

**DIGI-ROOMS: WEB-BASED SCHOOL FACILITY RESERVATION AND
MANAGEMENT SYSTEM FOR NUESTRA SEÑORA DE ARANZAZU PAROCHIAL
SCHOOL**

**A Capstone Project Proposal
Presented to the Faculty of the
Information and Communications Technology Program
STI College Marikina**

**In Partial Fulfilment
of the Requirements for the Degree
Bachelor of Science in Information Technology**

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ENDORSEMENT FORM FOR PROPOSAL DEFENSE

TITLE OF RESEARCH: **Digi-Rooms: Web-Based School Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School**

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In Partial Fulfilment of the Requirements
for the degree Bachelor of Science in Information Technology
has been examined and is recommended for Proposal Defense.

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APPROVAL SHEET

This capstone project proposal titled **Digi-Rooms: Web-Based School Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School**, prepared and submitted by **Elmer Jr. G. Felisilda, Rechelle A. Golimlim, and Daisy P. Borbe**, in partial fulfillment of the requirements for the degree of Bachelor of Science in Information Technology, has been examined and is recommended for acceptance and approval.

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INTRODUCTION

Project Context

Schools do not only provide educational services but also grant students and faculty access to various facilities essential for learning. These include classrooms, laboratories, libraries, audio-visual rooms, auditoriums, and gymnasiums, which are utilized for academic, co-curricular, and extracurricular activities. Efficient room management is crucial to ensuring these facilities are properly allocated and available when needed.

Nuestra Señora De Aranzazu Parochial School Inc., or NSDAPS, is a Catholic institution and a member of the Manila Archdiocesan and Parochial Schools Association, also known as MAPSA. It is currently under the management of Rev. Fr. Gerard Joaquin V. Masangya, the school director, and Ms. Julie Ann M. Pajardo, LPT, MAEd, the school principal. Situated in the heart of San Mateo, Rizal, NSDAPS has two campuses – one on Barangay Guitnangbayan 1 and an annex on Barangay Santa Ana – the main having 4 floors while the annex having 5, the school accommodates approximately 1600 students spanning from preparatory to senior high school levels. 105 employees – including teaching and non-teaching personnel, are currently working in both campuses.

The main building has a total of 44 classrooms, with 14 facilities available for use, consisting of a Learning Resource Center, a function hall, a function room, 2 libraries, 2 computer laboratories, a gymnasium, an auditorium, a physics and chemistry room, a bamboo garden, a TLE room and kitchen, and a veranda. Meanwhile, the smaller annex building houses a total of 9 classrooms and 5 facilities consisting of a chapel, a computer laboratory, a library, a gymnasium, and a multipurpose multimedia laboratory. With hundreds of students using the school building at any given time, management of these facilities and resources are necessary. In some instances, facilities such as the Audio-Visual Rooms, had been converted into a recording room for the school's various purposes, such as pictorial booth for ID taking and a makeshift studio for online recognition ceremonies.

Campus maintenance is managed by the school's General Services Unit (GSU), under the leadership of Mr. Edgardo Manalo Jr. The department focuses on room and equipment management, venue set up, maintenance, and more. Currently, there are a total of 29 employees under the department, excluding Mr. Manalo. 19 of which work at the main

building, with the remaining 4 being stationed at the annex building. Together, they make up the department that manages both campuses.

In its current state, NSDAPS relies on a manual, paper-based system for processing room requests, primarily handled by Mr. Manalo. Requests for room reservations, such as for club meetings, practices, and school events, are written on a paper form and recorded in a calendar.

For example, the process for requesting a room for club practices involves the club moderator obtaining a pullout form from the Office of the Student Affairs (OSA), where details such as the requester's name, the time, date, and room being requested, the purpose for the request, a name list of students involved, and the teacher concerned in the request. Once filled up, it is signed by the moderator, before being brought back to the OSA to be signed by the Assistant Principal. Once approved, the moderator attaches a GSU-issued reservation form, where the requester's name, reservation details, number of attendees, equipment and facilities being requested, and additional remarks are copied from the pink form. Once copied, both forms are brought to the GSU for Mr. Manalo's approval. Conflicts are first checked through the calendar before the request is signed by Mr. Manalo, finalizing the reservation. If there are conflicts or there are valid reasons for rejection, the declination of the request is communicated to the teacher concerned, who will then communicate it to the students. For requests made by outside parties, such as organizations from the neighboring Church, a letter of request is sent addressed to the school director, which, after approval, will be brought to Mr. Manalo for the finalization of the request.

This process is time-consuming and prone to errors, making it difficult to track availability, prevent scheduling conflicts, and respond to requests in a timely manner. Separate records maintained by the GSU and OSA often lead to discrepancies. Managing two separate campuses with this system further complicates the process, as requests from both buildings are recorded in one calendar. Time-sensitive and last-minute requests must be processed swiftly to prevent delays and conflicts. With the department already handling numerous aspects of the school's operation, such as equipment and facility maintenance, delays caused by this manual schedule checking may cause disruptions of planned activities. In some cases, unresolved requests result in events not having the required rooms or facilities,

affecting the smooth operation of school activities. For example, church organizations may hold last-minute events and request a room the night before its schedule. In this situation, with the current process, the request will not be addressed since the calendar is kept at the school's office, and it is impossible to check the availability of the requested room, resulting in a rejected request.

Given the numerous clubs, organizations, and events hosted by NSDAPS, a more efficient and organized system is essential. The current manual process lacks reservation tracking, making it difficult to manage multiple consecutive room requests, particularly during large-scale activities such as club fairs. A system that can visualize room utilization, that is, who is currently using these facilities, can help not only the GSU, but other school personnel understand the room assignments and act accordingly. For example, NSDAPS releases its students' report cards in rooms assigned for different grade levels. The GSU can print the room utilization map to guide parents into which rooms they can get the report cards of their child from.

Beyond scheduling, an efficient room management is also valuable for long-term planning. Data analytics and reports generated from trends stemming from room usage trends help the school administration identify the most utilized facilities and allocate ample resources for improvements or additional rooms dedicated to these facilities. However, such insights are difficult to derive from a linear list organization of the calendar currently holding room request records. As NSDAPS continues to expand to cater to its growing student population, having access to such data will be beneficial for optimizing campus facilities to better serve students and faculty.

The proposed Web-Based Room Management System named Digi-Rooms aims to address these inefficiencies by providing a centralized digital platform for room scheduling and tracking. With this system, the General Services Unit can process requests more efficiently, eliminating the need for calendars. The system shall offer real-time room availability updates, immediate conflict detection to prevent overlapping bookings, and automated request tracking to ensure timely approvals. It will also generate reports on room usage patterns, assisting school administrators in making informed decisions for facility improvements. Additionally, the system will be accessible anywhere, allowing situations

such as the one mentioned earlier, to be processed, since a physical calendar is no longer required to record such requests.

By implementing this web-based solution, NSDAPS can enhance its room management process, reducing administrative workload, and improving the overall efficiency of campus operations. The system will streamline room reservation procedures, minimize scheduling conflicts, and provide a more convenient experience for both staff and students, contributing to a more organized and productive school administration. Ultimately, the proposed project aligns with NSDAPS' current goal of implementing advantageous digital systems into its current day-to-day operations in its pursuit of digital transformation.

Purpose and Description

The purpose of Digi-Rooms is to transform how NSDAPS manages its campus facilities by replacing a time-consuming, manual, and disorganized process with an efficient, centralized system. This project focuses on the creation and deployment of an online facility reservation system customized to meet the unique requirements of Nuestra Señora De Aranzazu Parochial School. It aims to increase the department's efficiency, solve the problems with the current manual reservation method, and improve the general experience for staff and instructors in terms of room reservation and management.

Digi-Rooms is intended to be a comprehensive and easy-to-use online platform that reduces scheduling conflicts and speeds up the reservation process. To enable effective and convenient facility reservations, the system will offer an interactive map of both campus buildings, automated schedule conflict checking, a scheduling system, reporting and analytics, and online accessibility. Digi-Rooms seeks to increase communication, decrease manual work, and improve overall school facility use by digitizing and automating these procedures. The Digi-Rooms system's design, development, implementation, and evaluation will all be covered in this project, along with an analysis of how it affected user satisfaction and facilities management procedures at the school.

General Problem

How to develop a web-based school facility reservation and management system for Nuestra Señora De Aranzazu Parochial School that provides effective request processing, room availability display, conflict detection, and real-time scheduling?

Specific Problems

1. How to design, develop, and implement an account management module that allows secure user registration and login?

To stop unwanted access, the project must have a centralized, safe authentication system. In order to specify access levels, it must assign user roles and enable staff to register and be confirmed before using the system. This helps to secure the system across departments by guaranteeing that only authorized staff can change settings, approve requests, or make reservations.

2. How to design, develop, and implement an interactive map module that displays floor plans of both campuses and shows room availability?

The two multi-floor campuses are difficult to dynamically visualize. This module must give users instant access to room details (such as capacity and upcoming and current reservations) and display real-time availability using colored markers or overlays. Users should be able to easily navigate between floors and buildings on the map.

3. How to design, develop, and implement a map editor module that enables administrators to upload and manage floor plans for the interactive map?

The system must give administrators the ability to manage building and floor structures, add or modify room markers with particular metadata, and upload new floor plan images or vectors. As the school grows or changes its infrastructure, this feature is essential for scalability and flexibility.

4. How to design, develop, and implement a schedule management module that allows the creation, editing, and approval of reservation requests with real-time conflict detection?

It must do away with manual checks and simplify the booking process. This module must promptly verify the availability of rooms and stop duplicate requests from being sent. It should also make it simple for authorized staff to manage and edit reservations through the system's user interface.

5. How to design, develop, and implement a report generation module that produces usage analytics and logs user activity?

Insightful reports on room usage, popular facilities, and regular users must be produced by the system. It should help direct resource allocation and policy-making by logging important acts for accountability and enabling data exporting for administrative use, long-term planning, or documentation.

6. How to design, develop, and implement a system that offers real-time access and remote submission of room reservation requests?

Currently, only the General Services Unit is able to physically make reservations during school hours, which restricts accessibility and delays urgent requests. Because the suggested system would be web-based, users will be able to utilize their devices to remotely submit and monitor requests at any time. With this approach, last-minute reservations may be handled more quickly, and events that might take place outside of usual business hours can be accommodated. Consequently, the technology enhances the user experience across departments and offers more flexibility.

General Objective

This project seeks to improve administrative efficiency and the overall user experience for the General Services Unit and authorized staff by designing, developing, and evaluating Digi-Rooms - a web-based facility reservation system that addresses scheduling conflicts and inefficiencies in the current manual process.

Specific Objectives

The project's specific objectives are as follows:

- 1.** To design, develop, and implement an account management module that allows secure user registration and login.

The system shall implement a safe authentication system that grants access to data to the users based on their specified access roles. The access roles are determined by the administrator, who assigns permissions to each account registration requests before approving it. This maintains the safety of data and prevent unauthorized individuals, such as students or general users, to gain access to the system.

- 2.** To design, develop, and implement an interactive map module that displays floor plans of both campuses and shows room availability.

The program shall visualize room availability in an easy-to-digest manner by providing an interactive visual map of both campuses and the rooms' status within. This allows users to easily see what rooms are available at the specified time, in contrast to a timetable and text. It helps with decision making on which room to reserve, and assists on layout planning for big events such as club fairs.

- 3.** To design, develop, and implement a map editor module that enables administrators to upload and manage floor plans for the interactive map.

The system's map editor module enables flexibility and scalability in terms of room assignments. With this module, administrators will be able to make real time changes such as adding rooms, updating and adjusting room availability markers, and editing room information. This reduces reliance to developers when the school decides to expand or change room assignments in the future.

4. To design, develop, and implement a schedule management module that allows the creation, editing, and approval of reservation requests with real-time conflict detection.

The main functionality of the system is to manage reservation requests and simplify the overall booking process. The complexity of conflict and availability checking is removed with the system automatically executing them as the user fills up the reservation form. The system also assists in the resolution of conflicts, should they encounter them, by suggesting similar rooms that are currently available when necessary. It helps resolve these problems before the request even reaches the OSA and GSU officers.

5. To design, develop, and implement a report generation module that produces usage analytics and logs user activity.

The system processes reservation data to generate reports that support resource allocation and long-term planning. It logs key user activities for accountability and allows exporting data such as commonly used rooms, reservation frequency, and user activity — helpful for audits and administrative decision-making.

6. To design, develop, and implement a system that offers real-time access and remote submissions of room reservation requests.

All users, from teachers to the administrators, have access to the room and schedule data, compared to the GSU head being the one to have the records in the current manual process. This provides transparency and reduces back-and-forth communication between the various departments when creating reservations. Being able to inquire about which rooms are available in what time through the system is more efficient, as it provides all the necessary information to assist on better decision making in reservation making. Since the program is accessible anytime and anywhere, last-minute requests outside office hours can be accommodated.

Scope and Limitations

Scope

The project targets the General Services Unit, personnel of the Student Affairs Office, and members of the school faculty, providing an efficient way to manage and access facilities across two campuses. There will be 2 main user types involved in the system: the admin, which is Mr. Manalo, who can edit map information, along with being able to set permissions on other accounts on what they can modify and view. The second is the school staff involved in the reservation process (e.g., authorized personnel from the Office of the Student Affairs and Administration), who can mainly only create requests, view schedules, view the map, and generate reports. The project shall focus on the creation of its core features, including the following:

- Account Management Module
 - User Authentication
 - A secure login function prevents unauthorized actors from accessing the system, while the registration function allows employees involved to access the system once the account is authorized by the administrator. This limits the use of the system to teachers and personnel, disabling access from students and unauthorized parties.
 - Role-based access
 - Features and module components are limited to particular user roles to ensure that only tools that are necessary for them will be made available. This also prevents unauthorized tampering of information, especially in schedule and map records.
 - The following roles will be adapted:
 - Teacher
 - This role can view the interactive map and create requests.

- Staff
 - This role encompasses staff in departments involved in the reservation process, such as the Office of the Student Affairs. They can approve teacher requests for final approval, generate reports, view the interactive map, and create requests.
- Administrator
 - This role involves the GSU head, who has access to aforementioned features and the ability to edit schedule and map information.
- Interactive Map Module
 - Floor Plan Map
 - A projection of the selected campus and level's floor plan is displayed in the map. The user is able to change the floor level or switch campuses when necessary. This gives a visualization of the floor's layout, aiding in room assignment and schedule planning for events and activities.
 - Availability Visualization
 - Markers are overlaid on top of the floor plan map that indicate the availability of the room it is assigned to at the specified time and date in the map view. This makes it easier for requesters to immediately identify which rooms are available at their chosen time and adjust accordingly.
 - Room Information Display
 - Clicking a room marker opens a side panel that displays the room information, along with the current and upcoming activities for the selected room.
 - Real-Time Updates
 - Each time a reservation or room is made or modified, the map is updated in real-time, ensuring that users always have access to the most up-to-date information regarding room availability.

- Map Editor Module
 - Floor Plan Upload
 - A digital copy of the floor plan in the form of an image (JPG, PNG) or a vector (SVG) can be uploaded to a specific floor. These images will serve as the layout in which the room markers can be placed in.
 - Floor and Building Management
 - Additional buildings and floors may be added or removed to ensure flexibility and future proofing.
 - Room Marker Management
 - Room markers can be created and placed at any point in the selected floor, which represents a singular room. Additional data can then be specified, such as the room number, the name, capacity, etc. The addition of new rooms will reflect immediately to the system and the modules that use room information for its functions, such as the reservation creation interface. Alternatively, deleted room markers will delete the schedules tied into it.
- Schedule Management Module
 - Reservation creation
 - Users with request creation access can create a reservation request, which involves a form that will ask for information such as the type of request, purpose, time, date, people involved, equipment, etc.
 - Immediate conflict detection
 - During reservation creation, the system will use the specified room, time, and date to automatically check for conflicts in its schedule records. When a conflict is detected, the creation of the request is automatically blocked, preventing the user to proceed further until the conflict is resolved. The system will recommend nearby available rooms, or the user can manually choose one using the interactive map and schedule view interface.

- Request approval
 - Once the request is finalized, it is then sent to the staff account for approval. Afterwards, it will be sent to the administrator account for the final approval, in which the request will be added to the schedule records.
- Reservation management
 - The administrator can create, edit, and delete requests through the schedule interface.
- Report Generation Module
 - Schedule timetable generation
 - A room, time, and date can be specified to generate a 7-day timetable that displays the scheduled reservations for the room.
 - Room utilization report generation
 - Data from the schedule record will be used to generate analytics regarding the common reservation purposes, requester types, reservation trends, and facilities commonly reserved.
 - Map overview report generation
 - Exports a snapshot of the map interface set at a specified time and date for printing as reference for involved employees.
 - Reservation slip generation
 - A scheduled activity can be specified to generate a printable reservation slip as reference for involved employees.
 - Active account list generation
 - A list of the active accounts within the Digi-Rooms system can be viewed and printed for reports and reference.
 - Logging
 - All actions done through the systems are logged and can be viewed and printed if needed.
 - Document generation
 - Generated reports, along with other data, such as schedule and map information can be exported as a PDF or be printed.

Limitations

Identified below are the potential challenges and constraints associated with the project:

- The system will not integrate with external calendar apps like Google Calendar.
 - The system is designed as a self-contained, internal platform. Integrating external calendar services introduces development, compatibility, and maintenance complexity. Keeping the system self-contained ensures that all data stay within the school's environment, enhancing control and data privacy.
- The system will not include a direct messaging mechanism.
 - While an email notification system is in place to notify requesters of their reservation statuses and updates, a direct chat functionality will not be included in the program. A live chat system increases complexity, data storage overhead, and moderation to ensure that communication remains within the context of room reservation. The decision to solely rely on email notifications ensures that responses from administrators and staff are formal, standardized, and uniform. The standardization of responses in matters such as request rejection reasons also allows the system to use these responses for reports generation.
- The system will rely on constant internet connectivity in order to maintain live updates on schedule data.
 - The schedule management module, particularly its functionality to detect conflicts, relies on up-to-date information to create decisions properly. With this in mind, a consistent and reliable internet connectivity of the users is a must for the system to function correctly.
- The system will only be accessible by school personnel and administrators. Students will not be allowed access to ensure liability.
 - As part of the current process of the school in room reservation, students are prohibited from making requests by themselves. This is due to the matter of liability - where authorized personnel (in this case, teachers) must be the one liable for their students' safety, the cleanliness of the reserved room, and the proper use of requested equipment.

- The adoption of the system depends on the appeal to non-tech-savvy staff.
 - Some personnel may be unfamiliar or uncomfortable with new systems. This presents a potential barrier to full adoption, even if the system is designed to be intuitive. While training and support will be provided, user acceptance will ultimately depend on their willingness to adapt.

Review of Related Literature/Studies/Systems

Related Literature

Foreign Literature

Malter & Rindfleisch (2019) affirmed that the transition from pre-digital to the digital age influences most corners of modern life, transforming how marketing is done and how content is consumed. Moving forward, this transition to a completely digital age will continue in expected and unexpected ways. Harberg et al. (2016) exemplified this statement, stating that digitalization is one of the most important transformations in the modern world which involves many aspects of everyday life, particularly business.

Harberg et al. (2016) defined digitalization as a term that refers to a transition from an analog process to a digital one, and includes the creation of new forms of values such as accessibility and availability. Digital transformation, as stated by Duarte & Ebert (2021), is the adoption of new technologies in increasing productivity and value creation. It challenges the traditional systems of education to transition to more innovative learning methods such as simulations and gamification of materials. Software itself remains as the cornerstone of digital transformation, opening the doors for technological innovations and new business models.

Among the many facets of modern living that benefits in digital transformation is tourism. Vlahović et al. (2024) stated that e-booking systems nowadays saves significant time and money for consumers, and provides a simple yet beneficial way in reserving accomodations to their travel destinations. The reliance of business owners and consumers to digital services only increases from here, making it one of the most important aspects of modern-day tourism. Companies are said to depend more and more to e-booking as its medium of distribution through the use of digital systems given the significant benefits it provides.

Local Literature

According to German et al. (2024), technology and information systems have become necessary for many organizations today to keep up with the industrial competition. Businesses look into automation or digitalization of their processes to provide a more efficient and reliable service to consumers. An online reservation system enables fast and paperless transactions, which prove to be economically and environmentally efficient. It enables cost reduction by eliminating the need for manual entry and processing, which translates into lower prices for customers and increased profits for businesses. Baldovino et al. (2021) emphasizes this point by stating that since individuals have technology and internet connection everywhere, an online booking app to make reservations would resolve several hassles consumers face.

During the COVID-19 pandemic, one of the sectors most impacted is the educational sector. The Philippine educational system had to embrace technology moving forward, with the pandemic accelerating the transformation from face-to-face to digital means of management. An article by Hernando-Malipot & Nazario (2020) stated that automation is more important than ever in school management. A school management system named Edusuite had been used by at least 15 schools, such as King's College of the Philippines, and CIITCollege of Arts and Technology. The utilization of artificial intelligence (AI) and complex algorithms further simplify the management of various school facets - optimizing the school's resources even more.

In a keynote message of the Silliman University President McCann (2022) had emphasized the institution's digital transformation by launching several initiatives such as its own Learning Management System, modernization of several facilities to encourage digital innovation among students, and the full transition of its administrative processes to electronic systems. These improvements within the university processes were partly motivated by the disruptions of the COVID-19 pandemic, pushing the institution to adopt innovation in light of pandemic and accessibility limitations.

According to the assessment made by Santos & Ramos (2025), Holy Cross College's paper-based processes hinder the institution's operational efficiency and its ability to make

data-driven decisions. While it had revealed adequate allocation of necessary resources, the assessment also showed the inefficiencies in terms of funding, repairs, and user-centered practices. The study had affirmed the role of effective facility management in ensuring sustainability of school operations and long-term institutional growth. It had also emphasized the significance of adopting digital facility management processes that address these issues, streamlining operations and improving user satisfaction. The study concluded the essentiality of digital reporting and tracking tools in facility development and the centralization of management tasks, offering benefits in speed, accuracy, and reliability.

Related Systems / Studies

Foreign Studies

A study done by Atkinson & Lee (2018) involved the utilization of Google Calendar as a reservation system to be used in Fordham University's Quinn Library in New York. A singular account was created to hold all calendars for each room in the library, along with the appointment time constraints, room size, and number of allowed students per room. A public link was shared among staff and students, allowing users to access the calendar and book appointments. A regulation was put in place to ensure that only university-provided emails were used and that only a limited amount of usage hours were provided per room and requestor. The results of the study determined that with the use of the Google service, usage patterns can be found through the calendar, allowing library staff to allot more staffing on days with higher demands. They were able to ascertain prominent appointment use cases with the calendar system. There were also an increase in reservations and had encouraged students and faculty to utilize the facilities for work and studies. However, the study had pointed out that Google Calendar were not suited for the needs of the library. Checking that requests were made with official email addresses and use periods individually were time consuming and inconvenient for the library personnel. Google Calendar also did not have a built-in reporting function, and collecting usage data were manually done and were tedious.

Alkhaldi et al. (2018) developed a Web-Based University Facility Reservation System, aiming to provide employees and visitors of the Imam Abdulrahman Bin Faisal University to reserve campus facilities. It uses a table view of reservations, where the user selects a

room and see the reserved dates in a simple list in the interface. The administrator can then manage and edit the reservations created within the system. The survey that followed had determined that a high percentage of the responded had found the system extremely helpful, proving the benefits posed by such a reservation system.

In order to address similar issues in UCSI University, an institution in Malaysia involving time wastage and increased library administrator workloads revolving the institution's manual reservation process, Lynn et al. (2024) introduced U-Reserve, a Web-Based Facility Reservation System. The study incorporated several features from existing systems and integrated user acceptance feedback in enhancing the program. It emphasizes the importance of color theory and visual appeal, highlighting the fact that the system's frontend is just as significant as its backend, and that design and functionality goes hand in hand in creating a beneficial system.

A study made by Xuan (2021) on the implementation of a secure room booking system at the University of Manitoba Libraries involved the use of the Juno Secure Room Booking System. The system effectively enhanced the security and efficiency of study room reservations, addressing limitations found in the previously used system named LibCal. The Juno system offered secure access control, ensuring only authorized users can enter reserved spaces, thereby enhancing security. Additionally, the University developed a custom booking interface that integrates seamlessly with the Juno system, providing a user-friendly experience. Basing on student feedback, a local database was also developed to improve the booking process and increase user engagement. The implementation of the Juno system led to a significant increase in room bookings and unique user logins, indicating high user adoption and satisfaction. Overall, the Juno system effectively reduced administrative workload and improved space utilization, offering a more robust solution compared to LibCal.

Local Studies

Lapuz et al. (n.d.) developed a Web-Based Database Reservation and Venue Management System for Bazaar City in Metro Manila. Its modules include visual stall and calendar reservations, and data reporting. Its reservation module catered to both customers and

employees of the complex, providing a more robust system of blocking certain time periods for events and activities. Its report generation module allows the management to see analytics and interpret the data presented into improving the company's marketing strategy. After careful consideration of the company's needs and discussion with the clients, the system was able to address Bazaar City's current problems. After further evaluation by the clients, the system was able to receive high satisfaction ratings, demonstrating the efficiency of such software in addressing the requirements established by the management.

German et al. (2021) conducted interviews across the various departments of Mapua University School of Industrial Engineering and Engineering Management and had determined that there is a significant waste in room request approval, filling of reservation forms, and finding alternative schedules. They had also determined that there were significant loss of free physical space due to it being used to store forms and papers. To address these issues, the researchers developed a Web-Based Digital Room Reservation System named e-Reserba Cardinal, which involves three major user roles: students, facilitators, and administrators. It aims to reduce the waste in time and physical space as emphasized by the interview results. The reservation process involves sending an email to the department Dean for reservation permission, with the issuance of the permission file and necessary documentation following upon approval. The file is uploaded through the website along with the request details (e.g., the room, time and date), that is received by the facilitator involved in the department's room reservations. Upon request approval, the status is updated through the system's notification module.

Leona et al. (2023) developed a Web-Based Dormitory Reservation System for students in Sumacab Este, Cabanatuan City named App-Stay. The system includes a reservation and visual map module that creates an easier system for accommodation-providers, dormitory owners, and student users. The subsequent evaluation of IT professionals and concerned users had determined that App-Stay provides significant benefits for landlords and students in the barangay, especially for students looking for low-cost, high-quality accommodations. Its accessibility to smartphone users expanded its coverage to users who may not have access to desktop computers or laptops. The results had concluded that App-Stay created a dependable and user-friendly platform that offers significant benefits to both

students looking for budget-friendly accommodations and landlords who are looking for ways to streamline their once-manual systems.

Banogon et al. (n.d) focused the creation of their Web-Based Reservation System named A-Venue around the activities done by Adamson University's Office for Student Affairs and Physical Facilities and General Services Office, which mainly involves traditional and manual methods for processing event and venue reservations. The system, which passed the ISO 25010 Software Quality Model, aims to manage event data and eliminate data redundancy, data loss, and excessive use of paper. It streamlined the event reservation process, which, in turn, encouraged Officially-Recognized Student Organizations to utilize their campus' facilities in organizing their activities and events. The study highlighted the benefits of an online reservation system, such as convenience, reduction of paper usage, and efficient event management.

Avenido et al. (2017) developed an Online Reservation System for the use of university facilities at Central Philippine University to improve the scheduling process of school facility reservations. The system digitized the previously manual process, featuring a user-friendly web interface for submitting requests, a calendar to check availability, and admin tools for managing and approving reservations. Their study concluded that the system significantly reduced reservation time and improved operational efficiency—directly aligning with the goals of Digi-Rooms.

Synthesis

The literature and studies emphasize the importance of digital transformation as part of society's progression towards the modern era. Digital technologies touch most facets of modern living, from educational, to business aspects. Transitioning operations of an organization to a digital medium grants them access to advanced processes such as automation and analytics, allowing them to make more data-driven decisions grounded in organized data. In the educational sector, embracing technology is a major step in advancement and development. Many institutions had slowly transitioned their manual operations to digital ones, and their facilities are slowly adapting to the digital era. A particular type of institutional operation is handling facility reservations. Utilizing online or electronic means to handle the reservation process of school rooms and facilities have

its advantages. Schedule keeping is automated, and records are generated automatically. The use of a digital system also organized relevant data and files for the users, with such as a time table of active reservations, rooms available, and other pertinent information. This allows the school's authorities to make informed decisions, given that reports created from these systems are driven by usage data. Reservation systems significantly cuts down the processing time as well, which, as proven by several similar projects, encouraged students and faculty to request reservations, leading to higher utilization of school facilities. Combining several features and building from it allows Digi-Rooms to cater to the unique needs of NSDAPS, along with offering tools to better make informed decisions in the management of the school.

METHODOLOGY

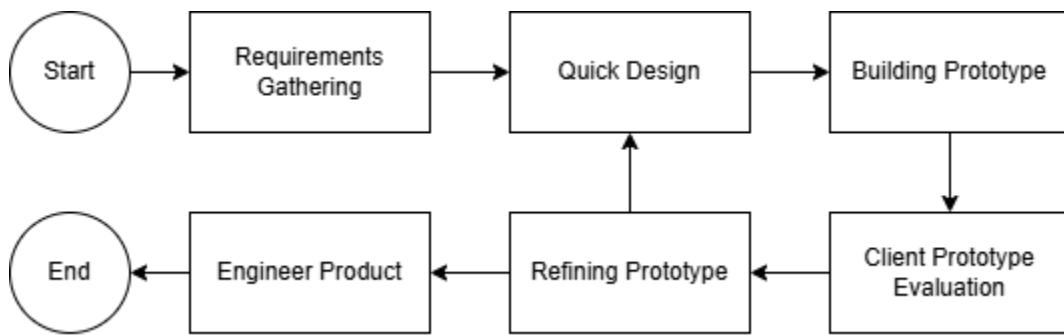


Figure 1. Prototype Development Model

The Prototype Model is an iterative software development approach where early versions of the system, or prototypes, are presented to the client for evaluation. Feedback from the client is then used to revise and improve the system in successive iterations. This cycle continues until the client is fully satisfied with the final product. In this manner, small but significant issues can be found early on in the development process and addressed quickly.

This model was chosen because user acceptance is critical to the success of the system. Frequent updates and client communication ensure that the system aligns closely with user expectations. The client specifically requested regular progress updates at key milestones to monitor development and provide timely feedback.

Technical Situation

Current System Process

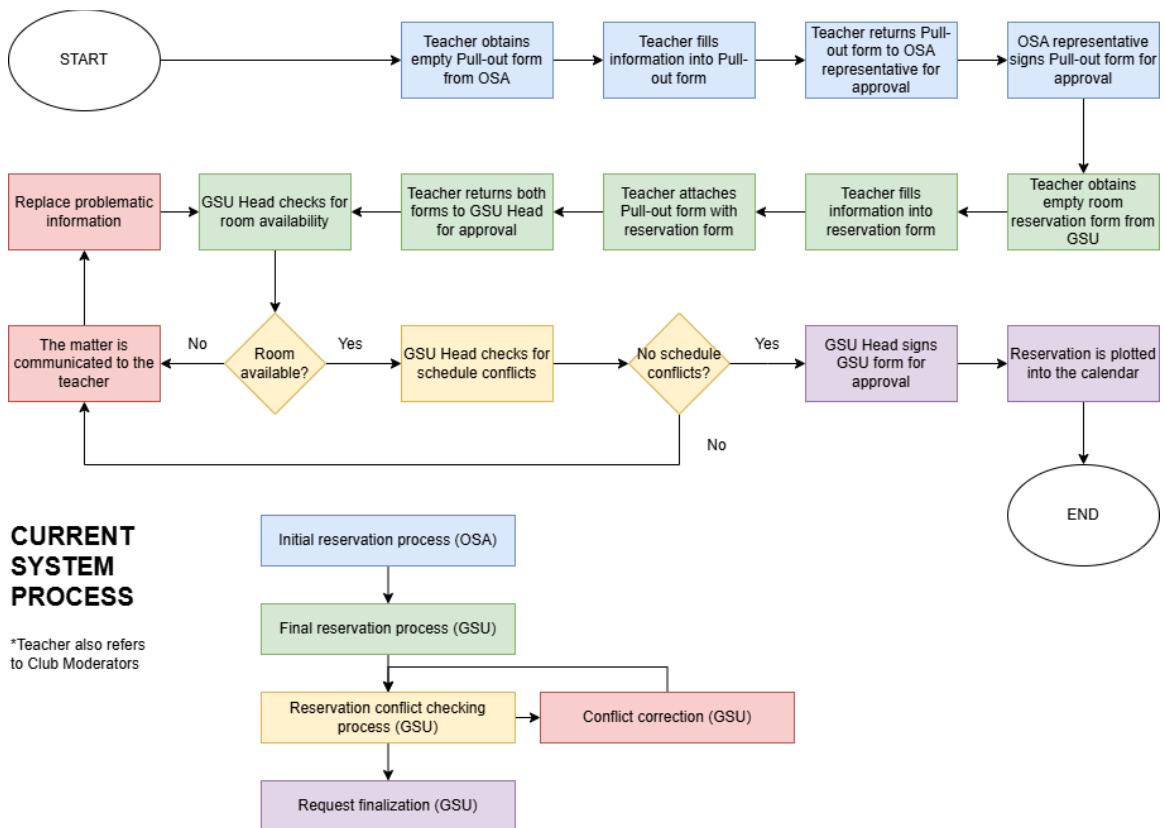


Figure 2. The current manual process for room reservation at NSDAPS

The current manual system process involves five main stages: Initial reservation process, final reservation process, conflict checking, conflict resolution, and request finalization. The figure above illustrates these process flow from start to finish. The illustration represents the process in which a teacher (or a club moderator) has to go through to reserve a room for in-house activities (e.g., practices beyond class hours). The process starts with the requester obtaining an empty pull-out form from the Office of the Student Affairs (OSA), where the activity details and list of student names are written. Once filled up, the requester returns the form to an OSA representative where it will be signed for approval. Once cleared from the OSA, the requester obtains and fill up a reservation form provided by the General Services Unit (GSU). If necessary, a separate form will be used for borrowing equipment not already present in the requested room (e.g., projectors, sound system, chairs, etc.) The GSU head, which, in this case is Mr. Manalo, checks whether the

requested room is available (e.g., whether the room is under construction or maintenance). Mr. Manalo then checks for schedule conflicts using his calendar. If either check fail, the matter is communicated to the teacher and the problematic information is edited. Once both checks are successful, Mr. Manalo signs the GSU form for approval and adds the details to the calendar. In this system, Mr. Manalo has to do two separate checks, which proves to be time consuming, especially at times of the school year where club and class activities are at its peak. The time spent checking for both room availability and schedule conflicts repeatedly will pile up as more requests come in from different requestors and classes.

Proposed System Process

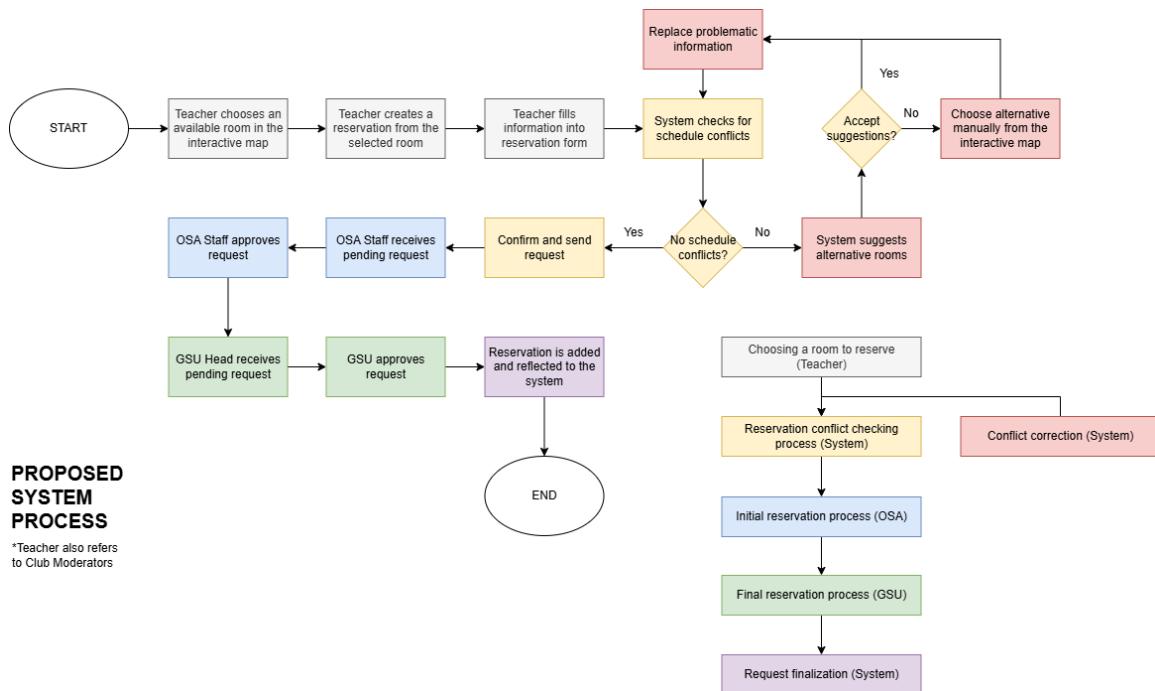


Figure 3. The proposed system process for room reservation at NSDAPS

In the proposed Digi-Rooms system process, there are six distinct stages: Choosing a room, conflict checking, conflict resolution, initial approval, final approval, and request finalization. All six stages are done within the system. The process starts with the teacher using the interactive map to visually see available rooms that can be reserved. Once an available room is chosen at the chosen time and date, a reservation form is filled up inside the system. While the user fills up the necessary information, the system is already doing conflict checks in the background. If it finds a conflict with an existing schedule, it prevents

the user from proceeding until the problem is resolved. The system assists with conflict resolution by suggesting alternative rooms nearby. The user has the choice to either accept the suggested room or manually find one. Either way results to the room data being replaced in the reservation form. The system checks for conflicts again and once it finds none, allows the user to proceed to finalization, in which the request is sent to Staff accounts for approval. In a Staff account, the user receives a pending request. Once they are cleared, the user only has to click “Approve” and the request will automatically transfer to the administrator, which, in this case is the GSU head. The GSU head can review the reservation information and when approved, clicks “Approve” to finalize and add the reservation to the schedule records. Once it is added to the schedule records, it will then be reflected throughout the system across all users.

Technical Background

To realize the planned system for this capstone project, the following technologies will be employed.

Technologies to be Used

Microsoft Visual Studio Code

- A lightweight and versatile Integrated Development Environment (IDE) developed by Microsoft. It supports a wide range of programming languages and extensions, making it suitable for full-stack application development. Due to its versatility, the use of such IDE is fundamental in the system’s development as the need to open different source code file types on different and dedicated code editors are eliminated.

MongoDB

- A NoSQL database system that stores data in JSON-like documents rather than traditional relational tables. This structure integrates well with JavaScript and provides flexibility in handling varied data attributes, which is a key requirement for managing diverse room and facility information in the proposed system. The use of a JSON structure allows the developers to group related properties into a subdocument inside a document. This nested structure enables a cleaner

organization of data, a fundamental need for a program that handles properties for rooms, schedules, etc.

Express.js

- Express.js is a web application framework for Node.js that simplifies server-side app development by providing tools to handle common tasks such as routing, templating, handling of requests, and error handling. Express.js will enable the connection between Digi-Rooms' user interface and the database of the system. It also allows for secure and maintainable backend logic

React.js

- React.js is a JavaScript-based UI library designed by Facebook. This library contains functions and systems that allow for flexible and responsive user interfaces while keeping complexity to a minimum. Its component-based architecture enables the developers to build reusable UI components, reducing duplication in coding elements.

Node.js

- Node.js is a cross-platform runtime environment that allows the execution of JavaScript code into the server-side, allowing the building of web-based applications that uses a familiar language unifying both the front-end and back-end. It is beneficial to the developers to utilize Node.js thanks to its massive ecosystem of plugins and JavaScript structure for every aspect of the system's development.

Calendar of Activities

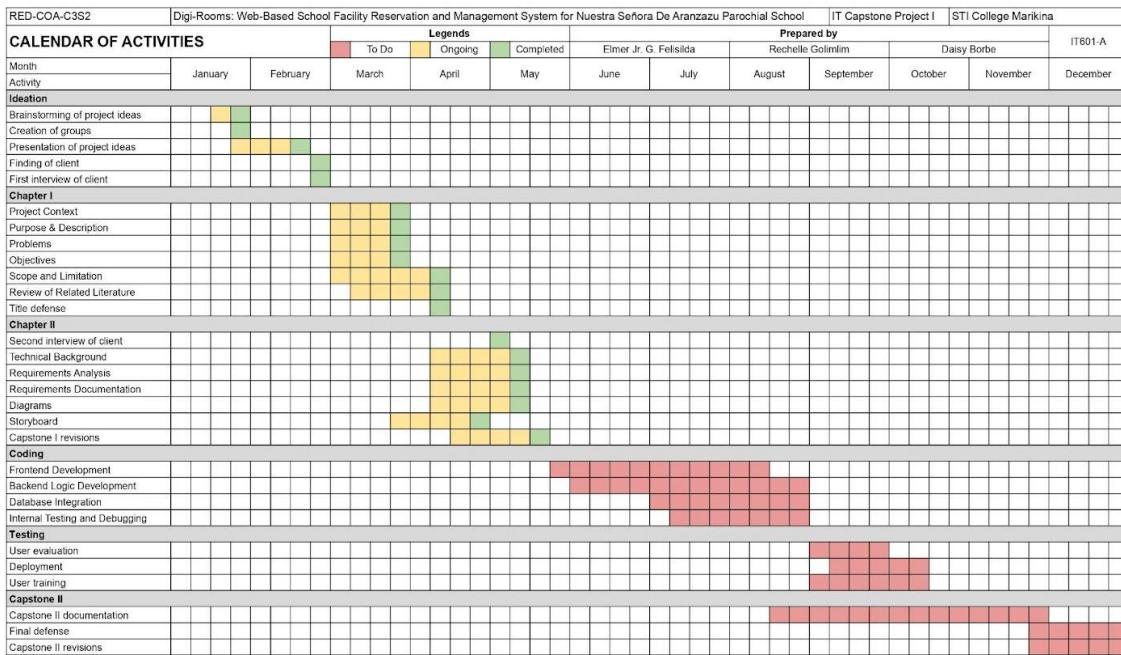


Figure 4. GANTT Chart of Activities

Ideation (January to February 2025)

- People involved
 - Proponents
- Activities
 - The individual brainstorming of Capstone Project ideas, the formation of groups, and the planning of the chosen project. This also includes the search for clients, preliminary interviews, and the identification of their key problems.

Chapter I (March to April 2025)

- People involved
 - Proponents
- Activities
 - The creation and drafting of the various sections of the project's Chapter I documentation, including identifying key problems and objectives, scopes and limitations of the project, and research of similar works and literature.

Title Defense (April 15, 2025)

- People involved
 - Proponents, Panelists
- Activities
 - The presentation of the project's Chapter I documentation, along with the acceptance of revisions and approval to proceed with succeeding sections of the paper and the development of the system.

Chapter II (April to May 2025)

- People involved
 - Proponents, Client
- Activities
 - The creation and drafting of the various sections of the project's Chapter II documentation, along with the planning of the system flow, design, and specific functionalities. This also includes a secondary interview with the client for additional figures and information about the reservation process. The proposed system flow, design, and functionalities were also presented to the client for feedback and approval. Revisions obtained from panelists were also applied to the documentation.

System Development (May to August 2025)

- People involved
 - Developers
- Activities
 - Front-end Development
 - The development of the system's front-end side, including the user interface and experience based on the specified requirements and the storyboard. Responsiveness with mobile devices and smaller screen sizes is also developed here.
 - Back-end Logic Development
 - The development of the system's back-end side, including all logical and data processing systems required on each module of the program.
 - Database Integration
 - The integration of the MongoDB database with the system runs in parallel with the development of the backend logic. This allows the developers to properly program CRUD operations into modules and test its functionality using dummy data.
 - Internal Testing and Debugging
 - The testing of each module and functionality is conducted once it is completed. This allows developers and testers to determine fatal errors and edge cases early and rectify it when needed.

Testing (September 2025)

- People involved
 - Developers, Client, Users
- Activities
 - The finalized system is subjected to user acceptance testing (UAT) to evaluate its alignment with the client's specific requirements and user expectations. This allows the developers to determine possible difficulties of the users in the system, particularly its UI and UX, and adjust them

accordingly. This also includes the user evaluation of the system, where the testing methods are specified in the following sections.

Deployment (September to October 2025)

- People involved
 - Developers, Client, Users
- Activities
 - The system is deployed to a live environment with all core functionalities operational. Issues related to hosting or connectivity are identified and addressed during this phase. The client and users are trained through live demonstrations and walkthrough of the process, and a written user manual is given as reference.

Maintenance (October to November 2025)

- People involved
 - Developers
- Activities
 - Smaller details are polished and the system is tracked for potential connection issues that are recorded and rectified. Support is given to users who encounter errors or difficulties with the system. Remaining bugs are addressed and fixed as well.

Capstone II (August to November 2025)

- People involved
 - Proponents
- Activities
 - The creation and drafting of the various sections of the project's Chapter III and IV documentation is done in parallel with the development, testing, deployment, and maintenance of the system. Forms, letters, documents, and other relevant files are organized and filed for safekeeping. Preparations are

also done for the Capstone II Final Defense. Revisions obtained from the adviser and panelists after the defense is also addressed.

Resources

This section outlines the essential hardware, software, and network components required for the successful development, and operation of the system.

Hardware Requirements

For Developers

- Laptop/Desktop Computer
 - Processor: Intel Core i5 (or equivalent) or higher
 - RAM: 8 GB minimum
 - Storage: 256 GB SSD or higher
- Stable internet access

For System users

- Supported Devices
 - Desktop or Laptop (Windows/macOS/Linux)
 - Tablet or Smartphone (Android/iOS)
- Recommended Specs
 - RAM: 4 GB minimum
 - Display: At least 1280×720 resolution (desktop); standard mobile screen for smartphones
- Stable internet access

Software Requirements

For Developers

- Frontend development
 - HTML, CSS, JavaScript, React.js
- Backend development
 - Express.js

- Node.js
- MongoDB
- Developer Tools
 - Visual Studio Code
 - Git + GitHub

For System users

- Compatible browsers
 - Google Chrome, Mozilla Firefox, Safari, Microsoft Edge
- Device operating systems
 - Windows, macOS, Android, iOS

Requirements Analysis

Who

General Service Unit Head (GSU)

- The GSU, under the direction of the head or administrator, is the main user. This administrator user has the ability to add, edit schedules and floor plans and grant others access.

School Staff of Student Affairs

- Student Affairs Office can log in to generate reports, check schedules and the interactive map, and create and approve room requests.

Teachers

- Teachers and other authorized staff can use the system to make reservations and check the map of available rooms. They do not have full editing rights – The GSU head and staff manage approvals.

What

User Account and Roles

- The system implements role-based access control and provides secure authentication through login and registration functionalities. Access is restricted to authorized school personnel, specifically teachers and staff. Available features are determined by assigned roles (teacher, staff, and administrator).

Interactive Campus Map

- Dynamic campus maps feature floor plans for all buildings and floors. Real-time room availability is visually represented by color-coded markers (green for available, red for reserved), updating in an instant with each new booking. The interface allows users to navigate easily between floors and buildings. Selecting a room marker displays that room's details and current/upcoming activities.

Map Editor

- The system provides a user-friendly interface for administrators to upload and manage floor plan images in JPG, PNG, and SVG formats. Its scalable design facilitates the dynamic modification of floor plans, allowing for the adding or removal of structures and floors. Moreover, administrators can add and edit room markers directly on the floor plan, associating metadata like number, name, and capacity. Changes made to room information or floor layouts are applied immediately.

Reservation Scheduling

- The scheduling module allows users to create or edit room reservation requests by completing an online form specifying the date, time, purpose, participants, and required equipment. Authorized users can add or remove reservations via the scheduling interface, with the GSU administrator having full editing privileges.

Conflict Detection

- The system incorporates automated conflict detection by checking the requested room and time against the current reservation schedule upon submission. If an overlap is identified, the system blocks the request and notifies the user. By providing users with options to select different time slots or view other available rooms, the system obviates the need for manual calendar checks.

Approval Workflow

- The system implements a two-tiered approval process. Initially, staff accounts (such as Student Affairs) review the request, after which it is forwarded to the GSU administration for final approval before being added to the official schedule.

Reporting and Analytics

- Digi-Rooms provides administrative reporting tools that enable:
 - Timetable Reports
 - Generation of seven-day schedules for specific rooms, times, and dates.
 - Usage Analytics
 - Creation of room utilization reports based on historical reservation data, including trends, popular amenities, and user types.
 - Map Snapshots
 - Exporting snapshots of the interactive map at a designated date and time for printing or reference.
 - Reservation Slips
 - Generation of printable slips for scheduled activities, beneficial for event staff.
 - Account Logs
 - Viewing and printing lists of currently active user accounts and a system action log for auditing purposes
 - Document Export
 - All data and reports, including schedules, maps, and logs, can be exported as PDF documents for printing.

Notifications

- The system automatically sends email and status updates to users regarding their reservation requests, including approval, rejection, or conflict notifications, ensuring all parties remain informed of the outcome.

Where

On-campus Access

- Digi-Rooms is accessible across both of NSDAPS' multi-story campuses, both of which are integrated into the interactive map. The primary users of the system are personnel and administrators from GSU, the Admin Office, and Student Affairs, typically accessing it from their on-campus offices.

Remote Access

- Its web-based enables authorized users (teachers and staff) to access Digi-Rooms remotely via the internet, for example, from home or mobile devices. This ensures that facility reservations can be made and viewed from any location, even outside of regular business hours.

Device Support

- The interface is mobile-friendly for tablets and smartphones and fully functional on desktop and laptop PCs. Consequently, reservations can be made and viewed on any device with a modern web browser and internet connectivity.

When

Always on

- Digi-Rooms provides users with constant availability, enabling them to view schedules and submit or modify reservation requests around the clock.

Off-hours and Urgent Requests

- A key objective is to facilitate both last-minute and off-peak reservations, a capability that overcomes the limitations of the previous paper-based calendar by

allowing urgent submissions outside of standard school hours; this digital solution even accommodates weekend or next-day events through remote, real-time request processing.

Peak Periods

- The system considers and manages increased workloads before major events (fairs, exams) and at the start of terms (class and club scheduling) using real-time conflict detection and reporting; its architecture ensures that any reservation modification (creation, approval, or cancellation) is instantly reflected in all views, providing virtually uninterrupted room availability without the need for manual refreshes.

How

Web-Based Architecture

- Digi-Rooms is a web-based application accessible through a browser, employing a Node.js back-end to manage business logic and MongoDB for data storage encompassing rooms, users, and schedules; the user interface is constructed using HTML and CSS.

Real-Time Operation

- Digi-Rooms offers seamless real-time synchronization, where the map and list displays refresh instantaneously upon any reservation creation or change; this is facilitated by the back-end's swift database updates and immediate broadcast of changes to all users, thereby assuring that they consistently view the latest availability.

Role-Based Security

- The system employs authentication and role-based access control, ensuring that users are identified and assigned roles upon login; this mechanism restricts access to specific functionalities based on user roles (e.g., only staff and administrators can view approval screens) and effectively blocks unauthorized or unauthenticated access, with student registration being explicitly prohibited and limited to school personnel.

Conflict-Checking Logic

- When a reservation request is submitted, the system automatically queries the database for existing bookings matching the specified room, date, and time; if a conflict is detected, the request is blocked, and an alert is generated, effectively preventing any overlapping reservations.

Floor Plan and Marker Management

- Through the map-editor interface, administrators can drag room markers and upload floor plan files (JPG, PNG, SVG), which updates the floor and room database; the system's design also allows for future modifications by adding or removing floors and rooms.

Email Integration and Logging

- The system incorporates an email notification system to inform users of reservation status updates; furthermore, it maintains a detailed log of all user activities, such as logins, request submissions, approvals, and modifications, providing administrators with a comprehensive audit trail for accountability and oversight.

Requirements Documentation

This section provides a detailed list of initial features and functionalities that the Digi-Rooms system should provide at the end of the development phase. This acts as the reference for developers during the development phase, and a document of agreed-upon functionalities (See Figure 41, Page 95) that will help align the client's expectations at the final product. Each requirement is aligned with its parent module, and represents a singular action that a user should be able to do inside the system.

Functional Requirements

- Account Management Module

REQ-1. The user shall be able to log in to the system by providing their email and password.

- REQ-2. The user shall be able to create a registration request for a new account by providing their email, name, department, and password.
- REQ-3. The administrator shall be able to view pending registration requests.
- REQ-4. The administrator shall be able to approve registration requests.
- REQ-5. The administrator shall be able to reject registration requests.
- REQ-6. The administrator shall be able to specify the reason for rejection of registration requests from a predefined set of strings.
- REQ-7. The administrator shall be able to set individual permissions on accounts.
- REQ-8. The user shall be able to receive email notifications for account status updates.

- Interactive Map Module

- REQ-9. The user shall be able to view the interactive map.
- REQ-10. The user shall be able to view the information of a room by clicking on a marker linked to it in the map.
- REQ-11. The user shall be able to switch buildings and floors.
- REQ-12. The user shall be able to view the availability of rooms based on the specified date and time.
- REQ-13. The user shall be able to change the date and time.

- Schedule Management Module

- REQ-14. The user shall be able to view the schedule timetable based on the specified date, time, and room.
- REQ-15. The user shall be able to create a reservation request.
- REQ-16. The user shall be notified of a schedule conflict before the finalization of the reservation request.
- REQ-17. The user shall be able to choose an alternative room to resolve a schedule conflict before the finalization of the reservation request.
- REQ-18. The teacher shall be able to view their reservation requests pending for approval.
- REQ-19. The staff shall be able to view reservation requests pending for approval (initial stage).

- REQ-20. The staff shall be able to approve reservation requests (initial stage).
- REQ-21. The staff shall be able to reject reservation requests (initial stage).
- REQ-22. The staff shall be able to specify the reason for rejection of reservation requests from a predefined set of strings (initial stage).
- REQ-23. The administrator shall be able to view reservation requests pending for approval (final stage).
- REQ-24. The administrator shall be able to approve reservation requests (final stage).
- REQ-25. The administrator shall be able to reject reservation requests (final stage).
- REQ-26. The administrator shall be able to specify the reason for rejection of reservation requests from a predefined set of strings (final stage).
- REQ-27. The user shall be able to receive email notifications for reservation status updates.

- Map Editor Module

- REQ-28. The administrator shall be able to add a new building.
- REQ-29. The administrator shall be able to add a new floor based on the specified building.
- REQ-30. The administrator shall be able to edit the building name.
- REQ-31. The administrator shall be able to edit the floor name.
- REQ-32. The administrator shall be able to upload a floor plan image/vector for a specified floor.
- REQ-33. The administrator shall be able to add a new room marker based on the specified floor.
- REQ-34. The administrator shall be able to reposition the room marker by dragging it across the screen.
- REQ-35. The administrator shall be able to edit the properties of the room marker.
- REQ-36. The administrator shall be able to delete a building, floor, and room marker.

- Reporting Module

- REQ-37. The user shall be able to generate a schedule timetable document.
- REQ-38. The administrator shall be able to generate a room utilization document.
- REQ-39. The user shall be able to generate a calendar view document.
- REQ-40. The administrator shall be able to generate a map overview document.
- REQ-41. The user shall be able to generate a reservation slip document.
- REQ-42. The administrator shall be able to generate an active account list document.
- REQ-43. The administrator shall be able to generate a log history document.
- REQ-44. The user shall be able to export the specified document into PDF.
- REQ-45. The user shall be able to print the specified document.

Non-Functional Requirements

- Operational Requirements
 - REQ-46. The system will operate in modern web browsers.
 - REQ-47. The system will be responsive in window and device sizes.
 - REQ-48. The system will use dropdowns on forms that do not require unique values.
- Performance Requirements
 - REQ-49. The system shall retrieve the latest schedule, room, and map data in less than 2 seconds.
 - REQ-50. The system shall update the database in real time.
- Security Requirements
 - REQ-51. The user shall only see and access the modules that are specified on their account permissions.
- Cultural and Political Requirements
 - REQ-52. The system will use English language only.
 - REQ-53. The system will use non-technical terms as much as possible.

Storyboard

The following storyboard designs had been presented and approved by the client.

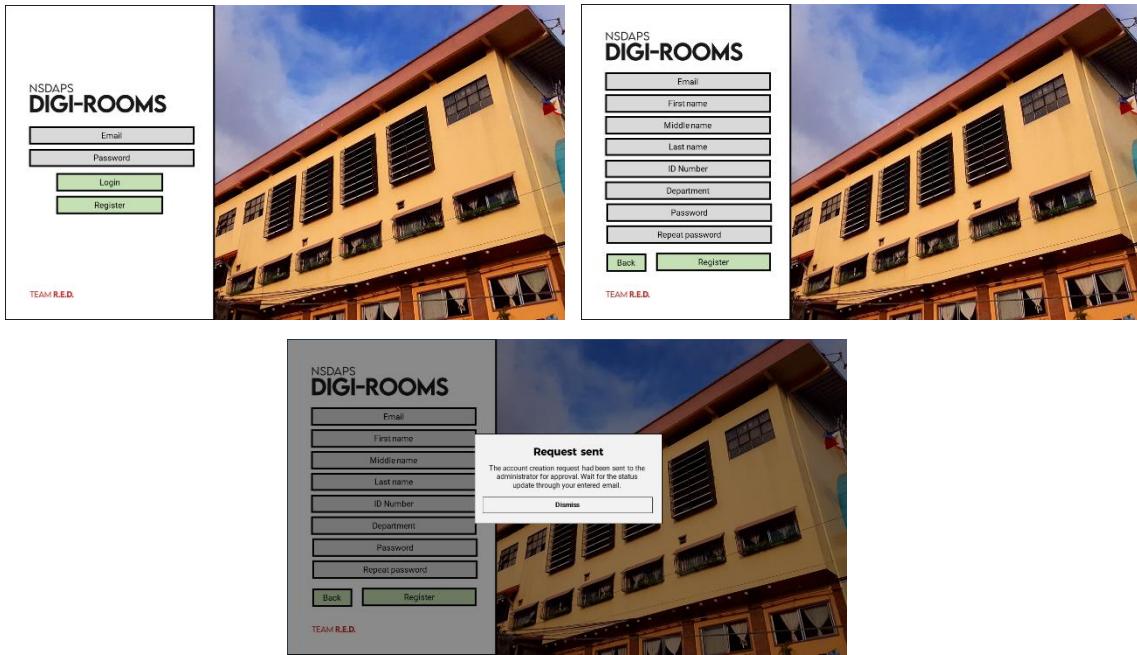


Figure 5. Storyboard for the Login/Register screen

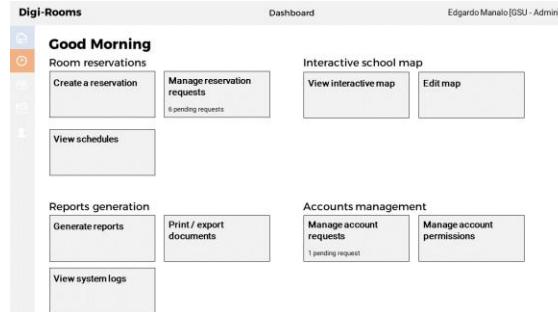
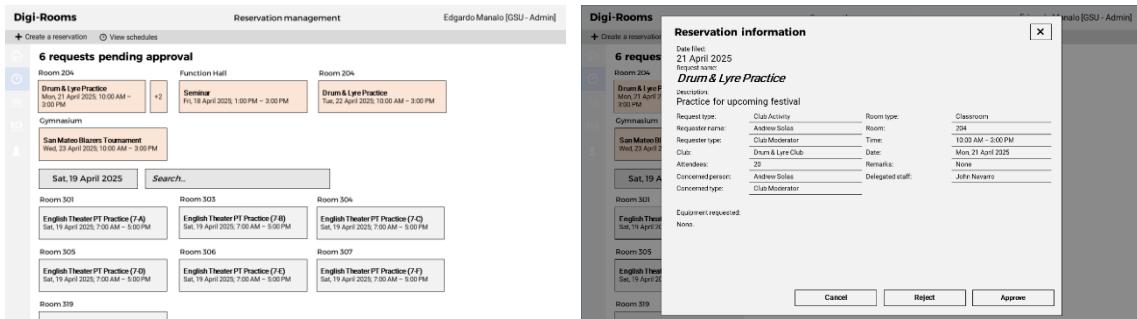


Figure 6. Storyboard for the home screen



This storyboard illustrates the process of approving or rejecting a reservation request. It consists of three panels:

- Panel 1: Request approved** (Top Left): Shows a list of pending approvals. A specific entry for "Drum & Percussion Practice" on Saturday, April 22, 2025, from 7:00 AM to 3:00 PM is selected. Buttons for "Print report", "Inspect another", and "Dismiss" are visible.
- Panel 2: Reservation information** (Top Right): A modal window titled "Drum Rejection reason" asks for a reason. It includes fields for Date, Requester, Requester's name, Status, Attendees, Concerned, Equipment, and Notes. Buttons for "Cancel", "Reject", and "Approve" are at the bottom.
- Panel 3: Request rejected** (Bottom Left): Shows the same list of pending approvals. The "Drum & Percussion Practice" entry is now marked as rejected. Buttons for "Print report" and "Dismiss" are present.

Figure 7. Storyboard for the Admin and Staff's reservation request approval/rejection screen

This storyboard shows the creation of a new reservation and handling conflicts:

- Panel 1: Create a reservation** (Left): A step-by-step wizard for creating a reservation. Step 1: "Request information" shows details for "English Theater PT Practice (7A)" on Saturday, April 22, 2025, from 7:00 AM to 3:00 PM. Step 2: "Schedule" shows a conflict with an existing reservation for "Sam Maret Rhythms Tournament". Step 3: "Review" shows the final details.
- Panel 2: Create a reservation // Find alternatives** (Right): A modal window titled "Room 310 Classroom Available" lists other available rooms like Room 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, and 323. It includes a "Use this room instead" button and a "Back" button.

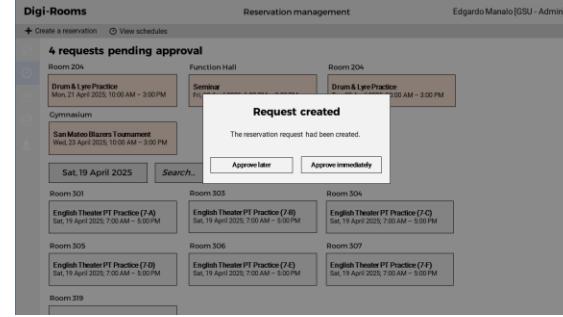
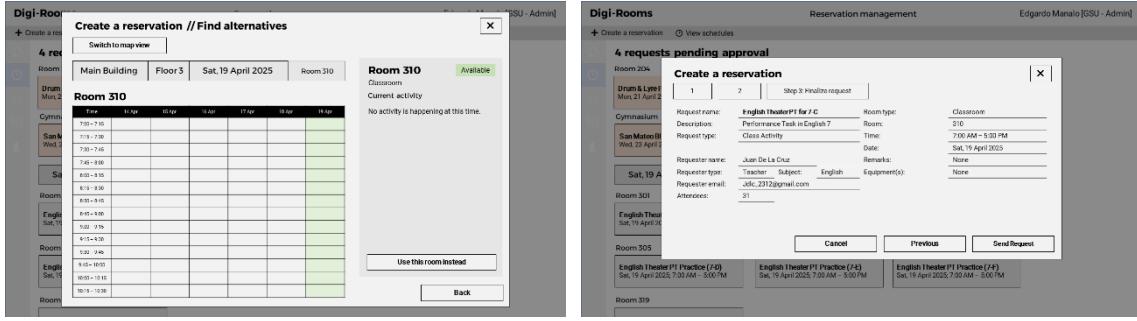


Figure 8. Storyboard for the reservation creation screen

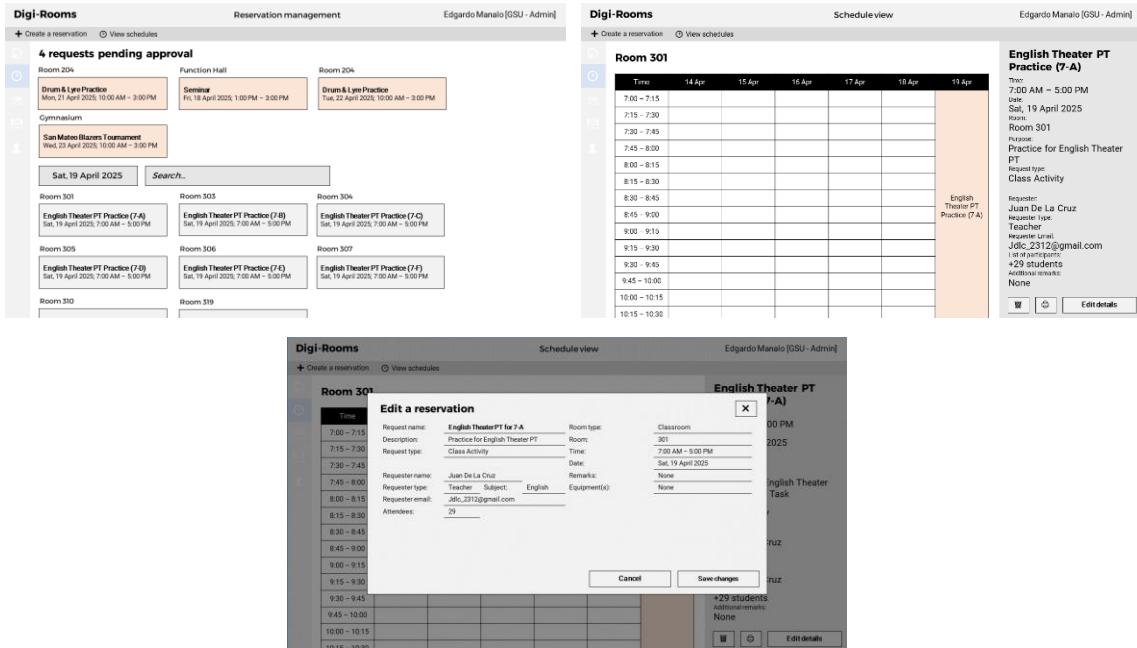


Figure 9. Storyboard for the reservation modification and timetable screen

Figure 10. Storyboard for the interactive map and room information view

Figure 11. Storyboard for the map editor screen

The storyboard displays two side-by-side screenshots of the Digi-Rooms application interface.

Left View: A "Reservation Slip" form for "Nuestra Señora De Aranzazu Parochial School, Inc." titled "English Theater PT for 7-C". It includes fields for Requester name (Juan De La Cruz), Requester type (Teacher), Subject (English), Attendees (31), Concerned person (Juan De La Cruz), and Concerned type (Teacher). It also shows a room reservation for Classroom 307 from 7:00 AM to 9:00 PM on Sat, 19 April 2025. The status is "Approved".

Right View: An "Account List" view for the same school. It shows a table of accounts with columns: Name, E-Mail, Date Registered, Date Approved, and Type. The accounts listed are:

Name	E-Mail	Date Registered	Date Approved	Type
Edgardo Manalo	Emmre_123@gmail.com	23 Feb 2025	23 Feb 2025	Admin
OSA_1	Nedaps_001@gmail.com	26 Feb 2025	27 Feb 2025	Staff
OSA_2	Nedaps_0SA_2@gmail.com	26 Feb 2025	27 Feb 2025	Staff
adminOffice	Nedaps_Admin@gmail.com	27 Feb 2025	27 Feb 2025	Admin

Figure 12. Storyboard for the report generation screen

The storyboard shows the "Manage Accounts" screen of the Digi-Rooms application.

Top Bar: Digi-Rooms, + Add an account, Manage Accounts, Edgardo Manalo [GSU - Admin].

Middle Section: A table titled "2 accounts pending approval" showing two entries:

JuanDeCruz	juan_de_cruz@gmail.com	John Doe Samiento	janet1@gmail.com
	[19 April 2025]		[19 April 2025]

Bottom Section: A table listing all accounts with columns: Name, E-Mail, ID Number, Department, and Type. The accounts listed are:

Name	E-Mail	ID Number	Department	Type
Edgardo Manalo	Emmre_123@gmail.com	123456789	GSU	Admin
OSA_1	Nedaps_001@gmail.com	123456789	OSA	Staff
OSA_2	Nedaps_0SA_2@gmail.com	123456789	OSA	Staff
adminOffice	Nedaps_Admin@gmail.com	123456789	Administration	Admin

Right Panel: A sidebar for "Edgardo Manalo" showing user details (Email: Emmre_123@gmail.com, Role: GSU, Account type: Admin, Username: 123-456-789) and accessibility options (Create reservations, Edit reservations, Delete reservations, View map, Edit map, Generate reports, Create accounts, Edit account permissions, Delete accounts). A "Save changes" button is at the bottom.

Figure 13. Storyboard for the accounts management screen

Conceptual Framework

Current system process

The current system involves the following inputs:

- Involved people
 - These include the name and details of the requester (in this case, the teacher), along with the list of student names when necessary. The number of attendees is dependent on this list.
- Room information
 - Based on the reservation form provided by the GSU, the type of facility (e.g., classroom, laboratory, gymnasium, etc.) is noted. If the chosen type is a classroom, then the specific room number is specified.
- Time and dates

- These are important data required for the form. The reservation date and its start and end time is required to determine if the requested facility will be available or not. The date applied is used for archival and record keeping.
- Equipment
 - If applicable, equipment not already present on the provided facility will need to be requested as well.
- Staff
 - After approval, the GSU head delegates a staff from the department to open the facility, provide the equipment, and close it once the requested time elapses.
- Existing data
 - This is crucial for availability checking. Using the records pertaining to room availability and the calendar containing the reserved rooms, the GSU head can determine if the requested time and date will be free for use for the requester.

The current system involves the following processes:

- OSA processing
 - A common case when requesting rooms is for activities that involve students outside of school hours. For this, the pull-out form provided by the Office of the Student Affairs (OSA) is filled up for the approval of the activity. This tracks who are the members involved in the activity and who is the one liable. Once the pull-out form is approved by the OSA, the requester brings the form into the GSU.
- GSU processing
 - The GSU head provides the room reservation form provided by the GSU for the room requisition. Ideally, in this scenario, the pull-out form containing the list of student names is attached to the GSU reservation form for reference.
- Checking of availability and conflicts

- Once the GSU reservation form is filled up with the necessary information, the GSU head checks for the availability of the requested room. If there are conflicts or the room is unavailable, the problem is communicated with the requester and the error is resolved.
- Conflict resolution
 - In the event of a conflict, the requester uses the existing data of available rooms to find an alternative. Afterwards, the modified request is rechecked for conflicts.
- Request approval and updating of existing information
 - If the request doesn't have any conflicts, the GSU form is signed for approval, and the reservation is plotted to the GSU head's calendar to finalize it.

The current system involves the following outputs:

- Forms
 - The approved OSA pull-out form and GSU reservation form are the main outputs of this system, where they are used as reference for room use.

CURRENT SYSTEM PROCESS

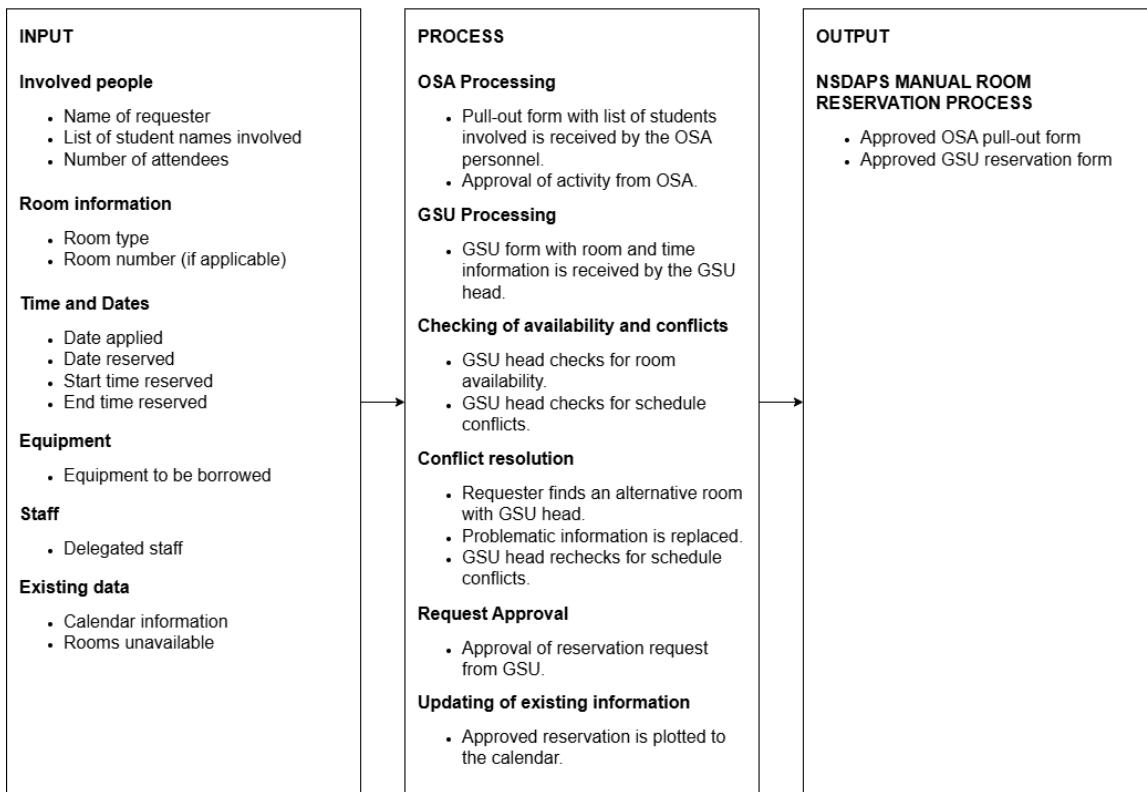


Figure 14. Conceptual framework of the manual room reservation process of the school

Proposed system process

The proposed system, Digi-Rooms, involves the same inputs as the current one with the addition of the following:

- Involved people
 - The user account of all users of the system is fundamental for authentication and safe access of data to authorized people only.
- Existing data
 - All records are now held inside a digital database, including the room information and schedule records, and a predefined list of borrowable equipment, reservable rooms, and accounts. These are used in various processes in the system, particularly the reservation creation processes.

The proposed system involves the following processes:

- Account authentication
 - The account of the user and the list of accounts and their permissions are fundamental to any digital system, as account authentication ensures that only those with the proper access privileges can view and modify data that are only allowed for them.
- Interactive map availability display
 - The digital records for the rooms and schedules are processed to translate them into a visual map that allows for better decision making for requesters on the rooms they plan on reserving.
- Conflict checking and resolution
 - The system uses the room and schedule records to compare the requested time with potential conflicting reservations already in the system, and automatically blocks the user from proceeding until the error is resolved.
- OSA processing
 - The OSA staff receives the request from the teacher through the system, and their approval is recorded in the database as the request's state changes.
- GSU processing
 - The OSA-approved request data is directed to the GSU head for final approval. Once the request is approved, its data is once again updated to the latest state, and reflected into the system.
- Email updates
 - Any status changes such as approval or rejection of request states are communicated to the target user through their account's email. Similarly, any upcoming requests are communicated to the OSA staff and GSU head through their account's email.
- Reports generation
 - The system processes the room and schedule data to generate various reports that the administrator and staff can view easily.
- Account management

- List of accounts, their states, and permissions are all managed by the administrator account that allows them to restrict and allow access on certain users.
- Interactive map modification
 - The Map Editor module edits and modifies the room data and projects it using the Interactive Map module.

The proposed system involves the following outputs:

- Account Access-Based Design
 - Using the permission states on the account data, the system will dynamically display the necessary screens, buttons, forms, and other UI elements of modules and operations they have access to, and hide those that they don't have.
- Email notifications
 - Any status updates on the system are communicated to the target user through the email they provided during account registration.
- Digitized approval
 - Instead of receiving and checking physical forms, approvals are done with one-click operations, saving time and offering convenience of use.
- Printable and exportable reports
 - The reports and documents generated by the Reports Generation module can be printed or exported as a file by the users for reference.

PROPOSED SYSTEM PROCESS

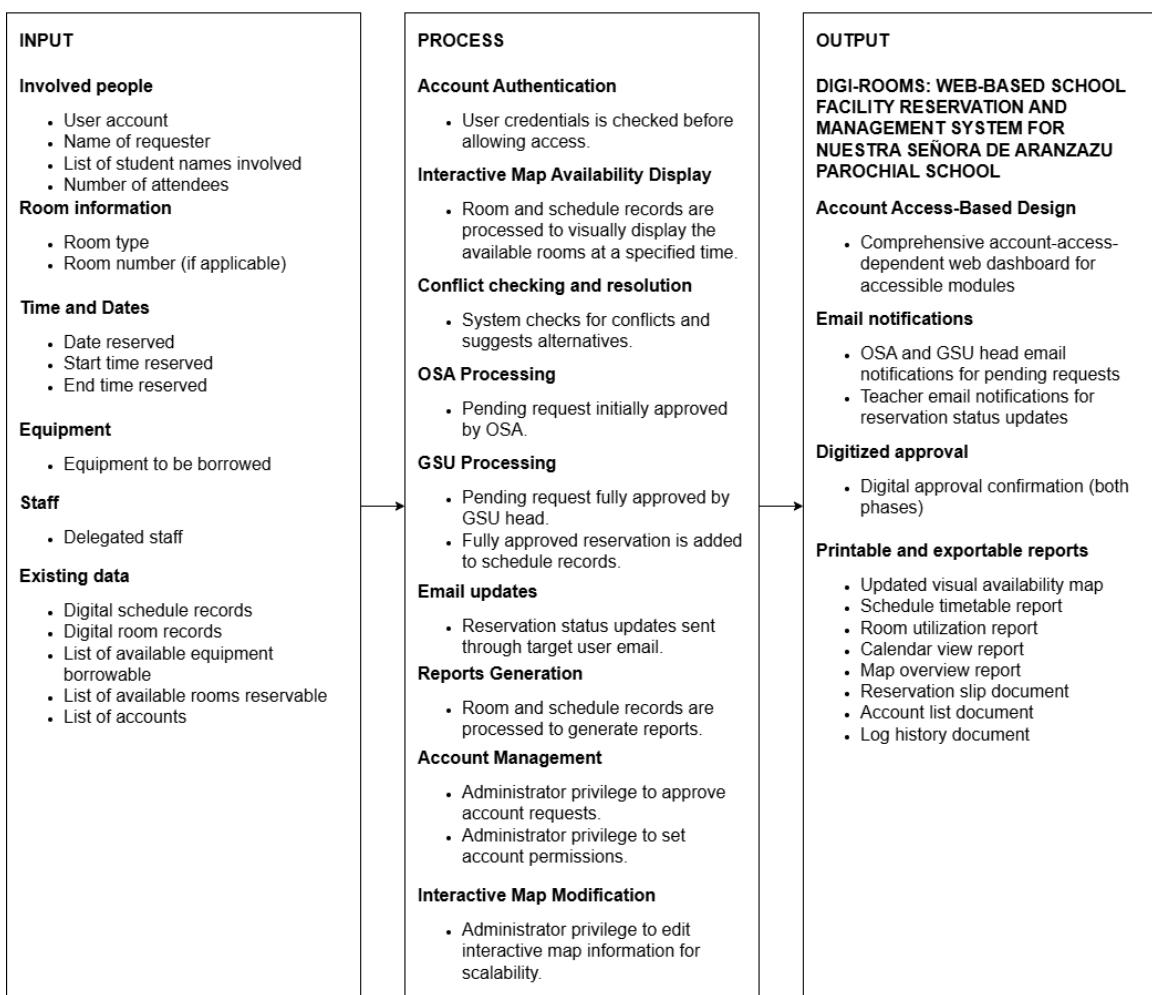


Figure 15. Conceptual framework of the proposed system process of the school

Design of Software, System, Product, and/or Processes

The project will adapt the Prototyping Development Model for its software development process, which involves six primary stages: Requirements Gathering, System Design, Coding, Testing, Deployment, and Maintenance. At any point in the development process, the client and other involved parties may give their feedback in which updates addressing them may be implemented at the necessary stage, and the subsequent stages onwards. The

proponents will communicate to the client after major milestones in the project to update them with the progress. Outlined below are the six primary stages of the development cycle of Digi-Rooms and the action that will be taken by the proponents.

Requirements Gathering

A series of initial interviews (see Figure 50, page 110) spanning 45 minutes to an hour were conducted to understand the needs of the General Services Unit in terms of room reservations, and to decide on the modules that will be present in the system. Using the client's responses, the proponents had formed the initial set of requirements and modules for the system:

- A secure login system using email, along with a registration request process for new accounts.
- A smart scheduling system that digitizes the reservation creation and approval process, automatically checks for conflicts, and recommends alternatives.
- A visual map of the school campuses and its rooms' availability through color indicators that allows the user to view the individual room information and schedules.
- A simple-to-use editor to edit the map properties, allowing the user to add, rearrange, edit, and delete room markers and information.
- A report generator that creates printable documents for reports and hard copies of reservations and maps.

System Design

The requirements (see Figure 41, page 95) are used as reference material for the proponents in designing the Digi-Rooms system and its individual modules and components.

Modules and Functionalities

- Account Management Module
 - Login function
 - Registration function

- Account registration request creation function
 - Account registration request approval function
 - Access role management function
- Schedule Management Module
 - Reservation request creation function
 - Reservation request approval function
 - Schedule conflict detection function
 - Alternative room recommendation function
 - Schedule viewing function
 - Schedule editing function
- Interactive Map Module
 - Map viewing function
 - Room information viewing function
 - Live room status update function
- Map Editor Module
 - Building and floor creation, modification, and deletion function
 - Room marker creation, modification, and deletion function
- Report Generation Module
 - Schedule timetable creation and viewing function
 - Room utilization report creation and viewing function
 - Map overview creation and viewing function
 - Reservation slip creation and viewing function
 - Active account list creation and viewing function

- Log creation and viewing function
- Document export to PDF function
- Document printing function

The system will use MongoDB as its database. It shall contain 7 collections, named Buildings, Floors, Rooms, Schedules, Templates, Accounts, and Logs. Each collection document shall contain the following attributes.

Database Collections

- Buildings
 - This collection contains existing buildings within the map. It contains the name and address of the building, and an array named Floors that contains the IDs referencing individual Floor documents in the Floors collection. When rendering the interactive map, this is the entry point of the system.
- Floors
 - This collection contains existing floors from all buildings. Its objectId is referenced in the Building document that it belongs to. It specifies the number (e.g., Floor 1, 2, 3, etc.) of the floor and its assigned name (e.g., Ground Floor, etc.). It contains an embedded document that contains the information regarding the floor plan image associated with the floor. Finally, it has a Rooms array that contains the IDs referencing individual Room documents in the Rooms collection.
- Rooms
 - This collection contains existing rooms from all floors and buildings. Its objectId is referenced in the Floor document that it belongs to. It specifies the name, capacity, floor, location, and type of the room. The Location attribute is an embedded document that contains the string value of the Building and Floor that it belongs to (this removes the need to access the Buildings and Floors collection when obtaining the room location when

being displayed in other parts of the program). It also contains the code (e.g., 301, 302, 303, etc.), and the Coordinates, which contains the X and Y value of the room marker when being rendered in the map. The Type attribute is a string value obtained from a set of predefined options from the RoomType attribute from the Templates collection.

- Schedules
 - This collection contains the name, description, requester, activity, room, time, equipment, remarks, delegated staff, creation and modification dates, and approval data. The Requester attribute is an embedded document that contains the name and type of the requester. The Name attribute can be set to the user's account name or can be set manually (e.g., when the user is making a reservation on behalf of someone else), while the Type attribute is a string value obtained from a set of predefined options from the Activity.Type attribute from the Templates collection. The Time attribute contains the start and end time and dates of the reservation. The Equipment and DelegatedStaff attributes are an array of string values obtained from a set of predefined options of the Equipment and DelegatedStaff arrays from the Templates collection respectively. The Approval subdocument contains the subdocuments for the Initial and Final stages, which then contains the state, account ID of the approver, and the date information for both stages.
- Templates
 - This collection contains various arrays of predefined options that are used to populate dropdowns in different forms across the system as part of the client's suggestions. The Reason object contains the options for the reasons on account and reservation request denial, while the Activity object contains the options for the type of activity being done in a reserved schedule, along with the subject (e.g., Filipino, English, MAPEH, etc.) if it is applicable. The DelegatedStaff, Equipment, and RequesterType arrays contain options used in filling up the reservation request form, while the RoomType array

contains options (e.g., Laboratory, Classroom, Open-Space, etc.) to specify the type of a selected room marker when editing it in the Map Editor.

- Accounts
 - This collection contains all the active and pending accounts registered into the system. The Name attribute pertains to the user's display name, while the Email and Password attribute pertains to their credentials that are used to log in to the system. The Approval object contains the state of the account (e.g., Pending Approval, Denied, Accessible), the account ID of the administrator that approved/rejected the account registration request, the reason (if the account is denied access), and the date and time when the account was approved/rejected. The Access object contains Boolean values for each action type that can be made in the system. Access roles (e.g., Teacher, Staff, and Administrator) automatically set individual values inside the Access object when editing accounts in the Account Management Module.
- Logs
 - This collection contains all the logs of actions done within the system. It includes the account ID of the actor who made the action, the system message (e.g., "Initial stage approval of request"), the timestamp, and the affected data. The AffectedData object contains the type of document that was affected by the action (e.g., a Schedule document is affected when a request was approved), and the objectID of said document.

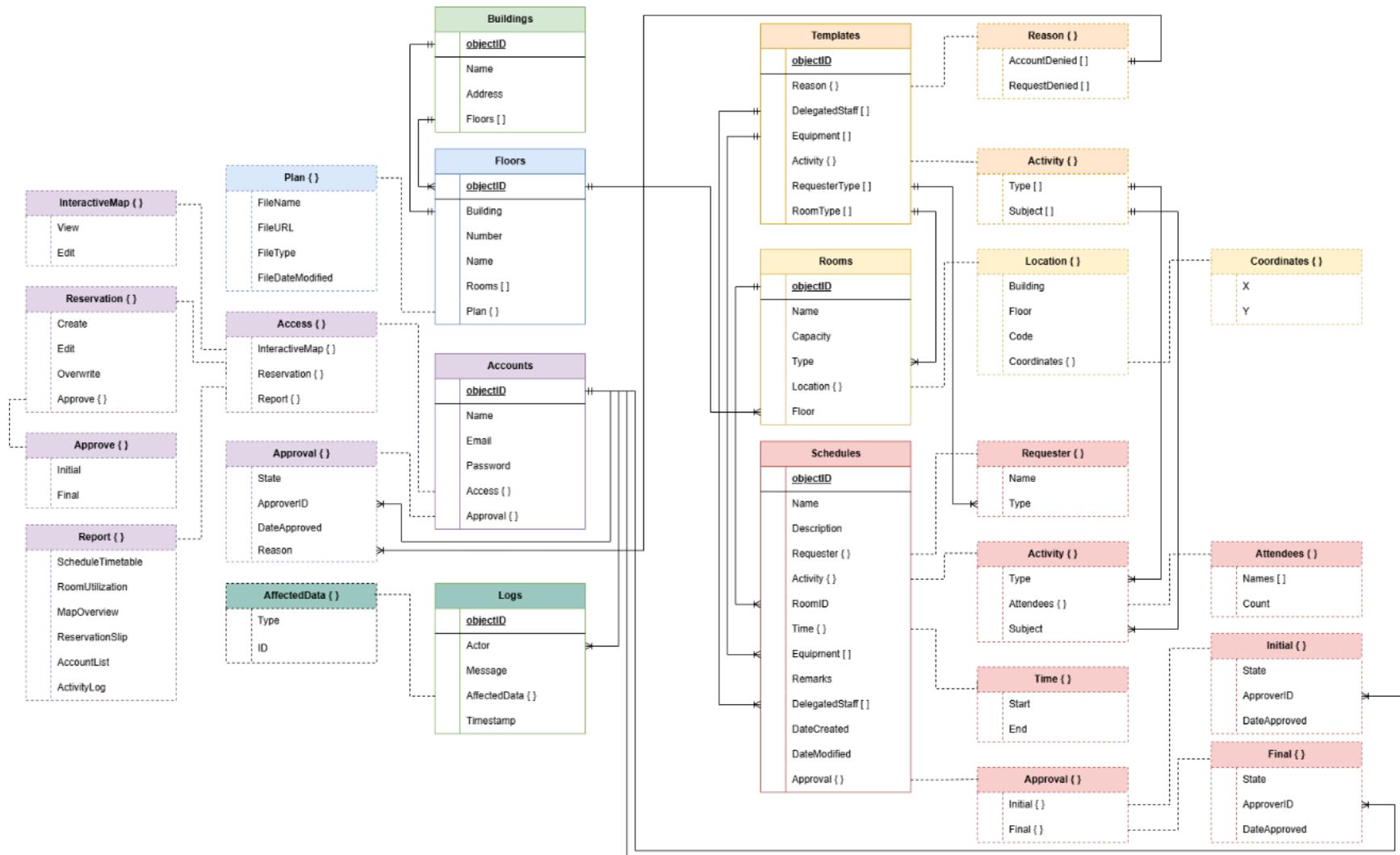


Figure 16. Structures and Relationships of Collections in the Database

To ensure the security of the data held inside the database, a user access roles system will be implemented to ensure that only authorized accounts can modified the data that are accessible to them. Outlined below are the permissions for each access roles.

User Roles and Access

	Teacher	Staff	Administrator
Interactive Map			
View	✓	✓	✓
Edit	X	X	✓
Reservations			
Create	✓	✓	✓
Edit	X	X	✓
Approve reservation requests			
Initial	X	✓	✓
Final	X	X	✓
Reports			
ScheduleTimetable	✓	✓	✓
ReservationSlip	✓	✓	✓
MapOverview	✓	✓	✓
RoomUtilization	X	X	✓
AccountList	X	X	✓
ActivityLog	X	X	✓
Account Management			
Login	✓	✓	✓
Create registration request	✓	✓	✓
Approve registration request	X	X	✓
Manage permissions	X	X	✓

Figure 17. Permission table for the access roles of the system

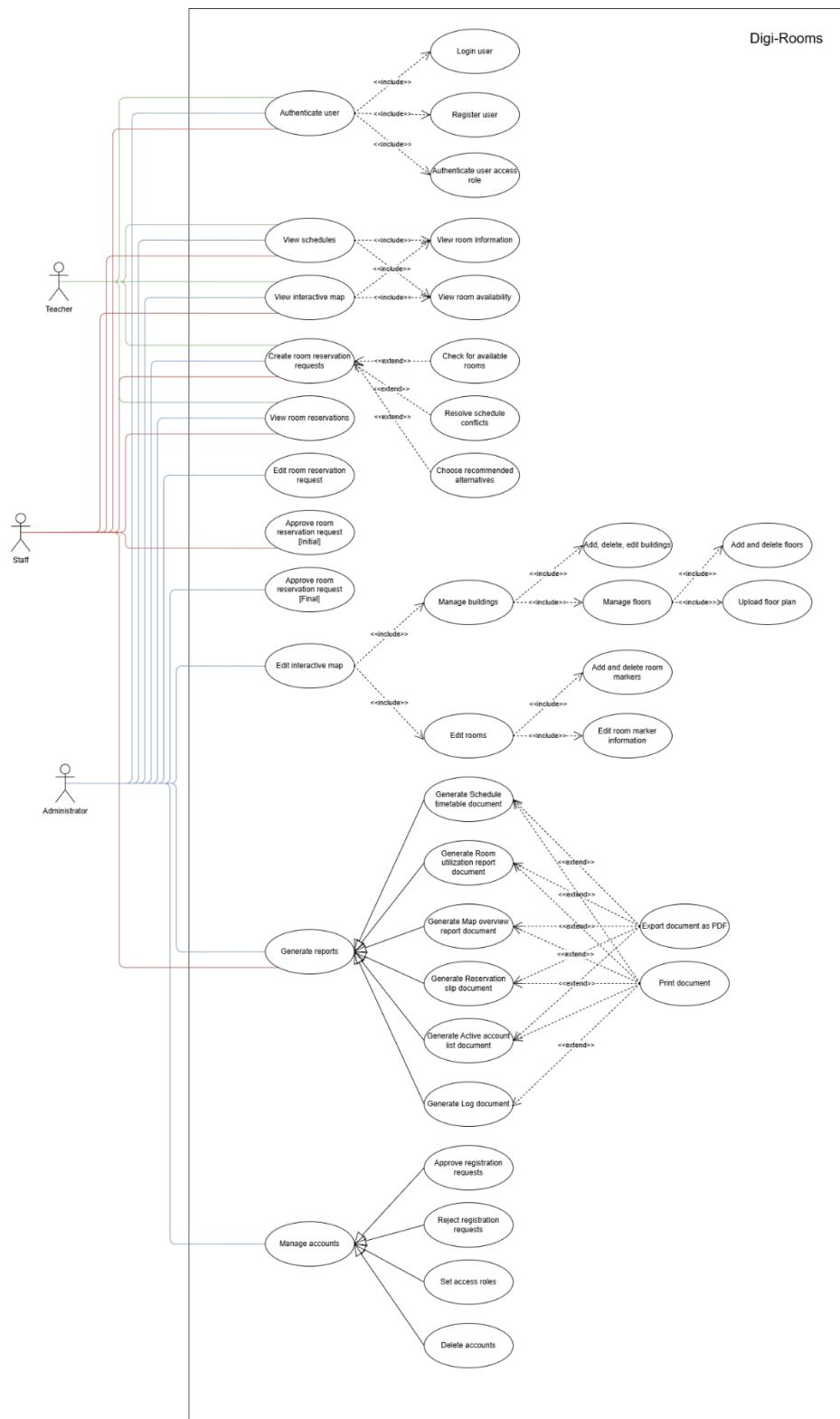


Figure 18. Use Case Diagram of the Project

Flowcharts

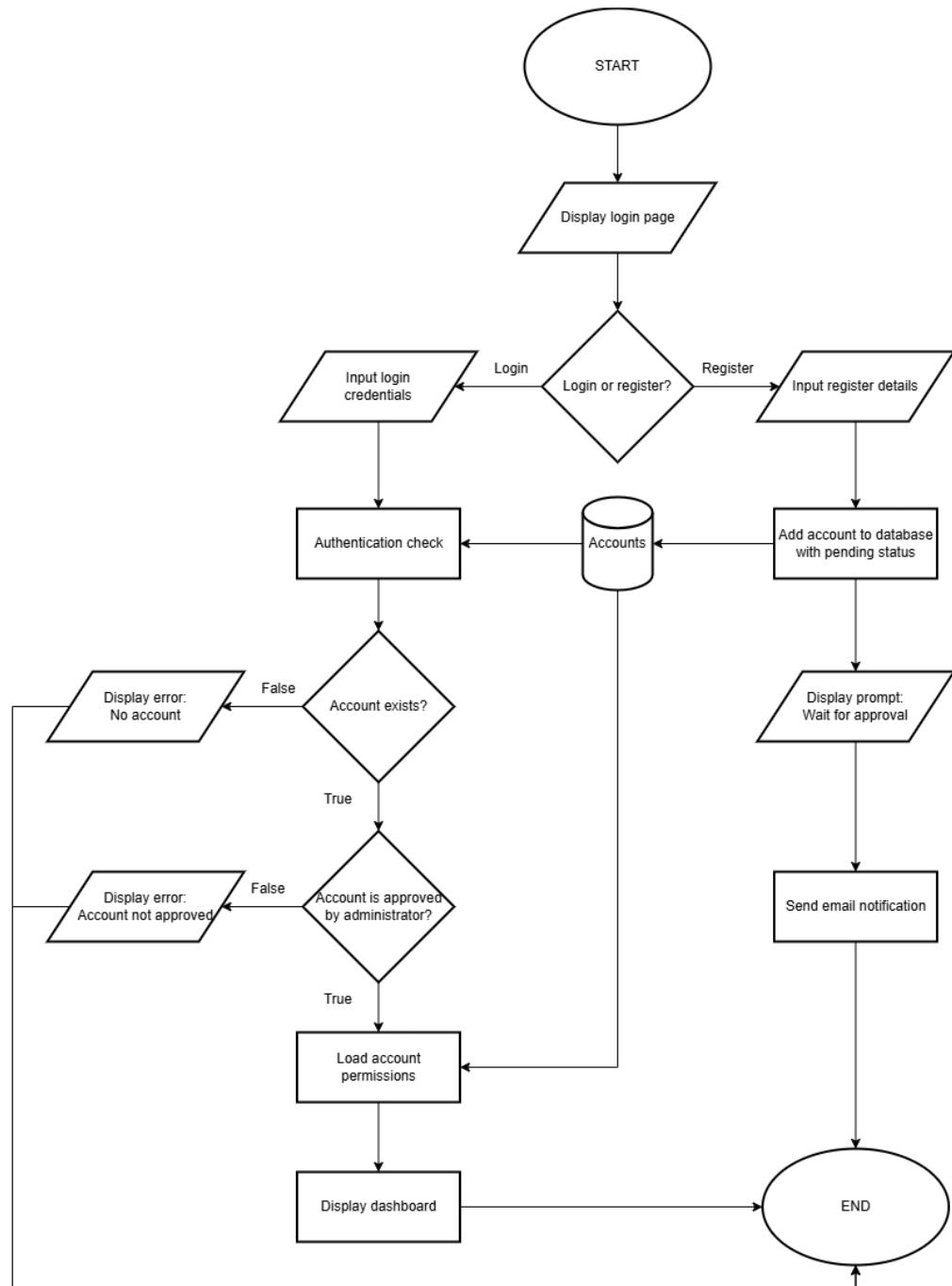


Figure 19. Login/Register function flowchart

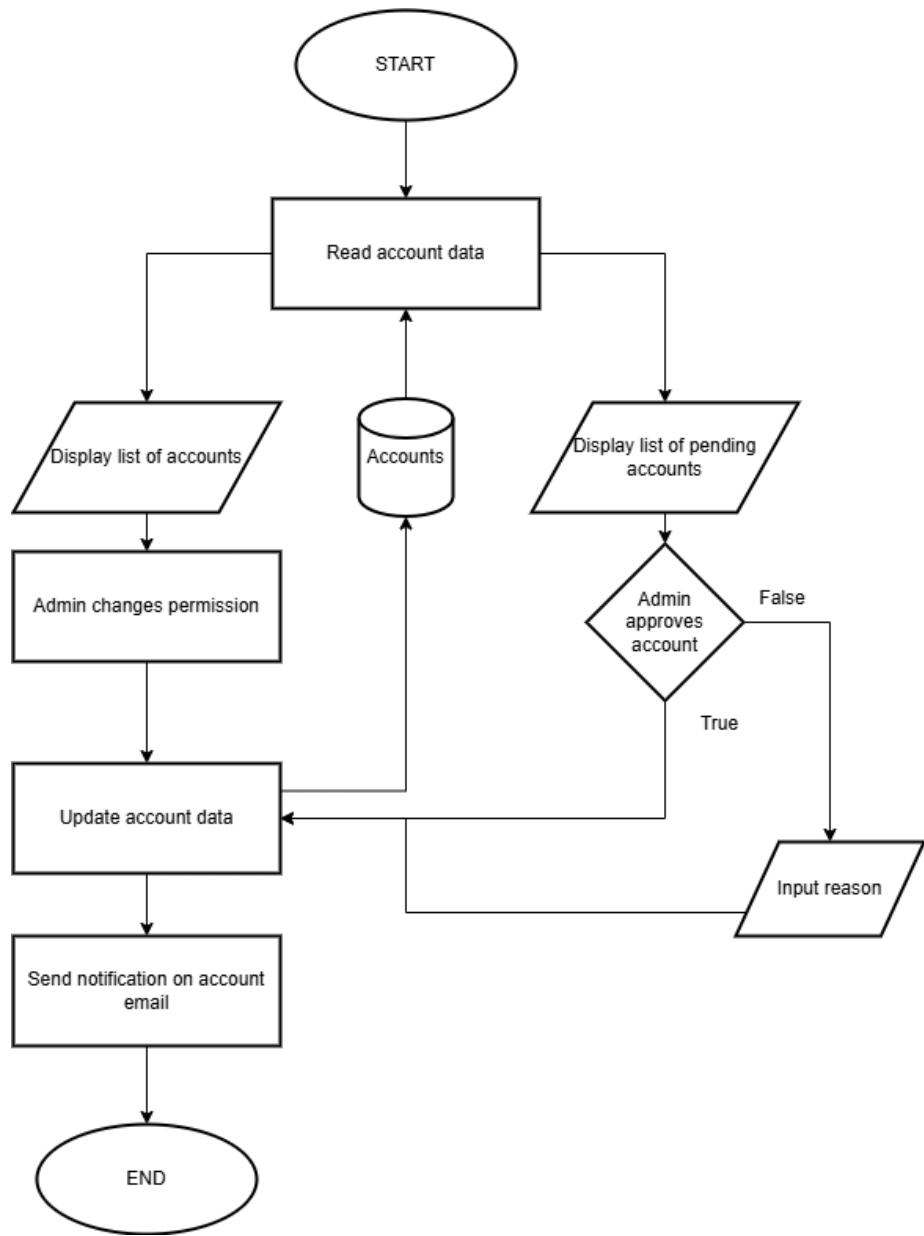


Figure 20. Account request approval function flowchart

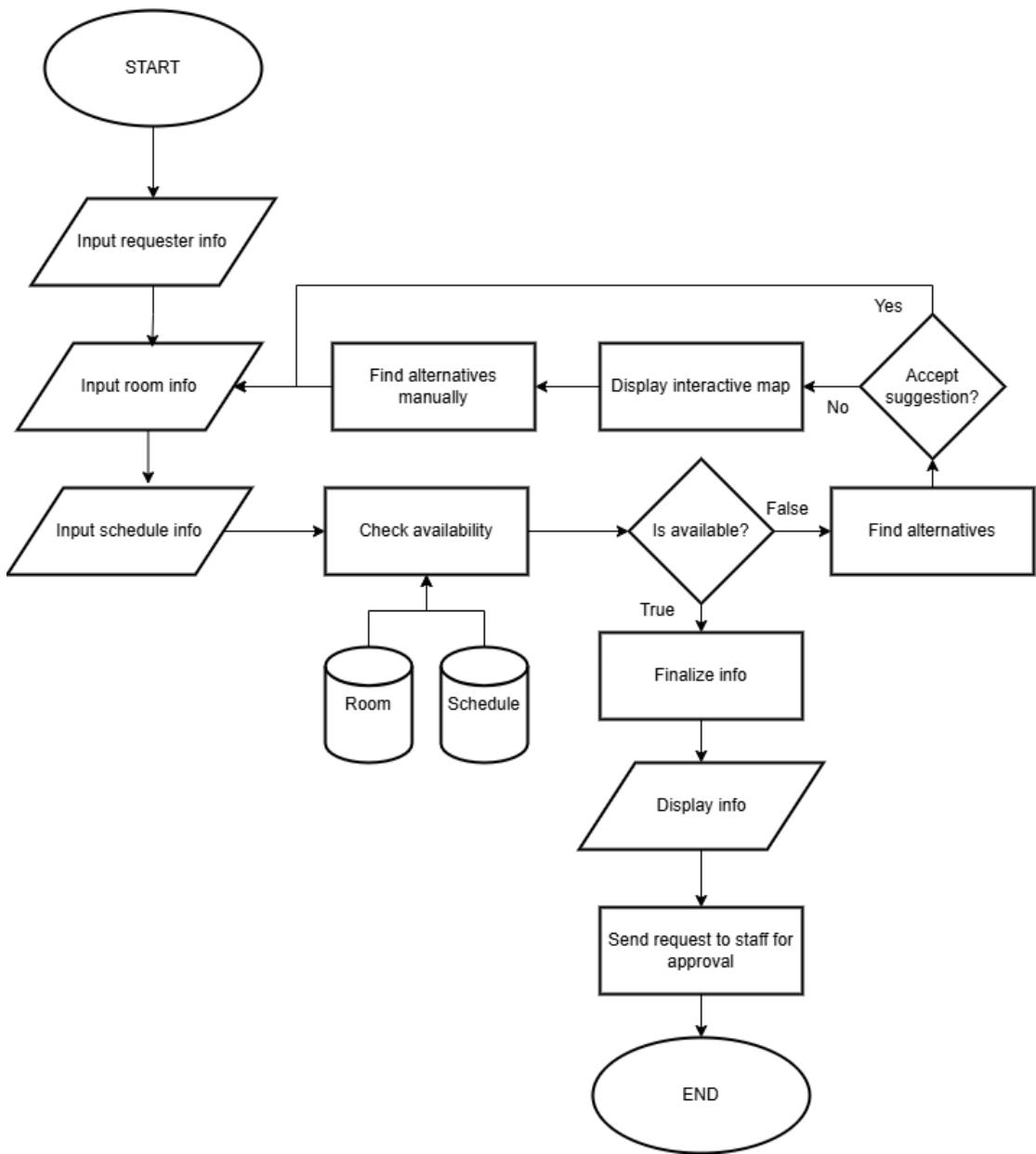


Figure 21. Reservation request creation function flowchart

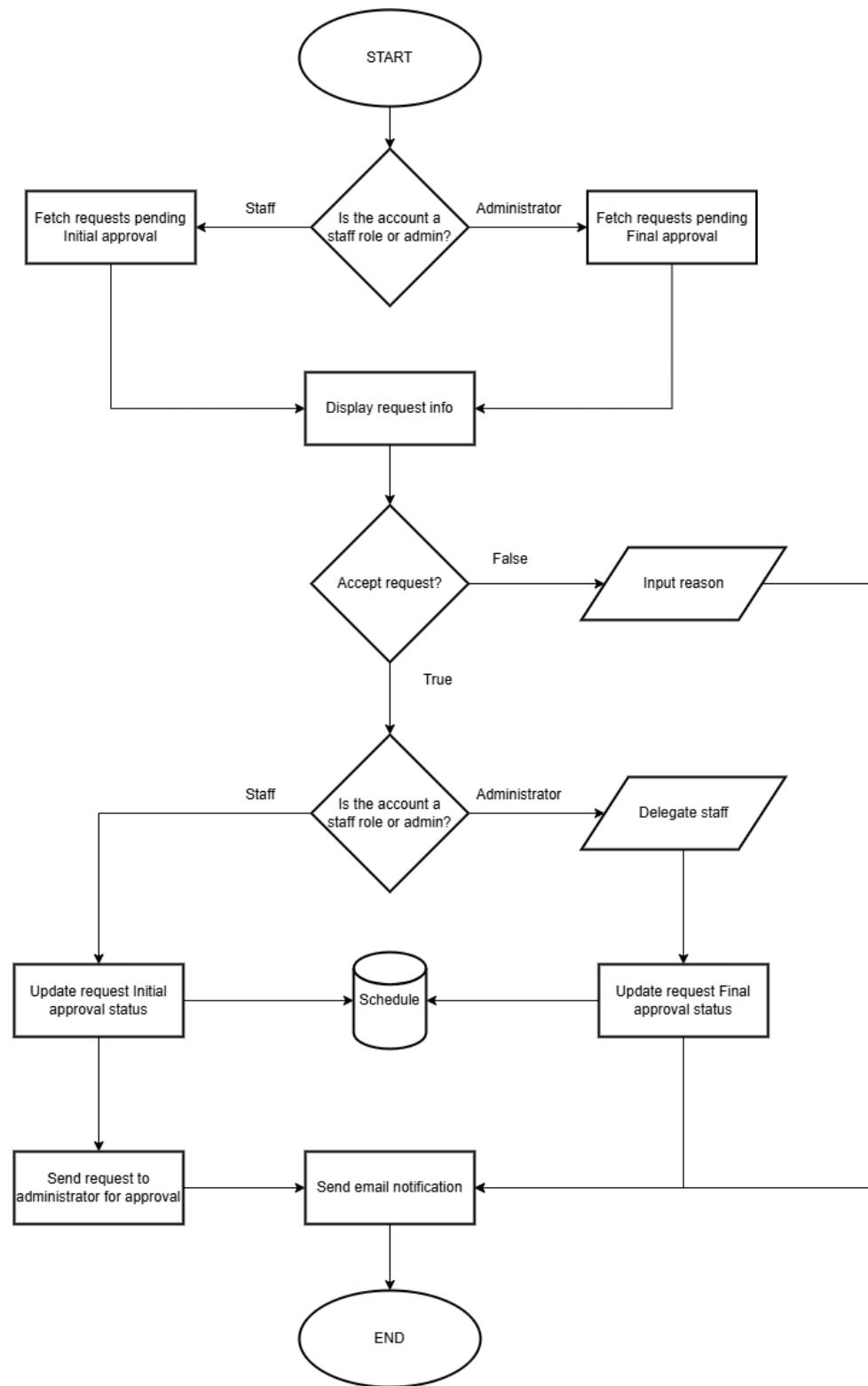


Figure 22. Reservation request approval function flowchart

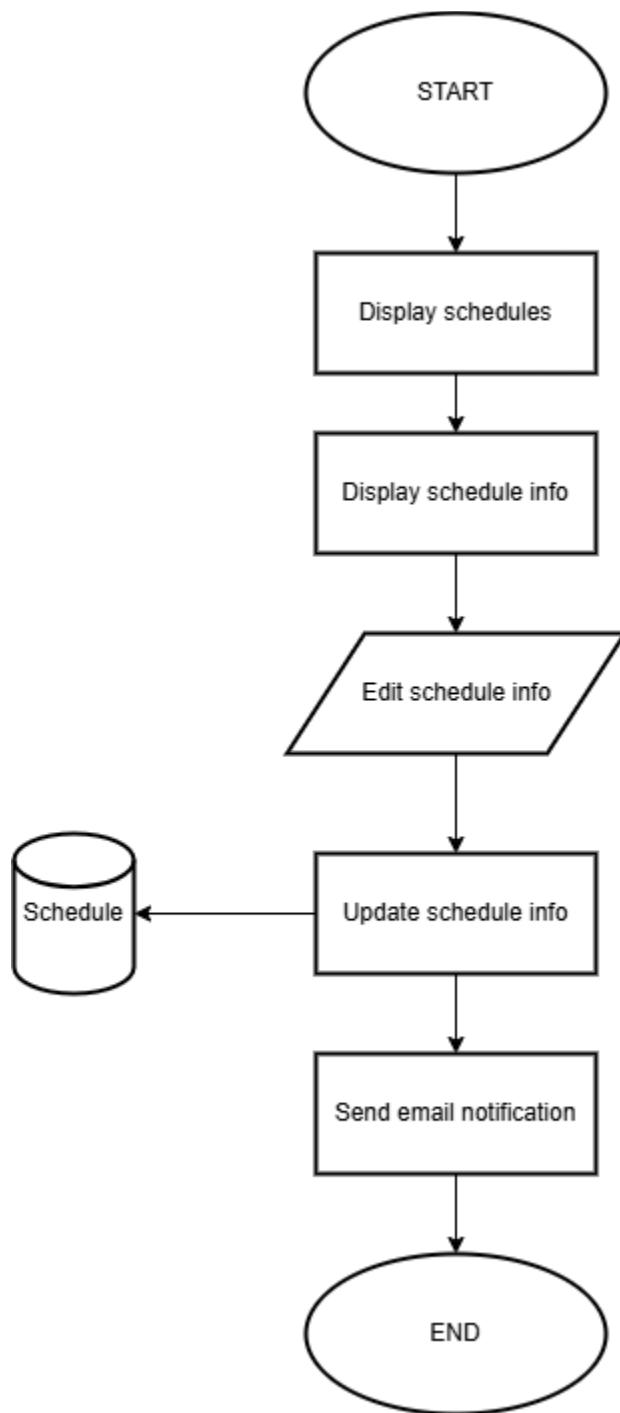


Figure 23. Reservation modification function flowchart

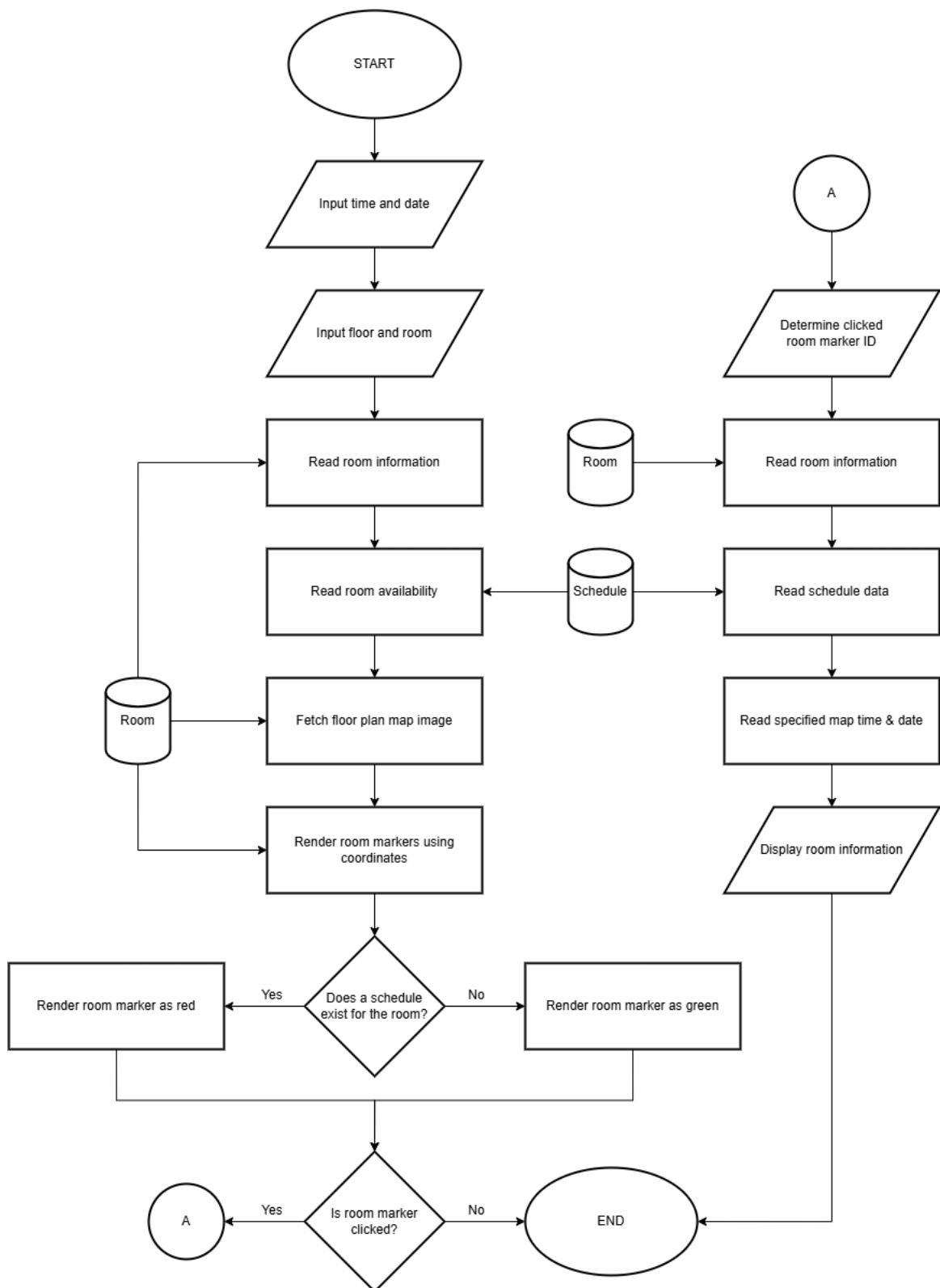


Figure 24. Interactive Map rendering and room information function flowchart

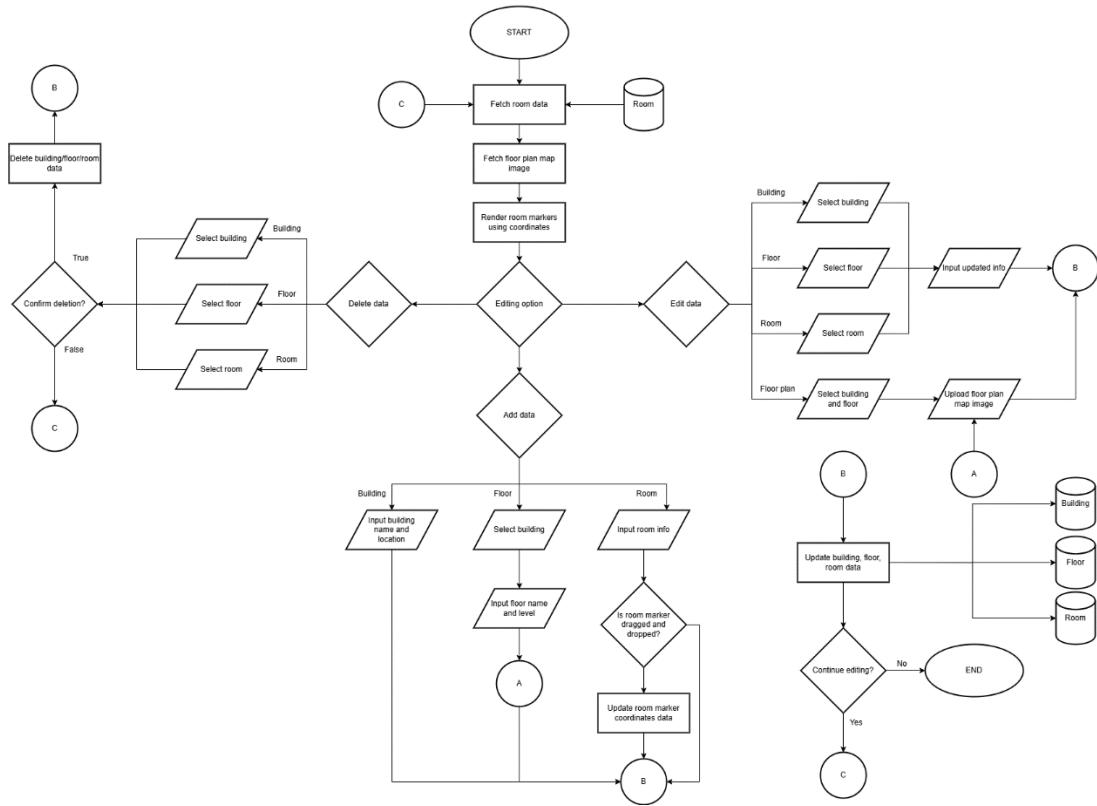


Figure 25. Map Editor flowchart

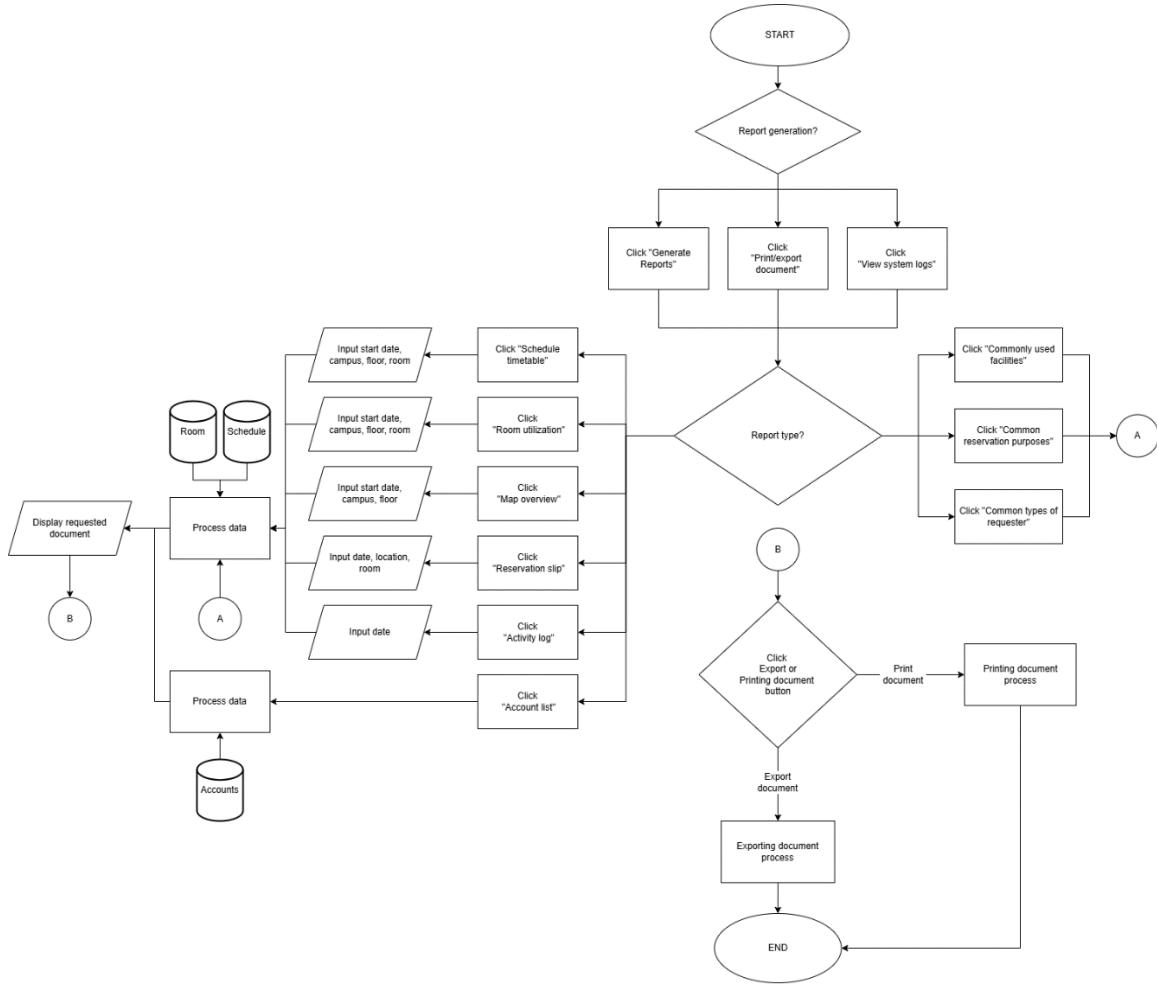


Figure 26. Reports Generation flowchart

Building Prototype

The main phase of the development cycle for the Digi-Rooms project involves the actual programming of the specified modules according to the requirements and design. The development will also include frequent updates with the client to notify of the progress of the project.

The implementation of the system will be as follows:

- HTML and CSS will be used for the front-end.
- Node.js will be used for the logic and additional functionality.
- MongoDB will be used to store the data used throughout the system.
- An emailing service will be used to send notification emails to intended users.

Frequent updates with the client are key in resolving issues and adjustment of functionalities early on in the development process. With this in mind, the client will be notified of changes and major developments every time a function of a module has been finished and initially tested for proper functionality.

During development, the program shall be divided into 4 distinct prototype stages, with each one being presented to the client and users for feedback before proceeding. These stages are as follows.

Prototyping Stages

- Stage 1: Account Management Module
 - Functionalities to be developed
 - Login function
 - Registration function
 - Account registration request creation function
 - Account registration request approval function
 - Access role management function
 - Users to be presented to
 - GSU Head
- Stage 2: Interactive Map and Map Editor Module
 - Functionalities to be developed
 - Building and floor creation, modification, and deletion function
 - Room marker creation, modification, and deletion function
 - Map viewing function
 - Room information viewing function
 - Live room status update function
 - Users to be presented to
 - GSU Head
- Stage 3: Schedule Management Module
 - Functionalities to be developed
 - Reservation request creation function
 - Reservation request approval function

- Schedule conflict detection function
 - Alternative room recommendation function
 - Schedule viewing function
- Users to be presented to
 - GSU Head, OSA Staff, and Teachers
- Stage 4: Report Generation Module
 - Schedule timetable creation and viewing function
 - Room utilization report creation and viewing function
 - Map overview creation and viewing function
 - Reservation slip creation and viewing function
 - Active account list creation and viewing function
 - Log creation and viewing function
 - Document export to PDF function
 - Document printing function
- Users to be presented to
 - GSU Head, OSA Staff, and Teachers

Evaluation

Once the current prototype build is completed, there shall be 2 stages of testing – internal, where the developers evaluate the functionality and responsiveness of the system; and external, where the users evaluate the usability and acceptability of the system. The prototype build should pass all internal tests before the developers demonstrate the build with the concerned users. During the external testing, the developers walk each user through the process of the modules that they have access to. This includes a short presentation of the features and modules, their benefits, and a short run down on what to do in each process. Before this phase, the program will be made online and hosted on a test system, and will be seeded with the necessary data such as room and template information.

Internal Tests

- Functionality Test
 - Process
 - This test aims to evaluate the functionality of each module and features of the system. After the creation of a prototype, the tester shall execute a set list of test cases for each function of a specific module. If the expected and actual outcome matches, the test case is considered “Functional”, represented by a checkmark. If it does not match the expected outcome, it is deemed “Non-Functional”.
 - This test involves the test cases of the features developed in the current prototype along with all the test cases from previous versions to ensure that previously developed features remain functional after additions of new ones.
 - Success criteria
 - All test cases must return “Functional”.
 - Performed by
 - Developers
 - Deliverables
 - Each prototype stage will have its own set of test cases. Refer to Figure 58 – 61, pages 146 – 150.
- Role-Based Access Test
 - Process
 - This test aims to confirm that each access role can only see and use elements and functionality that are within their account permissions. The testers shall refer to the Permission Table for Access Roles (see Figure 17, page 57) when testing URLs and actions within the system. For every prototype version of the program, the tester shall attempt to execute the same actions and access the corresponding URL on the Teacher, Staff, and Administrator roles. A functionality is deemed “Functional” if all 3 access attempts have its accessibility reflect the Permission Table.
 - Success criteria

- All test cases must return “Functional”.
- Performed by
 - Developers
- Deliverables
 - Each prototype stage will use the same form. Refer to Figure 62, page 151.

Internal Test Success Criteria

- The prototype build is considered “Acceptable” for external testing if all internal tests meet their respective success criteria. Once these requirements are met, the build is deemed as eligible for external testing with users and clients.

External Testing Process Stages

- Presentation
 - In this stage, the developers will present the functionalities, benefits, accessible processes, and available modules for the users. The processes and how to execute them in the system will be discussed, and potential questions will be addressed.
- Practical Use / External Testing
 - In this stage, the users shall access and use the system from start to finish, such as account registration, reservation creation, etc. For this stage, the developers will have their own instance of the system running to immediately approve of account and reservation requests.
 - In this stage, the users shall answer a short survey form that relates to the usability, functionality, and appearance of each module that they have interacted with. The form will include linear scale questions and open-ended questions asking for feedback and comments. This composition of survey question types will allow the proponents to gather both quantitative and qualitative data. These surveys shall be answered through an online form that will be given after the tests.

External Tests

- Usability Test
 - Process
 - This test aims to evaluate the usability of certain workflows, processes, and modules in the perspective of the user. The System Usability Scale shall be employed for this assessment, which involves a standard 10-item 5-point Likert scale to evaluate the perceived usability of each module tested for the current prototype stage. The calculation of the final score for each assessment involves subtracting the sum of the odd-numbered questions by 5 and subtracting the sum of the even-numbered questions by 25. Both differences shall be added and multiplied by 2.5, where the product is the final score for the assessment.
 - Success criteria
 - The total score for each assessment is no less than 68.
 - Performed by
 - Users
 - Deliverables
 - Each prototype stage will use the same form. Refer to Figure 63, page 152.
- Open-ended Survey
 - Process
 - This test aims to gather qualitative data regarding the user experience and comments as they operate the system. This is executed after the Usability Test. For this evaluation, users shall write comments and suggestions regarding the module currently being assessed, and note of any difficulties that they had experienced during the test.
 - Performed by
 - Users
 - Deliverables

- Each prototype stage will use the same form. Refer to Figure 63, page 152.
- User Acceptance Test
 - Process
 - This test aims to evaluate the degree of acceptance within the users of the system. This shall be executed after the final prototype is made, and all requirements gathered throughout previous iterations, along with the initial ones agreed upon before the cycle, shall be evaluated. During this phase, each requirement will be evaluated by the users as they execute various test situations aligning with the requirements. For this test, users will answer a 4-point Likert scale that will evaluate whether they strongly agree or disagree with the given statements regarding usability, experience, ease of navigation, ease of use, and experience. These will be conducted for every major module of the system.
 - Success criteria
 - The mean score for each assessment is no less than 3.
 - Performed by
 - Users
 - Deliverables
 - Each access roles will have its own set of test cases and forms. Refer to Figure 64 – 66, pages 153 – 159.

Error Tracking

- Errors or complications that necessitates a “Non-Functional” or “Failed” verdict on all tests must be documented by the developers. Each test case/scenario are provided with a code, which, along with the prototype version and attempt number (if applicable), will be used to document issues through the developers’ Issue Tracker.
- The spreadsheet shall include the following data.
 - Prototype version

- Attempt number (if applicable)
 - Test case/scenario code
 - Actual outcome
 - Comments
 - Priority (Low, Medium, High)
 - Image of the actual outcome (if applicable)
 - Status (to be changed by the developer)
- For internal tests, these issues must be addressed before the prototype build is finalized for external testing.
- For external tests, these issues must be addressed before the code additions for the next prototype build is made.

Prototype Build Success Criteria

- The final prototype build is considered as “Acceptable” for the next prototyping stage if all the success criteria are met for all aforementioned tests for all modules.

Refining Prototype

In this stage, feedback and suggestions gathered from the test users of the previous stage are implemented in the next prototype stage of the program. The sequence of implementation is as follows.

Prototype Refining Stages

- Feedback and requirements documentation
 - In this stage, all feedback and requirements (to be removed, refined, or added) are aggregated into a singular document that will serve as the basis of the next prototype stage of the program.
- Implementation of feedback and requirements
 - The UI, UX, and/or backend implementation based on the given documentation will be integrated into the next prototype stage of the program.
- Coding of the next prototype stage of the program

- The cycle reverts back to the Building Prototype stage, and the next set of modules and functionalities will be coded and implemented into the system.

Engineer Product

Once the prototype is deemed acceptable by the users, the final product engineering stage begins. In this stage, the code is refined and refactored thoroughly, and proper documentation is created. The sequence of the product engineering phase is as follows.

Engineering Product Stages

- Cleaning of database data
 - All data made during the development period in the system database will be erased and flushed.
- Final requirements documentation writing
 - All identified requirements across all prototype stages are combined into a singular requirements document. It will serve as the checklist for the developers when doing the final rounds of testing on the refactored code that follows after this stage.
- Code refactoring
 - Blocks of code are refactored and refined to harden its quality. Each function is checked to ensure that potential errors are caught properly.
- Final testing
 - Internal tests will be done by the developers to test system functionality and integrity after refactoring the code. The final requirements document serves as the developers' checklist to ensure that all feedback are implemented properly into the system.
- System documentation
 - A thorough documentation of the system will be made by the proponents describing each module, the code structures, database schema, and functions in detail. These can be used by the IT personnel of the school to thoroughly inspect the code once the system had been handed over to the school.

Deployment

This development phase involves the implementation of the system into the school's operations. The system will be transferred to the official domain, along with the seeded initial data for the system. When necessary, accounts made from the testing phase will be transferred to the new iteration of the system.

Configuration

- Accounts for necessary users (e.g., Student Affairs and GSU Head) will be created and configured with their respective access roles. Other system settings such as dropdown, map, and room information will be preloaded before the system becomes fully operational.

Training and Orientation

- A brief orientation session with the users shall be conducted to familiarize them with the system and answer potential questions and concerns. A short demonstration will also be conducted for those who were not present during the testing phase.

Handover of user manual

- A user manual will be made accessible for all users and can be requested directly into the system. This manual shall contain all potential use cases, conflicts, and problems, along with how to fix them.

Maintenance

This development phase involves extended support of the system after deployment to fix remaining issues and resolving potential errors. The maintenance phase will span for 3 months after the deployment of the system, and the developers shall provide the users the means to communicate directly to report problems and bugs that they may encounter during the actual operation of the program.

Performance Monitoring

- During the maintenance phase, developers shall closely monitor the responsiveness and reliability of the system, including the uptime and loading times.

Minor Updates

- Minor changes and improvements may be done to the system, such as UI tweaks, enhancement of navigation, responsiveness, and reliability. These updates may stem from the reports and feedback the developers receive through the provided contact.

Bug Fixes

- Final rounds of debugging will be executed to address errors and issues users encounter during actual use.

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APPENDICES

APPENDIX A: RESOURCE PERSONS



Figure 27. Interview with Mr. Edgardo Manalo Jr., Head of NSDAPS General Services Unit (GSU), February 28, 2025



Figure 28. Interview with Mr. Edgardo Manalo Jr., Head of NSDAPS General Services Unit (GSU), May 2, 2025

APPENDIX B: RESOURCES

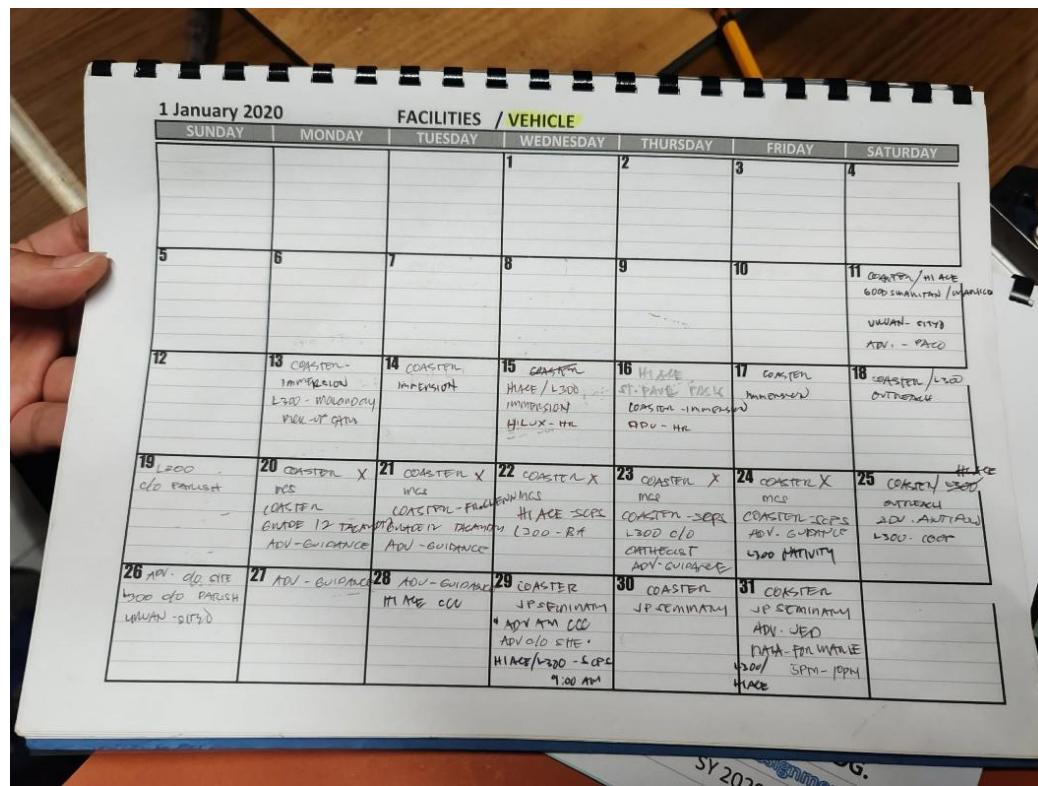


Figure 29. Calendar logging activities and shared equipment

NAME OF APPLICANT:		DATE APPLIED:		
Remarks:		DATE RESERVE:		
		TIME:	FROM TO	
REQUISITIONER		ELEMENTARY	GRADE	SEC.
		HIGH SCHOOL	YEAR	SEC.
		FACULTY		
		ORGANIZATION		
NO. OF ATTENDEES				
If possible, please attach a list of the names of the attendees				
FACILITIES		GYMNASIUM	AUDIO-VISUAL ROOM	
		AUDITORIUM	GARDEN	
		CLASSROOM	room #	FUNCTION HALL
APPROVED BY: _____				

Figure 30. Reservation Request Form from the General Services Unit


Nuestra Señora de Aranzazu Parochial School
 Gen. Luna Street Guinangbayan I
 San Mateo, Rizal
 Tel. 941-1260 Fax: 911-9966 Website: <http://www.nsdaaps.edu.ph>
 "I am an Aranzan, I C.A.R.E."

GSU Form-1

REQUISITION

For Equipments, Appliances, Tools (eg. LCD, Camera, Cassette, Mobile PC, Extension Cord etc.)

Requested by:	<i>Nefia D. Santillana, Grade 10</i>		Data Requested:	<i>March 15, 2018</i>			
Department:			Date needed:	<i>March 15, 2018</i>			
Qty.	Description	Purpose	Date	Due Date	Receiving Signature	Date	Remarks
9	9 pos. White Table	Tables	3/17				
1		Anniversary					
10	10 pos. Umbrella Chair		3/17				

Approved by: _____
 Released by: _____

Received by: _____
 Returned by: _____

Figure 31. Equipment Requisition Form

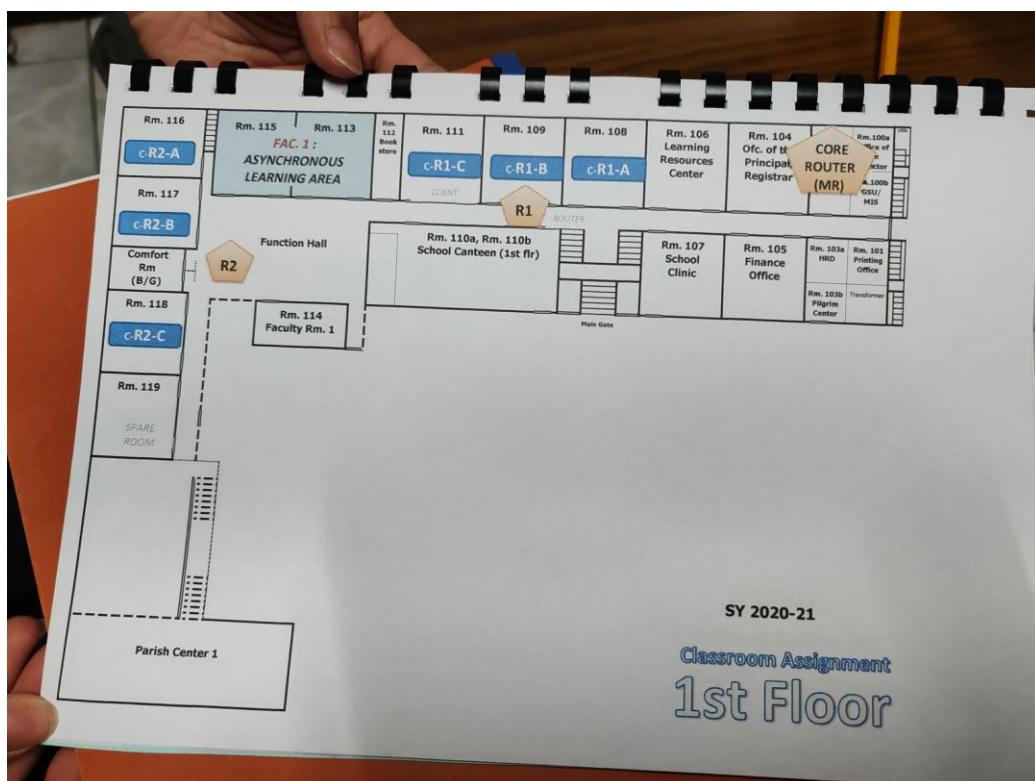


Figure 32. Floor plan of the first floor of NSDAPS' main campus

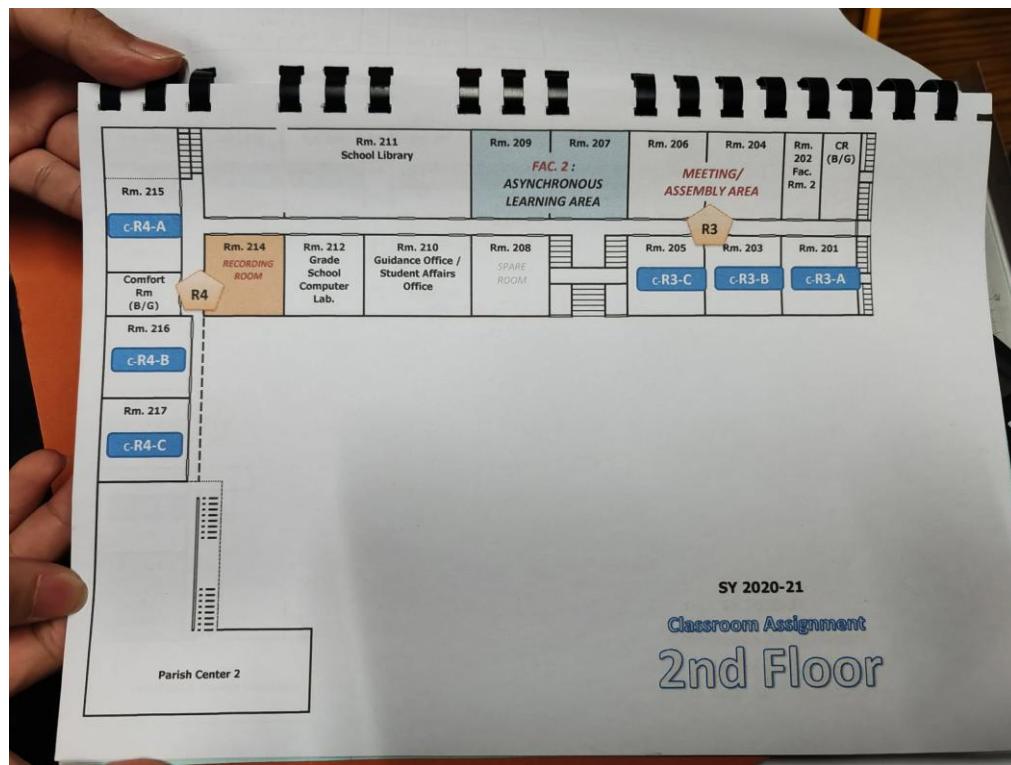


Figure 33. Floor plan of the second floor of NSDAPS' main campus

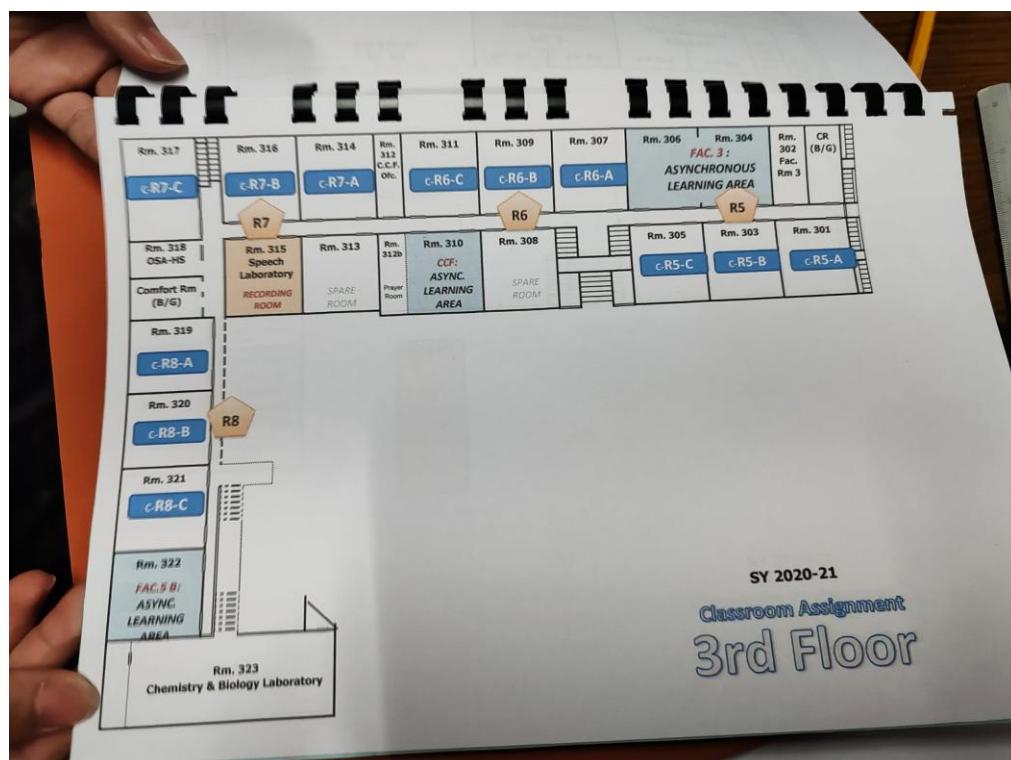


Figure 34. Floor plan of the third floor of NSDAPS' main campus

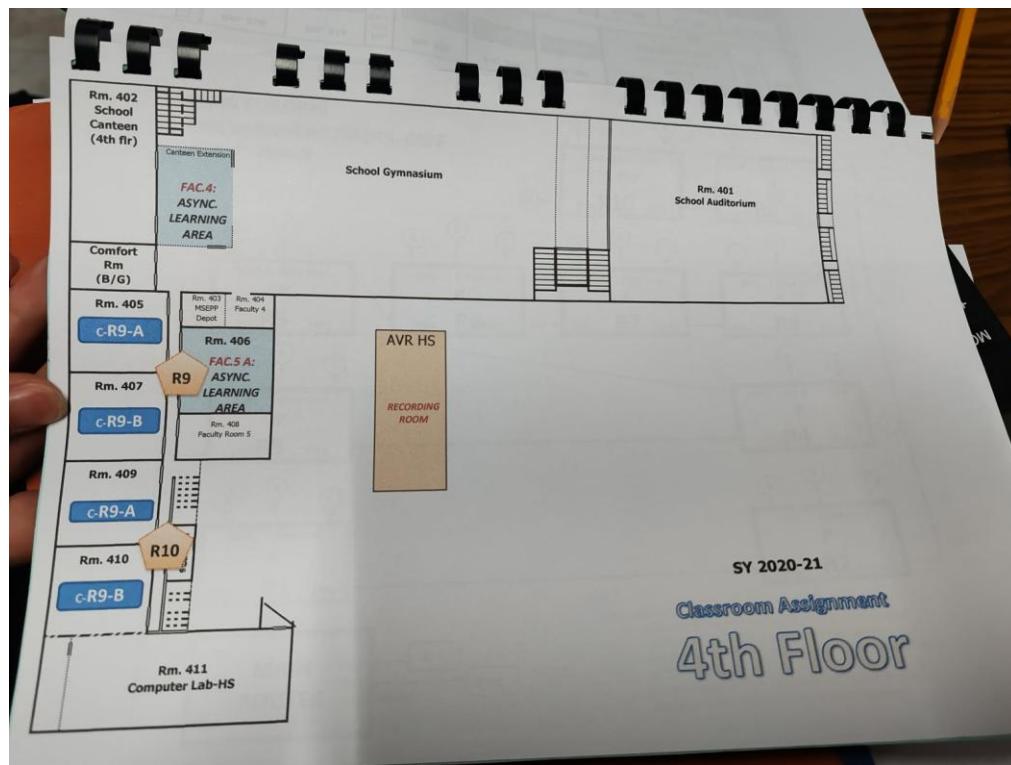


Figure 35. Floor plan of the fourth floor of NSDAPS' main campus

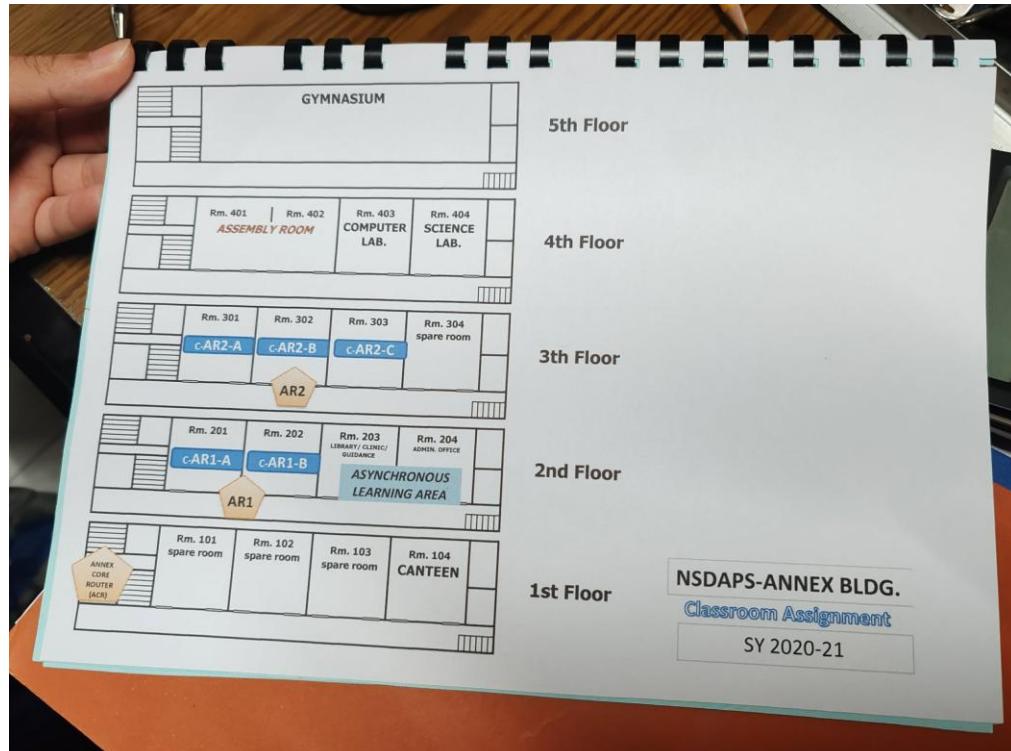


Figure 36. Floor plan of NSDAPS' annex campus

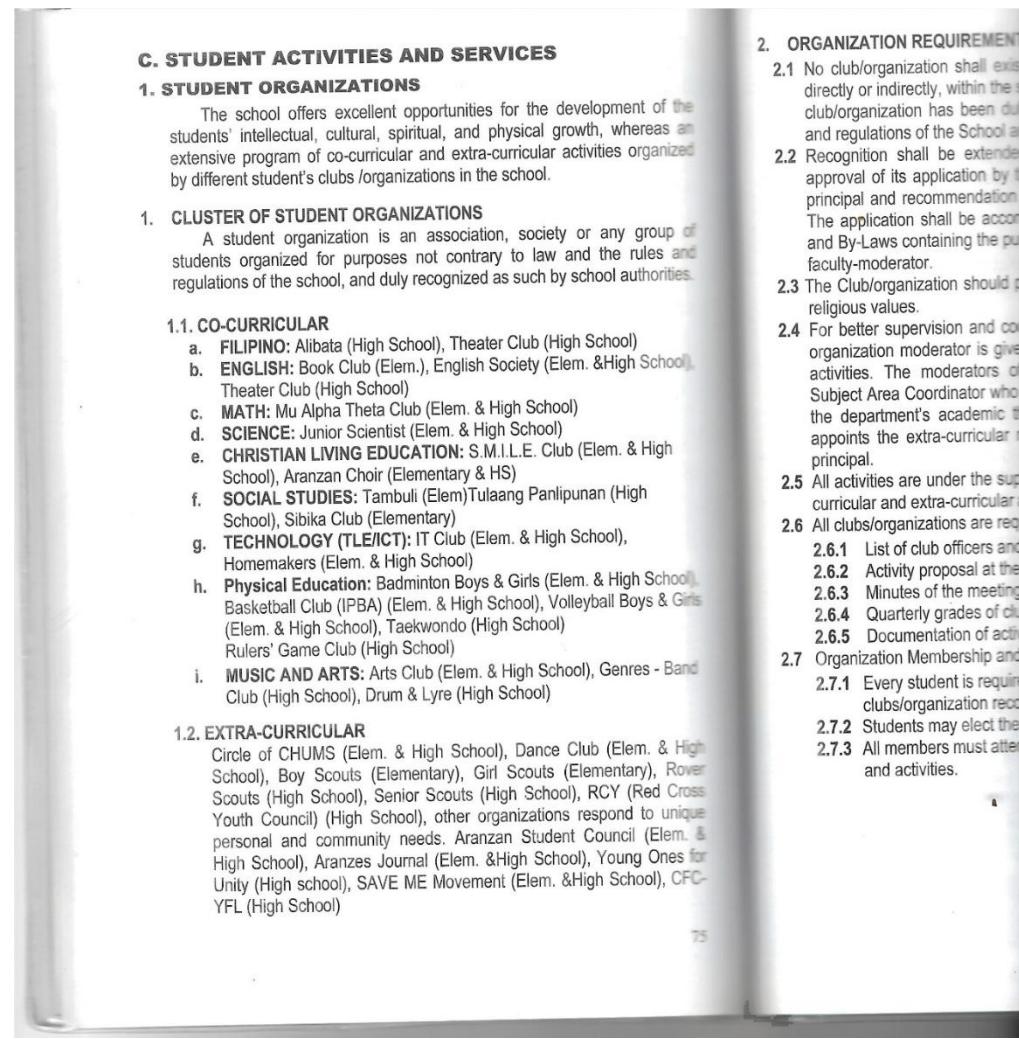


Figure 37. List of recognized school clubs and organizations from a copy of the school's Student Handbook

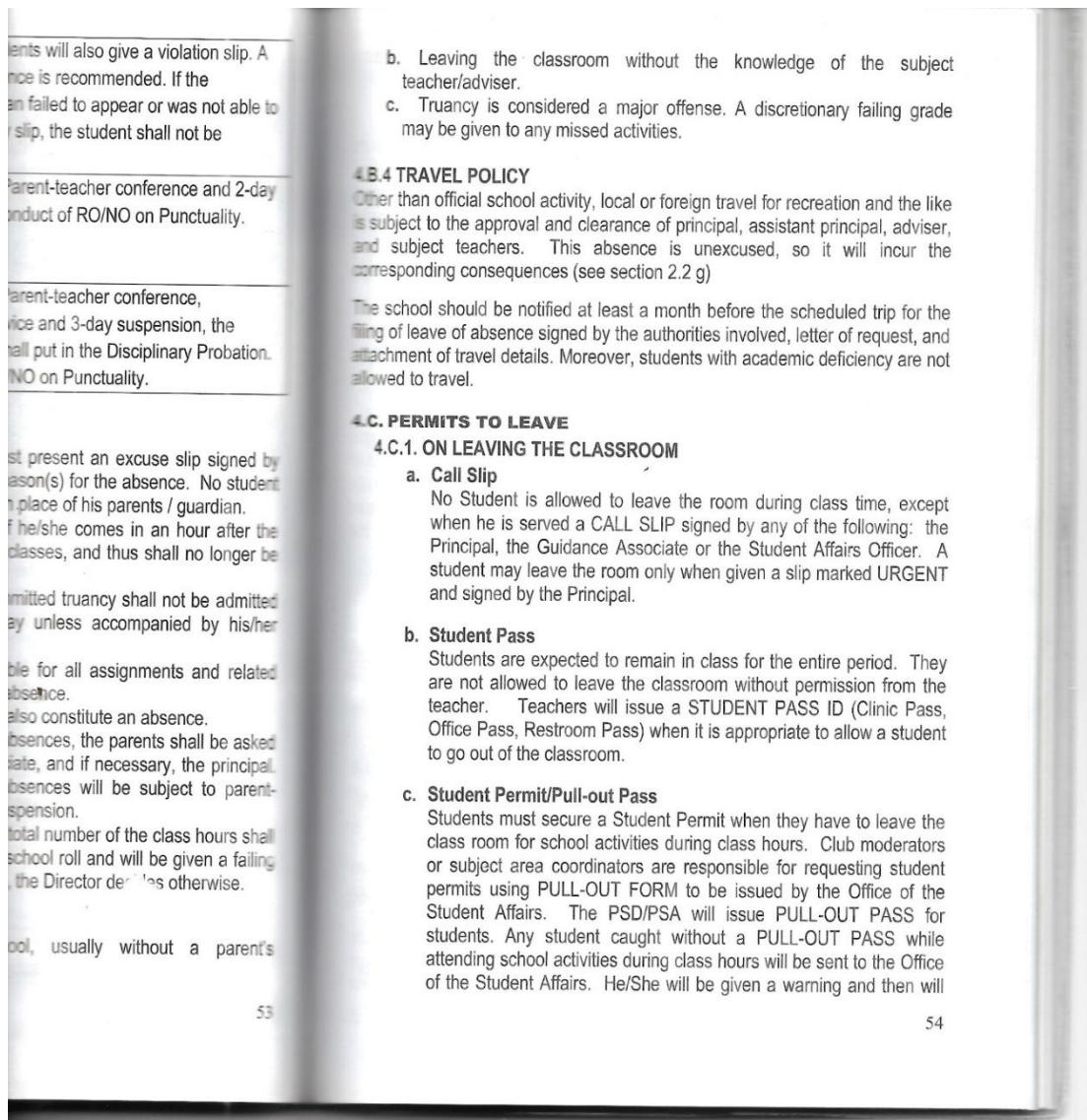


Figure 38. Guidelines for leaving the classroom for activities using a pull-out form from a copy of the school's Student Handbook

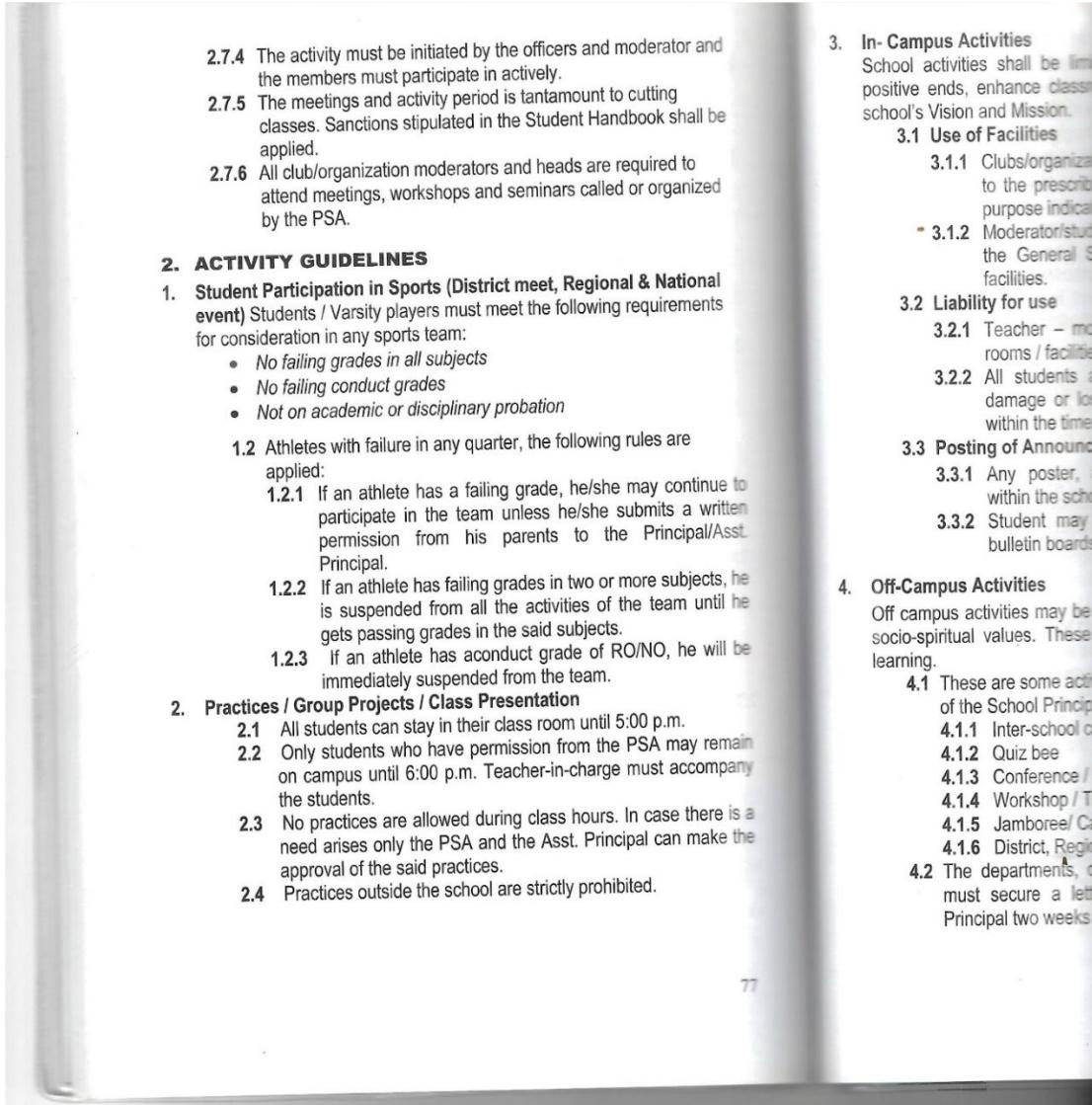


Figure 39. Guidelines for practices and group projects from a copy of the school's Student Handbook

the officers and moderator and actively.

This tantamount to cutting the Student Handbook shall be

and heads are required to seminars called or organized

to meet, Regional & National set the following requirements

robation

or, the following rules are

grade, he/she may continue to unless he/she submits a written parents to the Principal/Asst.

ades in two or more subjects, he activities of the team until he said subjects.

uct grade of RO/NO, he will be pm the team.

entation

ss room until 5:00 p.m.
ision from the PSA may remain
her-in-charge must accompany

class hours. In case there is a
he Asst. Principal can make the

strictly prohibited.

3. In-Campus Activities

School activities shall be limited to those which are geared towards positive ends, enhance classroom situations and in accordance to the school's Vision and Mission.

3.1 Use of Facilities

3.1.1 Clubs/organizations recognized by the school are subject to the prescribed rules and regulations according to the purpose indicated in the permit.

3.1.2 Moderator/student must secure permit from the PSA and the General Services Unit (GSU) in using the school facilities.

3.2 Liability for use

3.2.1 Teacher – moderator should ensure cleanliness of the rooms / facilities after use.

3.2.2 All students and teacher-in-charge are liable for any damage or loss and destruction of any school facilities within the time of the activity.

3.3 Posting of Announcements

3.3.1 Any poster, announcement, distribution or circulation within the school premises must be signed by the PSA.

3.3.2 Student may only post announcements on respective bulletin boards; thus, posting on walls is not allowed.

4. Off-Campus Activities

Off campus activities may be allowed for their educational purposes and socio-spiritual values. These activities expose the students in real life learning.

4.1 These are some activities allowed by the school with permission of the School Principal;

4.1.1 Inter-school competition

4.1.2 Quiz bee

4.1.3 Conference / Seminars

4.1.4 Workshop / Training

4.1.5 Jamboree/ Camping

4.1.6 District, Regional, National Meet

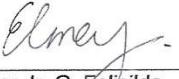
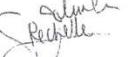
4.2 The departments, classes, or clubs organizing such activities must secure a letter of permission for the approval of the Principal two weeks before the proposed activity.

Figure 40. Guidelines for in-campus activities from a copy of the school's Student Handbook

REQUIREMENTS DEFINITION DOCUMENT

This document serves as a list of the requirements specified by the client, Mr. Edgardo M. Manalo Jr., head of Nuestra Señora De Aranzazu Parochial School's General Services Unit. This list shall be the basis of the IT Capstone Project team, Elmer Felisilda, Daisy Borbe, and Rechelle Golimlim, for their development of the system entitled **"Digi-Rooms: Web-Based Room Reservation and Management System for Nuestra Señora De Aranzazu Parochial School"**.

Prepared by:

 Elmer Jr. G. Felisilda Developer	 Daisy Borbe Developer	 Rechelle Golimlim Developer
--	---	--

Introduction

- Document Purpose

This document outlines the functional and non-functional requirements for the Digi-Rooms project, involving the agreed-upon modules, features, functions, and design considerations. This document serves as a formal agreement between the development team and the client and the scope and limitations of the project.

- Product Scope

The program, named "Digi-Rooms", involves an Interactive Map, Schedule Management and Conflict Resolution, Reports Generation, Account Management, and a Map Editor. An email notification functionality will be employed to notify the requesters of the status of their reservations, should changes occur. The program is limited for use to NSDAPS' teachers, staff, and the General Services Unit.

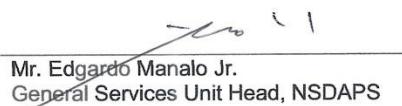
- Product Overview

The program, named "Digi-Rooms", is a Web-Based School Facility and Room Reservation and Management System for Nuestra Señora De Aranzazu. Aiming to digitize and enhance the current reservation process employed by the school, Digi-Rooms involves a visualized interactive map for viewing room availabilities, an easy-to-follow step-by-step reservation process, along with reporting tools for insights and analysis.

Definition of terms

- User
 - Generalizes the three main access roles – teacher, staff, and administrator.
- Teacher
 - Access role that can view the interactive map, schedules, and create reservation requests.
This involves members of the school Faculty.

Confirmed and approved by:


Mr. Edgardo Manalo Jr.
General Services Unit Head, NSDAPS

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REQUIREMENTS DEFINITION DOCUMENT

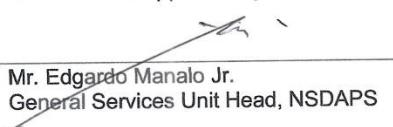
- Staff
 - Access role that inherits the permissions of the Teacher role, along with the ability to approve reservation requests (initial stage) and generate reports. This involves members of the Student Affairs Office.
- Administrator
 - Access role that inherits the permissions of both the Teacher and Staff role along with the ability to approve reservation requests (final stage), and the ability to edit map, room, reservation, and account data. This role has full access to all the tools and functionalities of the system.
- Initial stage
 - The stage of the approval process where the reservation request from the Teacher will pass through the Staff account first for preliminary approval from the Student Affairs Office.
- Final stage
 - The stage of the approval process where the reservation request approved by the Staff account will pass through the Administrator account for final approval from the General Services Unit. After this stage, assuming that the request had been approved, will the reservation be added to the schedule records.

Specific Requirements

Functional Requirements

- Account Management Module
 - REQ-1. The user shall be able to log in to the system by providing their email and password.
 - REQ-2. The user shall be able to create a registration request for a new account by providing their email, name, department, and password.
 - REQ-3. The administrator shall be able to view pending registration requests.
 - REQ-4. The administrator shall be able to approve registration requests.
 - REQ-5. The administrator shall be able to reject registration requests.
 - REQ-6. The administrator shall be able to specify the reason for rejection of registration requests from a predefined set of strings.
 - REQ-7. The administrator shall be able to set individual permissions on accounts.
 - REQ-8. The user shall be able to receive email notifications for account status updates.
- Interactive Map Module
 - REQ-9. The user shall be able to view the interactive map.
 - REQ-10. The user shall be able to view the information of a room by clicking on a marker linked to it in the map.
 - REQ-11. The user shall be able to switch buildings and floors.
 - REQ-12. The user shall be able to view the availability of rooms based on the specified date and time.
 - REQ-13. The user shall be able to change the date and time.

Confirmed and approved by:


Mr. Edgardo Manalo Jr.
General Services Unit Head, NSDAPS

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REQUIREMENTS DEFINITION DOCUMENT

- Schedule Management Module
 - REQ-14. The user shall be able to view the schedule timetable based on the specified date, time, and room.
 - REQ-15. The user shall be able to create a reservation request.
 - REQ-16. The user shall be notified of a schedule conflict before the finalization of the reservation request.
 - REQ-17. The user shall be able to choose an alternative room to resolve a schedule conflict before the finalization of the reservation request.
 - REQ-18. The teacher shall be able to view their reservation requests pending for approval.
 - REQ-19. The staff shall be able to view reservation requests pending for approval (initial stage).
 - REQ-20. The staff shall be able to approve reservation requests (initial stage).
 - REQ-21. The staff shall be able to reject reservation requests (initial stage).
 - REQ-22. The staff shall be able to specify the reason for rejection of reservation requests from a predefined set of strings (initial stage).
 - REQ-23. The administrator shall be able to view reservation requests pending for approval (final stage).
 - REQ-24. The administrator shall be able to approve reservation requests (final stage).
 - REQ-25. The administrator shall be able to reject reservation requests (final stage).
 - REQ-26. The administrator shall be able to specify the reason for rejection of reservation requests from a predefined set of strings (final stage).
 - REQ-27. The user shall be able to receive email notifications for reservation status updates.
- Map Editor Module
 - REQ-28. The administrator shall be able to add a new building.
 - REQ-29. The administrator shall be able to add a new floor based on the specified building.
 - REQ-30. The administrator shall be able to edit the building name.
 - REQ-31. The administrator shall be able to edit the floor name.
 - REQ-32. The administrator shall be able to upload a floor plan image/vector for a specified floor.
 - REQ-33. The administrator shall be able to add a new room marker based on the specified floor.
 - REQ-34. The administrator shall be able to reposition the room marker by dragging it across the screen.
 - REQ-35. The administrator shall be able to edit the properties of the room marker.
 - REQ-36. The administrator shall be able to delete a building, floor, and room marker.
- Reporting Module
 - REQ-37. The user shall be able to generate a schedule timetable document.
 - REQ-38. The administrator shall be able to generate a room utilization document.
 - REQ-39. The user shall be able to generate a calendar view document.
 - REQ-40. The administrator shall be able to generate a map overview document.
 - REQ-41. The user shall be able to generate a reservation slip document.
 - REQ-42. The administrator shall be able to generate an active account list document.
 - REQ-43. The administrator shall be able to generate a log history document.
 - REQ-44. The user shall be able to export the specified document into PDF.
 - REQ-45. The user shall be able to print the specified document.

Confirmed and approved by:


Mr. Edgardo Manalo Jr.
General Services Unit Head, NSDAPS

3

REQUIREMENTS DEFINITION DOCUMENT

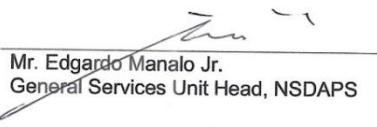
Non-Functional Requirements

- Operational Requirements
 - REQ-46. The system will operate in modern web browsers.
 - REQ-47. The system will be responsive in window and device sizes.
 - REQ-48. The system will use dropdowns on forms that do not require unique values.
- Performance Requirements
 - REQ-49. The system shall retrieve the latest schedule, room, and map data in less than 2 seconds.
 - REQ-50. The system shall update the database in real time.
- Security Requirements
 - REQ-51. The user shall only see and access the modules that are specified on their account permissions.
- Cultural and Political Requirements
 - REQ-52. The system will use English language only.
 - REQ-53. The system will use non-technical terms as much as possible.

CONFIRMATION AND APPROVAL

I, _____, hereby confirm that:

- The requirements specified in this document aligns with my requirements and vision of the project.
- I approve of the requirements specified in this document.
- I approve on having this requirements definition document to be used for the purpose of documentation and as a basis of information of the researchers for their IT Capstone Project.


Mr. Edgardo Manalo Jr.
General Services Unit Head, NSDAPS

Date signed _____

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Figure 41. Signed Requirements Definition Document for Mr. Edgardo Manalo Jr.

APPENDIX C: LETTERS

February 13, 2025

Mr. TRISTAN UNABIA
IT Instructor
STI College Marikina
289 L. de Guzman Street, Concepcion Uno
Marikina City

Dear Mr. Unabia:

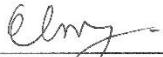
We hope that this letter finds you well. We are students from the class of IT601-A and we are writing to humbly request your guidance and expertise as our research adviser for our IT Capstone Project.

With your experience and expertise, we believe that your guidance will help us create our research, achieve meaningful results, and fulfill our project objectives.

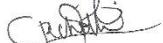
If you accept our request, we are prepared to work closely with you based on your preferred schedule.

We sincerely hope for your favorable response and we thank you for your consideration.

Respectfully yours,


Elmer Felisilda
Student, STI College Marikina


Daisy Borbe
Student, STI College Marikina


Rechelle Colimlim
Student, STI College Marikina

Approved by:


Mr. Tristan Unabia
IT Instructor, STI College Marikina

Mr. Frederic Yulo
Academic Head, STI College Marikina

Figure 42. Letter for the Capstone Adviser

February 26, 2025

Ms. Julie Ann Pajardo
School Principal
Nuestra Señora De Aranzazu Parochial School
General Luna Street, Guitnangbayan I
San Mateo, Rizal

Dear Ms. Pajardo:

Greetings of peace and goodwill.

We are a group of students from STI College Marikina currently developing our capstone project, a requirement for our Bachelor of Science in Information Technology program. We are writing to explore the possibility of partnering with Nuestra Señora De Aranzazu Parochial School for this project.

We have been impressed by Nuestra Señora De Aranzazu Parochial School's commitment to integrating technology into its daily operations. We believe our skills and knowledge in IT could be beneficial in further enhancing your school's efficiency and effectiveness. Specifically, we are interested in exploring how a custom-designed web-based system could address any current operational challenges.

We would be grateful for the opportunity to meet with you for approximately 30-45 minutes to discuss your school's needs and explore potential areas where our capstone project could be of assistance. This meeting would allow us to understand your current processes and identify specific challenges that a digital solution could address. This collaborative approach will ensure that our project directly aligns with your school's requirements and provides a tangible benefit.

Please feel free to contact us at felisilda.289421@marikina.sti.edu.ph to schedule a convenient time for this meeting.

Thank you for your time and consideration. We look forward to the possibility of working with you.

Respectfully yours,



Elmer Jr. G. Felisilda
Student, STI College Marikina

Approved by:



Mr. Tristan Unabia
IT Capstone Project Adviser



Daisy Borbe
Student, STI College Marikina

Attention: Sir Jed Manalo



Rechelle Golimlim
Student, STI College Marikina



2/26/2025

Figure 43. Letter of interview request addressed to the school principal, who delegated it to the General Services Unit Head

PRE-INTERVIEW CONSENT FORM

This form obtains your consent to allow the interviewers, Elmer Felisilda, Daisy Borbe, and Rechelle Golimlim, to record this interview for documentation purposes as part of the Capstone project process for academic purposes. To help you prepare with this interview, we have supplied the interview questions as follows:

Interview Questions

Current System Context

- Could you describe the current process of reserving rooms and facilities for school events and activities? What is the current method of recording and tracking room availability in the school?
- Who is responsible for managing room requests and assignments?
- How are student-initiated and teacher-initiated room requests and permits handled?
 - What is the current process of receiving, handling, and tracking these requests?
 - How is the approval or rejection of requests communicated to the requesters?
- Had there been any instances of parties outside the school (such as the church) using the school's rooms and facilities?
 - Are their requests also subject to the same process as those of the teachers and students?
- Does the method of room management and tracking in the main campus apply to the annex campus as well? Or does it have its own processes?
- What are the most common types of events or activities that require room and facility reservations?
- Had there been any instances of conflicts in scheduled use?
 - How are they handled and communicated to everyone involved?

System Issues

- What are the biggest challenges or frustrations that staff face with the current room and facility management process?
- How much time is typically spent in processing room and facility reservation requests?
 - How about the time spent in handling scheduling conflicts?
- Are there difficulties in tracking room and facility usage or generating reports?
- Do you see the use of a digital web-based room and facility management system as a potential improvement in the school's operations?

Future collaboration

- Are you willing to collaborate with us in the creation of a web-based system for room management in Nuestra Señora De Aranzazu Parochial School?
- How do you prefer to communicate and receive updates?
- Who is the best point of contact for project updates?
- How often do you want to be updated regarding the project status?
- What are your expectations for the final product and implementation?

Consent and Confirmation

I, EDGARDO MANALO JR., hereby confirm that:

- I understand the purpose of this interview and topics that will be discussed.
- All answers provided during this interview are truthful and complete to the best of my knowledge.
- I consent on having this interview audio recorded for the purpose of documentation and transcription by the interviewers for their IT Capstone Project.


Interviewee signature

2/28/25
Date signed

Figure 44. Pre-interview consent form for Mr. Edgardo Manalo Jr., NSDAPS' General Services Unit Head, February 28, 2025

PRE-INTERVIEW CONSENT FORM

This form obtains your consent to allow the interviewers, Elmer Felisilda, Daisy Borbe, and Rechelle Golimlim, to record this interview for documentation purposes as part of the Capstone project process for academic purposes. To help you prepare with this interview, we have supplied the interview questions as follows:

Interview Questions

Relevant Figures

- What is the average count of students enrolled at NSDAPS' main and SHS campus?
- What is the total count of employees, both teaching and non-teaching, that is currently active in NSDAPS' main and SHS campus?
- How many classrooms are there at NSDAPS' main campus?
- How many classrooms are there at NSDAPS' SHS campus?
- Does the school share resource and facilities?
- What is the total count of employees that work under the General Services Unit?
 - How many of which work at NSDAPS' main campus?
 - How many of which work at NSDAPS' SHS campus?
- What instance have you experienced where there were significant time spent processing requests?

Proposed System

- Would you like the website to include multiuser support, so that other departments would be able to access and interact with the system?
- Should teachers be able to create reservations directly?
- Should students and the general public be able to create reservations?
 - Should they be granted permission to view the interactive map?
- Should requesters stop by the administration / student affairs office first before the requested schedule is created, or should they be able to create a request that would be approved by the administration before arriving to you for final approval?
- What kind of reports would you like the system to generate?
- Do you agree with the proposed account management module of the system?
- Do you agree with the proposed schedule management module of the system?
- Do you agree with the proposed interactive map and map editor module of the system?
- Do you agree with the proposed reports generation module of the system?
- Are there any features/functions discussed that you want to be removed/modified?
- Are there any features/functions that you want to be added?
- Do you have specific requirements on the modules discussed?

Expectations

- Do you believe that the proposed system will benefit the General Services Unit and the school?
- If the system works well, how would it change the room reservation routine of the school?

Consent and Confirmation

I, EDGARDO MANALO, hereby confirm that:

- I understand the purpose of this interview and topics that will be discussed.
- All answers provided during this interview are truthful and complete to the best of my knowledge.
- I consent on having this interview audio recorded for the purpose of documentation and transcription by the interviewers for their IT Capstone Project.



Interviewee signature

5/2/25

Date signed

Figure 45. Pre-interview consent form for Mr. Edgardo Manalo Jr., NSDAPS' General Services Unit Head, February 28, 2025

May 15, 2025

Ms. Julie Ann Pajardo
School Principal
Nuestra Señora De Aranzazu Parochial School
General Luna Street, Guitnangbayan I
San Mateo, Rizal

Thru:
Mr. Edgardo Manalo Jr.
General Services Unit Head
Nuestra Señora De Aranzazu Parochial School
General Luna Street, Guitnangbayan I

Dear Ms. Pajardo:

We hope that this letter finds you well.

This letter serves to formally confirm the agreement between the student developers of STI College Marikina and the management of Nuestra Señora De Aranzazu Parochial School regarding the development of the Capstone Project entitled "Digi-Rooms: Web-Based School Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School".

The insights gathered during the interviews conducted last February 28 and May 2, 2025, have provided valuable understanding of the school's current processes and needs concerning room reservation and digital management.

The final output of the project will include the following core modules: Account Management, Schedule Management, Interactive Map and Editor, and Reports Generation. These modules were reviewed and discussed during the most recent meeting with the General Services Unit Head, Mr. Manalo, who will be the core beneficiary of the system.

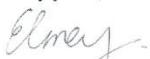
NSDAPS agrees to actively participate in the project by providing relevant data, feedback, and support throughout the system's development. The institution recognizes the project's goal of improving the current manual reservation process through a customized, efficient, and user-friendly solution.

All data collected will be treated with strict confidentiality and will be used solely for academic purposes.

This agreement shall remain in effect throughout the project's development, testing, and documentation phases, which are scheduled to take place from May to December 2025.

We appreciate your continued support and collaboration.

Respectfully yours,



Elmer Jr. G. Felisilda
Student, STI College Marikina

Signed by:



Ms. Julie Ann Pajardo
School Principal, NSDAPS



Daisy Borbe
Student, STI College Marikina



Rechelle Golimlim
Student, STI College Marikina



Mr. Edgardo Manalo Jr.
General Services Unit Head, NSDAPS



Mr. Tristan Unabia
Capstone Project Adviser

Figure 46. Client-Developer Agreement Letter co-signed by Mr. Tristan Unabia, Mr. Edgardo Manalo Jr., and Ms. Julie Ann Pajardo, May 15, 2025

APPENDIX D: PERMITS

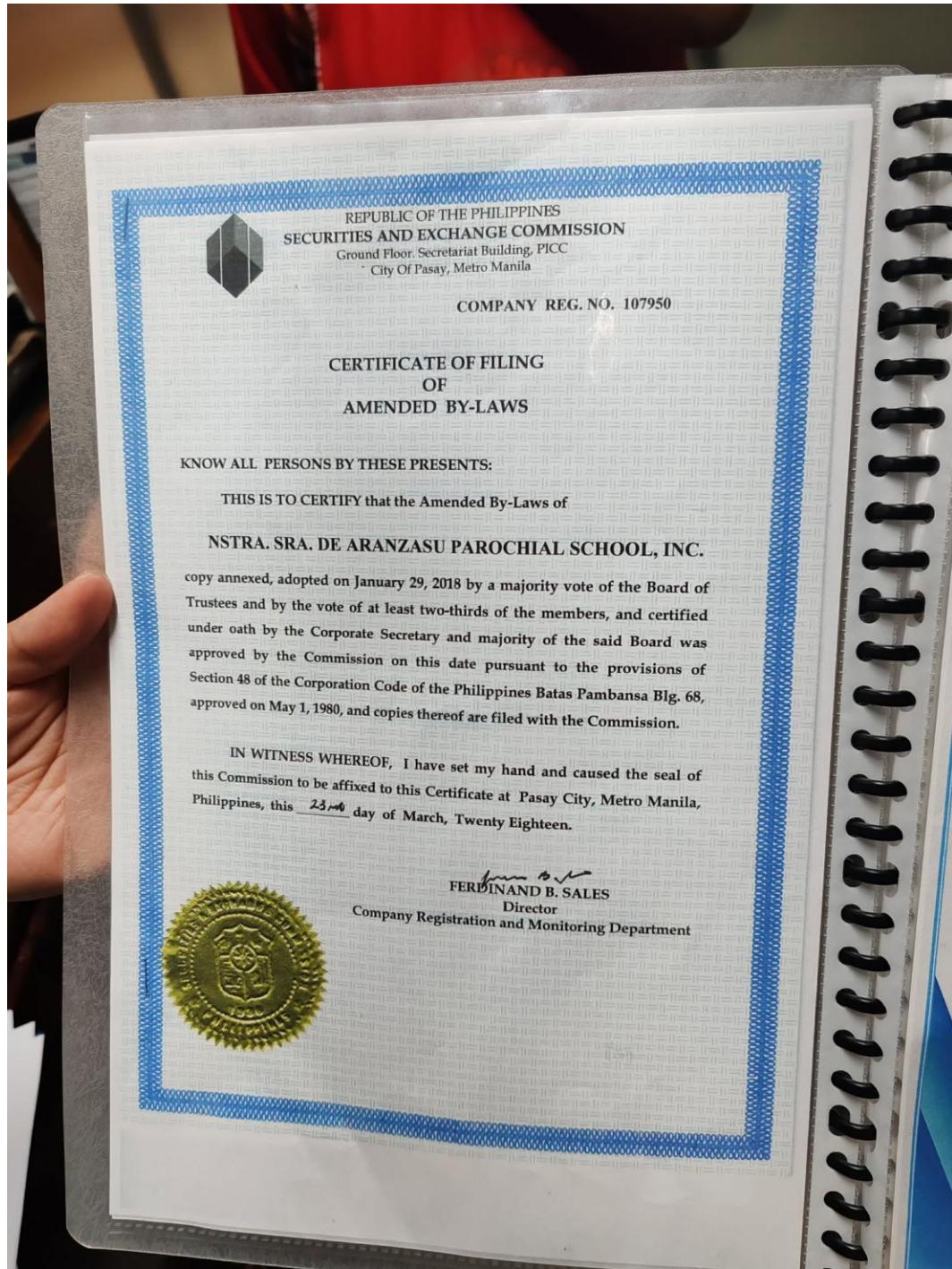


Figure 47. SEC Certificate of Nuestra Señora De Aranzazu Parochial School

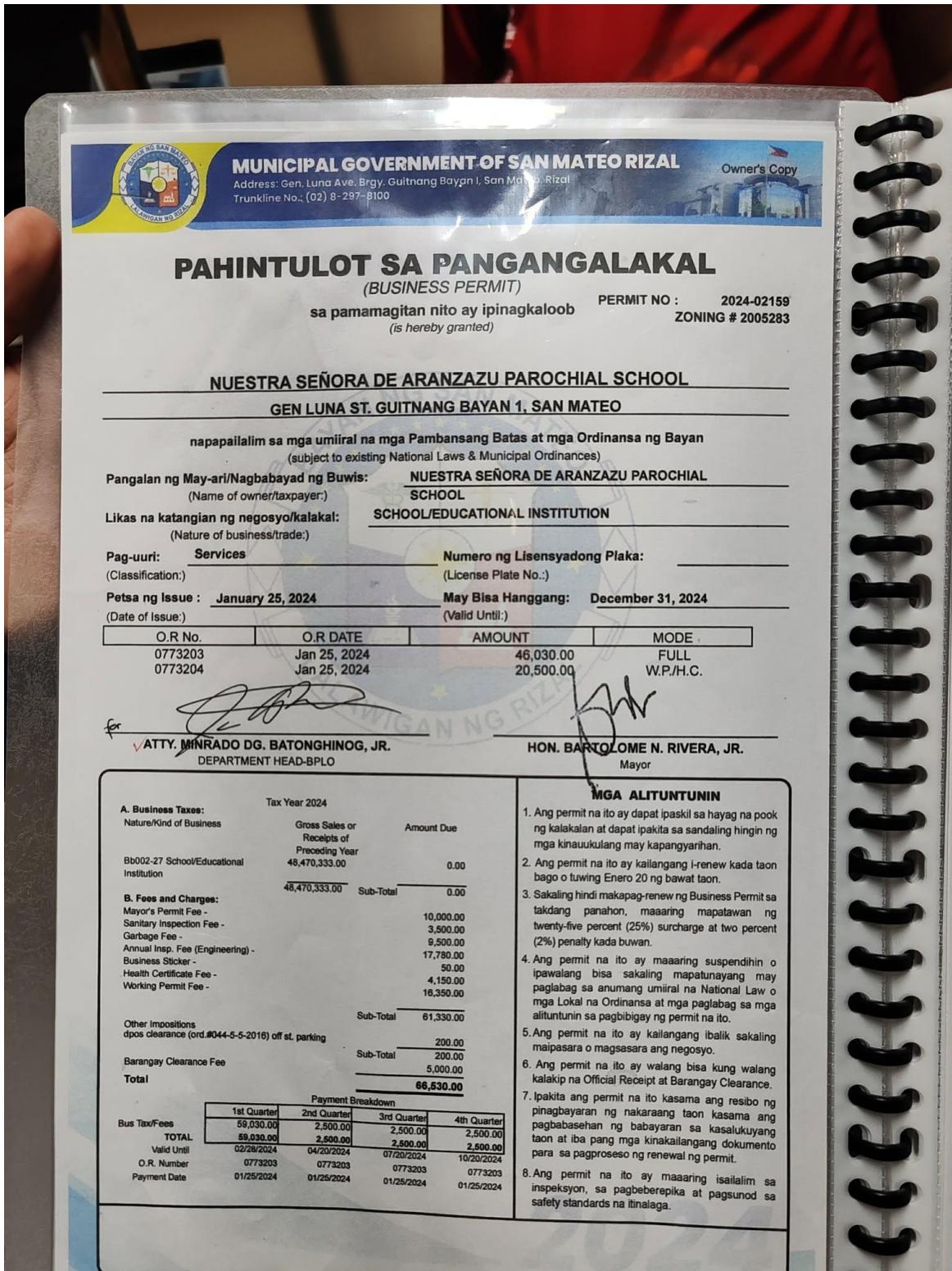


Figure 48. Municipal Business Permit of Nuestra Señora De Aranzazu Parochial School

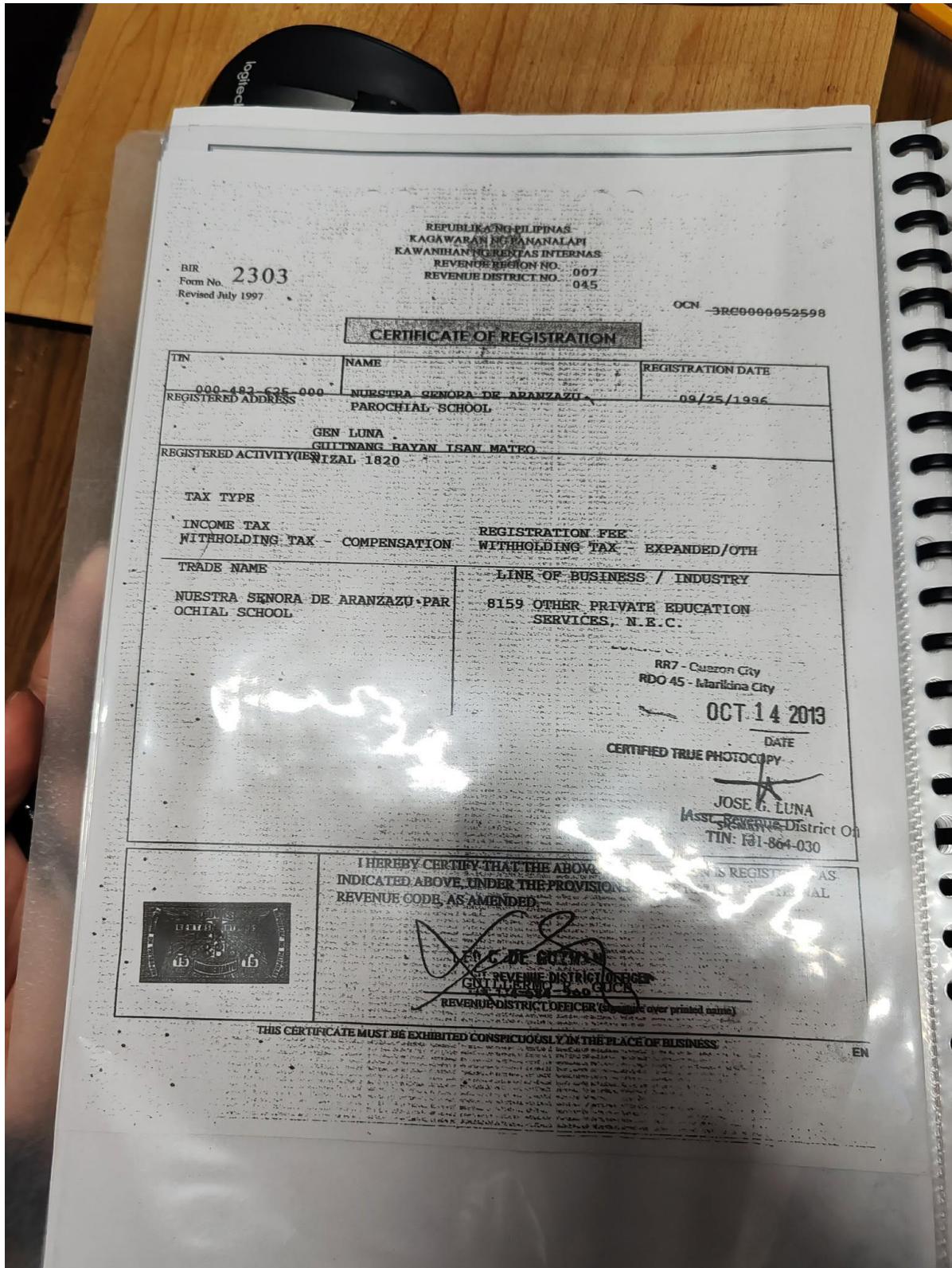


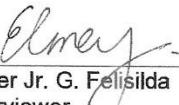
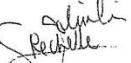
Figure 49. BIR Certificate of Nuestra Señora De Aranzazu Parochial School

APPENDIX E: INTERVIEW TRANSCRIPTS

INTERVIEW TRANSCRIPT – 28 FEBRUARY 2025

This document serves as a confirmation that the transcription shown in the following pages are true and accurate accounts of the interview conducted between the IT Capstone Project team, Elmer Felisilda, Daisy Borbe, and Rechelle Golimlim, and Mr. Edgardo Manalo Jr., head of Nuestra Señora De Aranzazu Parochial School's General Services Unit. Conducted last 28th of February 2025, the interview was part of the data-gathering process for the team's capstone project entitled "Digi-Rooms: Web-Based Room Reservation and Management System for Nuestra Señora De Aranzazu Parochial School".

Transcribed and reviewed by:

 Elmer Jr. G. Felisilda Interviewer	 Daisy Borbe Interviewer	 Rechelle Golimlim Interviewer
--	---	---

Interview Proper

Time	Speaker	Transcription
3:15	Elmer	Could you describe yung current process ng pagpapareserve ng room and facility dito for activities, kunwari po, nagpa-practice yung student, yung klase nila, paano po ang pagpapareserve 'nun?
3:30	Mr. Manalo	Meron silang reservation form.
3:49	Mr. Manalo	Parang venue reservation form.
4:43	Mr. Manalo	[Bago 'yan], magfi-fill up sila n'yan, nagfi-fill up sila n'yan, tapos, papapirma, tapos kapag nagpapirma, mayroon akong logbook. Doon ko sinusulat kung may conflict, ganyan. Usually, ginagamit lang naming n'yan kapag in-house. Ibig sabihin, ang magpapareserve ay estudyante, uh, di pala, teacher lagi, di pwedeng estudyante, kasi kailangan mayroong magbabantay. Ang applicant d'yan is yung teacher.
5:26	Elmer	So, yung teacher or adviser po ng klase nila?
5:30	Mr. Manalo	Kung sino man. Halimbawa, practice ng drum and lyre, so yung moderator ng drum and lyre, parang ganun. So, practice ng halimbawa, robotics, or computer club, so yung coach, parang ganun.
5:43	Elmer	So, bale po, kunwari, yung adviser po nila, lalapit po sa inyo dito, tapos manghihingi ng form?
5:50	Mr. Manalo	Actually, ang form is available sa Admin office, para centralized. Alam nila kung sino yung kumukuha, nila-log din kasi nila 'yun. So, alam nila kung sino kumukuha. Lahat naman 'yon, hindi lang naman sa reservation. Halimbawa, sa sasakyan, reservation ng sasakyan, reservation ng... request ng kailangang bilhin kasi under General Services lahat 'yon.
6:12	Elmer	So, kayo po yung responsible po nung sa pagina-manage po n'yan no, or is there other... maliban po dun sa admin?
6:21	Mr. Manalo	Wala.
6:23	Elmer	So, bale, kayo lang po tapos yung admin po?
6:25	Mr. Manalo	Sa reservation. Tapos, nilalagyan ko lang ng note. Halimbawa, ang in-charge dito, halimbawa, function room, ang pinag-in-charge ko d'yan is maintenance. S'y a ang taga-hawak ng susi, taga-bukas ng sound system. Ibibigay sa kanya 'to. Halimbawa, "Attention: Ate Myrna". So, "Attention: Ate Myrna", ibig sabihin, sa kanya 'yon. Ngayon, makikita ko naman 'yon kung conflict o hindi dahil mayroon

Confirmed and approved by:


 Mr. Edgardo Manalo Jr.
 General Services Unit Head, NSDAPS

INTERVIEW TRANSCRIPT – 28 FEBRUARY 2025

		naman akong logbook. Pagna-log ko. Pero, may mga pagkakataon kasi na hindi ko nala-log, parang ganun.
7:02	Elmer	So, kayo din po ang naga-approve ng request?
7:07	Mr. Manalo	Actually, 'yun lang talaga trabaho ko d'yan, yung approval. Since wala naman akong secretary, or taga-record, ako na rin. Ako lahat.
7:24	Elmer	Nabanggit n'yo po yung students and teacher ang magpapa-reserve. Ang naalala ko po kasi nung nandito ako, sa may prefect of students...
7:41	Mr. Manalo	Ah, may attachment 'yan. 'Yun kasi, estudyante. Ibig sabihin, halimbawa, practice ng ganito, during class hours. So, pull-out 'yun. Pull-out sila, so kailangan n'yong i-pull-out, diba natatandaan n'yo sumusulat kayo ng pangalan ng lahat ng kasали dun sa practice na 'yun. Ngayon, ia-attach ito doon. So, last ako. Dapat, makikita ko na doon na approved ng prefect at ng assistant principal.
8:16	Elmer	Kayo po talaga ang may final say po doon?
8:18	Mr. Manalo	Oo, kasi nga, ako lang makakaalam kung available or hindi. Kahit in-approve nila, di naman nila alam kung may nauna na, or may conflict.
8:31	Elmer	Paano po, kunwari, na-reject n'yo po yung ano, paano n'yo po sya kino-communicate dun, kunwari, sa students na nag-request, paano po siya nako-communicate?
8:39	Mr. Manalo	Actually, hindi ko talaga kinakausap yung estudyante kasi kailangan ng liability. So, teacher talaga ang nagrerequest. Hindi naman pwede kasi hindi payagan kung available naman. Unless, may maintenance, may ginagawa dun sa ano.
9:03	Elmer	Had there been any instances na, kunwari, sa Church organizations sa labas, nanghihiram ng room po?
9:10	Mr. Manalo	Mayroon. Yun nga, ang sinasabi ko sa'yo, 'yan ay ginagamit for in-school. Gumagawa sila ng letter, addressed kay Father, kapag taga-labas. Kapag sinabing taga-labas, hindi estudyante, hindi teacher, kung baga ito yugn mga Church org. 'Yun lang naman ang pinapayagan natin, o kaya, ibang school – ibang school na sister school. Hindi 'yung ibang school na competition. Halimbawa, Sta. Cecilia, Marikina... Kailangan nila ng letter. Ang letter naman na ito, sa-sign-an ko, so, ganoon din, ise-schedule, tapos, kapag na-schedule, guard naman. Kasi, usually, nanghihiram lang naman sila ng facilities kapag walang klase.
10:30	Elmer	Mayroon pong annex ang Nuestra. Same din po 'syia? Paano n'yo po nalalaman 'yung ano, kayo rin po ba nagma-manage sa annex?
10:45	Mr. Manalo	Sa annex, dahil medyo malit lang s'ya, yung maintenance doon, parang sinasabi nalang sa akin.
10:49	Elmer	Dito pa rin?
10:50	Mr. Manalo	D'yan pa rin. Dapat. Although, may mga pagkakataon nalang na tine-text nalang nila na "Sir, kailangan ko ng ganoon, ganito...ng gym, kasi may practice 'yung ano...", pinapayagan ko nalang din minsan, parang verbal communication. Di naman din kasi ako makakapunta doon to check. Although, mayroon naman tayong maintenance doon, s'ya ang nagse-set up.
11:30	Elmer	What are the common types ng reasons na napapansin n'yo? Sa in-school.
11:41	Mr. Manalo	Practices. Kasi naman, hindi na nila kailangang kumuha ng permit kapag klase. Halimbawa, MAPEH class. Hindi naman kailangang kumuha ng permit sa computer lab kasi may schedule naman sila. Ang usual lang naman dito ay 'yung function room, function hall, auditorium. Ang usual na gamit d'yan ay events. Halimbawa, may culminating activities sa auditorium. Practices after class, saka kapag sabado. May mga pagkakataon na nagliliinis, so kailangang i-schedule.

Confirmed and approved by:


 Mr. Edgardo Manalo Jr.
 General Services Unit Head, NSDAPS

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INTERVIEW TRANSCRIPT – 28 FEBRUARY 2025

		Lingga naman kasi, di naming pinapagamit talaga. Di lang s'ya basta request – kailangan din ng parent consent kapag sabado or beyond school hours.
12:56	Elmer	Madalas po ba yung instances na may schedule conflicts dito?
13:04	Mr. Manalo	Oo, syempre. Kakaunti lang ang mga facility natin.
13:09	Elmer	Let's go to the system issues. Ano po yung mga biggest challenges sa pagmanage ng...
13:14	Mr. Manalo	Conflict. Conflict ng schedule, basta-bastang gumagamit, nakikita mo nandoon nalang. May pagkakataon na dahil hindi nagpaalam, may maintenance na ginagawa. Nakaka-disrupt ng operations.
13:46	Elmer	Kunwari po, nagka-conflict po, sabi n'yo. Gaano katagal yung ginugugol n'yo pong oras sa pagfi-fix ng conflict ng schedule?
13:59	Mr. Manalo	Depende kasi 'yan kung mayroong alternative. Halimbawa, ang nirequest ay gym. Pwede naman kayong mag auditorium. Odi gawin nalang nating auditorium kasi kasya naman kayo doon. Ganoon lang ka-informal na gawan muna natin ng paraan yung alternatives. Yung gaano katagal, 'yun lang. May mga tao naman na nandoon. Hindi naman ako ang nagse-set up doon eh. Halimbawa, "Joel, kailangan nila ng sound system", kasi hindi lang naman venue 'yan eh. Madalas d'yan, nanghihiram din ng gamit. Yung gamit, ibang form iyon.
15:11	Mr. Manalo	Halimbawa, iyan. Manghihiram sila ng tables, monobloc. Kumbaga, hiwalay pa 'yun. May mga taong nagse-set up noon.
15:25	Elmer	Kunwari po, nanghihiram po s'ya ng room at nanghihiram din ng gamit, magkasama na po 'yan?
15:29	Mr. Manalo	Magkasama na.
15:32	Elmer	From start to finish, kunwari, nagpa-request si teacher. Ano po yung duration noon mula request to approval n'yo po, usually? Yung pagla-log book, ganoon?
15:45	Mr. Manalo	Within the day. Minutes lang, siguro. Basta walang conflict. Para sa kanila naman 'yan, hindi natin kailangang ipag-damot.
15:57	Elmer	Gumagawa din po ba kayo ng report?
16:00	Mr. Manalo	Iyon. Iyon ang wala ako. Iyon ang maganda ninyong gawin. Para at least makikita natin yung insights, kung gaano kadalas ang gamit nito, sino madalas gumagamit, parang ganoon. Para din naaarial, na mas marami palang nangangailangan ng ganiton lugar, halimbawa, ng function room. So dapat pala magdagdag pa tayo ng function room, for improvement.
16:35	Elmer	Nakikita n'yo po ba na beneficial itong system?
16:42	Mr. Manalo	Beneficial sa akin, kasi unang-una, wala naman akong extrang tao na gagawa n'yan. Kung may computer ako dito, okay na. Enter ko, pagdating sa dulo, makikita ko na lang.
16:56	Elmer	Would you be willing to collaborate with us about this project po?
17:01	Mr. Manalo	Oo naman. Sure. Actually, itong mga OJT ng STI dito, ganoon ang ginagawa ko sa kanila ngayon. Pinapagawa ko sila ng database program on isang system naming na kulang. Nagde-develop sila.
17:35	Elmer	How do you prefer po na makipag-communicate with us po? By messenger po ba? By email?
17:46	Mr. Manalo	Pwede 'rin. Gawa ng GC.
17:54	Elmer	Kunwari po, nagde-develop na po kami ng system. How often do you want us to update you sa mga development?
18:03	Mr. Manalo	Weekly. Dependes sa inyo. Kung mayroon kayong malaking development.
18:26	Elmer	Kunwari po, gagawa na po kami ng system. Ano po yung mga napipisil n'yong pinaka-potential na features, yung need nyo talaga na features sa system po?

Confirmed and approved by:


 Mr. Edgardo Manalo Jr.
 General Services Unit Head, NSDAPS

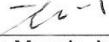
INTERVIEW TRANSCRIPT – 28 FEBRUARY 2025

18:36	Mr. Manalo	Yung report generation, maganda iyon. Digital management, pages-schedule. Para at least, pagpindot, "ay conflict", pula, ganoon.
18:56	Elmer	Para immediate na ma-check no?
18:57	Mr. Manalo	Oo. Para di ko na kailangang isipin or i-log book. Saka siyempre user friendly dapat. Hindi yung dapat magko-code pa ako na baliwala. Parang dropdown siguro na nandoon siguro. Function room, number of pax, parang ganoon. Maganda kasi na may, actually kulang na nga yan eh [reservation form] kaya may others. Para at least, madaling i-monitor. Actually, 'yun ang main ano, yung monitoring.
19:46	Elmer	Final question po, ano po yung mga expectations n'yo sa final project po? 'Yung pinaka output na nya sa dulo?
20:00	Mr. Manalo	Siguro, mapagaan ang trabaho ko. Mayoong documentation, recording. Medyo dun kasi kulang talaga yung department naming due to limited personnel. Wala na talagang gumagawa ng nagfa-file-file ng mga ganyan.
20:35	Elmer	Thank you po sa pagsagot ng questions po namin.

CONFIRMATION AND APPROVAL SHEET

I, EDGARDO MANALO, hereby confirm that:

- The contents of this transcript document provides a true and accurate account of the interview conducted last 28th of February, 2025.
- The interview answers I provided during the aforementioned interview are truthful and complete to the best of my knowledge.
- I approve on having this transcript document to be used for the purpose of documentation and as a basis of information of the researchers for their IT Capstone Project.


Mr. Edgardo Manalo Jr.
 General Services Unit Head, NSDAPS


 Date signed

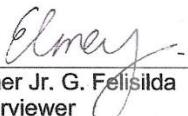
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Figure 50. Transcript of interview from February 28, 2025, signed May 2, 2025

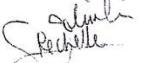
INTERVIEW TRANSCRIPT – 2 MAY 2025

This document serves as a confirmation that the transcription shown in the following pages are true and accurate accounts of the interview conducted between the IT Capstone Project team, Elmer Felisilda, Daisy Borbe, and Rechelle Golimlim, and Mr. Edgardo Manalo Jr., head of Nuestra Señora De Aranzazu Parochial School's General Services Unit. Conducted last 2nd of May 2025, the interview was part of the data-gathering process for the team's capstone project entitled "Digi-Rooms: Web-Based Room Reservation and Management System for Nuestra Señora De Aranzazu Parochial School".

Transcribed and reviewed by:


Elmer Jr. G. Felisilda
Interviewer


Daisy Borbe
Interviewer


Rechelle Golimlim
Interviewer

Interview Proper

Time	Speaker	Transcription
0:24	Elmer	What is the average count of students enrolled in NSDAPS' main and SHS campus po?
0:33	Mr. Manalo	Approximately 1600 plus.
0:37	Elmer	Both na po yun?
0:38	Mr. Manalo	Both na yun, oo.
0:40	Elmer	What is the total count of employees, both teaching and non-teaching, that is currently active in the school's main and SHS campus?
0:50	Mr. Manalo	As of now, 105, both teachers and non-teaching personnel.
0:59	Elmer	How many classrooms are there at the main campus po?
1:02	Mr. Manalo	44 classrooms, and 9 sa annex, sa Senior High School campus.
1:09	Elmer	Does the school share resources and facilities po?
1:14	Mr. Manalo	Yes.
1:17	Elmer	What is the total count of employees that work under the General Services Unit po?
1:25	Mr. Manalo	Both contractual and regular employees, 23. So, 19 sa main tapos 4 sa Senior High School campus.
1:37	Elmer	Have you experienced na instance na there is a significant time spent sa pagpoprocess po ng request?
1:49	Mr. Manalo	Sa venue, yes. Conflict ng schedule, tapos minsan, wala talagang facilities due to budget constraints.
2:03	Elmer	Confirm ko lang po sa pagkaka-interpret po namin sa process nyo po nung pagrereserve po. Kunwari, yung teacher, ang sabi nyo po is bawal po mag-reserve diretsa yung student po. So dapat may teacher po. Pag nagpapa-reserve po 'yon kunwari po sa practice, dadaan po yung teacher sa Student Affairs Office. Tapos, kukuha po ng pull-out form?
2:33	Mr. Manalo	Oo.
2:34	Elmer	Tapos doon po isusulat yung pangalan, request, ganoon po?
2:39	Mr. Manalo	Oo.
2:40	Elmer	After po noon, bibigyan po sya ng GSU form, yung reservation form po dito?
2:46	Mr. Manalo	Oo.

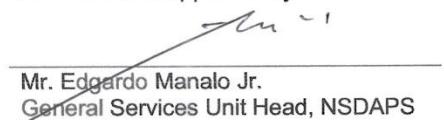
Confirmed and approved by:


Mr. Edgardo Manalo Jr.
General Services Unit Head, NSDAPS

INTERVIEW TRANSCRIPT – 2 MAY 2025

2:47	Elmer	Tapos, didiretso na po ba sya dito?
2:50	Mr. Manalo	Oo, tapos ako na yung magpo-process noon para ibigay doon sa concerned. Kasi may kanya-kanya silang personnel concerned.
3:00	Elmer	Parang may dine-delegate kayong staff?
3:03	Mr. Manalo	Personnel na assigned.
3:07	Elmer	Kapag from outside po sya, magse-send po sya ng letter sa inyo?
3:17	Mr. Manalo	From outside? So hindi school activity ganoon?
3:21	Elmer	Yes po.
3:23	Mr. Manalo	Gagawa muna sya ng letter, direct kay Father, addressed kay Father, tapos si Father magbibigay sa akin.
3:31	Elmer	Si Father po is yung Director po iyon?
3:33	Mr. Manalo	Oo. Sya ang aming pinaka-head. Kung hindi sya school concern ha.
3:41	Elmer	Kapag teacher po, no need na i-pullout yung students, pupunta po sya sa Admin office then doon po kukuha ng form?
3:50	Mr. Manalo	Ano 'yan?
3:55	Elmer	Kapag in-house po sya. Tapos hindi sya practice, parang hindi nya need ng pullout form. May nabanggit po kasi kayo last time na...
4:03	Mr. Manalo	Kapag hindi sya classroom-based kasi, kailangan talaga ng pullout form. Halimbawa, may practice sa auditorium, at may klase, kailangan ng pullout form. Hindi na kailangan ng pullout form kapag after class. Halimbawa, tapos na yung klase, tapos magpa-practice sila, okay lang 'yun. Pero kailangan pa 'rin nila ng reservation. Kailangan pa 'rin ng form. Pero kung within class hours, kailangan ng pullout form.
4:40	Elmer	Kapag after class po, saan po sya pupunta, yung teacher? Sa admin office po ba?
4:45	Mr. Manalo	Considering na mayroon na syang student affairs na permit?
4:51	Elmer	Sabi nyo po kasi, after class hours, hindi po need ng pullout form?
4:58	Mr. Manalo	Actually, hindi sya pullout form, ah yung sinasabi mo bang ano? Hindi kasi sya pullout form talaga, permit din sya. Na sila ang gagamit ng venue na iyon. Iba pa yung pullout form. So kailangan pa 'rin ng Student Affairs. Kung baga parang listahan lang ng kung sino talaga yung gagamit ng venue na iyon, section nyo, ganoon. Hindi naman kasi necessary na buong section nyo. Halimbawa, yung group nyo lang, ang gagamit ng ganitong venue.
5:35	Elmer	Ico-confirm ko lang po yung mga facilities dito na madalas po gamitin dito. Ito po ba yung mga facility sa main campus? Learning Resource Center, Function Hall, dalawang Library, dalawang Computer Laboratory, dalawang AVR, isang gym, isang Auditorium, isang Physics and Chemistry room, Bamboo Garden, TLE room, Veranda, tapos yung mga student classrooms po. Ginagamit po ba sya lahat sa mga activities?
6:20	Mr. Manalo	Oo. Function room. Iba pa yung function hall sa function room. Yung function hall, dito sa baba, yung function room, sa second floor. Pero siyempre, hindi lahat 'yan, pinapagamit. Wala naman nang AVR. Wala na tayong AVR. Hindi 'yan lahat, pinapagamit. Halimbawa, computer laboratory. Depende, kung ang gagamit ay computer related, robotics, mga ganoon. Pero hindi sya open for all. The rest, function room, function hall, gym, auditorium, 'yan ang open for all.
7:07	Elmer	Ito po, sa SHS building. Isang chapel, isang computer laboratory, isang library, isang gymnasium, tapos lahat po ng mga classroom. Tama po ba?
7:22	Mr. Manalo	Mayroon doon na [schoola lab]. Convertible physics, parang multimedia laboratory. Yung Learning Resource Center mo nga ito 'yan dito sa may gitna? Parang ganoon ng Senior High.

Confirmed and approved by:

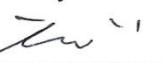

Mr. Edgardo Manalo Jr.
General Services Unit Head, NSDAPS

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INTERVIEW TRANSCRIPT – 2 MAY 2025

7:50	Elmer	Multipurpose laboratory?
7:51	Mr. Manalo	Oo.
7:55	Elmer	Since na-confirm na po namin yung mga figures po, ipe-present na po naming yung proposed system po namin. So, yung system po ay may limang modules, account management, schedule management, school map, tapos reports generation na sinabi nya po last time na pinaka-need nya po. Magsa-start po sya sa login, email, password. Kapag may bagong employee na gustong mag-reserve sir, pwede po syang mag-register. Iyan po yung mga information. Tapos, pagkagawa ng registration po n'ya, ia-approve po s'ya ng admin para magamit. Para di po sya magagamit agad.
9:04	Mr. Manalo	Sa employees lang 'yan?
9:06	Elmer	'Yon po yung proposed po naming kasi sabi n'yo nga po, hindi po naga-ano yung mga students, for employees lang po sya. After po n'yan, magse-send po sya ng email, pagka-approve ng admin. Parang status update po. Pagka-login po nya, ito po, sa inyo, admin account, ito po yung dashboard nya. Lahat po ng functions na is nandito na. Kapag gagawa po yung user ng reservation, dadating po sya dito sa account nya for approval.
10:10	Mr. Manalo	May notification?
10:12	Elmer	Opo. Magsesend po sya ng email sa inyo. Pagkabukas nya po ng system, lalabas na po dyan yung pending na approval. Pagka-click po ng isang pending, may lalabas po sya na window, yung in-enter na reservation information, time, type of activity, sino yung nag-request, ganoon po. Pwede nya po sya i-reject or i-approve. Pagka-approve nya po, magno-notify po sya sa nag-request ng email na approve na po yung request. If reject naman po, pwede isulat yung reason. Makikita po ng requester sa email nya yung reason ng rejection of request. Sa paggawa po ng reservation, may tatlong steps po sya. First, yung information ng request, name, short description, type ng activity, name ng requester, email, tapos yung list of students po yung parang sa pullout form, para marecord din po if ever. Tapos requested na equipment if meron. Next, sa mismong scheduling po. Pwede po sya mamili ng type, like classroom or laboratory, magkakaroon ng selection.
13:10	Mr. Manalo	Dropdown menu?
13:13	Elmer	Yes po. So, here po, since classroom po ang pinili nya, pwede nya pong i-type yung room number. Kunwari, Room 310, yung start time, 7 to 5 PM, tapos yung date. If wala po syang conflict, wala pong lalabas dito sa kanan. Pero kapag meron po, automatic po sya, habang tina-type nya, iche-check nya po yung conflicts. Kunwari po, dito, may conflicts po sya sa Room 306, kasi may gagamit na sa Room 306, ipapakita nya po dito sa side yung nagko-conflict na schedule, tapos susubukan nya pong mag-suggest ng pinakamalapit na room po doon na available. Which is this, Room 307. Mayroon pong tatlong options dito, pwede ka po maghanap ng other rooms, which is magbubukas ng map, then pwede ka pong mag-select ng ibang room. Pwede nya po i-click yung mga elements po dito para magpakita ng information sa side. If kulay green, ibig sabihin is available sya sa specified time. If kulay red, ibig sabihin may bumabangga po ng schedule dito sa specified time kaya di po sya available. Kunwari po, itong room 310 is available, pwede nya pong pindutin itong "Use this room instead", at automatic po syang magse-set as room para sa reservation. Then, kunwari, mas priority nya po itong reservation na ito, pwede nya po syang i-"Force Schedule". Ibig sabihin po, made-delete yung unang schedule. Tapos po, ang final step, parang ido-double check po yung information, tapos once i-click po yung "Send Request", since admin po kayo, pwede nya pong i-approve mamaya or ngayon na mismo.
15:50	Mr. Manalo	Bakit? Anong purpose?

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15:52	Elmer	Kunwari po, you're saving it for later, baka may mas importante pang reservation, pwede nyo po syang ipila dito sa pending approval. After po, pwede ka po gumawa ng bago, i-dismiss, or pwede nyo po i-print yung parang form na ibinigay nyo, yung brown? Yung reservation form po. Once na-approve na po sya, didiresto na po sya sa nag-reserve.
16:35	Mr. Manalo	Anong format yung gine-generate na report? PDF?
16:41	Elmer	Opo sir. Pwede din po syang i-print.
16:45	Mr. Manalo	I mean, sakali kasi, ang purpose, kung sakali kapag PDF, halimbawa i-send ko sa guard.
16:52	Elmer	Opo, pwede po sya i-export as PDF. Tapos ito po yung sa view schedule, pwede kang mag-select ng room. Kunwari, itong Room 301, lalabas yung timetable nya, for isang linggo, tapos kung ano yung mga naka-reserve sa kanya sir.
17:14	Mr. Manalo	So possible din na buo?
17:17	Elmer	Opo sir. Kunwari, ito po ay 7:00 AM to 5:00 PM, yung mga blocks po d'yan mula 7 to 5, kakainin po ng schedule. Pero kung kunwari, gagamitin nya lang is 7 to 9, ito lang po yung makakain nya. Tapos pwede nyo pong i-delete, i-print, export as PDF. Tapos edit details. Kapag edit po, lalabas po yung form ulit tapos pwede nyo pong i-modify. Tapos magche-check din po sya d'yan ng conflict. Ito naman po yung susunod na module, yung school map. Visualization ng floor plan po dito. Bale po, kami na po magse-setup nyan para po magamit agad, pero ang purpose po kasi nito is kapag nag-expand or nagpalit ng rooms, pwede po syang i-edit. Parang ang process po nya is kukunan naming ng picture yung floor plan, tapos ite-trace po namin, tapos lalagyan ng markers, 'yun po yung magpupula or maggi-green. Tapos pwede nyo na po syang saksakan ng information.
18:50	Mr. Manalo	Graphical?
18:54	Elmer	Yes po sir. Graphical representation ng mga available na rooms, para mas madali pong tignan. Kunwari sir, medyo nahihiyo ka sa timetable, pwede nyo po syang tignan dito.
19:16	Mr. Manalo	Bakit yung time mo dito isa lang?
19:18	Elmer	Ito po yung starting time nya po sir. Kunwari sir, pinalitan ko yung date nang Saturday, tapos 8 AM po yung start. Itong mga nakapula po dito is may reservation na ang start time nya is somewhere around 8:00. Halimbawa, Room 306 sir. Ang current activity nya is 7:00 AM to 5:00 PM. Since nagfo-fall sya dito, magpupula po yung room na iyon. Yung map editor naman po sir, for scalability na din po, in the case na planong mag-expand yung school, mag-change ng mga room po, para di na din po sya maging dependent po sa amin. Pwede nya po i-change yung layout nya sir. Yung generate reports po, ask na din po namin, kung ano yung mga gusto nyo pong makita na mga reports po dyan, pero ito po yung mga documents na pwede nyang i-print. Schedule timetable po, pagka-click, dito sa gilid, pwede ka pong mag-set ng date, kunwari, April 14, so magsa-start sya sa April 14, then isang linggo, anong campus, anong room, ganoon po. Since Room 306, ipapakita nya dyan yung schedule nang isang linggo sa Room 306. Like earlier, pwede nyo po syang i-export sa PDF or pwede nyo pong i-print. Room utilization po, insights, pwede ka pong mamili ng room dito, tapos ipapakita nya yung data doon. Kunwari sir, reservation for the last 3 months, or yung mga usual na purpose po ng pag-reserve, sino yung mga usual na gumagamit, anong type ng activities, mga ganoon po sir. Yung map overview naman po sir, halimbawa, naga-arrange po kayo ng mga rooms for an event, like club fair or enrolment ngayon, pwede nyo po syang i-print. Kunwari, dito is sa uniform, dito is registrar, ganoon. Pwede nyo po syang i-save or i-print para pwede nyong i-present or ipaskil sa labas. Yung reservation slip po sir, is yung kanina po. Kapag

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		gusto nyo pong i-print, sino yung delegated na staff, mga ganoon sir. Account list naman po, para sa admins lang, mga accounts na active, type ng access. Kunwari, sa OSA, staff lang, so sa staff is pwede gumawa ng reservation pero bawal mag-edit or mag-approve, parang ganoon po sir.
23:07	Mr. Manalo	May role?
23:09	Elmer	Yes po sir. Sa account management module naman po, parang sa schedule management, yung mga accounts na pending approval. Kunwari, itong si Juan Dela Cruz na employee, gusto nyang mag-reserve, pwede nyo pong i-approve sya na gumawa ng reservations, mag-edit, ganoon. So if ever na wala ka po, pwede sya yung sumalo. Pwede nyo din po i-edit yung mga permissions nya, save changes, or pwede i-delete. Ayun lang po.
23:45	Mr. Manalo	Sana mag-materialize.
23:49	Elmer	We'll try our best. Tapos ito po yung mga tanong po namin sa system. Mayroon po ba kayong questions po muna?
24:28	Mr. Manalo	Suggestion lang. Yung wala nang ita-type. Lahat naka-dropdown. Even yung reason. Para mayroon tayong template ng mga reasons. Pare-pareho naman kadalasan 'yan. Para at least mai-standard. Para din hindi na kailangan na optional yung reason. Yung mga common na reasons, nandoon na. Yung iba, sa susunod nalang siguro, as we go along. Pero generally, okay sya. Dapat lang medyo, since wala masyadong staff na gagawa n'yan, baka nga ako lang din kung sakali ang gagawa, medyo user-friendly talaga. So click lang nang click. Mas simple. Simple lang yung forms, simple lang yung magge-generate. Although, okay naman lahat, simplehan lang natin nang kaunti. Okay yung equipment. Siguro, suggestion ko lang, i-dropdown menu nalang din, para wala nang isusulat. Dito sa may map, maganda itong may ganitong report, yung may GUI. Doon sa report, lagyan mo na din ng time. I suggest nga ito lang lagi ang nakikita ng staff. Para makita agad. Kaya nga, kita mo, yung manual natin is kalendaryo nga lang eh para kita agad. Pero, okay ito, nakikita by floor. Or, I suggest, kung sakali, mayroon kayo na by date naman. May report din sya na naglalabas by date. Halimbawa, for the whole month, mayroong ganoon. Calendar view kung baga. Para anytime, kita mo na agad.
31:40	Elmer	Okay sir, noted po. Ito po, mga follow up questions po regarding sa system. Would you like the website to include multiuser support so that other departments would be able to interact and access the system? Para hindi lang po ikaw ang makakagamit po nito?
31:52	Mr. Manalo	Okay 'yun. Mayroon na lang access, limit, yung iba. Parang mga role.
32:11	Elmer	Should teachers be able to create reservations directly po sir? Or kailangan po nilang dumaan sa OSA po para magpa-reserve?
32:19	Mr. Manalo	Kung doon sa one mo ay mayroon kang multiuser support, dapat mayroong, page admin, page moderator. Parang page moderator si OSA, sya, pwede nya lang makita. Possible na sabay naming makita. Kung 'yun ang tanong mo, ah, kung direktang ano?
33:10	Elmer	Opo sir. Kasi, yung current process nyo po is dadaan muna sa OSA para sa approval. Kapag diretso po yung teachers po doon sa system, magkakaroon po ng separate na role yung OSA, tapos yung request na gagawin ng teacher, pupunta po sa OSA muna for approval before...
33:30	Mr. Manalo	Ganoon pa 'rin. Gawin lang nating digital.
33:36	Elmer	So pwede po syang gumawa ng reservation, yung teacher?
33:38	Mr. Manalo	Oo.
33:43	Elmer	Should students and the general public be able to create reservations?

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Elmer Jr.
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General Services Unit Head, NSDAPS

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33:49	Mr. Manalo	No. Students, hindi. Yung liability eh. Mahirap kasi, kapag community pinagusapan, manual pa 'rin 'yan. Kailangan pa 'rin ng letter sa Director.
34:45	Elmer	Should they at least have the ability to view the interactive map? Pero di po sya pwedeng gumawa ng reservation.
34:59	Mr. Manalo	Dyan?
35:00	Elmer	Opo sir.
35:01	Mr. Manalo	Para makita nya kung may conflict?
35:03	Elmer	Hindi sir, parang makikita nya lang po kung ano yung available na rooms dito.
35:09	Mr. Manalo	Kaya nga, para makita yung mga conflict dun sa room.
35:12	Elmer	Yung mga general user po, mga students, ganoon. Mapa-publish po sya sa website, tapos makikita nila itong floor plan na ito, and itong buong section na ito may activity.
35:35	Mr. Manalo	Parang di na din kailangang ma-post publicly. Kasi data privacy na 'yan eh. May taga-labas na mino-monitor yung ano. For safety 'rin. Di sya dapat public. Although maganda yung report nya. Siguro limited lang dapat yung may access.
36:05	Elmer	So for employees lang po talaga?
36:08	Mr. Manalo	For employees, for admins, ganoon.
36:10	Elmer	Should the requester stop by the admin office before the requested schedule is created or should they be able to create a request na ia-approve muna ng admin bago dumating sa inyo?
36:34	Mr. Manalo	Oo. Sino bang tinutukoy nyo na admin?
36:56	Elmer	Yung admin office po. Yung OSA, ganoon.
37:01	Mr. Manalo	Magkaiba kasi 'yun. Technically, wala namang concern si admin office d'yan. Yung OSA, ang concern nya lang, if students. Depende 'yan kung sino yung requestor. Kung students, may OSA. Kapag di naman students, pwede din kasing personnel eh. Halimbawa, meeting, ganoon. So, hindi naman kailangan ng OSA doon.
37:45	Elmer	Bukod po dito sa mga reports po dito, mayroon pa po ba kayong mga reports na gusto nyong ma-generate sa system?
37:52	Mr. Manalo	Ayun nga, yung kanina, yung calendar type na view.
38:01	Elmer	Based po dun sa pinresent po naming na system, do you agree sa account management module po?
38:09	Mr. Manalo	Oo, simplified nga lang natin. Yung mga input.
38:16	Elmer	How about the schedule management module po?
38:20	Mr. Manalo	Okay na 'yun.
38:22	Elmer	Bale gawin lang pong dropdown?
38:23	Mr. Manalo	Oo, simplehan lang natin.
38:32	Elmer	How about yung school map po?
38:37	Mr. Manalo	Okay 'yan. Madali naman kasing i-ano yung school kasi wala namang building. Kung baga, talagang floor-by-floor yung ano. Kaya okay naman 'yan.
38:53	Elmer	How about 'yung reports generation po?
39:00	Mr. Manalo	Okay naman sya.
39:02	Elmer	So are there any features or functions na diniscuss na gusto nyo pong ipatanggal or ipa-modify?
39:06	Mr. Manalo	Yung gawing mga dropdown lang. Para user-friendly na as-in. Yung di na kailangan ng staff para i-process.
39:31	Elmer	Bukod po dun sa dropdown and calendar view, may ipapadagdag pa po ba kayong features?
39:36	Mr. Manalo	Sa ngayon wala.

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 Mr. Edgardo Manalo Jr.
 General Services Unit Head, NSDAPS

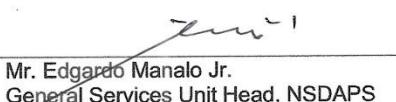
INTERVIEW TRANSCRIPT – 2 MAY 2025

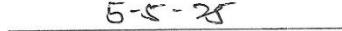
39:40	Elmer	Bukod po dun sa user-friendliness, may specific requirements po ba kayo sa layout or sa arrangement?
39:48	Mr. Manalo	Okay 'yan. Simplehan lang natin. Wag nyo nang artehan. Mas simple, mas magandang tignan. Siguro color coding. Although, color coded naman na ito diba? Red, for conflict, parang ganoon. Ayun lang.
39:57	Elmer	Do you believe na yung system na pinopropose po namin is beneficial sa inyo at saka sa GSU, sa school?
40:29	Mr. Manalo	Oo naman. Sana nga eh. Para di na kailangan ng staff, kasi technically wala naman talaga akong staff. Ako lang din nagpo-process ng lahat. So makakatulong nang malaki.
40:43	Elmer	If the system works well po, how would it change yung room reservation process dito sa school?
40:52	Mr. Manalo	Documentation. Nakita nyo naman, yung kalendar, blanko lagi. Malaking bagay sa documentation, recording, sa hindi na kailangan ng staff, 'yun ang malaking benepisyon nyan. Lyon din kasi ang hinahanap sa akin. Sa GSU, na parang kulang sa documentation.
41:22	Elmer	Ayan po sir, thank you po sa pagsagot sa mga tanong po namin.

CONFIRMATION AND APPROVAL SHEET

I, EDGARDO MANALO Jr., hereby confirm that:

- The contents of this transcript document provides a true and accurate account of the interview conducted last 2nd of May, 2025.
- The interview answers I provided during the aforementioned interview are truthful and complete to the best of my knowledge.
- I approve on having this transcript document to be used for the purpose of documentation and as a basis of information of the researchers for their IT Capstone Project.


Mr. Edgardo Manalo Jr.
General Services Unit Head, NSDAPS


Date signed

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Figure 51. Transcript of interview from May 2, 2025, signed May 5, 2025

APPENDIX F: FEASIBILITY ANALYSIS

Feasibility Analysis for

**DIGI-ROOMS: WEB-BASED SCHOOL FACILITY RESERVATION AND
MANAGEMENT SYSTEM FOR NUESTRA SEÑORA DE ARANZAZU
PAROCHIAL SCHOOL**

Executive Summary

The Digi-Rooms project aims to address the inefficiencies of the paper-based room reservation process at Nuestra Señora De Aranzazu Parochial School (NSDAPS). Interviews with General Services Head Mr. Edgardo Manalo Jr. and survey responses from faculty reveal that the current system results in scheduling conflicts, delays in approvals, and difficulties in tracking reservations.

This study evaluates the feasibility of implementing a centralized, web-based system designed to streamline facility scheduling, provide real-time updates on room availability, reduce administrative workload, and enhance planning through analytics tools. Technical, operational, and economic analyses all indicate that the proposed system is both practical and necessary.

Project Background

Currently, NSDAPS manages all room reservation requests manually through the General Services Unit (GSU). These requests are documented in a single calendar, making it time-consuming to verify room availability and detect scheduling conflicts. According to interview findings, even reservation forms approved by the Office of Student Affairs must be manually re-encoded. Additionally, the GSU oversees requests from both campuses, further complicating the process of checking room availability (See Figure 50, page 107).

Market Feasibility

- **Target Users:** GSU employees, school administrators, teachers, and club or organization moderators.
- **User Feedback:** Based on the survey conducted on May 15, 2025 (See Figure 56, page 127), 87% of faculty and staff believe that implementing a computerized reservation system would effectively address the current challenges related to room availability and scheduling.

- **Demand Justification:** The primary concerns raised by the staff were the inability to verify room availability and the frequent misunderstandings that arise from the current system (See Figure 56, page 127).
- **System Advantage:** In contrast to the existing system, Digi-Rooms provides a visual, map-based booking interface, automated conflict detection, and real-time updates on room availability.

Technical Feasibility

- **Existing Process Challenge:** NSDAPS currently uses a manual, paper-based system managed by the GSU for room requests. This method is inefficient, lacks real-time updates, and is susceptible to errors, often leading to scheduling conflicts. Additionally, tracking room availability is challenging, resulting in delays and discrepancies between departmental records from the GSU and OSA (See Figure 51, page 111).
- **Proposed System Goals:** To develop a centralized, web-based platform that automates room reservations and management, provides real-time updates, and generates comprehensive reports.
- **Key Modules and Functionalities:**
 - **Account Management:** Teachers, staff, and administrators can securely log in with role-based access, which is essential for managing system functionality and ensuring appropriate access control.
 - **Interactive Map:** The system displays school floor diagrams and provides a real-time, visual representation of room availability, using color-coded indicators to denote available, occupied, or conflicting bookings. It also offers room details.
 - **Map Editor:** An administrative tool is provided to manage and upload buildings, floors, room markers, floor plans, and related metadata, ensuring the system remains accurate and up to date.
 - **Schedule Management:** The system simplifies the process of creating, modifying, and canceling reservation requests online. As a significant

improvement over the manual approach, it features automated, real-time conflict detection and provides recommendations for alternative rooms. It also supports workflows with multiple approval stages.

- **Report Generation:** The system generates a variety of printable reports, including active account lists, map overviews, reservation slips, schedule timetables, usage analytics, and user activity logs. These reports support informed decision-making and digitize essential record-keeping processes.

- **Technology Stack**

- **Frontend:** HTML, CSS, JavaScript (map interactivity and form-based requests)
- **Backend:** Node.js + Express.js
- **Database:** MongoDB
- **Development Tools:** Visual Studio Code, Git, GitHub.
- **Device Support:** Fully responsive for desktop and mobile devices
- **Required Devices:** The web-based system is accessible via laptops, desktop computers, tablets, and mobile phones.
- **Existing Skills:** School personnel are familiar with basic computer applications (e.g., Excel) and have demonstrated a strong willingness to learn new systems, with 96.7% expressing openness to training (See Figure 56, page 127).
- **Hosting:** To ensure scalability and consistent accessibility, the system will be deployed on a cloud-based server.

Operational Feasibility

- **Staff Roles:** Authorized users can create, approve, or manage reservations according to their assigned role permissions.
- **Accessibility:** Reservation requests can be submitted and reviewed beyond regular school hours.

- **User Acceptance & Demand**

- **Strong Need for Centralization:** With 96.7% of respondents rating a centralized system featuring real-time availability as "Important" or "Very Important", there is a clear and strong demand for the core functionalities offered by Digi-Rooms.
- **High Willingness to Use:** According to 96.6% of respondents, a new web-based reservation system would be "Likely" or "Very Likely" to be adopted, indicating strong user readiness for its implementation.
- **Desired Features Alignment:** Users prioritized Digi-Rooms' key features, including online booking, automated conflict detection, real-time availability, and digital floor plans.
- **Willingness for Training:** Concerns about user adoption were alleviated by the fact that 96.7% of respondents expressed willingness to participate in a brief training session to become familiar with the new system.

- **Addressing Current Operational Pain Points**

- **High Inefficient:** The survey results indicate that 83.3% of participants rated the current manual reservation method as either "Inefficient" or "Very Inefficient."
- **Frequent Issue:** According to 93.3% of respondents, the existing system frequently experiences issues such as double bookings, delays, and difficulties in locating available rooms, with responses ranging from "Very Often" to "Sometimes."
- Interviews with Mr. Manalo, the head of GSU, confirmed that the paper-based process is labor-intensive, complicates availability tracking, and causes delays in processing requests.

Economic Feasibility

Estimated costs

Category	Estimated Cost	Type	Description
Development	PHP 0	One-time	Student capstone project; no labor cost
Open-Source Tools	PHP 0	One-time	React, Node.js, MongoDB, GitHub — no license fees
Netlify (Frontend Hosting)	PHP 0 – 1,000	Monthly	Free tier available; upgrade optional for custom domains or higher limits
MongoDB Atlas (Database)	PHP 0 – 3,000	Monthly	Free shared cluster; paid tier if higher storage/performance is needed
Render (Backend Hosting)	PHP 0 – 3,500	Monthly	Free for hobby use; paid plans improve performance and reduce downtime
Misc. Development Costs	PHP 2,000 – 3,000	One-time	Electricity, printing, paper, testing, internet during development
Contingency/Buffer	PHP 1,500 – 2,000	One-time	For backup services, plug-ins, or unexpected tool/API costs

Total Estimate	PHP 8,500 – 12,500		Reflects core development + potential first-month hosting
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Figure 52. Estimated development costs

Free tier vs. Paid tier Hosting Comparison

Hosting Tier	Pros	Cons
Free Tier	No cost; perfect for MVPs or school-based deployments	Cold starts (Render), rate-limited access, no custom domain support
Paid Tier	More stable performance; better bandwidth; added features	Additional monthly/annual cost; may be unnecessary at small scale

Figure 53. Pros and Cons of free and paid tiers of hosting

Return on Investment (ROI) Estimate

Metric	Value	Description
Time saved per week	10–15 hours	Based on GSU Head interview (May 2, 2025) — manual calendar checks and conflict resolution currently consume significant time
Labor savings per month	₱5,000–₱6,000	Based on ~₱100–₱120/hour rate for admin labor x 10–15 hours saved/week.
Annual benefit	₱60,000–₱72,000	Multiplied from monthly savings across 12 school months.
System investment	₱8,500–₱12,500	Total estimated one-time cost from the Economic Feasibility section (includes hosting, misc.).
ROI break-even	Within 2–3 months	System pays for itself in 8–10 weeks through labor/time savings.

Figure 54. Return of Investment Estimates

The Return on Investment reflects:

- Reduced manual labor by school staff.
- Faster processing of reservation requests.
- Prevention of double bookings or missed requests.
- Improved visibility into room schedules (through visual maps and reports).

This analysis shows that the system is not just cost-effective – it is a strategic investment that yields long-term time and labor savings for NSDAPS.

Legal and Ethical Feasibility

- **Compliance:** Adheres to RA 10173 (Data Privacy Act of 2012)
- **Security:** Implements role-based access, encrypted connections, and maintains audit logs
- **User Data:** Stores minimal personal information, with all actions fully traceable
- **Ethical Handling:** Ensures no sensitive student or financial data is collected or displayed
- **Accountability:** Transparency and accountability will be ensured through comprehensive audit logs that record all user actions within the system.

Schedule Feasibility

- **Development Methodology:** The project follows a feedback-driven, iterative approach, allowing continuous refinement based on early testing and stakeholder input throughout the development process.
- **Capstone I (January - April 2025):** The initial phase focuses on system design planning, comprehensive requirements analysis, project initiation, and the preparation of preliminary documentation.
- **System Development (May - November 2025):** This phase is dedicated to internal testing alongside the core development of both front-end and back-end components.
- **Capstone II (August - November 2025):** This phase encompasses comprehensive testing, system deployment, ongoing maintenance, external user testing, feedback

collection, preparation for the final thesis defense, and advanced development activities.

Risk Analysis

Risk	Mitigation
User unfamiliarity	Free training sessions by RED Team
Conflict in reservation requests	Built-in conflict detection and logging
Unauthorized access	Enforced login and role restrictions
Internet/power outage	Cloud sync; offline calendar fallback

Figure 55. Risk Analysis of the system

Go/No Go Decisions

- **Go Decisions:** The project is deemed highly viable based on strong findings across technical, market, operational, economic, legal/ethical, and scheduling feasibility areas. Implementing Digi-Rooms is not only well-justified but also essential to NSDAPS's digital transformation. It will significantly streamline facility reservation processes, improve overall administrative efficiency, and enhance resource management. With a high likelihood of user adoption and considerable benefits offered at a reasonable cost, the system presents a compelling solution for the institution's needs.
- **No Go Scenarios:** The project would not be advisable if key stakeholders—such as the school administration and the GSU Head—are unwilling to support user training, allocate necessary resources, or transition from the current manual processes. Without their commitment, the effectiveness and successful implementation of the digital solution would be significantly compromised.

Client Willingness and Market Readiness

Mr. Manalo (GSU Head) confirmed system usefulness in reducing paper checking time and ensuring request traceability (See Figure 51, page 111). Survey responses confirm readiness for digital transformation.

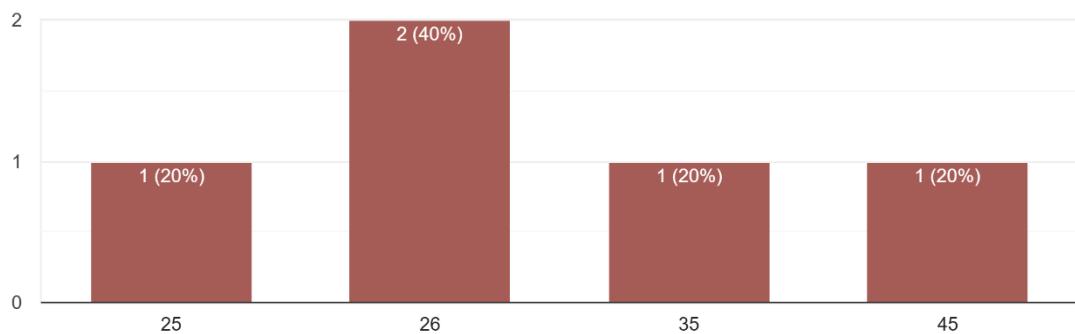
All stakeholders surveyed expressed openness to Digi-Rooms. Staff are motivated to improve efficiency and see value in centralized room tracking and request approval (See Figure 50, 51, 57; pages 107, 111, 139).

System Lifetime Expectancy

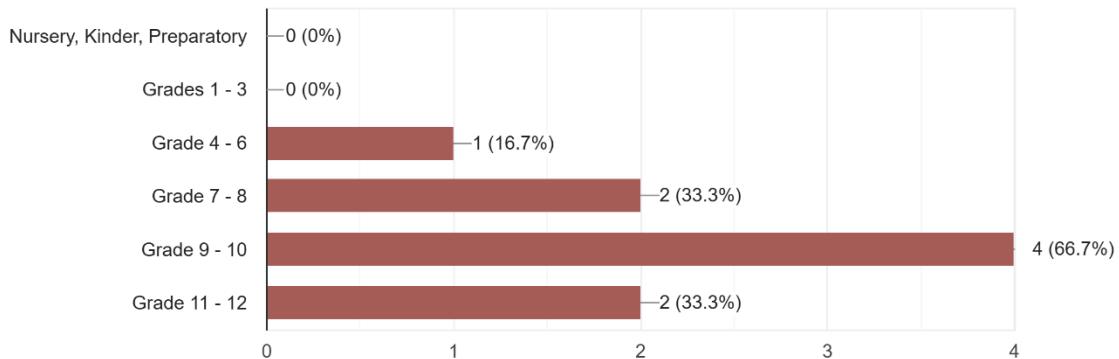
With scalable architecture and free-tier hosting options, Digi-Rooms is expected to be fully usable for 5–7 years with minor updates and maintenance.

Survey Results

Age
5 responses



At which grade levels do you teach? (Select all that apply)
6 responses



Are you a club/organization moderator at NSDAPS? If yes, please specify the club/organization.
(Skip if not applicable)

5 responses

Yes, Research

Yes, Theater Club

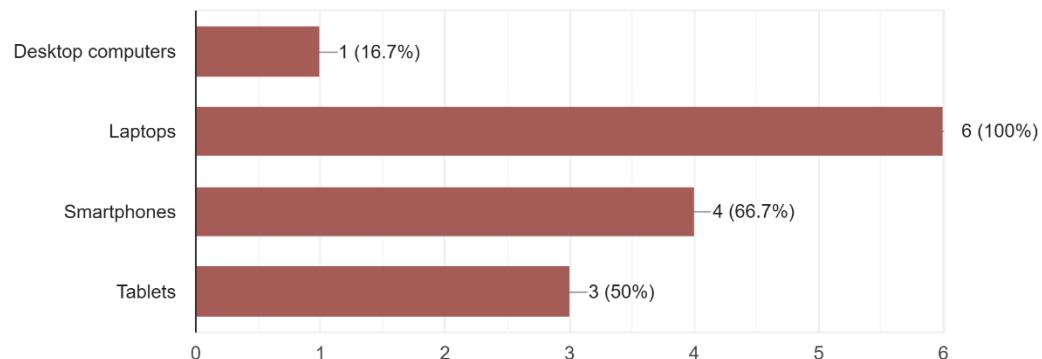
Drum and Lyre Club

Theater Club

Moderator. Sports club

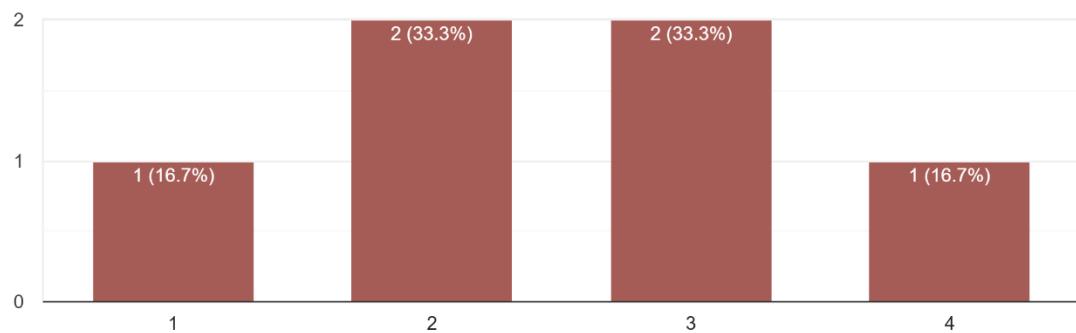
What types of devices do you use for work? (Select all that apply)

6 responses



In a scale of 1 - 4, how would you rate the stability of the internet connection in the school?

6 responses



If the connection is intermittent or unstable, what is often the main cause of the issue? (Skip if not applicable)

3 responses

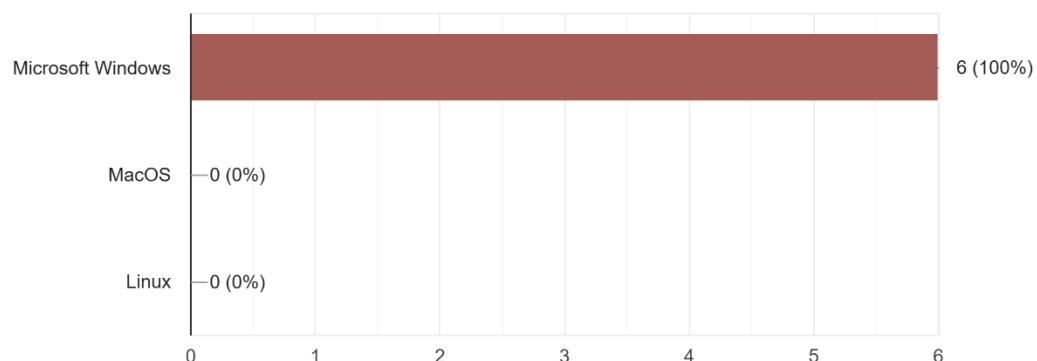
No idea

connection interuption

Too much user and old routers

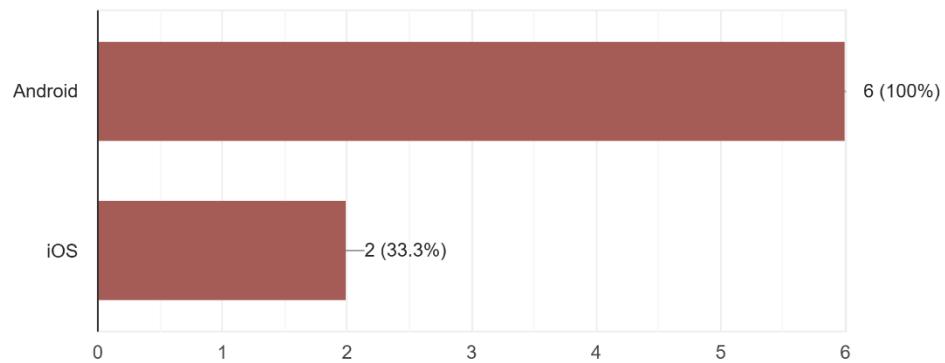
What operating system does your computer use? (Select all that apply)

6 responses



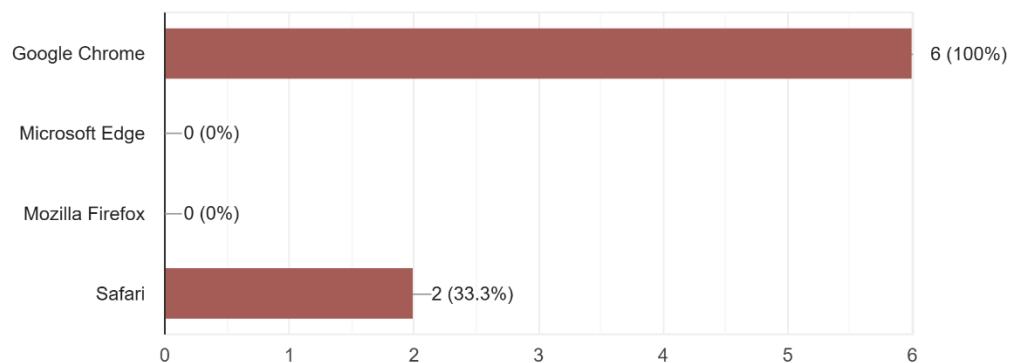
What operating system does your mobile device use? (Select all that apply)

6 responses



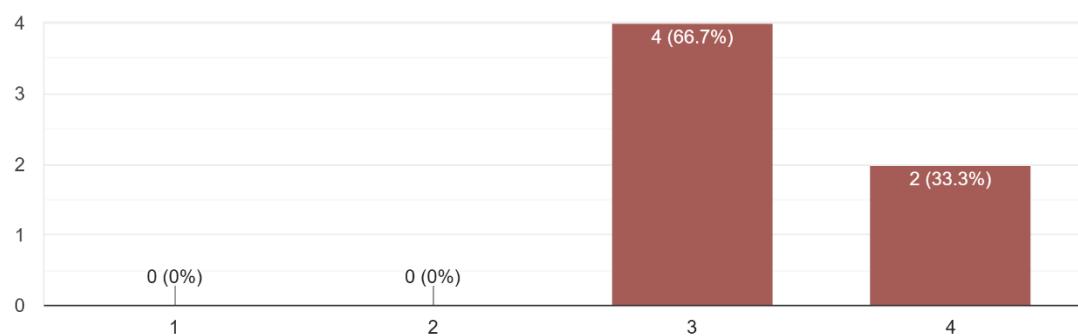
What browsers do you usually use for work? (Select all that apply)

6 responses



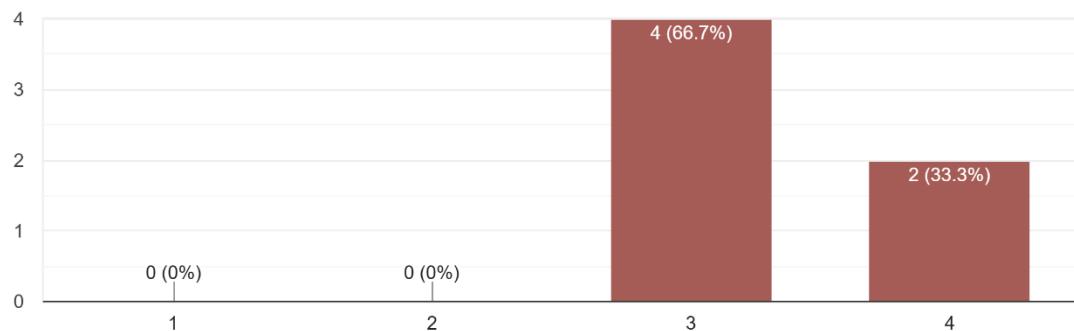
On a scale of 1 - 4, how comfortable are you in using digital and online services?

6 responses



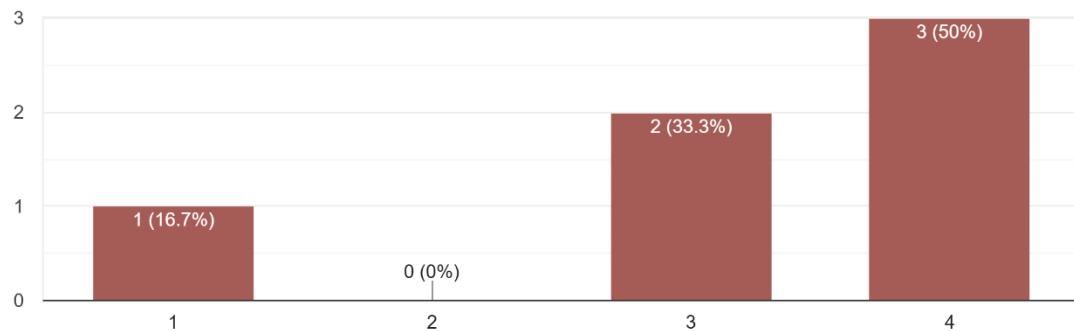
In a scale of 1 - 4, how comfortable are you in using tools that run on the browser for school operations?

6 responses



In a scale of 1 - 4, how comfortable are you in reserving rooms for school activities through a website?

6 responses



If you answered 1 or 2 from the previous question, what factors does a website-based reservation system have that makes it uncomfortable to use for you? (Skip if not applicable)

1 response

it cannot be used due to unstable net connection

What factors should a website-based reservation system have that will make it comfortable to use for you?

6 responses

usability

Easy access and user friendly

Notifications if the reservation is approved and notify the user about the upcoming date of reservation

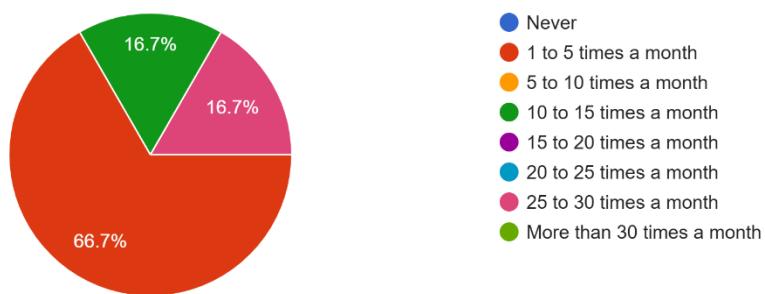
Easy to navigate.

User friendly and convenient

Fast loading speed

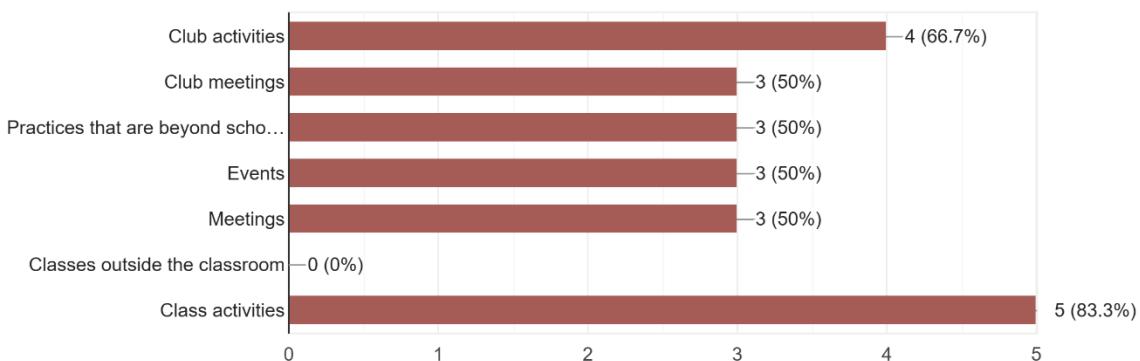
On average, how many times do you reserve school facilities or room for class activities per month (e.g., for off-hours and Saturday practices, events, club activities, etc.)?

6 responses



What are the common purposes do you have when you reserve a room? (Check all that apply)

6 responses



When during the school year do you often reserve a lot (e.g., during club fairs, near the end of the quarter, when there's a practical activity in my subject, etc.)?

6 responses

November

maybe 1 to 3 times if my subject needs it

Whenever there is an event that needs the drum and lyre

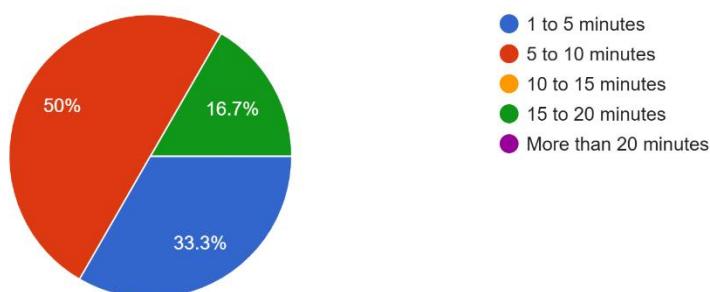
Monthly and quarterly.

school meetings and activities

During class discussion

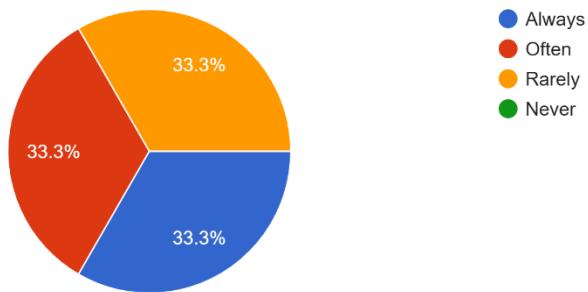
How long does it take to make one reservation request from start to finish?

6 responses



How often have you experienced schedule/room availability conflicts when reserving rooms?

6 responses



When you experience schedule/room availability conflicts when reserving rooms, how is it usually handled? (Skip if not applicable)

3 responses

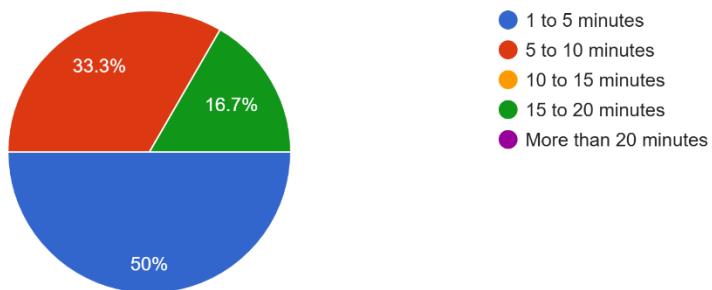
We adjust and find new place

rescheduling is done

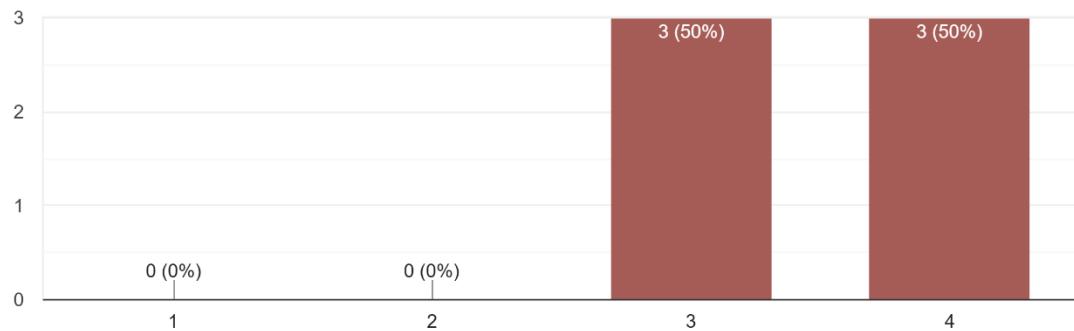
Use another room

When there is a schedule/room availability conflict in your request, how long does it usually take to correct? (Skip if not applicable)

6 responses



In a scale of 1 to 4, how satisfied are you with the current room reservation process of the school?
6 responses



Why are you satisfied/unsatisfied with the current room reservation process of the school?

6 responses

rooms are reserved per club

because it is easy to process

It sometimes overlap with other reservations

Accommodating persons InCharge.

because it is easy

Because if you need you can use

What is your biggest frustration in the current room reservation process?

6 responses

None

none

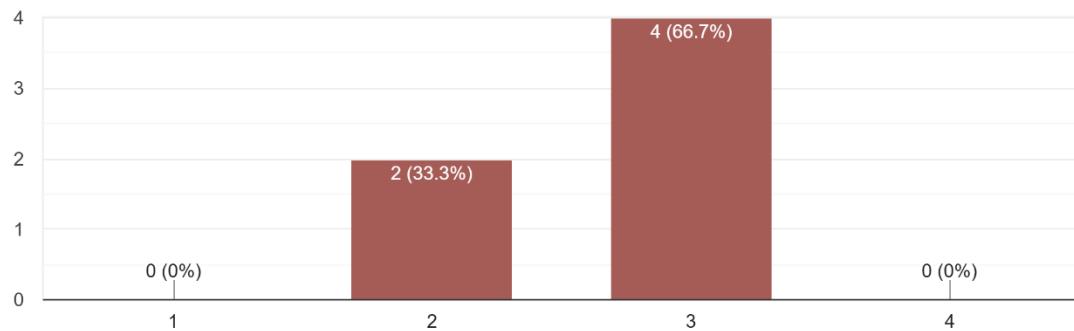
Overlapping and not following the specific time and place to use

Maybe too small or doesn't have privacy.

it may take long

If somebody used but did not reserve

Do you agree that the current process is too dependent on in-person communication/follow-ups?
6 responses



Why do you agree/disagree with the statement?

6 responses

rooms are reserved

because you have to do the reservations in person and you need to validate it in person as well

Sometimes there is no paper to use or see if they reserved it.

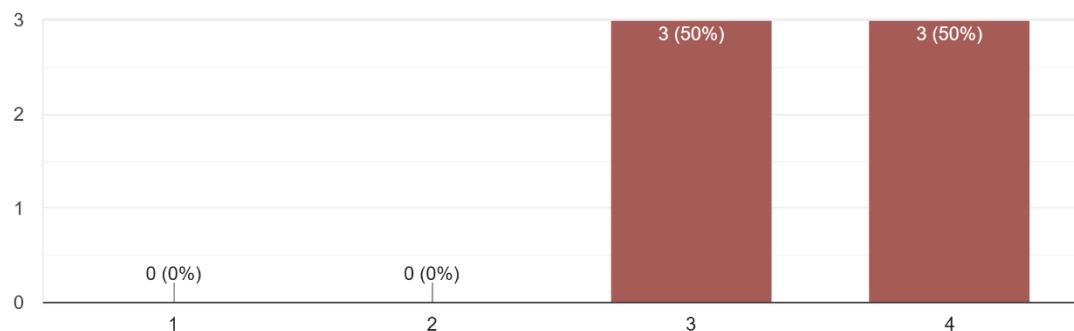
For immediate response.

maybe in person follows can take a lot of time

I agree in this statement

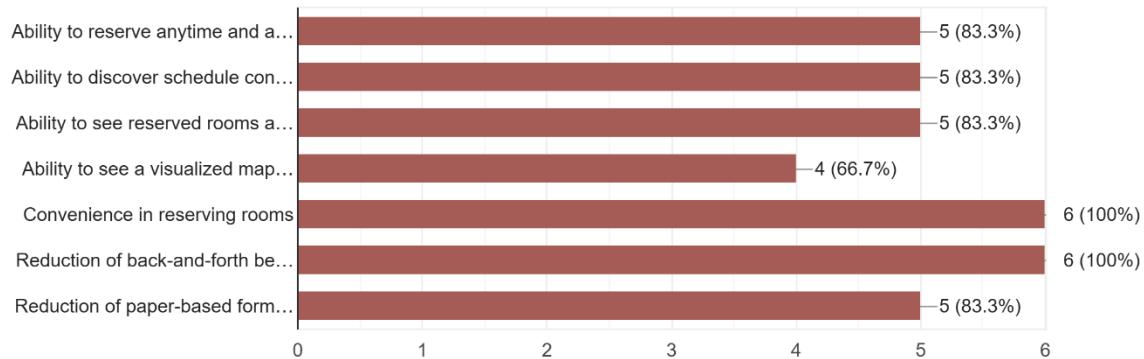
Do you agree that a web-based system would streamline and improve the current room reservation process?

6 responses



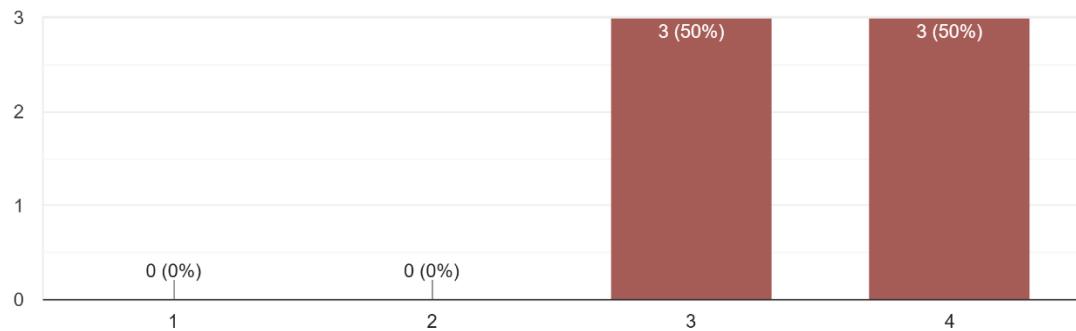
What factors in the system do you think will contribute to your adoption of such a system? (Check all that apply)

6 responses



How willing are you to use a web-based system for making reservation requests instead of paper forms?

6 responses



If such digital system is applied and implemented on the school, what recommendations/suggestions do you have that you think will make the system better for you to use?

6 responses

none

make it an offline access so that it can work even without internet connection

Explain it very well for students and employees of the school

Should be available in all desktop or laptops.

can be accessible offline

Integration with school portal

Figure 56. Survey responses from Teachers & Staff of NSDAPS

SURVEY QUESTIONNAIRE

Good day! We are students from STI College Marikina, Elmer Felisilda, Daisy Borbe, and Rechelle Golimlim, and we are currently doing our IT Capstone Project entitled "**Digi-Rooms: Web-Based School Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School**". The final output of this project should benefit your operations, particularly the room reservation process being employed by the school. In line with this, we would like to gather your insights and feedback to ensure that our system will truly benefit you and the school. Rest assured that your responses will only be used for our research purposes.

Name: _____ Date: _____

FEASIBILITY STUDY SURVEY FOR THE GENERAL SERVICES UNIT HEAD

Technical Feasibility

1. What types of devices are used by the General Services Unit and the staff? (Check all that apply)

<input type="checkbox"/>	Desktop computers
<input checked="" type="checkbox"/>	Laptops
<input type="checkbox"/>	Smartphones
<input type="checkbox"/>	Tablets
<input type="checkbox"/>	Other (please specify):

2. Are these devices regularly maintained and upgraded?

<input type="checkbox"/>	Every 1 – 3 months
<input type="checkbox"/>	Every 3 – 6 months
<input type="checkbox"/>	Every 6 – 12 months
<input checked="" type="checkbox"/>	Every year
<input type="checkbox"/>	When needed
<input type="checkbox"/>	Other (please specify):

3. Do the office have consistent access to a stable internet connection?

<input checked="" type="checkbox"/>	Consistent and stable internet connection
<input type="checkbox"/>	Intermittent connection issues
<input type="checkbox"/>	Inconsistent and unstable internet connection

4. If the connection is intermittent or unstable, what is the main cause of the issue?

5. What is your average download and upload speed in the office (in Mbps)?

500 Mbps

Confirmed and approved by:

Signature

1

SURVEY QUESTIONNAIRE

6. What operating systems are primarily used by the GSU staff?

Computers
<input checked="" type="checkbox"/> Microsoft Windows
<input type="checkbox"/> MacOS
<input type="checkbox"/> Linux
<input type="checkbox"/> Other (please specify):
Mobile devices
<input checked="" type="checkbox"/> Android
<input type="checkbox"/> iOS
<input type="checkbox"/> Other (please specify):

7. Is there an internal IT team that assist staff in troubleshooting or maintenance of existing school systems?

<input checked="" type="checkbox"/> There is a dedicated IT personnel for handling issues
<input type="checkbox"/> Teachers from the IT department assist in handling issues
<input type="checkbox"/> I handle it myself
<input type="checkbox"/> No current support

8. How quickly can digital system issues typically be resolved?

<input type="checkbox"/> Less than an hour
<input type="checkbox"/> 1 – 3 hours
<input type="checkbox"/> 3 – 6 hours
<input checked="" type="checkbox"/> More than 6 hours
<input type="checkbox"/> More than a day

9. Does NSDAPS use other external digital services (such as learning management systems)?

<input checked="" type="checkbox"/> Yes
<input type="checkbox"/> No

If yes, what are these digital services?

LMS (LearnPedia)

10. Does NSDAPS have its own website?

<input checked="" type="checkbox"/> Yes
<input type="checkbox"/> No

If yes, what is its purpose?

INFORMATION

Confirmed and approved by:

Signature

2

SURVEY QUESTIONNAIRE

11. What is NSDAPS' website domain?

nsdaps.edu.ph

12. Does NSDAPS manage its own website?

<input type="checkbox"/>	Yes - The school manages its own website
<input checked="" type="checkbox"/>	No – There are external developers manage the school's website
	Others (please specify):

If yes, who is in charge in its management and maintenance?

13. Does NSDAPS have access to its website's resources (e.g., source code, databases, hosting, etc.)?

<input checked="" type="checkbox"/>	Yes
	No

14. How often is the website updated?

<input type="checkbox"/>	Every 1 – 2 weeks
<input type="checkbox"/>	Every 2 weeks to 1 month
<input type="checkbox"/>	Every 1 – 3 months
<input checked="" type="checkbox"/>	Every quarter
<input type="checkbox"/>	Every school year
<input type="checkbox"/>	Updated as often as needed

Operational Feasibility

15. How many reservation requests do you typically handle per month?

<input type="checkbox"/>	1 – 5 requests
<input type="checkbox"/>	5 – 10 requests
<input type="checkbox"/>	10 – 15 requests
<input type="checkbox"/>	15 to 20 requests
<input checked="" type="checkbox"/>	More than 20 requests

16. What is the average time that it takes to process each request?

<input checked="" type="checkbox"/>	1 to 5 minutes
<input type="checkbox"/>	5 to 10 minutes
<input type="checkbox"/>	More than 10 minutes

Confirmed and approved by:

[Signature]
Signature

3

SURVEY QUESTIONNAIRE

17. What times of the year have the highest volume of reservations?

7-12m SEPT - DEC
FEB - APRIL

18. Are there any recurring issues or bottlenecks (e.g., conflict-checking, form-filling, etc.) that digital tools could help solve? How often do they occur?

YES, often

19. How satisfied are you with the current room reservation process?

4	Very satisfied
3	Somewhat satisfied
2	Somewhat unsatisfied
1	Very unsatisfied

Why?

LIMITED SPACE / AREA AVAILABLE

20. What is your biggest frustration in the current room reservation process right now?

SCHEDULING / CONFLICTS

21. Are you open to reducing manual paperwork in exchange for a digital workflow?

4	Very willing
3	Somewhat willing
2	Somewhat resistant
1	Very resistant

Why?

Confirmed and approved by:

Signature

4

SURVEY QUESTIONNAIRE

22. How willing/resistant do you think the staff are in using a web-based system?

<input checked="" type="checkbox"/>	4	Very willing
<input type="checkbox"/>	3	Somewhat willing
<input type="checkbox"/>	2	Somewhat resistant
<input type="checkbox"/>	1	Very resistant

Why do you think so?

EASE OF WORK

Economic Feasibility

23. How much would the school be willing to invest in the system for its development, hosting, maintenance, etc.?

<input checked="" type="checkbox"/>	Under PHP 5,000
<input type="checkbox"/>	PHP 5,000 – 10,000
<input type="checkbox"/>	PHP 10,000 – 20,000
<input type="checkbox"/>	Over PHP 20,000 (please specify):
<input type="checkbox"/>	It depends
<input type="checkbox"/>	Not sure yet

24. What would make the system worth the investment for you? (Check all that apply)

<input checked="" type="checkbox"/>	Time saved in handling reservation requests
<input checked="" type="checkbox"/>	Digitalization of the reservation process
<input checked="" type="checkbox"/>	Minimized schedule conflicts
<input checked="" type="checkbox"/>	Digitalized record keeping
<input checked="" type="checkbox"/>	Reporting and analytics
<input checked="" type="checkbox"/>	Reduced paper/storage costs
<input type="checkbox"/>	Other (please specify):

Schedule Feasibility

25. How long of a transition period do you think is the most feasible in adopting the digital room management system?

<input checked="" type="checkbox"/>	Less than 1 week
<input checked="" type="checkbox"/>	1 – 2 weeks
<input type="checkbox"/>	2 – 3 weeks
<input type="checkbox"/>	Over 3 weeks

Confirmed and approved by:

Signature

5

SURVEY QUESTIONNAIRE

26. What times can you be trained for the usage of the system? (Check all that apply)

<input type="checkbox"/>	Before work hours
<input type="checkbox"/>	During work breaks
<input checked="" type="checkbox"/>	During work hours
<input type="checkbox"/>	After work hours
<input type="checkbox"/>	On weekends
<input type="checkbox"/>	Other (please specify):

27. How often would you prefer training sessions for the system?

<input type="checkbox"/>	Every day
<input type="checkbox"/>	Every week
<input checked="" type="checkbox"/>	Depending on the work schedule
<input type="checkbox"/>	Other (please specify):

Legal Feasibility

28. Are there any legal policies in terms of data handling that the developers should be aware of?

NONE

29. Are there any school protocols and policies that the developers should be aware of?

NONE

CONFIRMATION AND APPROVAL

I, EDGARDO MANALO JR., hereby confirm that:

- The contents of this survey questionnaire provides a true and accurate of the school's business processes.
- The answers I provided are truthful and complete to the best of my knowledge.
- I approve on having this survey questionnaire be used for documentation purposes and a basis of information of the researchers for their IT Capstone Project.


Signature over printed name

✓-20-25

Date signed

6

Figure 57. Survey responses from Mr. Edgardo Manalo Jr., Head of NSDAPS General Services Unit

APPENDIX G: TESTING FORMS

FUNCTIONAL TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

To evaluator: Please write your name, signature, and evaluation date prior to testing the system. Each test case must be tested 3 times. Add a on the corresponding box for the specific test case if the actual outcome matches the expected one. In case that the test case does not match the expected outcome, mark the box as X, and write the test case code, prototype version, and attempt number along with the actual outcome on the provided Issue Tracker spreadsheet.

RED-SV-FT-A	Evaluator:		Evaluator signature:		Evaluation date:			
Prototype A	Module:	Account Management (AM)	Prototype version:	DR-PT-A		Attempt		
Code	Test Case	Prerequisites	Expected Outcome			1	2	3
AM								
Login Function								
FT-AM1	User logs in with no entered credentials.	Email and password text fields are empty.	Display prompt for empty fields.					
FT-AM2	User logs in with incorrect credentials.	Email and password text fields are filled but not registered.	Display prompt for incorrect credentials.					
FT-AM3	User logs in with correct email but incorrect password.	Email is registered but password is incorrect.	Display prompt for incorrect credentials.					
FT-AM4	User logs in with correct credentials.	Email and password is registered and correct.	Switch to home screen.					
FT-AM5	User sees appropriate content in home screen.	Switched to home screen.	Necessary content for the account's given permissions must be displayed.					
AM								
Register Function								
FT-AM6	User clicks the Register button.		Switch to Register form.					
FT-AM7	User registers with no entered credentials.	Name, email, password, and repeat password are empty.	Display prompt for empty fields.					
FT-AM8	User registers with incomplete credentials.	Some text fields in the Register form is empty.	Display prompt for empty fields.					
FT-AM9	User registers with complete credentials.	Name, email, password, and repeat password text fields are filled.	Display prompt for Account Registration Sent and go back to Login screen.					
FT-AM10	User registers with existing email.	Email is already used in an existing account.	Display prompt for existing accounts.					
AM								
Account Registration Request Approval Function								
FT-AM11	Admin views Account List screen.	At least one account registration request and one active account exists.	Display initial Account List screen with pending and active account counts.					
FT-AM12	Admin views pending requests screen.	At least one account registration request exists.	Display list of pending accounts.					

1

FUNCTIONAL TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

FT-AM13	Admin clicks on a registration request.	At least one account registration request exists.	Display registration request information.			
FT-AM14	Admin approves a registration request.	Registration request information view is displayed.	Display role and permission selection window.			
FT-AM15	Admin sets access role for approved account request.	Account is approved.	Display message of approval success; user receives update notification on registered email.			
FT-AM16	Admin rejects a registration request.	Registration request information view is displayed.	Display message of rejection success; user receives update notification on registered email.			
FT-AM17	Admin rejects a registration request without a selected reason.	Registration request information view is displayed.	Display prompt for no selected reasons.			
AM						
Access Role Management Function						
FT-AM18	Admin views active accounts list.	At least one active account exists.	Display list of active accounts.			
FT-AM19	Admin clicks on an active account.	At least one active account exists.	Display account information.			
FT-AM20	Admin modifies account permission.	Account information is displayed.	Display toast for permission modification confirmation.			
AM						
Account Status Update Notifications						
FT-AM21	User account registration request is approved.	Admin approves the registration request.	User receives an account approval email.			
FT-AM22	User account registration request is rejected.	Admin rejects a registration request.	User receives an account rejection email.			
FT-AM23	User account permissions had been changed.	Admin modifies account permission.	User receives an account permission update email.			

2

Figure 58. Functional Testing Form for the Account Management Module

FUNCTIONAL TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

To evaluator: Please write your name, signature, and evaluation date prior to testing the system. Each test case must be tested 3 times. Add a on the corresponding box for the specific test case if the actual outcome matches the expected one. In case that the test case does not match the expected outcome, mark the box as X, and write the test case code, prototype version, and attempt number along with the actual outcome on the provided Issue Tracker spreadsheet.

RED-SV-FT-A	Evaluator:		Evaluator signature:		Evaluation date:			
Prototype B	Module:	Interactive Map (IM) & Map Editor (ME)	Prototype version:	DR-PT-B		Attempt		
Code	Test Case	Prerequisites	Expected Outcome			1	2	3
IM Map Viewing Function								
FT-IM1	User views the interactive map screen.	Map data exists.	Map renders the first floor of the first building in the map data.					
FT-IM2	User switches to a different floor.	Multiple floor in the selected building exists.	Map changes floor plan layout and renders markers for the selected floor.					
FT-IM3	User switches to a different building.	Multiple building exists.	Map renders the first floor of the selected building.					
FT-IM4	User changes the date and to a later date.	At least 3 existing schedules at different date/time exists.	Map updates room markers to reflect current scheduled availability; must render as red = reserved and green = available.					
FT-IM5	User changes the date and time to a past date.		Map updates room markers to reflect current scheduled availability; must render as red = reserved and green = available; must render with lower opacity and is unclickable.					
IM Room Information Viewing Function								
FT-IM6	User clicks a room marker rendered as green/available.	Room marker is rendered on the map.	Display room information view with Book a Schedule button.					
FT-IM7	User clicks a room marker rendered as red/reserved.	Room marker is rendered on the map.	Display room information view.					
FT-IM8	User clicks on a non-room-marker area.		Close room information view.					
ME Building and Floor Creation, Modification, and Deletion Function								
FT-ME1	Admin views the map editor screen.	Map data exists.	Render the first floor of the first building in the map data.					
FT-ME2	Admin adds a new building.	Map Editor screen is open.	Display form for building information; save changes.					
FT-ME3	Admin selects a building.	At least 1 building exists.	Render the first floor of the selected building; display building information.					

3

FUNCTIONAL TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

FT-ME4	Admin edits a building.	An existing building is selected.	Display form for building information; save changes.			
FT-ME5	Admin deletes a building.	An existing building is selected.	Display prompt for deletion confirmation; remove floors and markers; save changes.			
FT-ME6	Admin adds a new floor.	An existing building is selected.	Display form for room information; save changes.			
FT-ME7	Admin uploads a floor plan image/vector.	Room information form view is displayed.	Render the updated floor plan layout into the map; save changes.			
FT-ME8	Admin changes to a different floor of the building.	An existing building is selected; at least 1 floor exists.	Render the floor plan layout and corresponding room markers.			
FT-ME9	Admin selects a floor.	At least 1 floor in a building exists.	Render the room markers and floor plan layout.			
FT-ME10	Admin edits a floor.	An existing floor is selected.	Display form for room information; save changes.			
FT-ME11	Admin deletes a floor.	An existing floor is selected.	Display prompt for deletion confirmation; remove markers; save changes.			
ME Room Marker Creation, Modification, and Deletion Function						
FT-ME12	Admin adds a new room marker.	An existing floor is selected.	Display form for room information; place room marker at 0:0 position in the map; save changes.			
FT-ME13	Admin selects a room marker.	At least 1 room marker exists.	Display room information view.			
FT-ME14	Admin edits a room marker.	An existing room marker is selected.	Display form for room information; save changes.			
FT-ME15	Admin drags a room marker to reposition it.	An existing room marker is selected.	Update room marker map coordinates; save changes.			
FT-ME16	Admin deletes a room marker.	An existing room marker is selected.	Display prompt for deletion confirmation; remove marker; save changes.			

4

Figure 59. Functional Testing Form for the Interactive Map & Map Editor module

FUNCTIONAL TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

To evaluator: Please write your name, signature, and evaluation date prior to testing the system. Each test case must be tested 3 times. Add a on the corresponding box for the specific test case if the actual outcome matches the expected one. In case that the test case does not match the expected outcome, mark the box as X, and write the test case code, prototype version, and attempt number along with the actual outcome on the provided Issue Tracker spreadsheet.

RED-SV-FT-A	Evaluator:		Evaluator signature:		Evaluation date:			
Prototype C	Module:	Schedule Management (SM)	Prototype version:	DR-PT-C		Attempt		
Code	Test Case	Prerequisites	Expected Outcome			1	2	3
SM Schedule Viewing Function								
FT-SM1	User views the schedules screen.	At least 1 schedule data exists.	Display the schedule timetable of the first room in the map data.					
FT-SM2	User selects a room at a specific date/time.	Selected room has at least 1 scheduled reservation.	Display the schedule timetable of the selected room at the specified date and time.					
FT-SM3	User selects a reservation schedule block in the timetable.	An existing reservation block in the timetable is selected.	Display reservation information view.					
FT-SM4	User selects an empty timetable block.	An existing room is selected.	Close reservation information view.					
SM Reservation Request Creation, Schedule Conflict Detection, and Alternative Room Recommendation Function								
FT-SM6	User clicks on Create a Reservation button.	The schedules screen is displayed.	Display Create a Reservation window.					
FT-SM7	User enters complete request information in Step 1: Request Information view and clicks Next.	The Create a Reservation window is displayed; all fields are filled.	Switch to Step 2: Schedule Information view.					
FT-SM8	User enters incomplete request information in Step 1: Request Information view and clicks Next.	At least 1 input field is empty.	Display prompt for empty fields.					
FT-SM9	User enters complete schedule information in Step 2: Schedule Information view and clicks Next.	All fields are filled.	Switch to Step 3: Finalize Request view; all entered information in Step 1 and 2 are displayed.					
FT-SM10	User enters incomplete schedule information in Step 2: Schedule Information view and clicks Next.	At least 1 input field is empty.	Display prompt for empty fields.					
FT-SM11	User enters a past date on the Date field in Step 2: Schedule Information view and clicks Next.	The Date field value is set to a past date.	Display prompt for invalid field values.					

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FUNCTIONAL TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

FT-SM12	User enters a past time on the Start Time field in Step 2: Schedule Information view and clicks Next.	The Start Time field value is set to a time past the current system time.	Display prompt for invalid field values.			
FT-SM13	User sets the End Time field value at an earlier time than the Start Time field value in Step 2: Schedule Information view and clicks Next.	The End Time field value is earlier than the Start Time field value.	Display prompt for invalid field values.			
FT-SM14	User sets schedule information to an existing conflicting schedule in Step 2: Schedule Information view and clicks Next.	An existing schedule matches the same date, room, and time range as the requested schedule information.	Display conflict detected view; Display conflicting schedule(s); Display suggested available room; disables Next.			
FT-SM15	User clicks on a conflicting schedule in Step 2: Schedule Information view.	An existing schedule matches the same date, room, and time range as the requested schedule information.	Display conflicting schedule information view.			
FT-SM16	User clicks on Use this room instead in Step 2: Schedule Information view.	An existing schedule matches the same date, room, and time range as the requested schedule information.	Display set information confirmation view; Automatically set Room field value into suggested Room.			
FT-SM17	User clicks Find other rooms in Step 2: Schedule Information view.	An existing schedule matches the same date, room, and time range as the requested schedule information.	Display Find alternatives window and Interactive Map view with the floor value set to the same floor as the requested room and the date value set to the requested date.			
FT-SM18	User clicks on an available room in the Find alternatives window.	The Find alternatives window is displayed.	Display room information view and Use this room instead button.			
FT-SM19	User clicks on Use this room instead in the Find alternatives window.	The Find alternatives window is displayed.	Close Find alternatives window and set the Room field value into chosen room.			
FT-SM20	User clicks on an unavailable room in the Find alternatives window.	The Find alternatives window is displayed.	Display room information view and conflicting schedule for the room.			
FT-SM21	User clicks on Send Request in Step 3: Finalize request view.		Display Request created window.			
FT-SM22	User clicks on Previous in Step 3: Finalize request view.		Switch to Step 2: Schedule Information view.			
FT-SM23	User clicks on Previous in Step 2: Schedule Information view.		Switch to Step 1: Request Information view.			
FT-SM24	User clicks on Close in Create a Reservation window.	The Create a Reservation window is displayed.	Display cancel reservation request confirmation window.			
FT-SM25	User clicks on Continue reserving in the cancel reservation request confirmation window.	The cancel reservation request confirmation window is displayed.	Close cancel reservation request confirmation window.			

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FUNCTIONAL TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

FT-SM26	User clicks on Cancel reservation in the cancel reservation request confirmation window.	The cancel reservation confirmation window is displayed.	Close cancel reservation request confirmation and Create a Reservation window.			
SM Reservation Approval and Reservation Rejection Function						
FT-SM27	Staff views the schedules screen.	At least 1 approved and 1 approval pending (Initial stage) schedule data exists.	Display the schedules screen with 2 tabs – schedule timetable of the first room in the map data, approval pending (Initial stage) reservation requests.			
FT-SM28	Staff clicks the Pending Approval tab.	At least 1 approval pending (Initial stage) schedule data exists.	Display list of approval pending (Initial stage) requests.			
FT-SM29	Staff clicks on a pending approval request.	At least 1 approval pending (Initial stage) schedule data exists.	Display Reservation Information request window.			
FT-SM30	Staff clicks on Approve in Reservation Information request window.	The Reservation Information request window is displayed.	Display Request approved window; approved request disappears from approval pending (Initial stage) reservation request list; approved request set to approval pending (Final stage); send email update to requester email.			
FT-SM31	Staff clicks on Reject in Reservation Information request window.	The Reservation Information request window is displayed.	Display Reject request window.			
FT-SM32	Staff inputs a rejection reason and clicks Finalize.	The Reject request window is displayed.	Display Request rejected window; rejected request disappears from approval pending (Initial stage) reservation request list; send email update to requester email.			
FT-SM33	Admin views the schedules screen.	At least 1 approved and 1 approval pending (Final stage) schedule data exists.	Display the schedules screen with 2 tabs – schedule timetable of the first room in the map data, approval pending (Final stage) reservation requests.			
FT-SM34	Admin clicks the Pending Approval tab.	At least 1 approval pending (Final stage) schedule data exists.	Display list of approval pending (Final stage) requests.			
FT-SM35	Admin clicks on a pending approval request.	At least 1 approval pending (Final stage) schedule data exists.	Display Reservation Information request window.			
FT-SM36	Admin clicks on Approve in Reservation Information request window.	The Reservation Information request window is displayed.	Display Request approved window; rejected request disappears from approval pending (Final stage) reservation request list; commit reservation to schedules; send email update to requester email.			
FT-SM37	Admin clicks on Reject in Reservation Information request window.	The Reservation Information request window is displayed.	Display Reject request window.			
FT-SM38	Admin inputs a rejection reason and clicks Finalize.	The Reject request window is displayed.	Display Request rejected window; rejected request disappears from approval pending (Final stage)			

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FUNCTIONAL TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

			reservation request list; send email update to requester email.			
SM Schedule Editing Function						
FT-SM39	Admin clicks on an scheduled reservation block from the timetable.	The schedules screen and schedule timetable is displayed.	Display reservation information view.			
FT-SM40	Admin clicks Edit in Reservation information view.	The Display reservation information view is displayed.	Display Edit a reservation window.			
FT-SM41	Admin edits reservation information with completed fields and clicks Save changes.	All input fields are filled with valid Information.	Close Edit a reservation window; update schedule information; send email update to requester email;			
FT-SM42	Admin sets schedule information to an existing conflicting schedule	An existing schedule matches the same date, room, and time range as the requested schedule information.	Display conflicting schedule information view.			
FT-SM43	Admin clicks Save changes with incomplete fields.	At least 1 input field is empty.	Display prompt for incomplete fields.			

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Figure 60. Functional Testing Form for the Schedule Management Module

FUNCTIONAL TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

To evaluator: Please write your name, signature, and evaluation date prior to testing the system. Each test case must be tested 3 times. Add a on the corresponding box for the specific test case if the actual outcome matches the expected one. In case that the test case does not match the expected outcome, mark the box as X, and write the test case code, prototype version, and attempt number along with the actual outcome on the provided Issue Tracker spreadsheet.

RED-SV-FT-A	Evaluator:		Evaluator signature:		Evaluation date:			
Prototype D	Module:	Reports Generation (RG)	Prototype version:	DR-PT-D	Attempt			
Code	Test Case	Prerequisites	Expected Outcome		1	2	3	
RG Schedule Timetable Creation and Viewing Function								
FT-RG1	User views the Generate Reports screen.	At least 3 room and schedule data exists.	Display initial screen.					
FT-RG2	User clicks Schedule Timetable in the initial screen.	At least 3 room and schedule data exists.	Switch to Schedule Timetable screen.					
FT-RG3	User changes field values in the Set List Parameters view.	At least 3 room and schedule data exists.	Timetable document preview changes content.					
RG Room Utilization Report Creation and Viewing Function								
FT-RG4	User clicks Room Utilization in the initial screen.		Switch to Room Utilization screen.					
FT-RG5	User chooses a room in the Set List Parameters view.		Room utilization document preview changes content.					
Map Overview Creation and Viewing Function								
FT-RG6	User clicks Map Overview in the initial screen.		Switch to Map Overview screen.					
FT-RG7	User chooses a floor in the Set List Parameters view.		Map overview document preview changes content.					
Reservation Slip Creation and Viewing Function								
FT-RG8	User clicks Reservation Slip in the initial screen.		Switch to Reservation Slip screen.					
FT-RG9	User chooses a reservation in the Set List Parameters view.		Reservation slip document preview changes content.					
Account List Creation and Viewing Function								
FT-RG10	User clicks Account List in the initial screen.		Switch to Account List screen.					
Log Creation and Viewing Function								

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FUNCTIONAL TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

FT-RG11	User clicks Logs in the initial screen.		Switch to Logs screen.			
FT-RG12	User changes field values in the Set List Parameters view.	The start and end time and date field values are set.	Display all log entries based on specified time duration.			
FT-RG13	User changes field values in the Set List Parameters view with the end time being earlier than the start time.	The end time is set to an earlier value than the start time.	Display prompt for invalid values.			
Document Export to PDF and Document Printing Function						
FT-RG14	User clicks Export document.	An existing document is currently selected.	Download document as PDF.			
FT-RG15	User clicks Print document.	An existing document is currently selected.	Open browser printing interface.			

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Figure 61. Functional Testing Form for the Reports Generation module

ROLE-BASED ACCESS TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

To evaluator: Please write your name, signature, and evaluation date prior to testing the system. Each test case must be tested 3 times. Add a ✓ on the corresponding box for the specific test case if the actual outcome matches the expected one. In case that the test case does not match the expected outcome, mark the box as X, and write the test case code, prototype version, and attempt number along with the actual outcome on the provided Issue Tracker spreadsheet.

RED-SV-RBAT-A	Evaluator:				Evaluator signature:					Evaluation date:					
Prototype A					Prototype version:		DR-PT-A								
A = Accessible; D = Denied				Attempt									Attempt		
Code	Role	Function	A/D	1	2	3	Code	Role	Function	A/D	1	2	3		
IM Interactive Map															
RBAT-IM1	Teacher	View	A				RBAT-IM4	Teacher	Edit	D					
RBAT-IM2	Staff	View	A				RBAT-IM5	Staff	Edit	D					
RBAT-IM3	Administrator	View	A				RBAT-IM6	Administrator	Edit	A					
SM Reservations															
RBAT-SM1	Teacher	Create	A				RBAT-SM4	Teacher	Edit	D					
RBAT-SM2	Staff	Create	A				RBAT-SM5	Staff	Edit	D					
RBAT-SM3	Administrator	Create	A				RBAT-SM6	Administrator	Edit	A					
SM Approve Reservation Requests															
RBAT-SM7	Teacher	Initial Stage	D				RBAT-SM10	Teacher	Final Stage	D					
RBAT-SM8	Staff	Initial Stage	A				RBAT-SM11	Staff	Final Stage	D					
RBAT-SM9	Administrator	Initial Stage	A				RBAT-SM12	Administrator	Final Stage	A					
RG Reports															
RBAT-RG1	Teacher	Schedule Timetable	A				RBAT-RG10	Teacher	Map Overview	A					
RBAT-RG2	Staff	Schedule Timetable	A				RBAT-RG11	Staff	Map Overview	A					
RBAT-RG3	Administrator	Schedule Timetable	A				RBAT-RG12	Administrator	Map Overview	A					

1

ROLE-BASED ACCESS TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

RBAT-RG4	Teacher	Reservation Slip	A				RBAT-RG13	Teacher	Room Utilization	D				
RBAT-RG5	Staff	Reservation Slip	A				RBAT-RG14	Staff	Room Utilization	D				
RBAT-RG6	Administrator	Reservation Slip	A				RBAT-RG15	Administrator	Room Utilization	A				
RBAT-RG7	Teacher	Account List	D				RBAT-RG16	Teacher	Activity Log	D				
RBAT-RG8	Staff	Account List	D				RBAT-RG17	Staff	Activity Log	D				
RBAT-RG9	Administrator	Account List	A				RBAT-RG18	Administrator	Activity Log	A				
AM Account Management														
RBAT-AM1	Teacher	Login	A				RBAT-AM7	Teacher	Create registration request	A				
RBAT-AM2	Staff	Login	A				RBAT-AM8	Staff	Create registration request	A				
RBAT-AM3	Administrator	Login	A				RBAT-AM9	Administrator	Create registration request	A				
RBAT-AM4	Teacher	Approve registration request	D				RBAT-AM10	Teacher	Manage permissions	D				
RBAT-AM5	Staff	Approve registration request	D				RBAT-AM11	Staff	Manage permissions	D				
RBAT-AM6	Administrator	Approve registration request	A				RBAT-AM12	Administrator	Manage permissions	A				

2

Figure 62. Role-Based Access Testing Form

USABILITY TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

To evaluator: Good day! As part of the development process of the Digi-Rooms project, the developers would like you to test the built prototype version of the system and provide your insights and opinions through the short survey form below. The developers will run through the functions of the evaluated module and will allow you to use the prototype system as you would in a real-life situation.

RED-SV-UT-A		Evaluator:						Evaluator signature:			Evaluation date:					
Prototype A	Access role:						Prototype version:	DR-PT-A								
#	1 = Strongly disagree 5 = Strongly agree		1	2	3	4	5	<p><i>By signing this document, you confirm that your responses are true and accurate to the best of your ability and that you approve of this form being used for the purpose of documentation and as a basis of information for the researchers for their IT Capstone Project.</i></p>								
Account Management Module																
1	I think that I would like to use this module frequently.												15	What are the issues you encountered during your use?		
2	I find the module unnecessarily complex.															
3	I think that the module is easy to use.															
4	I think that I will need the support of a technical support person to be able to use this module.															
5	I find the various functions in this module were well integrated.															
6	I think there is too much inconsistencies in this module.															
7	I would imagine that most people would learn to use this module very quickly.															
8	I find that the module is very cumbersome to use.												16	What suggestions do you recommend for the system?		
9	I feel very confident using the system.															
10	I need to learn a lot of things before I could get going with the system.															
11	The design and layout are visually appealing.															
12	The text and labels are easy to read and understand.															
13	The buttons and menus are placed where I expect them.															
14	I am satisfied with the module's functionalities.															

1

Figure 63. Usability Testing Form

USER ACCEPTANCE TESTING FORM**Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School**

To evaluator: Good day! As part of the development process of the Digi-Rooms project, the developers would like you to test the built prototype version of the system and provide your insights and opinions through the short survey form below. The developers will run through the functions of the evaluated module and will allow you to use the prototype system as you would in a real-life situation.

RED-SV-UAT-A		Program version:	
Evaluator:		Evaluation date:	
Role:	Teacher	Department:	

Instructions: Check the box of the corresponding response on each item.

Code	REQ-ID	P = Pass; IC = Incomplete; F = Fail	P	IC	F
Account Management Module					
UAT-A-AM1	REQ-1	You were able to log in to the system by providing your email and password.			
UAT-A-AM2	REQ-2	You were able to create a registration request for a new account by providing your email, name, department, and password.			
UAT-A-AM3	REQ-8	You were able to receive email notifications for account status updates.			
Interactive Map Module					
UAT-A-IM1	REQ-9	You were able to view the interactive map.			
UAT-A-IM2	REQ-10	You were able to view the information of a room by clicking on a marker linked to it in the map.			
UAT-A-IM3	REQ-11	You were able to switch buildings and floors.			
UAT-A-IM4	REQ-12	You were able to view the availability of rooms based on a specified date and time.			
UAT-A-IM5	REQ-13	You were able to change the date and time.			
Schedule Management Module					
UAT-A-SM1	REQ-14	You were able to view the schedule timetable based on the specified date, time, and room.			
UAT-A-SM2	REQ-15	You were able to create a reservation request.			
UAT-A-SM3	REQ-16	You were notified of a schedule conflict before the finalization of the reservation request.			
UAT-A-SM4	REQ-17	You were able to choose an alternative room to resolve a schedule conflict before the finalization of the reservation request.			
UAT-A-SM5	REQ-18	You were able to view your reservation requests pending for approval.			
UAT-A-SM6	REQ-27	You were able to receive email notifications for reservation status updates.			
Reporting Module					
UAT-A-RG1	REQ-37	You were able to generate a schedule timetable document.			
UAT-A-RG2	REQ-39	You were able to generate a calendar view document.			
UAT-A-RG3	REQ-41	You were able to generate a reservation slip document.			
UAT-A-RG4	REQ-44	You were able to export a document into PDF.			
UAT-A-RG5	REQ-45	You were able to print a document.			

Signature

1

USER ACCEPTANCE TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

Code	1 = Very unsatisfied; 4 = Very satisfied	1	2	3	4
	User Experience				
UAT-A-UX1	How satisfied are you with the navigation of the system for logging in?				
UAT-A-UX2	How satisfied are you with the navigation of the system for registering an account?				
UAT-A-UX3	How satisfied are you with the navigation of the system for the interactive school map?				
UAT-A-UX4	How satisfied are you with the navigation of the system for viewing room information through the interactive school map?				
UAT-A-UX5	How satisfied are you with the navigation of the system for creating a reservation?				
UAT-A-UX6	How satisfied are you with the navigation of the system for creating a report document?				
	User Interface				
UAT-A-U11	How satisfied are you with the layout of labels and buttons in the system?				
UAT-A-U12	How satisfied are you with the design of the system?				
UAT-A-U13	How satisfied are you with the placement of input fields, buttons, and labels in the system?				
	Overall satisfaction				
UAT-A-OS1	How satisfied are you with the system overall?				
	1 = Strongly disagree; 4 = Strongly agree	1	2	3	4
UAT-A-S1	I had a positive overall experience with the system.				
UAT-A-S2	The system was easy to understand and navigate.				
UAT-A-S3	I was able to complete my tasks within the system without difficulty.				
UAT-A-S4	I did not encounter any significant bugs or issues while using the system.				
UAT-A-S5	I believe that the system meets my reservation and reporting needs.				
UAT-A-S6	I believe that this system will significantly improve the reservation process of the school.				

What features did you find most helpful?	What features did you find confusing or difficult to use?
Additional comments or suggestions	

Signature _____

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Figure 64. User Acceptance Testing Form for Teachers

USER ACCEPTANCE TESTING FORM**Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School**

To evaluator: Good day! As part of the development process of the Digi-Rooms project, the developers would like you to test the built prototype version of the system and provide your insights and opinions through the short survey form below. The developers will run through the functions of the evaluated module and will allow you to use the prototype system as you would in a real-life situation.

RED-SV-UAT-A		Program version:	
Evaluator:		Evaluation date:	
Role:	Staff	Department:	

Instructions: Check the box of the corresponding response on each item.

Code	REQ-ID	P = Pass; IC = Incomplete; F = Fail	P	IC	F
Account Management Module					
UAT-A-AM1	REQ-1	You were able to log in to the system by providing your email and password.			
UAT-A-AM2	REQ-2	You were able to create a registration request for a new account by providing your email, name, department, and password.			
UAT-A-AM3	REQ-8	You were able to receive email notifications for account status updates.			
Interactive Map Module					
UAT-A-IM1	REQ-9	You were able to view the interactive map.			
UAT-A-IM2	REQ-10	You were able to view the information of a room by clicking on a marker linked to it in the map.			
UAT-A-IM3	REQ-11	You were able to switch buildings and floors.			
UAT-A-IM4	REQ-12	You were able to view the availability of rooms based on a specified date and time.			
UAT-A-IM5	REQ-13	You were able to change the date and time.			
Schedule Management Module					
UAT-A-SM1	REQ-14	You were able to view the schedule timetable based on the specified date, time, and room.			
UAT-A-SM2	REQ-15	You were able to create a reservation request.			
UAT-A-SM3	REQ-16	You were notified of a schedule conflict before the finalization of the reservation request.			
UAT-A-SM4	REQ-17	You were able to choose an alternative room to resolve a schedule conflict before the finalization of the reservation request.			
UAT-A-SM5	REQ-18	You were able to view your reservation requests pending for approval.			
UAT-A-SM6	REQ-19	You were able to view reservation requests pending for approval.			
UAT-A-SM7	REQ-20	You were able to approve reservation requests.			
UAT-A-SM8	REQ-21	You were able to reject reservation requests.			
UAT-A-SM9	REQ-22	You were able to specify the reason for rejection of reservation requests.			
UAT-A-SM10	REQ-27	You were able to receive email notifications for reservation status updates.			
Reporting Module					
UAT-A-RG1	REQ-37	You were able to generate a schedule timetable document.			
UAT-A-RG2	REQ-39	You were able to generate a calendar view document.			
UAT-A-RG3	REQ-41	You were able to generate a reservation slip document.			

Signature

1

USER ACCEPTANCE TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

UAT-A-RG4	REQ-44	You were able to export a document into PDF.			
UAT-A-RG5	REQ-45	You were able to print a document.			

Code	1 = Very unsatisfied; 4 = Very satisfied	1	2	3	4
User Experience					
UAT-A-UX1	How satisfied are you with the navigation of the system for logging in?				
UAT-A-UX2	How satisfied are you with the navigation of the system for registering an account?				
UAT-A-UX3	How satisfied are you with the navigation of the system for the interactive school map?				
UAT-A-UX4	How satisfied are you with the navigation of the system for viewing room information through the interactive school map?				
UAT-A-UX5	How satisfied are you with the navigation of the system for creating a reservation?				
UAT-A-UX6	How satisfied are you with the navigation of the system for creating a report document?				
User Interface					
UAT-A-U1	How satisfied are you with the layout of labels and buttons in the system?				
UAT-A-U2	How satisfied are you with the design of the system?				
UAT-A-U3	How satisfied are you with the placement of input fields, buttons, and labels in the system?				
Overall satisfaction					
UAT-A-OS1	How satisfied are you with the system overall?				
1 = Strongly disagree; 4 = Strongly agree					
UAT-A-S1	I had a positive overall experience with the system.				
UAT-A-S2	The system was easy to understand and navigate.				
UAT-A-S3	I was able to complete my tasks within the system without difficulty.				
UAT-A-S4	I did not encounter any significant bugs or issues while using the system.				
UAT-A-S5	I believe that the system meets my reservation and reporting needs.				
UAT-A-S6	I believe that this system will significantly improve the reservation process of the school.				

What features did you find most helpful?	What features did you find confusing or difficult to use?
Additional comments or suggestions	

Signature _____

2

Figure 65. User Acceptance Testing Form for Staff

USER ACCEPTANCE TESTING FORM**Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School**

To evaluator: Good day! As part of the development process of the Digi-Rooms project, the developers would like you to test the built prototype version of the system and provide your insights and opinions through the short survey form below. The developers will run through the functions of the evaluated module and will allow you to use the prototype system as you would in a real-life situation.

RED-SV-UAT-A		Program version:	
Evaluator:		Evaluation date:	
Role:	Administrator	Department:	

Instructions: Check the box of the corresponding response on each item.

Code	REQ-ID	P = Pass; IC = Incomplete; F = Fail	P	IC	F
Account Management Module					
UAT-A-AM1	REQ-1	You were able to log in to the system by providing your email and password.			
UAT-A-AM2	REQ-2	You were able to create a registration request for a new account by providing your email, name, department, and password.			
UAT-A-AM3	REQ-3	You were able to view pending account registration requests.			
UAT-A-AM4	REQ-4	You were able to approve account registration requests.			
UAT-A-AM5	REQ-5	You were able to reject account registration requests.			
UAT-A-AM6	REQ-6	You were able to specify the reason for rejection of registration requests.			
UAT-A-AM7	REQ-7	You were able to set individual permissions on accounts.			
UAT-A-AM8	REQ-8	You were able to receive email notifications for account status updates.			
Interactive Map Module					
UAT-A-IM1	REQ-9	You were able to view the interactive map.			
UAT-A-IM2	REQ-10	You were able to view the information of a room by clicking on a marker linked to it in the map.			
UAT-A-IM3	REQ-11	You were able to switch buildings and floors.			
UAT-A-IM4	REQ-12	You were able to view the availability of rooms based on a specified date and time.			
UAT-A-IM5	REQ-13	You were able to change the date and time.			
Schedule Management Module					
UAT-A-SM1	REQ-14	You were able to view the schedule timetable based on the specified date, time, and room.			
UAT-A-SM2	REQ-15	You were able to create a reservation request.			
UAT-A-SM3	REQ-16	You were notified of a schedule conflict before the finalization of the reservation request.			
UAT-A-SM4	REQ-17	You were able to choose an alternative room to resolve a schedule conflict before the finalization of the reservation request.			
UAT-A-SM5	REQ-18	You were able to view your reservation requests pending for approval.			
UAT-A-SM6	REQ-19	You were able to view reservation requests pending for approval (initial stage).			
UAT-A-SM7	REQ-20	You were able to approve reservation requests (initial stage).			
UAT-A-SM8	REQ-21	You were able to reject reservation requests (initial stage).			

Signature

1

USER ACCEPTANCE TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

UAT-A-SM9	REQ-22	You were able to specify the reason for rejection of rejection requests (initial stage).			
UAT-A-SM10	REQ-23	You were able to view reservation requests pending for approval (final stage).			
UAT-A-SM11	REQ-24	You were able to approve reservation requests (final stage).			
UAT-A-SM12	REQ-25	You were able to reject reservation requests (final stage).			
UAT-A-SM13	REQ-26	You were able to specify the reason for rejection of reservation requests (final stage).			
UAT-A-SM14	REQ-27	You were able to receive email notifications for reservation status updates.			
		Map Editor Module			
UAT-A-ME1	REQ-28	You were able to add a new building.			
UAT-A-ME2	REQ-29	You were able to add a new floor based on the specified building.			
UAT-A-ME3	REQ-30	You were able to edit a building's name.			
UAT-A-ME4	REQ-31	You were able to edit a floor's name.			
UAT-A-ME5	REQ-32	You were able to upload a floor plan image/vector for a specified floor.			
UAT-A-ME6	REQ-33	You were able to add a new room marker based on a specified floor.			
UAT-A-ME7	REQ-34	You were able to reposition a room marker by dragging it across the screen.			
UAT-A-ME8	REQ-35	You were able to edit the properties of a room marker.			
UAT-A-ME9	REQ-36	You were able to delete a building, floor, and room marker.			
		Reporting Module			
UAT-A-RG1	REQ-37	You were able to generate a schedule timetable document.			
UAT-A-RG2	REQ-38	You were able to generate a room utilization document.			
UAT-A-RG3	REQ-39	You were able to generate a calendar view document.			
UAT-A-RG4	REQ-40	You were able to generate a map overview document.			
UAT-A-RG5	REQ-41	You were able to generate a reservation slip document.			
UAT-A-RG6	REQ-42	You were able to generate an active account list document.			
UAT-A-RG7	REQ-43	You were able to generate a log history document.			
UAT-A-RG8	REQ-44	You were able to export a document into PDF.			
UAT-A-RG9	REQ-45	You were able to print a document.			

Signature

2

USER ACCEPTANCE TESTING FORM
Digi-Rooms: Web-Based Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School

Code	1 = Very unsatisfied; 4 = Very satisfied	1	2	3	4
	User Experience				
UAT-A-UX1	How satisfied are you with the navigation of the system for logging in?				
UAT-A-UX2	How satisfied are you with the navigation of the system for registering an account?				
UAT-A-UX3	How satisfied are you with the navigation of the system for the interactive school map?				
UAT-A-UX4	How satisfied are you with the navigation of the system for viewing room information through the interactive school map?				
UAT-A-UX5	How satisfied are you with the navigation of the system for creating a reservation?				
UAT-A-UX6	How satisfied are you with the navigation of the system for creating a report document?				
	User Interface				
UAT-A-U11	How satisfied are you with the layout of labels and buttons in the system?				
UAT-A-U12	How satisfied are you with the design of the system?				
UAT-A-U13	How satisfied are you with the placement of input fields, buttons, and labels in the system?				
	Overall satisfaction				
UAT-A-OS1	How satisfied are you with the system overall?				
	1 = Strongly disagree; 4 = Strongly agree	1	2	3	4
UAT-A-S1	I had a positive overall experience with the system.				
UAT-A-S2	The system was easy to understand and navigate.				
UAT-A-S3	I was able to complete my tasks within the system without difficulty.				
UAT-A-S4	I did not encounter any significant bugs or issues while using the system.				
UAT-A-S5	I believe that the system meets my reservation and reporting needs.				
UAT-A-S6	I believe that this system will significantly improve the reservation process of the school.				

What features did you find most helpful?	What features did you find confusing or difficult to use?
Additional comments or suggestions	

Signature

3

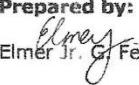
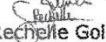
Figure 66. User Acceptance Testing Form for Administrators

APPENDIX H: JOURNALS

ACCOMPLISHMENT AND CONSULTATION FORM

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Thesis/Capstone Project Title: N/A
 Week Number: 1 (January 20 – January 25, 2025)

ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
<ul style="list-style-type: none"> • The IT Capstone Project course had officially commenced, with each member being assigned to their groups with their respective roles as the Programmer, Documenter, and Designer. <ul style="list-style-type: none"> ◦ Each student was asked to introduce and rate themselves on the three aforementioned roles. ◦ Students who rated themselves highly on any of the three roles were asked to take on a leadership role and pick group members from the remaining students. • Each student was asked to create concept papers for their ideas to be potentially used in their group's IT Capstone Project. <ul style="list-style-type: none"> ◦ One group had presented their concept papers, with the rest of the class providing questions to be answered by the presenter. 	
Prepared by:  Elmer Jr. Felisilda / February 24, 2025	 Daisy Borbe / February 24, 2025  Rechelle Gollimlim / February 24, 2025
Checked by:  N/A Thesis/Capstone Project Adviser Date Signed:	Noted by:  Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

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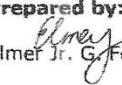
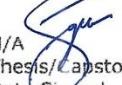
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Thesis/Capstone Project Title: N/A
 Week Number: 2 (January 27 – February 1, 2025)

ACTIVITY/ ACCOMPLISHMENT	REMARKS / COMMENTS / SUGGESTIONS/ DELIVERABLES and DUE DATE
<ul style="list-style-type: none"> • There were no meetings this week due to Chinese New Year. • Group members continued on their conceptualization and creation of their concept papers. 	
Prepared by:  Elmer Jr. G. Felisilda / February 24, 2025	 Daisy Borbe / February 24, 2025  Rechelle Golimlim / February 24, 2025
Checked by:  N/A Thesis/Capstone Project Adviser Date Signed:	Noted by:  Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

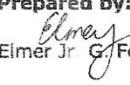
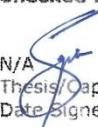
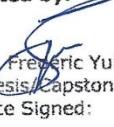
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Thesis/Capstone Project Title: N/A
 Week Number: 3 (February 3 – February 8, 2025)

ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES AND DUE DATE
<ul style="list-style-type: none"> • Two new groups began their presentation of their concept papers. • Each presenting member was asked by the class questions regarding their concepts, and received input from the Dean afterwards. • Our group was not able to present due to one member's absence. • We had finalized our concept papers and prepared for possible questions regarding our proposed ideas. 	
Prepared by:  Elmer Jr. G. Felisilda / February 24, 2025	 Daisy Borbe / February 24, 2025  Rechelle Golimlim / February 24, 2025
Checked by:  N/A Thesis/Capstone Project Adviser Date Signed:	Noted by:  Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

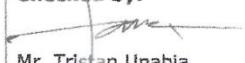
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Thesis/Capstone Project Title: N/A
 Week Number: 4 (February 10 – February 15, 2025)

ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
<ul style="list-style-type: none"> • We had been assigned our research adviser, Mr. Unabia. • Created a letter of request for Mr. Unabia a day after we were assigned to him. • Mr. Unabia had received the letter of request and we were told to return next week to discuss further matters about his advisory to our group. 	
Prepared by:  Elmer Jr. G. Felisilda / February 24, 2025	 Daisy Borbe / February 24, 2025  Rachelle Golimlim / February 24, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Noted by:  Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

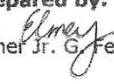
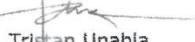
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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System
for Nuestra Señora De Aranzazu Parochial School
Week Number: 5 (February 17 – February 22, 2025)

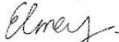
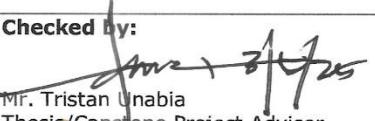
ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
<ul style="list-style-type: none"> • The group had chosen to undertake the project: "Digi-Rooms: Web-Based School Facility Reservation and Management System for Nuestra Señora De Aranzazu Parochial School". • Mr. Unabia had received a copy of the acknowledgement letter and concept paper for the project. • Began creating the first chapter of the research and divided tasks between members. 	
Prepared by:  Elmer Jr. G. Felisilda / February 24, 2025	 Daisy Borbe / February 24, 2025  Rechelle Golimlim / February 24, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Noted by:  Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 6 (February 24 – March 1, 2025)

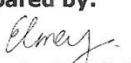
ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
February 24 <ul style="list-style-type: none"> Established contact with the school through message. Created request letter addressed to the school principal for a short interview. February 25 <ul style="list-style-type: none"> Had Mr. Unabia sign the request letter and check the interview consent form for approval. February 26 <ul style="list-style-type: none"> Given the request letter to the principal's office of NSDAPS. The principal, Ms. Julie Ann Pajardo, referred us to the General Services Head, Mr. Edgardo Manalo Jr. to talk to. We had talked with Mr. Manalo regarding the purposes of the interview and our intent to have the school as a client for the system, which he agreed. He scheduled the interview in February 28. February 28 <ul style="list-style-type: none"> We interviewed Mr. Manalo regarding his needs in room management. March 1 <ul style="list-style-type: none"> Transcribed the audio recording of the interview. 	<i>Start Consulting Date for Q1</i>
Prepared by:  Elmer Jr. G. Felisilda / March 3, 2025	 Daisy Borbe / March 3, 2025  Rechelle Golimlim / March 3, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Noted by:  Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 7 (March 3 – March 8, 2025)

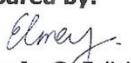
ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
March 3 <ul style="list-style-type: none"> • We had an online general meeting with Mr. Unabia at 3:00 PM. • Divided Chapter 1 between members: <ul style="list-style-type: none"> ◦ Elmer Felisilda – Project Context ◦ Rechelle Golimlim – Purpose and Description & Objectives ◦ Daisy Borbe – Scope and Limitation 	<p><i>Send DRAFT - HPM email</i></p> <p><i>Tristan. Unabia @ Marikina STI. EDU</i></p>
March 4 <ul style="list-style-type: none"> • Continuation of writing Chapter 1. 	
March 5 <ul style="list-style-type: none"> • We had class with Mr. Yulo, and had Weeks 1 to 6 journals signed by him. 	
March 8 <ul style="list-style-type: none"> • Finished the first draft of Chapter 1 up to Scopes and Limitation. 	
Prepared by:  Elmer Jr. G. Felisilda / March 8, 2025	 Daisy Borbe / March 8, 2025  Rechelle Golimlim / March 8, 2025
Checked by:  Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:	Noted by: Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 8 (March 10 – March 15, 2025)

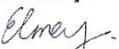
ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
March 11 <ul style="list-style-type: none"> Submitted the first draft for Chapter I to the email provided by Mr. Unabia (up to Scopes and Limitations). March 12 <ul style="list-style-type: none"> Research for sources began for the Review of Related Literatures and Systems. 	
Prepared by:  Elmer Jr. G. Felisilda / March 31, 2025	 Daisy Borbe / March 31, 2025  Rechelle Golimlim / March 31, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Noted by:  Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 9 (March 17 – March 22, 2025)

ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
March 17 <ul style="list-style-type: none"> Unfortunately, due to circumstances related to availability of members, no updates were done to the paper itself. However, the group had continued gathering sources for the RRL/RRS section of Chapter I during this period. 	
Prepared by:  Elmer Jr. G. Felisilda / March 31, 2025	 Daisy Borbe / March 31, 2025  Rechelle Golimlim / March 31, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Noted by: Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

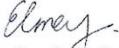
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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 10 (March 24 – March 29, 2025)

ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
March 24 <ul style="list-style-type: none"> Two entries for the RRL/RRS section of the paper had been reviewed and added. March 28 <ul style="list-style-type: none"> General revisions for the Introduction section of Chapter I were completed. 	
Prepared by:  Elmer Jr. G. Felisilda / March 31, 2025	 Daisy Borbe / March 31, 2025  Rechelle Golimlim / March 31, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Noted by: Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

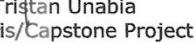
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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 11 (March 31 – April 5, 2025)

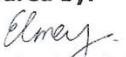
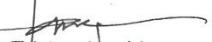
ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
March 31 <ul style="list-style-type: none"> • Due to the Sports Fest and STI Tagisan ng Talino Clusters, the members were not able to meet face-to-face within the week. • However, research for viable sources for the RRL section is still ongoing. 	
Prepared by:  Elmer Jr. G. Felisilda / April 7, 2025	 Daisy Borbe / April 7, 2025  Rechelle Golimlim / April 7, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Noted by:  Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 12 (April 7 – April 12, 2025)

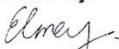
ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
April 11 <ul style="list-style-type: none"> • Finished the RRL/RRS section of Chapter 1. April 12 <ul style="list-style-type: none"> • Finished the second draft for Chapter 1. April 13 <ul style="list-style-type: none"> • Finished the creation of the PowerPoint presentation for the Title Defense. 	
Prepared by:  Elmer Jr. G. Felisilda / April 14, 2025	Daisy Borbe / April 14, 2025  Rechelle Golimlim / April 14, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Noted by: Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 13 (April 14 – April 19, 2025)

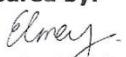
ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
April 14 <ul style="list-style-type: none"> Finalized Chapter 1 for presentation. April 15 <ul style="list-style-type: none"> The group had undertaken the title defense and received the panelists' revisions. 	
Prepared by:  Elmer Jr. G. Felisilda / April 21, 2025	 Daisy Borbe / April 21, 2025  Rechelle Golimlim / April 21, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Noted by:  Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 14 (April 21 – April 26, 2025)

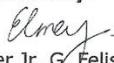
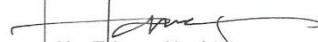
ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
April 22 <ul style="list-style-type: none"> Compiled and organized the panelists' revision list. Began working on revisions. 	
April 23 <ul style="list-style-type: none"> Began working on Chapter III. Began working on the system design and diagrams. 	
April 24 <ul style="list-style-type: none"> Reworked on the interview transcription from February 28 for signing from the client. 	
April 25 <ul style="list-style-type: none"> Began on polishing the system storyboard for presentation to the client. 	
Prepared by:  Elmer Jr. G. Felisilda / April 28, 2025	Daisy Borbe / April 28, 2025  Rechelle Golimlim / April 28, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Noted by: Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 15 (April 28 – May 3, 2025)

ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
April 29 <ul style="list-style-type: none"> Finished the rough outline of the processes for the flowcharts and diagrams. 	
April 30 <ul style="list-style-type: none"> Created a pre-interview consent form for a follow-up interview with the client. 	
May 2 <ul style="list-style-type: none"> Interviewed with the client for a second time. Presented the storyboard and explained the proposed process of the system. Received feedbacks and suggestions for improvements from the client. Had the client confirm and sign the transcription of the first interview. 	
May 3 <ul style="list-style-type: none"> Transcribed the second interview for confirmation and signing from the client. 	
Prepared by:  Elmer Jr. G. Felisilda / May 5, 2025	Daisy Borbe / May 5, 2025  Rechelle Golimlim / May 5, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:
Noted by:	

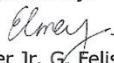
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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 16 (May 5 – May 10, 2025)

ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
May 5 <ul style="list-style-type: none"> • Had the client confirm and sign the transcription of the second interview. • Submitted an updated draft of the manuscript with panelist revisions applied to Mr. Unabia. 	
May 6 <ul style="list-style-type: none"> • Finished the Technological Background for Chapter 2. • Finished flowchart diagrams for Login/Register, Reservation Creation, Reservation Approval, and Reservation Modification functions. 	
May 9 <ul style="list-style-type: none"> • Created a questionnaire form asking for additional relevant figures such as expenses, pay, and room size and capacity. 	
Prepared by:  Elmer Jr. G. Felisilda / May 13, 2025	Daisy Borbe / May 13, 2025  Rechelle Golimlim / May 13, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Noted by: Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 17 (May 12 – May 17, 2025)

ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
May 14 <ul style="list-style-type: none"> • Finished Design of Software, System, Product, and/or Processes for Chapter 2. • Created a Requirements Definition Document for client to sign. 	
May 15 <ul style="list-style-type: none"> • Updated the appendices to include all supporting documents available. 	
May 16 <ul style="list-style-type: none"> • Had the client sign the Requirements Definition Document. 	
Prepared by: Elmer Jr. G. Felisilda / May 19, 2025	Daisy Borbe / May 19, 2025 Rechelle Golimlim / May 19, 2025
Checked by: Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

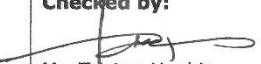
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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 18 (May 19 – May 24, 2025)

ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
May 24 <ul style="list-style-type: none"> • Finished the first draft of the completed Chapter 2. 	<p>— IMPROVE FEED USABILITY</p> <p>— COSTING</p> <p>— CHARTON</p> <p>— SPREADSHEETS / REPORTS ACROSS THE MANUSCRIPT</p> <p>— STORY APP DEV</p> <p>— USER MANAGEMENT</p>
Prepared by:  Elmer Jr. G. Felisilda / May 26, 2025	 Daisy Borbe / May 26, 2025  Rechelle Golimlim / May 26, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Noted by: Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

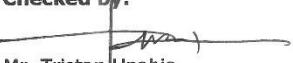
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Thesis/Capstone Project Title: Digi-Rooms – Web-Based School Facility Reservation System for Nuestra Señora De Aranzazu Parochial School
 Week Number: 19 (May 26 – May 31, 2025)

ACTIVITY/ ACCOMPLISHMENT	REMARKS/ COMMENTS/ SUGGESTIONS/ DELIVERABLES and DUE DATE
May 29 <ul style="list-style-type: none"> • Added cross references between appendices/figures and paragraph text mentioning them. • Finished the second draft of the completed Chapter 2. 	<p><i>- COSTING - FEASIBILITY</i></p> <p><i>- DOCUMENTATION IN METHODOLOGY</i></p> <p><i>- STAFF DEVELOPMENT</i></p> <p><i>- USER MGMT</i></p> <p><i>- Database</i></p>
Prepared by:  Elmer Jr. G. Felisilda / May 31, 2025	 Daisy Borbe / May 31, 2025  Rechelle Golimlim / May 31, 2025
Checked by:  Mr. Tristan Unabia Thesis/Capstone Project Adviser Date Signed:	Noted by: Mr. Frederic Yulo Thesis/Capstone Project Coordinator Date Signed:

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APPENDIX I: RECEIPTS



STI COLLEGE MARIKINA, INC.
289 L. De Guzman St., Concepcion Uno 1807
City of Marikina, NCR, Second District, Philippines
Tel. Nos.: 8942-3307 * 8948-2978
NON-VAT REG. TIN 225-089-399-00000

ORIGINAL

200-005

**OFFICIAL RECEIPT
(EXEMPT)**

Issue Date : 2025-01-14
Tran. No. :

No. : 02000800674	Student Name : DONSE, RAJSTH, PHIL	
SY - Term : 2024-2025 2nd Term	Course : BE in Information Technology	
TIN : Bus. Style:	Address :	
CODE	PARTICULARS	AMOUNT
MISC	Miscellaneous Fee - 2002	1,000.00
 PAID		
<p>q THESIS FEE- CAPTION 1</p>		
TOTAL AMOUNT DUE		1,000.00

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No 211855



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City of Marikina, NCR, Second District, Philippines
Tel. Nos.: 8942-3307 * 8948-2978
NON-VAT REG. TIN 225-089-399-00000

ORIGINAL

- 1 -

OFFICIAL RECEIPT (EXEMPT)		Issue Date : 2025-04
No. : 020012345678 SY - Term : 2024-25 Academic Term TIN : Bus. Style:	Student Name : PELISSIMA, VIKER GUITTARITO Course : BS in Information Technology Address :	Tran. No. :
CODE	PARTICULARS	AMOUNT
MISC	Miscellaneous Fee - 2402	1,000.00
 Q THIS FEE- CAPSTONE I		
TOTAL AMOUNT DUE CASH AND NC 100 BILLS ONLY		1,000.00

100000000

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NON-VAT REG. TIN 225-089-399-00000

ORIGINAL

Page 10

**OFFICIAL RECEIPT
(EXEMPT)**

Issue Date : 2025-04-14
Tran. No. : 35

No. : 000000000000	Student Name : POLIMILIM, RECHELLE, ANGELES	
SY - Term : 2021-2022	Course : BS in Information Technology	
TIN : 2021-2022 Bus. Style: Team	Address :	
CODE	PARTICULARS	AMOUNT
MISC	Miscellaneous Fee - 2402	1,000.00
	 PAID 1/2 THESIS FEB- CARSONE 1	
TOTAL AMOUNT DUE	GAND AND 18/100 PESOS ONLY	1,000.00

CURRICULUM VITAE

Curriculum Vitae of

ELMER JR. G. FELISILDA

Blk. 20 Lt. 29, Titus St., Villa San Mateo 1, Guitnangbayan 1, San Mateo, Rizal

elmerjrgfelisilda@gmail.com

09178758977

EDUCATIONAL BACKGROUND

Level	Inclusive Dates	Name of school/institution
Tertiary	2022 - 2025	STI College Marikina
Senior High School	2017 - 2022	Nuestra Señora De Aranzazu Parochial School
Junior High School	2017 - 2020	Nuestra Señora De Aranzazu Parochial School
Elementary	2011 - 2017	Nuestra Señora De Aranzazu Parochial School

AFFILIATIONS

Inclusive Dates	Name of Organization	Position
2024 - 2025	STI College Marikina English Society	Secretary
2023 – 2024	STI College Marikina English Society	President
2022 – 2023	STI College Marikina English Society	Technical Committee Head
2019 – 2020	Diocesan Shrine and Parish of Nuestra Señora De Aranzazu Media Ministry	Live director, Cameraman

SKILLS

SKILLS	Level of Competency	Date Acquired
Graphic Design	High	2021
Frontend Web Development	Average	2022
Video Editing	Average	2019

Curriculum Vitae of
DAISY P. BORBE
Blk. 9 #56, Patola St., Tumana, Marikina City, Manila
borbedaisy012@gmail.com
09454262947

EDUCATIONAL BACKGROUND

Level	Inclusive Dates	Name of school/institution
Tertiary	2023 – 2025	STI College Marikina
Senior High School	2020 – 2022	Concepcion Integrated School
Junior High School	2016 – 2020	Concepcion Integrated School
Elementary	2011 - 2016	Concepcion Integrated School

PROFESSIONAL OR VOLUNTEER EXPERIENCE

Inclusive Dates	Nature of Experience / Job Title	Name of Address of Company or Organization
2020 - 2022	Socio Cultural and Sports Committee (Volunteer)	CBI

AFFILIATIONS

Inclusive Dates	Name of Organization	Position
2020 - 2022	CBI	Socio Cultural and Sport Committee

Curriculum Vitae of

RECHELLE A. GOLIMLIM

12 Gold St., Sta. Cecilia Subdivision, Guitnangbayan 1, San Mateo, Rizal

rechelle.golimlim0044@gmail.com

09516936294

EDUCATIONAL BACKGROUND

Level	Inclusive Dates	Name of school/institution
Tertiary	June 2026	STI College Marikina
Senior High School	June 2021	STI College Marikina
Junior High School	May 2018	Concepcion Integrated School
Elementary	May 2013	Concepcion Elementary School

PROFESSIONAL OR VOLUNTEER EXPERIENCE

Inclusive Dates	Nature of Experience / Job Title	Name of Address of Company or Organization
June 2023	Social Media Manager	The Deep Dive

SKILLS

SKILLS	Level of Competency	Date Acquired
Proficiency in Microsoft Word, Excel, and PowerPoint	Average	-
Video Editing	Average	-
Computer Programming	Beginner	-