

## **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

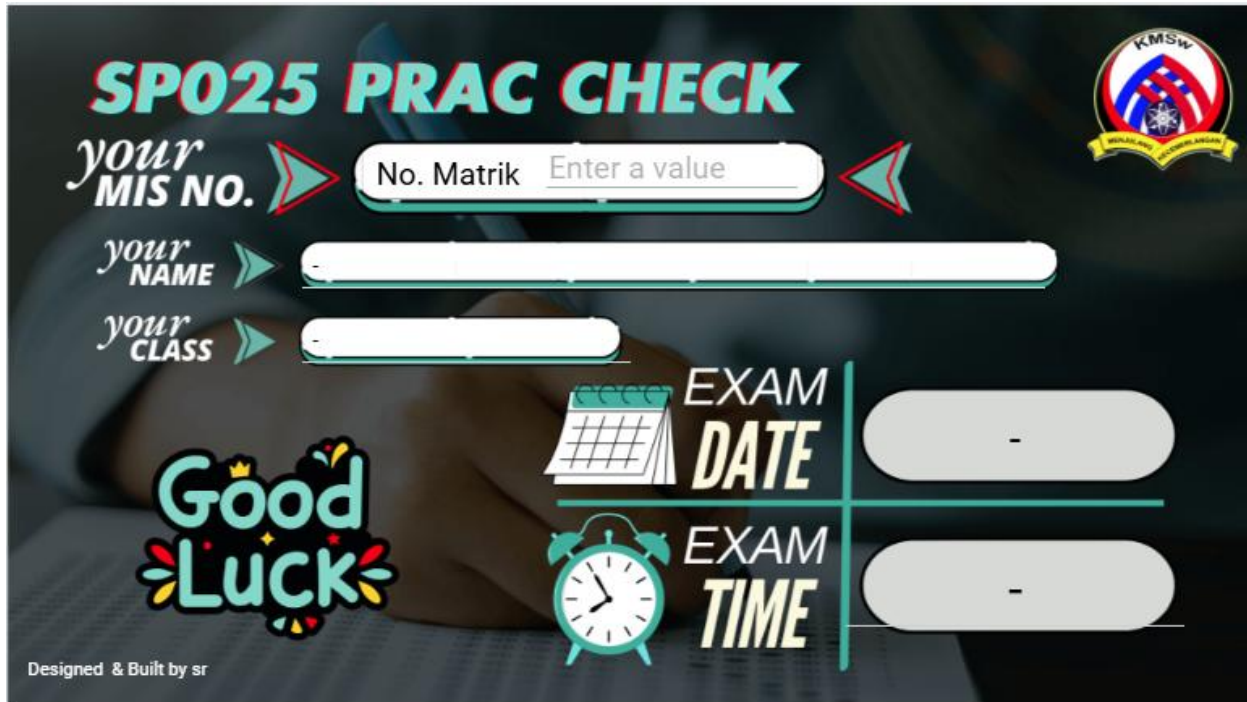
The main objective of the dashboard is to simplify the process of managing SP025 practical test schedules. It is designed to provide a clear overview of student allocations across different time slots, dates, and lab stations, while also minimizing scheduling conflicts. The dashboard also aims to improve 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 features a dark background with a hand holding a pen. At the top left, the title "SP025 PRAC CHECK" is displayed in large, stylized letters. To the right is the KMSW logo. Below the title, there are three input fields: "your MIS NO." with a "No. Matrik" label and a placeholder "Enter a value", "your NAME", and "your CLASS". To the right of these fields are two more input fields labeled "EXAM DATE" and "EXAM TIME", each with a placeholder "-". Below the "EXAM DATE" field is a calendar icon, and below the "EXAM TIME" field is an alarm clock icon. At the bottom left, there is a "Good Luck" graphic with a crown and stars. At the bottom right, it says "Designed & Built by sr".

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.

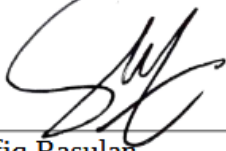
### Future Enhancements

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.

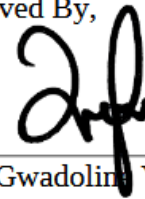
Prepared By,



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Shafiq Rasulan,  
Physics Lecturer,  
Physics Unit,  
KMSw.

Approved By,



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Mary Gwadolina Yusus,  
Head of Unit,  
Physics Unit,  
KMSw.