SP025 PRACTICAL TEST SCHEDULER

By Shafiq R.

Abstract

This report documents the development of the *SP025 PRACTICAL TEST SCHEDULER*, a digital dashboard created to manage and visualize the scheduling of practical test sessions for the SP025 (Physics II) course at Kolej Matrikulasi Sarawak (KMSw). The system utilizes Google Sheets as a central data source and Looker Studio as the visualization platform. Its purpose is to streamline the scheduling process, reduce manual administrative work, and provide a transparent and organized overview of practical test arrangements. The dashboard allows for real-time updates, easy access for relevant staff, and flexible filtering options to support test planning and coordination. This document outlines the objectives, tools, features, implementation process, and future enhancement plans for the dashboard.

Introduction

The *SP025 PRACTICAL TEST SCHEDULER* dashboard is a digital solution developed to manage and organize the scheduling of practical test sessions for the SP025 (Physics II) course at Kolej Matrikulasi Sarawak (KMSw). Recognizing the logistical challenges involved in manually coordinating practical tests across multiple tutorial classes, this dashboard offers a centralized and automated system for tracking and assigning test slots to students. By utilizing the combined power of Google Sheets and Looker Studio, the scheduler allows real-time updates, efficient data organization, and a visually intuitive interface for lecturers, lab technicians, and students.

Objectives

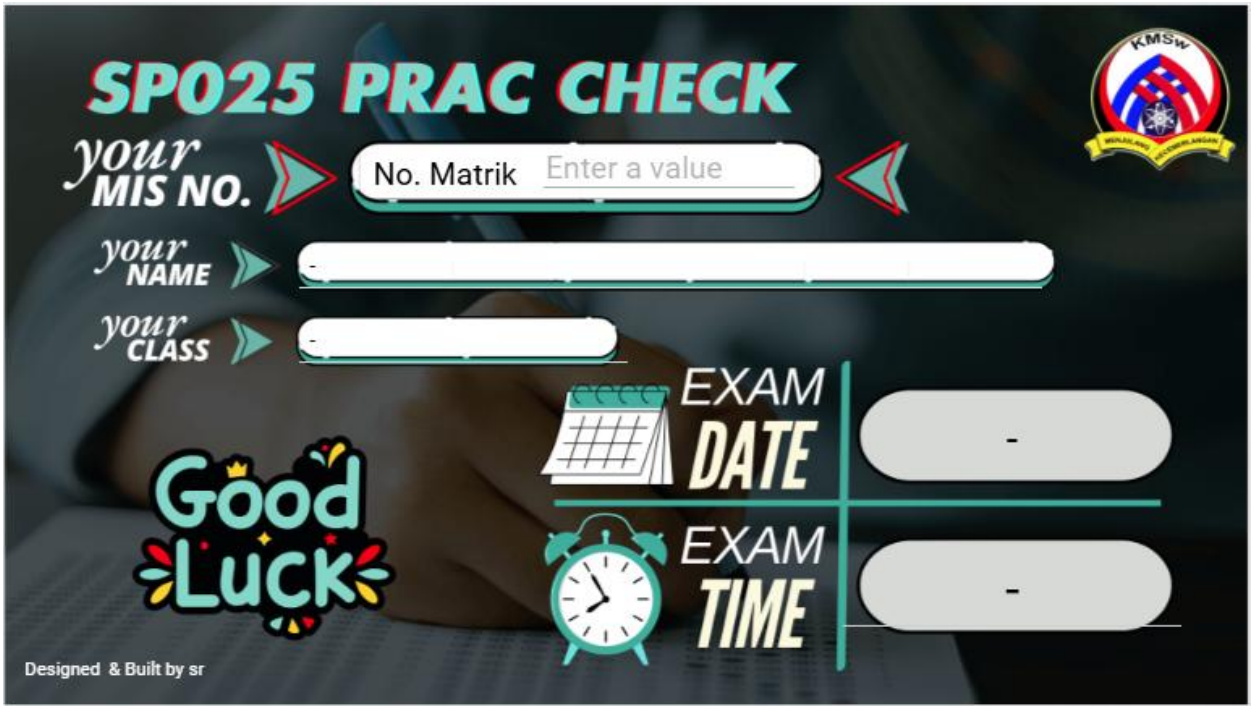
The main objective of the dashboard is to simplify the process of managing SP025 practical test schedules. It is designed to provide a clear overview of student allocations across different time slots, dates, and lab stations, while also minimizing scheduling conflicts. The dashboard also aims to improve communication between academic and laboratory staff by ensuring everyone has access to the same up-to-date information. Ultimately, it serves to streamline test administration, avoid double-booking, and ensure fair distribution of students across available test sessions.

Tools and Platforms

The dashboard is built on two primary platforms: Google Sheets and Looker Studio. Google Sheets functions as the back-end database, where practical test details—such as student names, matric numbers, tutorial classes, assigned test dates, times, and lab stations—are entered and maintained. Its cloud-based nature allows multiple users to access and update the data collaboratively. Looker Studio is used to visualize this data, offering a dashboard interface that dynamically pulls from the Google Sheet and presents it in an organized and filterable format. This integration ensures that any schedule changes made in the Google Sheet are reflected in real time on the dashboard.

Dashboard Features

The *SP025 PRACTICAL TEST SCHEDULER* dashboard includes several key features to support scheduling efficiency. Users can search for individual students by entering their matric number or name to view specific scheduling details.



The dashboard displays the student's tutorial class, assigned test date and time, test location (e.g., lab number), and the group or batch they belong to. A summary section provides an overview of how many students are scheduled per session, allowing staff to balance the test load across all available slots. Filters are included to allow users to sort data by test date, tutorial group, or lab station, making it easy to identify available slots or check group distribution. The layout is clean and color-coded to distinguish between different sessions or groups, improving visual clarity for quick reference.

Implementation Process

The development process began with designing a Google Sheet template that included all relevant scheduling fields such as student name, matric number, tutorial class, practical test group, assigned date and time, and lab location. Once the data structure was finalized, the sheet was connected to Looker Studio using the live connector. In Looker Studio, data filters and calculated fields were configured to enable dynamic searching and sorting. Visual components such as tables and summary cards were added to present both individual and group-level scheduling information. The interface was tested using sample data to ensure that all filters functioned correctly and that the layout remained clear even with large data volumes. After validation, the dashboard was shared with authorized users including lecturers and lab coordinators.

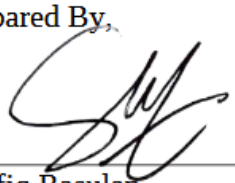
Future Enhancements

To further improve the functionality of the scheduler, several enhancements are planned. These include automatic detection of scheduling conflicts, integration with email notifications to remind students of their assigned sessions, and the ability to export test schedules for printing or offline use. A student-facing version of the dashboard could also be created to allow students to view only their own test details securely. Additional features such as attendance tracking and feedback forms may also be embedded to support post-test follow-up activities.

Conclusion

The *SP025 PRACTICAL TEST SCHEDULER* dashboard presents a practical and efficient approach to managing lab test logistics for Physics II at Kolej Matrikulasi Sarawak. By leveraging the strengths of Google Sheets and Looker Studio, it simplifies coordination, reduces the likelihood of scheduling errors, and promotes greater transparency among staff and students. The dashboard supports a smoother, more organized administration of practical tests and represents a scalable solution that can be reused and improved upon in future semesters.

Prepared By,



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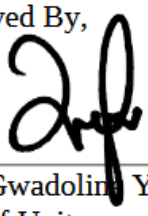

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Student Feedback*

***Collected after the dashboard was released**

Introduction

To evaluate the effectiveness and user satisfaction of the SP025 Practical Test Scheduler dashboard, a structured student feedback survey was conducted. The survey targeted students enrolled in the Physics II (SP025) course at Kolej Matrikulasi Sarawak, who actively used the scheduling dashboard for their practical test arrangements.

A total of **20 students** participated in the survey. The feedback instrument consisted of **12 items**, divided into three categories:

- **A. Usability** (Items 1–4)
- **B. Usefulness** (Items 5–8)
- **C. Satisfaction** (Items 9–12)

Each item was rated on a **6-point Likert scale**, where 1 indicated strong disagreement and 6 indicated strong agreement. The survey was distributed and completed online after the dashboard had been in use, ensuring that participants had sufficient exposure to its features and functionality before responding.

Data Collected

	No.	Item	Mean Score (Out of 6)
A. Usability	**1**	The scheduler was easy to access using the provided link or platform.	5.30
	2	I found the dashboard layout clear and easy to understand.	5.20
	3	Navigating the filters and search functions was straightforward	5.20
	4	I was able to find my test information (date, time, location) without difficulty.	5.20
B. Usefulness	**5**	The scheduler helped me feel more organized about my practical test schedule.	5.35
	6	The information shown in the dashboard was complete and accurate.	5.30
	7	Using the scheduler reduced confusion or uncertainty about my test session.	5.30
	8	The system made it easier to prepare for my assigned test date and time.	5.30
C. Satisfaction	**9**	I prefer this system over being informed manually (e.g., paper lists, verbal).	5.55
	10	I am satisfied with my experience using the SP025 Practical Test Scheduler.	5.60
	11	I would like similar systems to be used in other courses or subjects.	5.15
	12	I would recommend the use of this scheduling dashboard to other students.	5.35

Note: Data Collected from 20 respondents

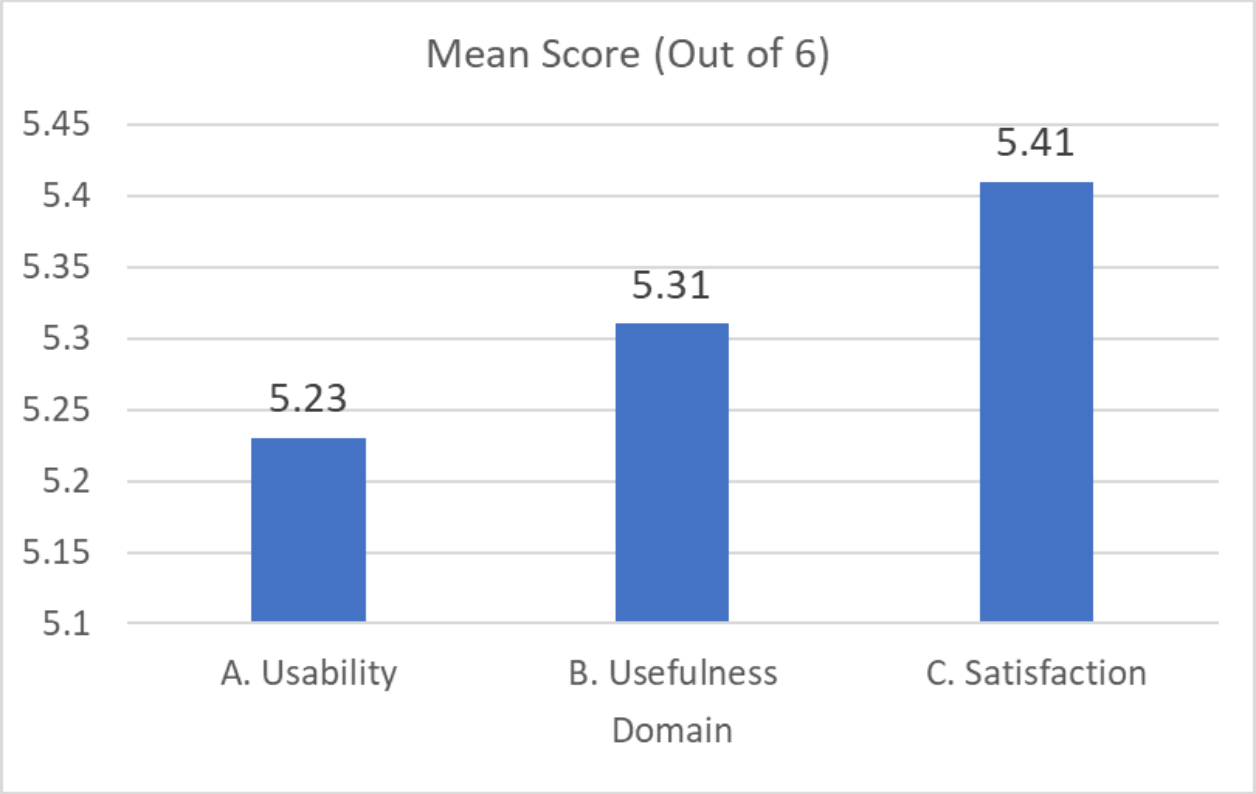
The collected feedback reflects a strongly positive reception of the SP025 Practical Test Scheduler.

Students reported high ease of access (mean score: 5.30) and a clear layout (5.20), indicating that the dashboard interface was intuitive. The ability to use search functions and filters effectively (5.20) and to locate test details without difficulty (5.20) suggests that the navigation structure successfully supported user needs.

Responses indicated that the dashboard contributed meaningfully to the organization of practical test logistics. Statements about helping students feel more organized (5.35), reducing

confusion (5.30), and facilitating preparation for test sessions (5.30) were all rated highly. These results show that the dashboard not only presented information effectively but also enhanced students' sense of readiness and clarity.

The satisfaction metrics were especially strong. The preference for this system over traditional methods (5.55) and overall satisfaction with the experience (5.60) were the highest-rated items, confirming that students clearly favored the digital system. Additionally, there was broad support for extending similar systems to other subjects (5.15) and recommending the dashboard to peers (5.35), which demonstrates its perceived value beyond its immediate use case.



Future Recommendations

Based on the survey results and the discussion above, the following recommendations are proposed:

1. **Expand the Use of Digital Scheduling Systems**
   Given students' strong preference and satisfaction, similar dashboards should be developed for other subjects involving practical sessions or group activities.

2. **Implement a Student Login or Personal View**
   To improve privacy and streamline access, a secure login or filtered student view could be implemented, so students only see their own schedule.

3. **Automate Notifications and Reminders**
   Integrating automated reminders via email or other platforms (e.g., SMS or app notifications) can further support student preparedness.

4. **Incorporate Real-Time Conflict Alerts**
   A system to flag scheduling conflicts (e.g., overlapping sessions or capacity issues) would enhance scheduling accuracy and prevent logistical errors.

5. **Gather Qualitative Feedback**
   Future surveys should include open-ended questions to capture qualitative insights, allowing deeper understanding of user experiences and potential pain points.

6. **Monitor Long-Term Impact**
   Additional evaluations over multiple semesters will help determine the dashboard's sustained effectiveness and highlight opportunities for continuous improvement.