "Smart Application for Student's Daily Learning Management" promotes innovation by integrating advanced technology to simplify the learning process, enhance productivity, and improve academic performance. With features like intelligent scheduling, automated reminders, and performance analysis, the application offers a modern solution to common challenges in time management and learning organization. This technological approach not only improves student outcomes but also fosters a culture of innovation by encouraging both students and educators to adopt digital tools for an enriched learning experience. From an entrepreneurial perspective, this project paves the way for tech-driven educational solutions, creating opportunities for commercialization and growth. The app has the potential to evolve into a business targeting educational institutions, schools, and individual learners. It also opens doors to creating a startup in the educational technology (ed tech) industry, driving both innovation and economic growth in the rapidly expanding education sector.

6. Potential commercialization

The potential commercialization of the Smart Application for Daily Student Learning Management is significant, as it addresses a widespread need for effective study management tools in education. Schools, universities, and educational institutions can adopt the app as part of their digital learning solutions, offering it to students as a subscription-based service or as a freemium model with premium features. The app can also be marketed to parents, offering them a way to monitor and support their children's academic progress. Additionally, collaborations with educational publishers, tutoring services, or ed-tech companies can create opportunities for cross-promotion and integration with other digital learning platforms. The app's ability to collect valuable data on student performance can also be leveraged for educational research or to provide insights to institutions looking to

improve student outcomes. With the global push toward digital education, this app has the potential for widespread adoption and long-term commercial success.

7. Acknowledgment

We would like to express our sincere gratitude to our sponsor, Mr. Basit Abdul Mokhtar, for his generous support. Special thanks are extended to our Computer Science teacher, Mrs. Farahiah Huda Husain, for her invaluable guidance and encouragement throughout this project. We also wish to acknowledge our principal, Mrs. Noliah Atin, Senior Assistant of Administration, Mrs. Raja Syariffah Raja Yussof, and Senior Assistant of Co-curricular Activities, Mr. Jatius, for their unwavering support. To our parents, fellow friends, and the SMK Pitas II community, we deeply appreciate your invaluable assistance and support in completing this project. Your support has been instrumental to our success.

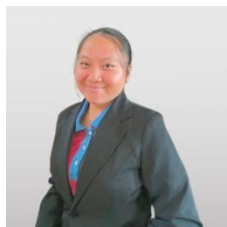
8. Authors' Biography



Rebecca Vee Ronny is a school student currently taking Computer Science as an elective subject. She has a strong passion for programming and enjoys creating code and exploring new technologies. Rebecca aspires to deepen her knowledge in this field and aims to become an expert in the world of coding. In addition, she is interested in participating in language competitions, such as debating, to further enhance her communication and critical thinking skills.



Gracevyna Rhosiye Goodman is a Form 4 student taking Computer Science as an elective subject. She is passionate about creating new things, especially in the field of technology and innovation. Her interest in the world of programming reflects her enthusiasm for exploring new ideas and providing creative solutions to challenges. In addition, she loves playing chess, which helps to sharpen her strategic thinking and problem-solving skills.



Elfina Lyca Nixon is a dedicated student who takes Computer Science as an elective subject in school. She has a passion for learning and actively participates in educational programs. One of her notable achievements was winning a competition in the SECA program, organized by Yayasan Sabah. Elfina enjoys being involved in initiatives that enhance her knowledge and skills, especially in areas related to her studies. Her enthusiasm for learning and personal growth drives her to pursue new opportunities and challenges.



Clarice Joseph is a student taking Computer Science as an elective subject. She is passionate about learning new things related to technology and strives to expand her knowledge in this field. Clarice is eager to explore the latest advancements in technology and is committed to applying her learning in innovative ways. In addition, she loves playing with Rubik's cubes, which helps improve her problem-solving and logical thinking skills, and enjoys playing music, which enhances her creativity and focus.