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YST013 - OSSS CONNECT: OUTING SMART SCHOOL SYSTEM USING JAKOB NIELSEN'S PRINCIPLES

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ABSTRACT

Outing Smart School System (OSSS) for Sekolah Menengah Kebangsaan (SMK) Seri Gading was developed to address inefficiencies in the school's traditional, paper-based outing management process. In the past, students had to fill out outing cards, get permission from the warden in person, and have guards write down when they left and returned to the hostel. OSSS introduces a unified, role-based digital platform designed in alignment with Jakob Nielsen's usability heuristics to ensure high accessibility and intuitive interaction. The system integrates multiple functions, enabling stakeholders, including students, guardians, wardens, guards, and administrators, to handle only the relevant information to their roles. Key features include online outing requests, real-time guardian notifications, automated check-in and check-out records using student ID verification, and the ability to save outing history in a secure database. This combination of safety, speed, and openness is rarely found in existing outing management solutions. The OSSS makes things more useful by letting students submit request outings remotely, cuts down on wait times and speeds up approvals. Guardians may see their child's outing history and get instant notifications, which builds trust and makes them more involved in school events. Warden can review requests, check student records, and give out demerits when needed. Guards can also rapidly check approved outings and stop people from leaving without permission. The administrator keeps the system running smoothly and safely, managing users and keeping data safe. By digitising and streamlining the outing approval workflow, OSSS cuts down on paperwork, makes mistakes less likely, and makes it easier for everyone to talk to each other. This innovation fulfils the requirements of a growing student population while keeping everyone safe. Accountable and modernise the school's operations.

Keywords – outing system, hostel outing system, jakob nielsen, school management system

INTRODUCTION

Outing Smart School System (OSSS) for SMK Seri Gading was developed to address the challenges and inefficiencies of the school's traditional manual outing process. Previously, students who wished to leave the hostel were required to fill in an outing card, obtain the warden's signature for approval, and then have their outing details recorded manually by the guard in a physical logbook. This process was not only time-consuming but also

depended heavily on the warden's presence. If the warden was unavailable, students had to wait for the warden they become available. This often leads to delays that disrupt their plans, especially for those who want to leave for an urgent matter. Using paper records also makes mistakes more likely, such as missing entries, insufficient information, or misplaced documents. This made it harder to keep correct records and keep students safe.

As the number of students at SMK Seri Gading expanded, these problems happened more often and were harder to deal with. During busy times, such as weekends or school breaks, the manual method made people wait a long time and put extra stress on both students and hostel personnel. In emergencies, it took a long time and was hard to find specific outing records in piles of paper documentation. Nawi et al. (2022) and Vijitha et al. (2024) stated that digital solutions can make managing student records much easier by making it easier to get to data, cutting down on administrative work, and making communication between all parties involved better.

The OSSS was made to be a modern, web-based solution that lets users handle outing requests, approvals, and records in a way that is organised, easy to find, and safe. The system's goals are to make the outing process easier, offer updates in real time, and keep all records safe in a central database. The OSSS makes the system more open and effective by connecting students, guardians, wardens, and administrative staff on one platform. This makes it easier to hold people accountable, makes the hostel safer, and helps with overall hostel administration.

OBJECTIVE

The main goals of creating the Outing Smart School System (OSSS) for SMK Seri Gading are to make the outing management process more efficient, accurate, and open. The initial goal is to figure out the existing excursion procedure and the problems the hostel management is having, especially the delays, reliance on paper records, and lack of communication. Knowing about these problems gives the researcher a clear starting point for coming up with a good solution. The second goal is to create an online outing system that follows usability guidelines so that it is easy to use, straightforward, and navigate for everyone, including students, parents, wardens, and guards. The third goal is to test the system to see how well it works and how easy it is to use. This will ensure it does what it was meant to do, satisfies the demands of users, and makes managing student outings easier overall. The goal of these objectives is to replace obsolete manual processes with a digital platform that is reliable, easy to use, and good for everyone involved.

DESCRIPTION OF THE PROJECT

The Outing Smart School System (OSSS) is an online tool that will take the role of the old-fashioned way of organising student outings. It gives students a clear and easy way to ask for outings, including information like the reason for the expedition, the time they plan to leave, and the time they plan to return. The warden can log into the system to look over each request, see the student's outing history, and then determine whether to accept or deny it based on the student's records. Guardians can log into the system to see their child's outing data and get notifications right away when their youngster departs or comes back to the hostel.

When students get to the guard station, they show their ID card, and the system automatically records the precise moments they checked in and out. This automatic system makes sure that student movements are tracked correctly and stops them from going out without permission. A central database keeps all outing requests, student information, and approval records safe against loss or tampering. The system is always on and can be reached from anywhere with an internet connection. This makes it easy for students, faculty, and guardians to use.

Figure 1 demonstrates how the Outing Smart School System is set up. It shows how students, guardians, wardens, guards, and the administrator may all talk to each other through the central database. The system is built with PHP, MySQL, HTML, and CSS, which makes sure that it works well, is compatible, and meets the needs of SMK Seri Gading's operations.

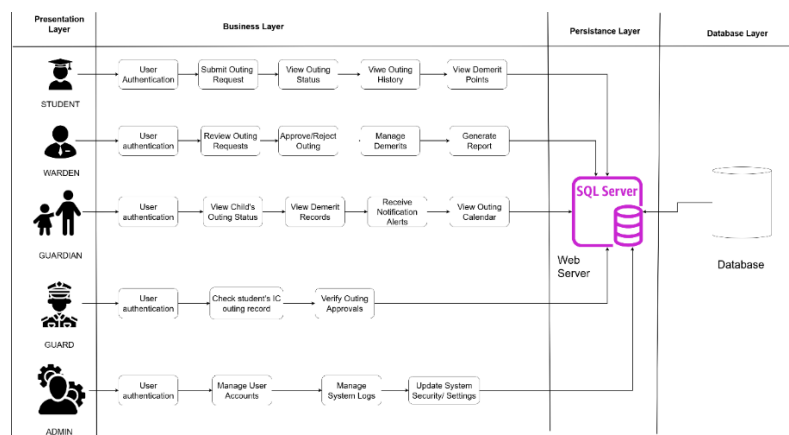


Figure 1: System Architecture of the Outing Smart School System

NOVELTY

OSSS is unique because it combines several important features into one complete platform, replacing the slow and error-prone manual process. This system is different from traditional ones since it not only records outing requests but also sends real-time notifications to guardians, automatically records check-in and check-out times using students' identity card (IC) numbers and keeps all outing history in a safe central database. System also applies all 10 of Jakob Nielsen's usability principles in its design, ensuring that it is easy for students, guardians, wardens, and guards, regardless of their experience with technology. Another unique aspect is the role-based access that allows each user type to view and manage only the information relevant to them, improving both security and efficiency. This method not only speeds up the clearance process but also makes it easier for students, guardians, and hostel administration to talk to each other and be open with each other, which is not something that other outing management systems do.

CONCLUSION

In conclusion, the creation of the Outing Smart School System for SMK Seri Gading has solved the problems with the manual outing process in a way that is both effective and reliable. The technology makes it easier for kids to ask for outings, for wardens to approve them, for guardians to stay up to date, and for guards to keep accurate records of where

children are going. It cuts down on delays, makes mistakes less likely, and makes sure that all outing records are kept safe in a central database. The system can provide a clear, straightforward, and efficient platform that serves all users by employing a systematic development technique and following usability guidelines. Overall, this project has digitalized the outing management process in the hostel, improved communication among stakeholders, and strengthened the safety and accountability of student movements.

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