i-SPiKE 2023

INTERNATIONAL EXHIBITION & SYMPOSIUM ON PRODUCTIVITY, INNOVATION, KNOWLEDGE & EDUCATION

"Optimizing Innovation in Knowledge, Education and Design"

EXTENDED ABSTRACT

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Assalamualaikum warahmatullahi wabarakatuh,

First and foremost, I would like to express my gratitude to the organizing committee of i-Spike 2023 for their tremendous efforts in bringing this online competition a reality . I must extend my congratulations to the committee for successfully delivering on their promise to make i-Spike 2023 a meaningful event for academics worldwide.

The theme for this event, 'Optimizing Innovation in Knowledge, Education, and Design,' is both timely and highly relevant in today's world, especially at the tertiary level. Innovation plays a central role in our daily lives, offering new solutions for products, processes, and services By adopting a strategic approach to 'Optimizing Innovation in Knowledge, Education, and Design,' we have the potential to enhance support for learners and educators, while also expanding opportunities for learner engagement, interactivity, and access to education.

I am awed by the magnitude and multitude of participants in this competition. I am also confident that all the innovations presented have provided valuable insights into the significance of innovative and advanced teaching materials in promoting sustainable development for the betterment of teaching and learning. Hopefully, this will mark the beginning of a long series of i-Spike events in the future.

It is also my hope that you find i-Spike 2023 to be an excellent platform for learning, sharing, and collaboration. Once again, I want to thank all the committee members of i-Spike 2023 for their hard work in making this event a reality I would also like to extend my congratulations to all the winners, and I hope that each of you will successfully achieve your intended goals through your participation in this competition.

Professor Dr. Roshima Haji Said
RECTOR
UiTM KEDAH BRANCH

WELCOME MESSAGE (i-SPiKE 2023 CHAIR)

We are looking forward to welcoming you to the 3rd International Exhibition & Symposium on Productivity, Innovation, Knowledge, and Education 2023 (i-SPiKE 2023). Your presence here is a clear, crystal-clear testimony to the importance you place on the research and innovation arena. The theme of this year's Innovation is "*Optimizing Innovation in Knowledge, Education, & Design*". We believe that the presentations by the distinguished innovators will contribute immensely to a deeper understanding of the current issues in relation to the theme.

i-SPiKE 2023 offers a platform for nurturing the next generation of innovators and fostering cutting-edge innovations at the crossroads of collaboration, creativity, and enthusiasm. We enthusiastically welcome junior and young inventors from schools and universities, as well as local and foreign academicians and industry professionals, to showcase their innovative products and engage in knowledge sharing. All submissions have been rigorously evaluated by expert juries comprising professionals from both industry and academia.

On behalf of the conference organisers, I would like to extend our sincere thanks for your participation, and we hope you enjoy the event. A special note of appreciation goes out to all the committee members of i-SPiKE 2023; your dedication and hard work are greatly appreciated.

Dr. Junaida Ismail
Chair
3rdInternational Exhibition & Symposium Productivity, Innovation, Knowledge, and Education 2023 (i-SPiKE 2023)

ELECTRONIC ONGOING ASSESSMENT SYSTEM (e-OGA)

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ABSTRACT
Universiti Teknologi MARA (UiTM) developed the current system, known as the e-RESULT Exam System (eRES), for final grades. The system contained both OGA and final exam results. Preparing for the OGA mark is crucial because it must be completed prior to the final exam for students to have sufficient time to study effectively for the final exam. Current practice, lecturers will print the OGA mark from eRES and distribute it to their students via WhatsApp or Telegram group. This way of informing students about their OGA marks is not confidential and cannot be accepted by some students. Consequently, the students develop mental health issues, experience dissatisfaction, and have their minds distorted. Hence e-OGA is designed to address this issue. The e-OGA is a new electronic ongoing assessment mark system for managing student achievement which consists of quizzes, tests, and assignments (individual or group project). It is developed by using MySQL, PHP, and DBLC. The mechanism of the system enables each student to view their own OGA marks privately. By employing this tactic, a student's OGA grade will not be disclosed to their peers. For future projects, e-OGA and eRES will be integrated in such a way that the OGA marks can be imported into eRES. This makes it easier for lecturers to enter only the final exam grades into eRES.

Keywords: electronic ongoing assessment, students, emotion, privacy

INTRODUCTION

Students' results management system is one of the important information systems that most universities and educational institutions are interested in. The system should be well-organized to make it easier for instructors to manage students' grades and for students to keep track of their own results. The design and development of an examination and result management system has been developed by utilising different languages, databases, and processors to serve educational needs (Chebongkeng et al. (2020), Abbas et al., (2017), Akpasam et al., (2017), Umoren (2017)). Malaysia's Ministry of Education has developed a system known as Sistem Analisa Peperiksaan Sekolah (SAPS) to help parents assess their children's school results (https://sapsnkra.moe.gov.my/ibubapa2/). Rubric-based Online Scoring System Development helps MRSM accelerate the scoring process for academic and curriculum results for students.

The system was developed online using ASP, HTML, and JavaScript. This system is called e-SPPNG (Ghazali, 2023). Higher education institutions have their own system as well. However, most of them simply display the final grades.

Students require ongoing assessment marks to adequately prepare for their final examinations. As a result, lecturers are delivering marks in a variety of ways to assist students. UTM started building an e-learning system in 1997 to increase student passion and topic understanding, make material easier to acquire, and make studying with an unending notion easier (Al-Rahmi, 2015). UTM e-learning allows instructors to create online carry marks reports for students who registered for a subject this semester, except final grades. Lecturers can post all student grades online to make them easier and faster to find. Each student can receive customised evaluation feedback from lecturers. Students only see their grades and private comments, which is beneficial (Muhalim. 2016). UUM's 2010 Carry Mark System lets lecturers enter marks and students access their carry marks online. This website lets students see their grades. Logging in before viewing grades preserves student privacy on this website. Lecturers might edit and delete student marks on the website. No notetaking or Excel entry is needed. Additionally, website data loss can be reduced (Siok Kim, 2012).

Universiti Teknologi MARA (UiTM) created e-RESULT Exam System (eRES) for final grades that comprised ongoing assessment (OGA) and exam results. Thus, some lecturers willprint the OGA mark from eRES and provide it to students via group WhatsApp or Telegram. Even though the students' names have been hidden, this OGA mark delivery method remains accessible to the public. Some students experience psychological issues, mental distortions, and unhappiness. Thus, the e-OGA aims to assist students in conducting private checks on their carry mark.

METHODOLOGY

Entity Relationship Diagram (ERD) is the model used in the development of the e-OGA. The Database Life Cycle (DBLC) approach is used while developing a system throughout the design phase. The DBLC method involves the phases listed below. Figure 1 displays the DBLC model process approach.

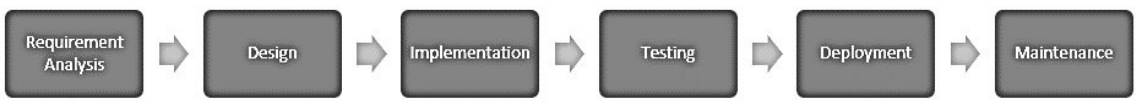

Figure 1. Database Life Cycle Phase for Ongoing Assessment System

Step 1: Requirements Analysis
At this phase, it's important to comprehend the precise specifications of the continuing assessment method. It is necessary to identify every assessment type, including tests, projects, and quizzes. At this phase, it's also necessary to identify the data that has to be saved, such as student information, test results, and grading standards.

Step 2: Design
This phase involves the conceptual design of the system. The entity relationship diagram for the system illustrated in figure 2 is the one that the conceptual design is referring to. All the entities, relationships, and attributes required to store the information linked to assessments are created at this phase. This step will also involve using the proper normalization procedures to guarantee data accuracy and effectiveness.

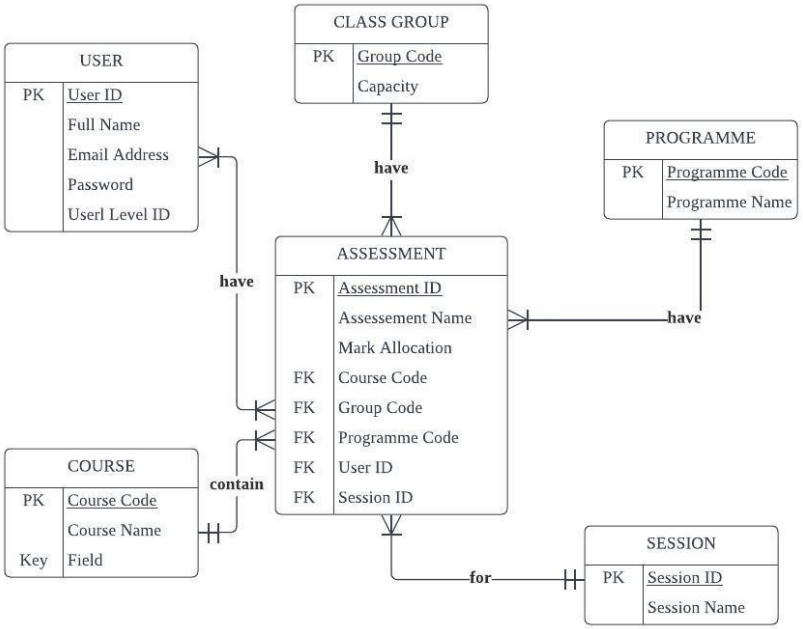

Figure 2: Entity Relationship Diagram of e-OGA

Step 3: Implementation
This phase is the process to implement the database design using a database management system (DBMS). Create the necessary tables, define the relationships, and enforce dataintegrity through constraints. All the stored procedures, triggers, or functions to automate assessment-related tasks also will be written in this phase.

Step 4: Testing
Perform thorough testing of the ongoing assessment system. This phase will test the functionality of the database, ensuring that data is correctly stored, retrieved, and updated. Test different assessment scenarios to validate the accuracy and reliability of the system.

Step 5: Deployment
Once testing is complete, deploy the database and associated assessment system in a production environment. At this phase all the necessary security measures are in place to protect sensitive student data.

Step 6: Maintenance
Regularly monitor and maintain the ongoing assessment system. Perform routine database maintenance tasks such as backups, performance tuning, and security updates. Address any issues or bugs that may arise and continuously improve the system based on feedback and evolving requirements.

CONCLUSION

The e-Ongoing Assessment System (e-OGA) is a complete way to keep track of student success scores based on the total percentage of marks from quizzes, tests, and assignments (individual or group projects). The e-RESULT Exam method (eRES) manages final grades that include both OGA and final exam grades. Students can see their OGA when their lecturer distributes in group WhatsApp or Telegram. This way of delivering is not confidential and will affect students' emotions, like embarrassing and unhappy especially for the students with low grade. To address the issue, a new system called e-OGA is designed so that the OGA mark can be accessed by students privately. The system's primary goal is to address students' emotions in UiTM while also making it easier for lecturers to revise and preserve marks. The e-OGA is developed using MySQL, PHP, and DBLC. Six steps of database life cycle for OGA are illustrated in Figure 1. The system keeps a student's OGA grade from being shown to their peers, which helps them feel comfortable and study well for their final exam. For the future, e-OGA and eRES can be linked so that OGA marks can be imported into eRES. This makes it easier for lecturers to enter only final exam grades into eRES.

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We would like to thank the Universiti Teknologi MARA Cawangan Johor Kampus Segamat for allowing us to demonstrate our innovative approach to enhancing the campus's mark management system.

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