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Streamlining Seminar Hall Booking and E Notice Board: A Tech-Driven Solution for Efficient Booking and Communication

Tamilarasan M,

M.tech CSE 2nd year, Sri Siddhartha Institute of Technology, Tumkur, Karnataka

Abstract

In response to the many problems that arise nowadays while trying to reserve venues, a system that combines modern technology with maintenance to do away with human labor has been developed for online bookings. All departments retain data about the seminar hall booking dates, history, and availability, and the primary aim of the Seminar Hall Booking System is to manage these facts. Department members may only seek access to the project if the administrator assures it, and the administrative level of restriction is totally in place. Making a smartphone app to manage seminar room reservations automatically is the main objective of this project. Whether the booking is accepted, rejected, or amended, all of that information is recorded. Every feature of the lecture hall is recorded by it. In order to better manage booking and availability data, this system streamlines the approval and reservation process, eliminating the need for human intervention. You may easily show and edit booking information using the system. Instructors have the option to narrow their search by category or event. The search criteria that a faculty member uses to find a venue must be exact (booked details, event name) and must also contain availability within the stated check-in and checkout dates. By using a seminar hall booking system, not only is time saved seeking for authorized personnel, but unreserved spaces may be utilized more efficiently to reduce recurrence.

Keywords: Administrative Restrictions, Maintenance, New Technologies, Online Booking System

I. INTRODUCTION

The difficulties of manual procedures are becoming more obvious in this fast-paced digital age, and this is especially true in the field of seminar room bookings [1]. The need for a better approach to schedule and manage seminar spaces was identified, and a state-of-the-art online booking system was developed to address this. To alleviate the tedious task of manual labor, our revolutionary Seminar Hall Booking System makes use of modern technology and incorporates maintenance procedures that are both efficient and effective [2]. Managing the complex aspects of seminar hall reservations, including dates, historical data, and real-time availability for all departments, is the main focus of this project [3]. Administrative level access controls are quite stringent, so department members may only seek system access with the administrator's green light [4]. The primary goal of this project is to create a mobile app that can manage seminar hall reservations automatically and keep track of each booking state (approval, rejection, modifications, etc.) [5]. By streamlining the permission and reservation procedures, this system becomes a priceless asset for efficient administration, making it easier to manage seminar hall availability and booking data. In addition to being able to search for venues based on events or categories, faculty members also have the opportunity to easily change, revise, and retrieve booking information [6]. The search option is intended to provide accurate information, such booking details and

event titles, and to guarantee availability within the stated dates of arrival and departure [7].

In order to overcome the difficulties encountered by earlier systems while trying to digitize hall bookings, the NGPSLOTCHECK was developed. In certain cases, the software may even make things easier for the current systems that are already in place. In addition, this system is customized to meet the unique needs of the Institution, ensuring that activities run smoothly and efficiently [8]. Many organizations and institutions have long used cardboard noticeboards to post announcements, notes, and messages, with the hope that students might stumble across them while going about their many academic (and sometimes nonacademic) activities at school [9]. Since the advent of social media for information sharing, everything has changed, and both ways manage to keep the information secret. Consequently, the electronic bulletin board is given top billing [10]. It has a stable and fast administration system, easy access, and security. e-Notice boards allow users to view online notices from their mobile phones while they are on the go [11-12]. You may think of it as an online bulletin board where people can easily communicate with each other and share virtual notes, announcements, and information with students. You may post text, photographs, or even improved web videos [13-14].

1.1 Motivation of the paper

The development of the Seminar Hall Booking System is driven by a pressing need to address the multitude of challenges associated with manual venue reservations in today's context. By seamlessly integrating modern technology with maintenance practices, the system aims to eliminate human labor and enhance overall efficiency. Its core motivation lies in comprehensive data management, encompassing seminar hall booking dates, history, and availability across all departments. The stringent administrative controls underscore the commitment to security, ensuring that access is restricted to authorized personnel. The primary

goal of creating a mobile app for seminar room reservations reflects a dedication to automation, simplifying and expediting the reservation process.

II. BACKGROUND STUDY

B. K. Wijaya et al. [1] This research focuses on the critical decision-making process for micro, small, and medium enterprises (MSMEs) in selecting online sales platforms. The study employs the OCRA method with ROC weighting, emphasizing the importance of leveraging advanced methodologies for optimal platform choices.

D. Amelia et al. [2] This article explores the operational management of human resources in the context of kerupuk kamang manufacturing businesses, shedding light on the intricacies of managing personnel in a specific industry.

I.D. G. A. Pandawana et al. [3] The study introduces a mobile-based application for renting goods, showcasing the integration of technology in facilitating seamless transactions and the potential for mobile platforms to enhance traditional business models.

I.Paulina Rhaelifia et al. [4] This research explores the role of marketing support in implementing marketing pipelines within a specific organizational context, providing practical insights into the dynamics of marketing strategies.

K. S. Kartini [5] The study presents an information system for sales in the context of Salad Yoo, emphasizing the significance of technology in managing and optimizing sales processes in the food industry.

M. Milliensu et al. [6] This thesis explores the role of content marketing in enhancing brand awareness on Instagram, highlighting the importance of digital marketing strategies in contemporary business environments.

M. Vanhuele et al. [7] This broader study delves into consumer behavior applications in marketing, providing a foundational understanding of the psychological and

behavioral aspects that influence consumer choices.

N. Christ Evelyn et al. [8] The research investigates the role of marketing support in enhancing the effectiveness of digital platforms for conventional businesses, emphasizing the adaptation of traditional enterprises to the digital landscape.

P. A. Cakranegara et al. [9] This study focuses on the positioning of women entrepreneurs in the food and beverage sector of small and medium enterprises in Indonesia, contributing to discussions on gender roles in business.

S. Sutrisno et al. [10] The research employs the Simple Additive Weighting method to prioritize the best online platforms for MSMEs, offering a quantitative approach to platform selection.

Toma, I. et al. [13] The research introduces SESA, a scalable multi-channel communication and booking solution for e-commerce in the tourism domain, emphasizing technological solutions for improving communication and transactions in the tourism industry.

2.1 Problem definition

The Seminar Hall Booking System was created in response to the difficulties in manually booking venues, which brought attention to many important problems with the old method. There isn't a streamlined system in place for handling seminar hall reservations, and manual bookings are tedious and prone to mistakes since they involve human participation. Furthermore, inefficiency and delays are common outcomes of a non-streamlined approval procedure. The lack of stringent administrative controls raises security issues since it allows unauthorized individuals to access booking information. Inaccurate search parameters and a lack of an intuitive interface make it hard for faculty members to find appropriate venues. An all-encompassing, technologically sophisticated, automated, and secure solution is required to resolve these challenges; this will result in a seminar hall reservation procedure that is more efficient, error-free, and user-friendly.

III. MATERIALS AND METHODS

Research procedures have a significant impact on the credibility and breadth of results in the quest for knowledge and progress. In this part, we will go over the many methods and resources that scholars in the fields of business, management, and technology have used to study these topics.

3.1 Software Requirements
3.1.1 Android Studio

The most efficient way to build top-notch, feature-rich Android applications for mobile devices, tablets, Android Auto, Wear, and TV is using Android Studio 3.5. A code editor, code analysis tools, emulators, and more are all part of Android Studio, Google's official integrated development environment (IDE). New and improved features in this stable version of Android Studio include a fast emulator that works with the latest version of Android and Google Play Services, and rapid development rates. The Android platform and Android Studio worked together to produce Android Studio, which is compatible with all the latest APIs. It is recommended to use Android Studio 3.5 while developing applications for Android. The stable release channel now has it accessible for easy download or upgrading.

3.1.2 Instant Run

To all the programmers out there who love lightning-fast code. Feel free to make changes and see how they are reflected in your live app. With Instant Run's many build/run accelerations, including virtual machine hot swapping and warm switching of program resources, you'll save time every day.

3.1.3 Android Emulator

Thanks to updates to Android Debug Bridge (ADB), you can now transfer apps and data to the emulator ten times faster than to a real device, and the new emulator is three times faster than the old one. You can test out more API capabilities using the official Android emulator,

which mimics the experience of using a real device with built-in Google Play Services. Last but not least, the revamped emulator includes a plethora of new features for controlling networks, batteries, and calls.

3.2 Hall Booking System:

If the user is waiting for permission, the chosen time will still be presented as temporarily booked, giving a clear image of the hall's timings. This allows them to verify the availability of the hall when they arrange and book accordingly. People in need of local venues and halls may therefore benefit from our service. This manner, the user knows exactly which hall they've booked with all the necessary facilities and whether or not any other halls are available at that location right now. In order to make it easy for our customers to reserve halls using the app, we included all the necessary features, as mentioned before.

3.3 E-Notice Board

By facilitating the online viewing and distribution of notifications to all students, the e-Notice Board aims to simplify matters for students. The digital nature of the messages means that students may access them quickly via their mobile devices, eliminating the need to pin them or deal with overcrowded notice boards. This streamlines the process of posting announcements on the e-Notice board, which saves time and cuts down on paper consumption compared to the previous method.

IV. RESULTS AND DISCUSSION

The Results and Discussion section presents, analyzes, and contextualizes the conclusions of many investigations, revealing the culmination of hard research efforts. At the intersection of data-driven findings, theoretical frameworks, and practical ramifications lies this section, an intellectual crossroads. By delving deeply into the results, readers are encouraged to ponder the intricacies and importance of the study's conclusions.
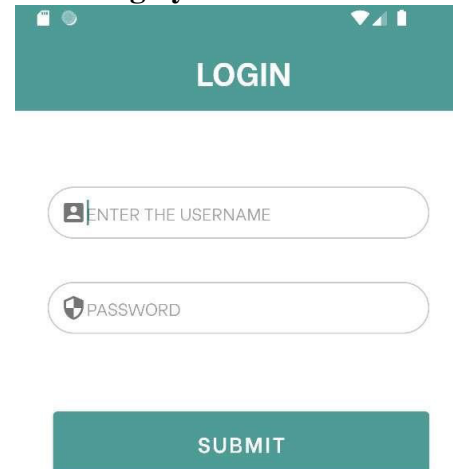
4.1 Hall Booking System

Figure 1: Login page

The user must first log in as an administrator or staff member in order to access the appropriate privileges. Admins have the power to approve or reject faculty requests to reserve halls for events using the staff login.
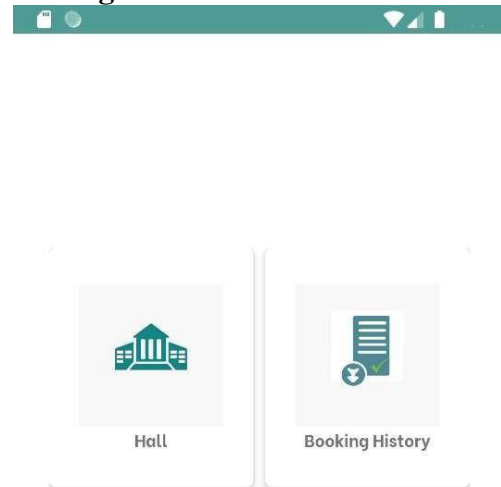
4.2 Staff Login

Figure 2: Staff homepage

After logging in as a staff member, the user is sent to the homepage. From there, they may use the "Hall" option to reserve the appropriate halls for upcoming events, or click on "Booking History" to see past hall reservations.

Figure 3: Enter student requirements

In order to start the prebooking process for the halls, the user has to enter the number of students and the date of the event.

Figure 4: Select desired hall

After entering basic information such as the number of students and the event date, the user is requested to choose the venue (desired hall) and time of day (morning or afternoon) for the event. (As depicted in the above image)

Figure 5: Function requirements

The following step is for the user to fill up the function requirements, which include details like the event's name, purpose, hosting department, and main visitor. Before choosing to accept or deny the reservation request, the administrator needs these information to get a feel for the event.

You may also get details on the refreshments in the app. Inputting the number of visitors and students for refreshments like coffee/tea and snacks allows for their distribution during the event. Lunch needs might also be satisfied. Lunch may be ordered either before or after the event, and you can choose from tiffin, normal, or special, as well as vegetarian or non-vegetarian options. You may also schedule the exact time of food delivery for "On-Time" service of lunch and drinks right from the app.

4.3 Admin Login:

By logging in as the admin, the current user may see all of the booking requests for upcoming events submitted by employees in different departments. The next step is for the administrator to decide whether to grant or deny the request.
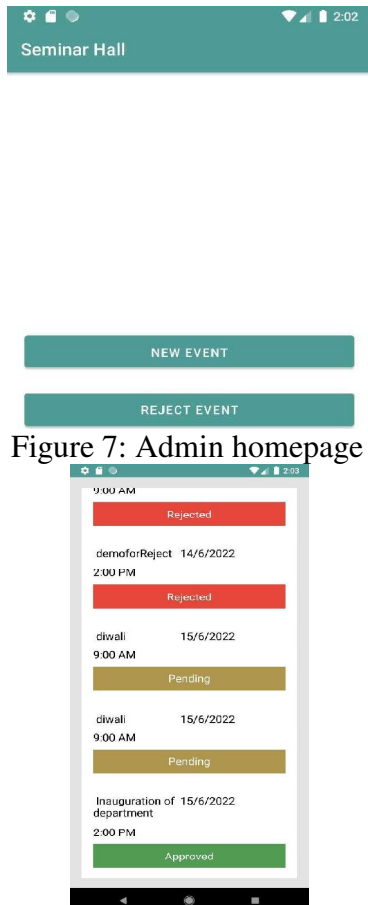
Figure 7: Admin homepage

Figure 8: Approval Page

After the Admin has provided their approval or rejection, the user may examine the booking history to see if their filed request was granted or declined. If the Admin has not accepted or denied the requests, they will be listed as "pending."
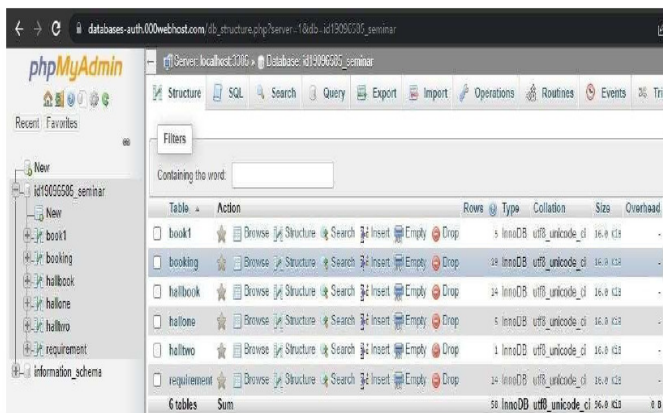
4.4 Hall Booking System Table:

Figure 9: Hall Booking System Table

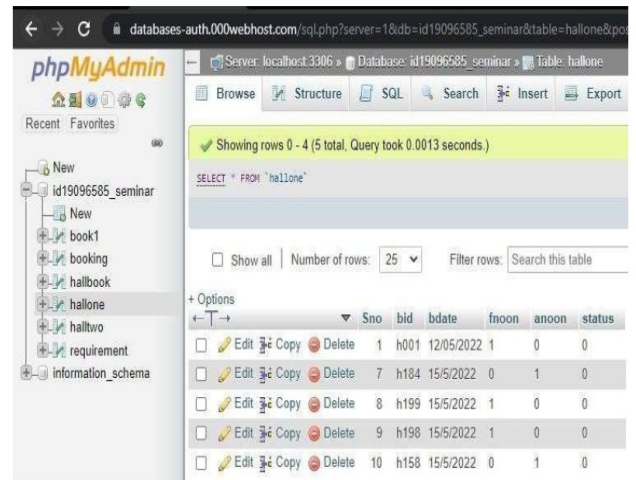### 4.5 Table stored for respective halls:

Figure 10: Table stored for respective halls

4.6 Integration Testing

To find out whether two or more pieces of software can work together as one, integration testing is done. To make sure all connections are merged, testing is still going on. Each part was sufficient on its own, according to the findings of the combined tests. Problems with network connections and anticipated workflow configurations may be easily discovered via integration testing. As part of the integration testing process, we need to make sure that the halls can be booked and that all of the anticipated features work.

4.7 System Testing

A comprehensive integrated system is subjected to system testing in order to ascertain if it satisfies its specified requirements. System testing is the next step for all integrated components that have successfully completed integration testing. The purpose of Inte collectively, also known as assemblages. Defects in the system's "inter-assemblages" and overall functionality may be found via thorough testing.

4.8 Acceptance Testing

The purpose of acceptance testing is to verify that all contract or specification criteria have been satisfied. There may be physical, chemical, or performance evaluations. As part of systems engineering, it might include testing a system's internal workings. Field acceptability testing, user acceptance testing, end-user testing,

and operational acceptance testing are all synonyms for acceptance testing. In order for a system or component to be deemed acceptable by a user, it must fulfill certain requirements known as acceptance criteria. Once an acceptance test has been run, a software build may be included to the main testing process with the help of a smoke test. In order to run the acceptance test suite, testers follow predefined acceptance test procedures that outline the data to use and the steps to take.

V. CONCLUSION

In line with our objectives, we administered surveys to collect system requirements, which were then evaluated and integrated into a design for the system's implementation. Through the use of surveys and practical trials, the technique was assessed and confirmed. A powerful feature of the E Notice Board System is the ability it gives to increase communication amongst otherwise isolated individuals, including administrators, students, and professors. While tackling many of the issues with conventional cardboard bulletin boards, its primary goal is to facilitate the dissemination of information among registered users. By fostering an environment where information is freely exchanged, this program aims to achieve its goal.

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