MUNICIPAL TERTIARY ASSISTANCE PROGRAM MANAGEMENT SYSTEM FOR LOCAL GOVERNMENT UNIT OF BUENAVISTA, AGUSAN DEL NORTE

A Capstone Project Presented to

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In Partial Fulfillment

of the Requirements for the Degree

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CHAPTER I

INTRODUCTION

Project Context

The Local Government Unit of Buenavista offers various services and programs that benefit multiple sectors within the locality. One such program is the scholarship initiative for tertiary students, known as the Municipal Tertiary Assistance Program (MTAP), designed to support eligible scholars in the municipality. The primary challenges the MTAP Office faces are paper-based scholarship applications, using MS Excel to manage each scholar's information, and tracking submitted requirements from current scholars at the beginning and end of each semester. Currently, the office needs more efficiency as staff members must manually sort the scholarship applications submitted by the scholarship applicants and manually search files to locate the necessary documents. This issue delays and hampers the quality of service provided to scholars.

According to [1], the prevalence of manual processing in most office operations is immediately identifiable. The municipality's administration uses traditional ways of operating its scholarship plan. As a result, it can be concluded that the Administrator needs help managing the scholarship program effectively. Furthermore, application forms and other scholarship-related material may be lost in the old record-keeping system. The reliance on paper filing methods makes it difficult to locate records, especially when dealing with enormous compilations.

By creating a system, prospective scholarship applicants can easily and quickly obtain scholarship information. A sophisticated search option is also available to help consumers identify scholarships that meet their criteria. In addition, this system prioritizes information distribution speed, allowing users to receive real-time updates on application deadlines, qualifying criteria, and other scholarship program changes [2].

The Local Government of Buenavista's Municipal Tertiary Assistance Program Office has used a manual scholarship method for years. This method will only be efficient if the number of scholarship applications and grantees grows yearly. This process requires a significant amount of time and work from the office administrator and the scholars.

To resolve this underlying issue, the Municipal Tertiary Assistance Program Office must build and optimize a management system that will help resolve their office's current difficulty. Implementing a management system can help the municipality's aspiring scholars eliminate transportation costs to the MTAP Office. It also saves them time by eliminating waiting hours to submit their applications and making their part more convenient.

On the other hand, the MTAP administrators can continue their office work by receiving an auto-generated report of the municipality's current list of scholars, the names of those who submitted scholarship applications, and a list of the requirements submitted by those ongoing and aspiring scholars. This allows them to give convenient and high-quality service to the municipality's scholars.

The MTAP Office will benefit from the design, development, and implementation of a Web-based Municipal Tertiary Assistance Management System. This study will provide a solution to the municipality's manual scholarship process.

Project Objectives

The researchers aim to design and implement a Municipal Tertiary Assistance Program Management System for the Local Government Unit of Buenavista, Agusan del Norte.

Specifically, this study aims to achieve the following objectives:

1. Analyze, design, and develop a management system that records scholarship applicants' information as well as their examination results, allows account creation for each scholarship applicant, and provides them with a module to view the current status of their scholarship application, examination schedule, result, and orientation schedule.

2. Enable an account for scholarship grantees to manage their information, including the status of scholarship renewal and a list of submitted requirements. Additionally, the system will enable the MTAP staff admin to have a scheduling module for examination and orientation. Additionally, it generates a list of suitable scholarship applicants based on the percentage achieved in the orientation, examination, and submitted requirements.

3. Generate and print reports for the list of scholarship applicants, eligible applicants, and recipients. The system will also include search and filtering features for convenient tracking and retrieval of information.

Scope and Limitation of the Study

The researcher's goal is to design and create a management system for the Municipal Tertiary Assistance Program Office of the Local Government Unit of Buenavista, Agusan del Norte, specifically to replace the office's manual scholarship processing procedure with a web-based management system. The system administrator at the MTAP office in LGU Buenavista can only access this system. Users will include MTAP Office staff admin, municipal scholarship grantees, and LGU Buenavista scholarship applicants. They can only log in to the system if they already have a user account; if not, they can sign up and supply the information required to access the system.

Definition of Terms

MTAP – stands for Municipal Tertiary Assistance Program. It is an office that focuses on offering scholarship services for the Municipality of Buenavista's college students.

Scholarship applicants – This refers to the municipal scholarship applicants of LGU Buenavista.

Grantees – This term refers to the continuing scholarship grantees of the Local Government Unit of Buenavista.

Web-based – application software that accesses and displays web pages and other internet material. MTAPMS users can access the system from anywhere with an internet connection, and it is frequently hosted on remote servers rather than the user's device.

MTAP Staff Admin - The designated person assigned to manage the developed system for LGU Buenavista.

Student – A general term used in the study that refers to the scholarship grantees and applicants of LGU Buenavista.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter summarizes the relevant literature that addresses the issues raised by the researchers' study. It underlines the importance of outlining the researchers' proposed software application, its benefits, and the difficulties it addresses. The material is compiled from electronic sources such as e-books, websites, articles, and journals.

Web-based Scholarship Management System

Scholarships are an essential tool for helping eligible students pursue their education and get back on the mainstream development track, particularly those who are the state's socially and economically challenged [20] [22]. It is a financial support granted to persons to sustain the education they have received and vital step for students toward helping them succeed in their studies [3] [4]. In the study of [29] In the post-pandemic era, the management system of scholarships has played an important role in recruiting and training international students for Chinese universities. According to [5] and [6], every year the number of applicants for scholarship continues to increase, but the number received each year is limited. The large number of piles of files applying for scholarships and the manual selection process tends to be ineffective and efficient and the results of the selection are inaccurate, so a system is needed that is able to assist in the selection process quickly, easily and on target. The increased quantity of scholarship applications made it impossible for scholarship institutions to process them without delay

[7]. Also, current manual processes and scattered information systems frequently complicate acquiring scholarly facts and disseminating information on time [2]. Applicants have to fill out their application forms and submit them manually to the office. If there is any problem with their applications while they are processed, it will also take an extra time for both the reviewing committee as well as the applicant to communicate and correct the errors. Therefore, additional paperwork for the review may cause a delay in the entire procedure. The processes of screening the applicant's credentials, evaluation of applicant's form, conducting aptitude test and oral interview are also tedious [20] [23].

To address this problem, the design of a web-based management system is critical in scholarship management since it facilitates access and rapid dissemination of information. The system's primary goal is to improve the manual approach used by the client, as well as to speed up transaction processing. Furthermore, having this management system can reduce labor and lead to safer, more dependable, and more structured data storage. As to [21] similar system is also designed to assist with the scholarship awarding process of any university. When designing such systems, it is important to consider the reusability of certain components instead of developing an entire software from scratch. Also, by the development of this system, it allowed users to update their personal information, submit credentials, and check their scholarship status and there will also be a module available for administrators, allowing them to approve and deny candidate scholars and create schedules quickly. The system is also capable of generating and printing reports [2] and allows users to find scholarship information, view requirements, and apply efficiently. It will also allow for real-time information

transmission, including updates on application deadlines, changes to criteria, critical information, and should be designed to make data and information management more efficient [8] [9]. Overall, having Web-based Scholarship Management System will be useful and will make the scholarship in charge's work easier to administer and manage their scholarship program effectively and organizationally.

Scholarship Automation System

New technology offers significant advantages. It streamlines tasks, saving time and effort. For instance, automated systems can handle data analysis with less human error, leading to more reliable and consistent results. This is crucial in fields like pharmaceuticals where quality control is paramount. In the context of scholarship applications, automation benefits both sides. It reduces the administrative burden on committees, allowing them to focus on top candidates. Applicants also gain from a fairer and more transparent process that helps them understand their strengths and weaknesses. Overall, new technology like automated scholarship systems can be a valuable tool for organizations to ensure efficiency and select the most deserving candidates [30].

Web-based Document Management System

Document tracking is done manually in many offices and institutions around the country. Logbooks were used to record the in and out of documents from various offices, and they allowed clerks to identify and determine the status of documents received and

released from their offices. This manual process is existing in LGU Buenavista MTAP scholarship office in managing their scholars' data. This procedure creates false reporting on the status and location of documents, is time-consuming, causes clerks to blame each other, and results in document loss [10]. Thus, Dislocation and neglect of the timeline have always been issues with document control. An effective technology, such as a web-based system, is the easiest to apply in the workplace to address this problem [11]. According to [12] and [13], employees, staff and the organization are likely to be efficient and productive when a system is in place that can help or assist them in automating all the procedures involved in document management, from receipt to correct dissemination and distribution, and retrieval. Currently, most organizations have heavily relied on the physical movement of processing documents, which does not necessarily involve forms of technology. The use of WBEDMS will speed up completion of work and quick search easy cooperation with other departments, increase productivity, provides up-to-date information, accurate information, and ease of use. It will also result in less time needed to retrieve documents or records, a reduction in the volume of paper records, thus getting rid of those big and ugly files, and saving a ton of money on paper. Another study found that document tracking systems are excellent for evaluators and process owners [14]. Overall, with the use of this system, document tracking and management will be efficient and address underlying issue such as manual document processing, it will allow office staffs to do their tasks without having to expend too much work locating files.

Data Organization using MS Excel and Spreadsheets

Most government offices specially on localities where not in reach of some technological advancements commonly relies on MS Excel and spreadsheets on managing and safe-keeping their office data. As to [26], most of the technological conditions in the Public Works Department are still in manual data management, which is hampering business processes from going well. Manual input is time-consuming and prone to human errors or omissions [28]. Thus, MS Excel and Spreadsheet are widely used software tools in organizations for various purposes such as data entry, storage, analysis, visualization, data aggregation, reporting and decision-making within offices [15] [16]. However, it has drawbacks. As to [17], in using MS Excel and Spreadsheets, application users must really understand the function, formula or logic, then if the user enters the formula incorrectly, the resulting data will be affected, besides that there will be many documents produced that are less stable for each version and for files with the latest version of Microsoft Excel requires a computer with medium to high specifications. Aside from that, it also takes a long time to search for data which is done manually by opening the excel file in each worksheet (sheet by sheet) [18]. Manual data management will present a lot of risks, including simple errors in recording or data input. Not to mention the time that it takes relatively longer to access and to process information [25]. Pe se, the application of Microsoft Excel has several advantages, namely the level of effectiveness and time efficiency is better than other applications. While the drawback is that there is no warning when a recording error occurs [19]. Over time, manual data management and intermediaries transform into digital platforms that track, manage, and exchange data in

real-time. [27] To sum it all, these process of organizing data will not be efficient specially in handling large data. As it would be suitable and efficient to have a web-based management system to have an organize, safe, and secure data storage for significant files.

CHAPTER III

SOFTWARE REQUIREMENTS AND DESIGN SPECIFICATION

This chapter thoroughly discusses the aspects of developing the proposed system, such as the diagrams, software, and hardware requirements, and a detailed illustration of how the Municipal Tertiary Assistance Program Management System works.

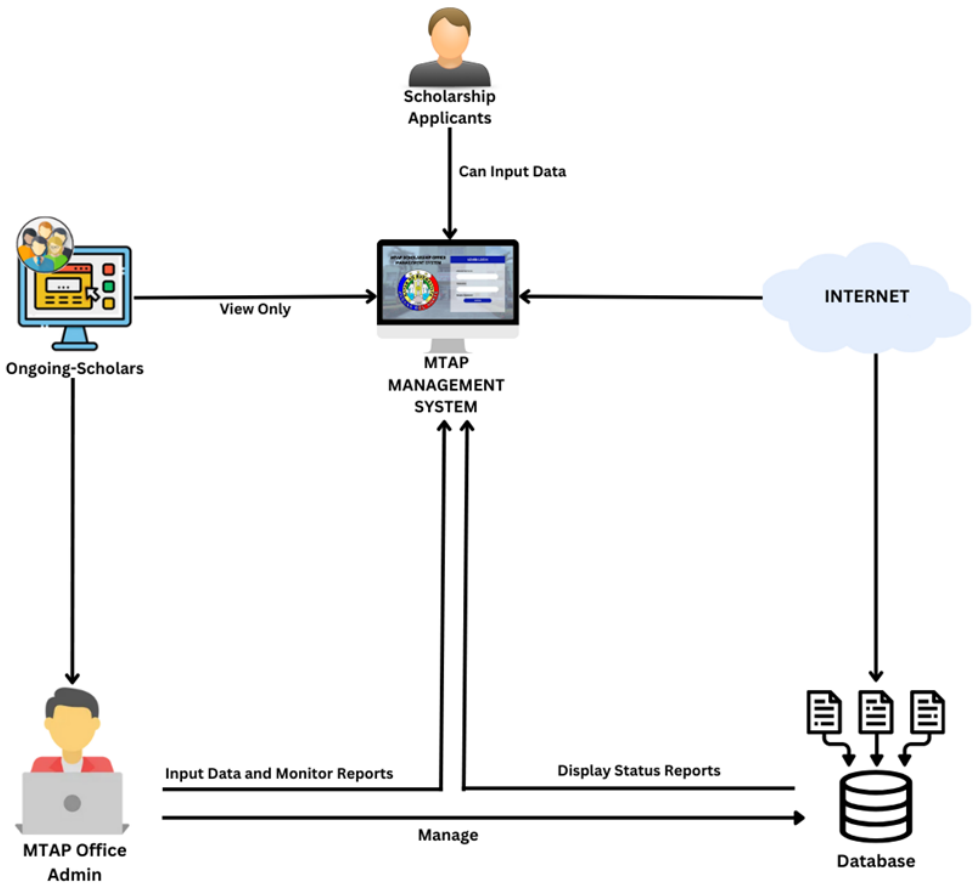

Figure 1. System Architecture

The diagram shows how the program for managing Buenavista's Municipal Tertiary Assistance Program works. Users must log in with a registered account, which

controls who can access the system. Only the MTAP Office Admin has full access and can add, change, or back up data to keep the system running smoothly.

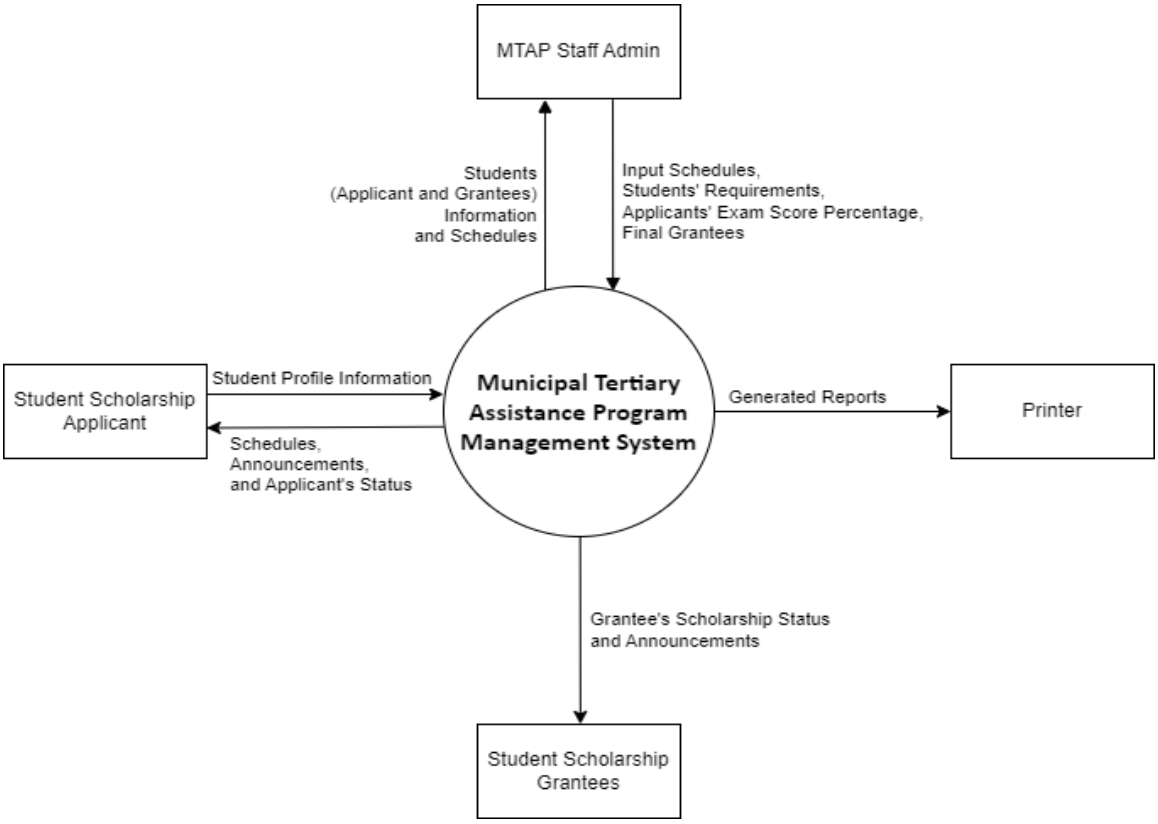

Figure 2. Conceptual Diagram

This diagram highlights the roles within the system. The MTAP Staff Admin can enter information like schedules, student requirements, exam scores, and the final list of grantees. The system then shows details and schedules for both applicants and grantees. Scholarship applicants can update their profiles and view schedules, announcements, and their application status. Meanwhile, grantees can only see scholarship status, announcements, and reports generated by the system.

Figure 3. Use Case Diagram

The use case diagram for the Municipal Tertiary Assistance Program Management System focuses on three key user roles: Admin, Applicant, and Grantee. The admin wields the most power, overseeing the entire program from applicant review and selection to managing grantees, generating reports, and setting additional requirements. Applicants actively participate by submitting applications, checking their status, staying informed

through announcements, and accessing their grant status. Finally, Grantees primarily focus on viewing their scholarship status and receiving information about potential renewals. This simplified view highlights the distinct responsibilities and interactions within the program management system.

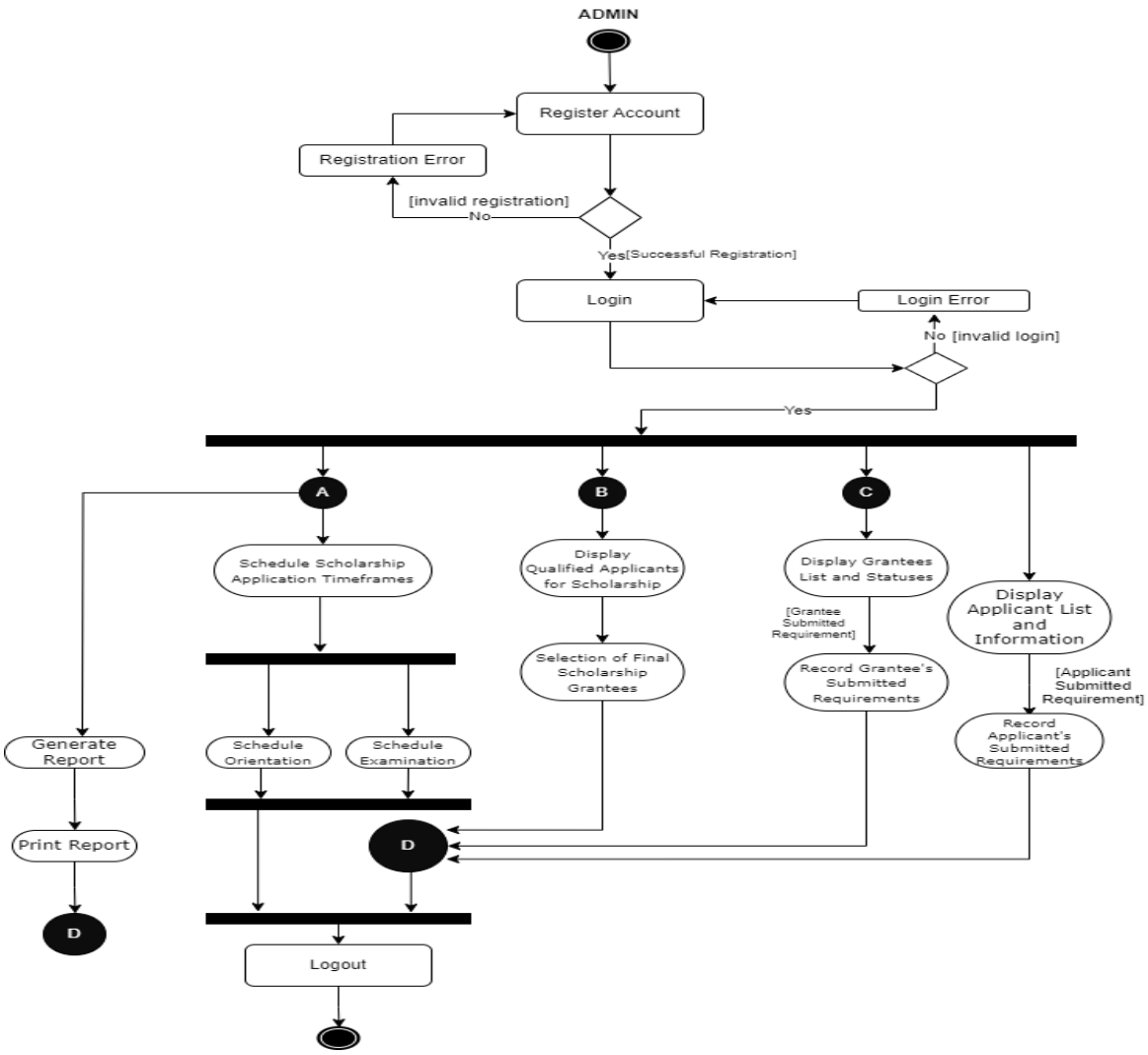

Figure 4. Activity Diagram - Admin Side

This activity diagram showcases the scholarship application process, primarily from the Administrator's viewpoint, with glimpses into a potential applicant's experience. The Administrator takes the lead, setting application deadlines, reviewing qualified candidates, selecting grantees, and organizing events like orientations and exams. They can also generate reports and track requirements submitted by chosen scholars.

For applicants, the process likely involves registering for an account, logging in, and submitting their application materials. While less detailed, the diagram suggests applicants might also access announcements or view their application status after logging in.

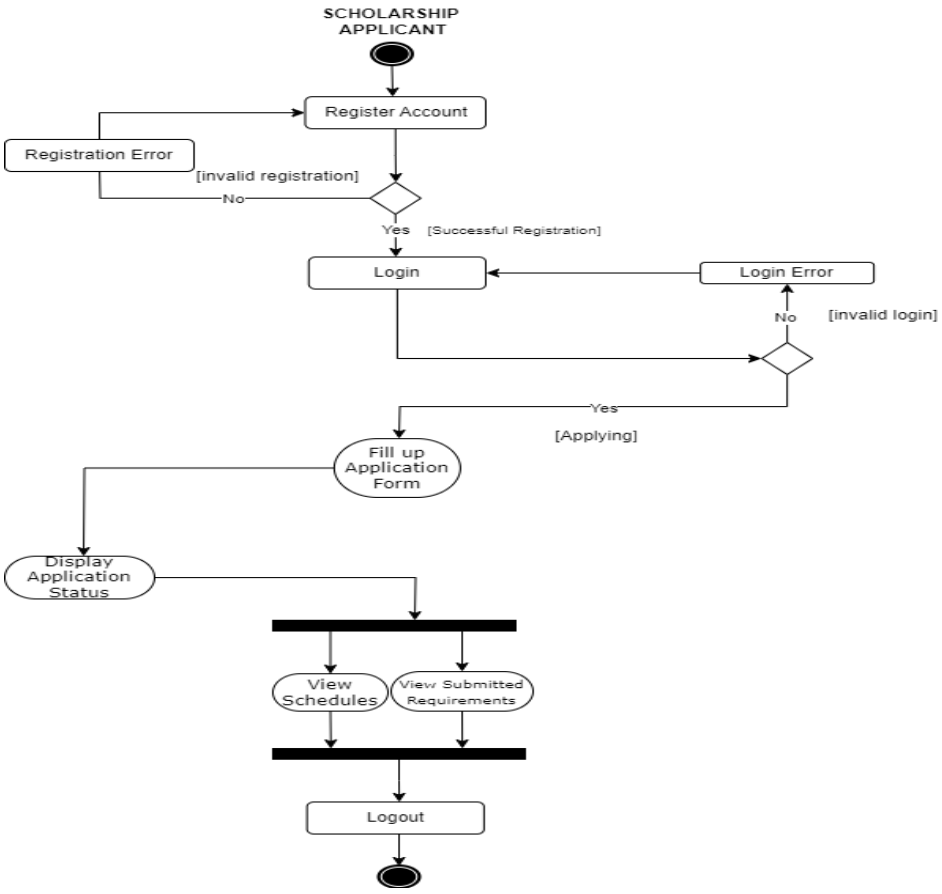

Figure 5. Activity Diagram – Scholarship Applicant Side

The activity diagram shows the process of applying for a scholarship program. The first step is to register for an account. If the registration is successful, the Applicant can then log in to the system. If the login is successful, the Applicant can then fill out an application form. Once the application form is filled out, the Applicant can then view their application status. The application status will show whether the application has been

submitted or not. The Applicant can also view the deadlines and requirements for the scholarship program. Finally, the Applicant can log out of the system.

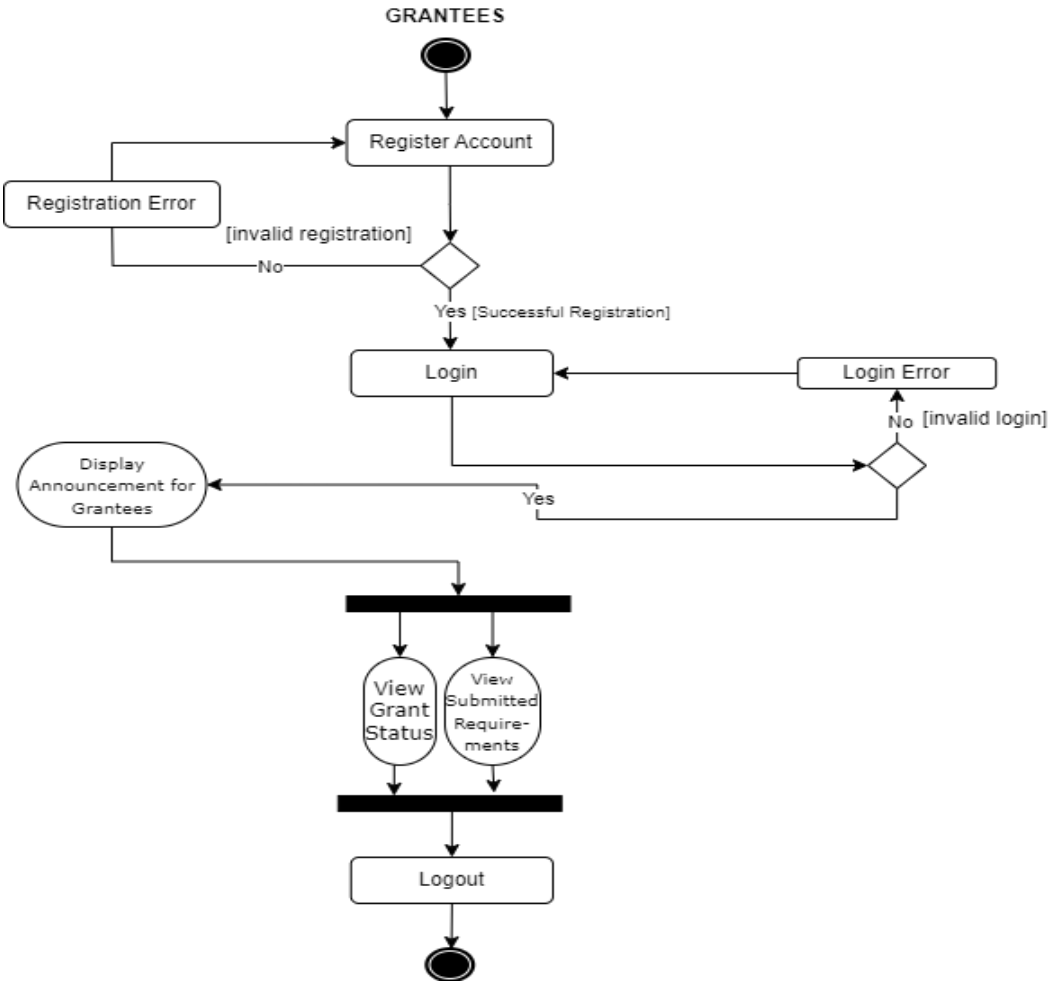

Figure 6. Activity Diagram – Scholarship Grantees Side

The activity diagram illustrates the process for scholarship grantees of LGU Buenavista. It begins with registering for an account. If registration is successful, the grantee can log in to the system. After logging in, the grantee has the option to view announcements that are relevant to them. There are two main paths following the announcement view: For grantees who haven't submitted an application: They can view

their grant status and requirements. If all requirements are met, they can proceed to submit the scholarship application. Upon submission, a success or error message is displayed. For grantees who already submitted an application: They can simply view their application status and log out of the system.

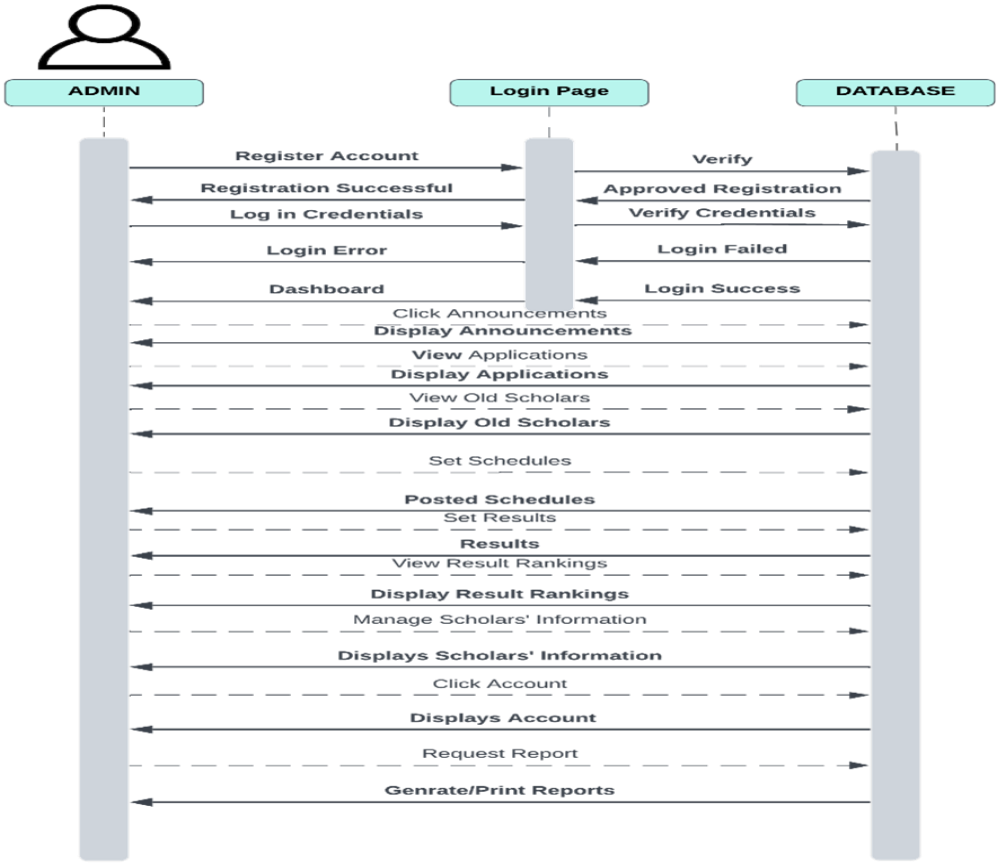

Figure 7. Sequence Diagram – Admin

This sequence diagram outlines the login and scheduling workflow within a system involving two key actors: the user and the system. It initiates with the user logging in via the Login Page, followed by the system verifying the credentials through the Verify Credentials step. Upon successful validation, the user gains access to a dashboard offering various functionalities. These include viewing announcements by clicking on Announcements, managing scholar information through the Manage Scholars'

Information feature, accessing applications, reviewing previously approved scholars, setting schedules, checking results and rankings, viewing account information, and requesting reports. In case of invalid credentials, the login attempt fails (Login Failed). Such activity diagrams serve as invaluable tools in software development, aiding in the visualization and documentation of user-system interactions and functionalities.

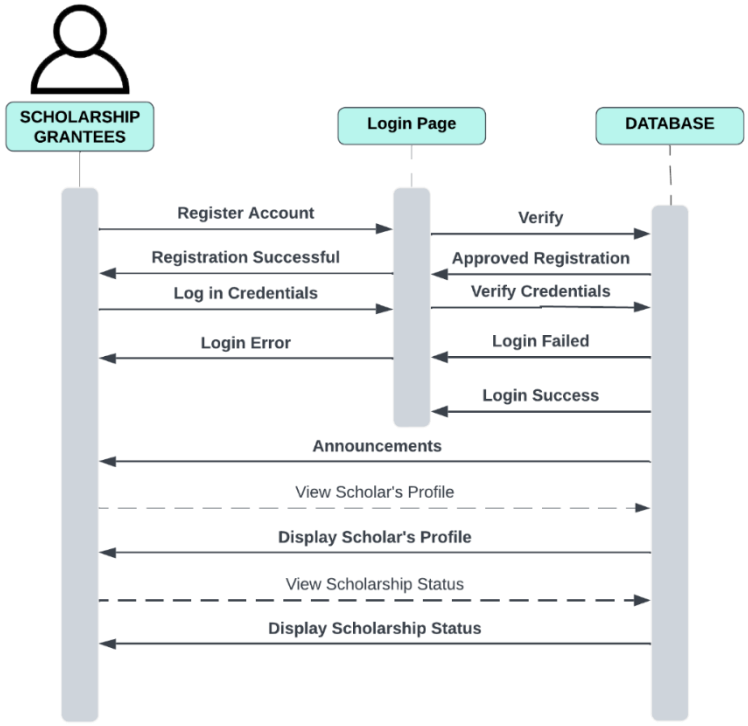

Figure 8. Sequence Diagram –Scholarship Grantees

The sequence diagram depicts the student login process for a learning management system. It involves three actors: the student, the login page, and the Database. The student initiates the process by entering their username and password on the login page. The login page then forwards these credentials to the Database for verification. The Database checks the username and password against its stored records. If the credentials match a registered student, the Database sends a success message back

to the login page. The login page acknowledges the success message and displays a successful login message to the student. This grants the student access to the learning management system. On the other hand, if the credentials do not match a registered student or there is an error in the login information, the Database sends a failure message back to the login page. The login page then displays a login failed message to the student.

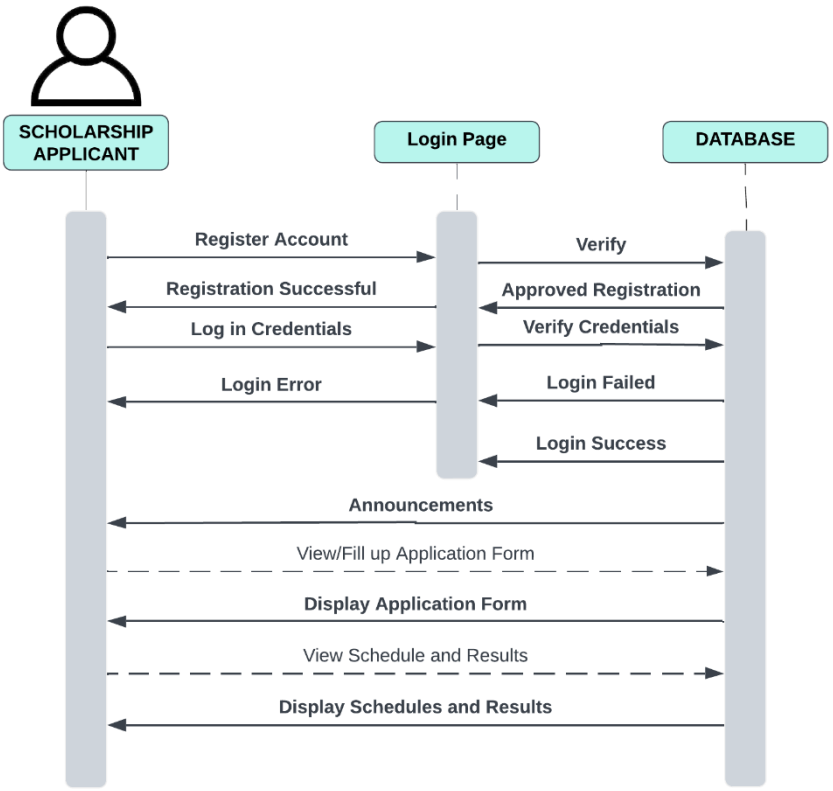

Figure 9. Sequence Diagram – Scholarship Applicant

This sequence diagram above depicts the LGU Buenavista scholarship application process. It starts with the Applicant registering and logging in to the Scholarship System. Upon successful login, the Applicant can view announcements and then choose to either view/fill out the application form retrieved from the Database. Once completed, the

Applicant submits the application, which is validated and stored in the Database. Finally, the Scholarship System confirms the submission status with the Applicant

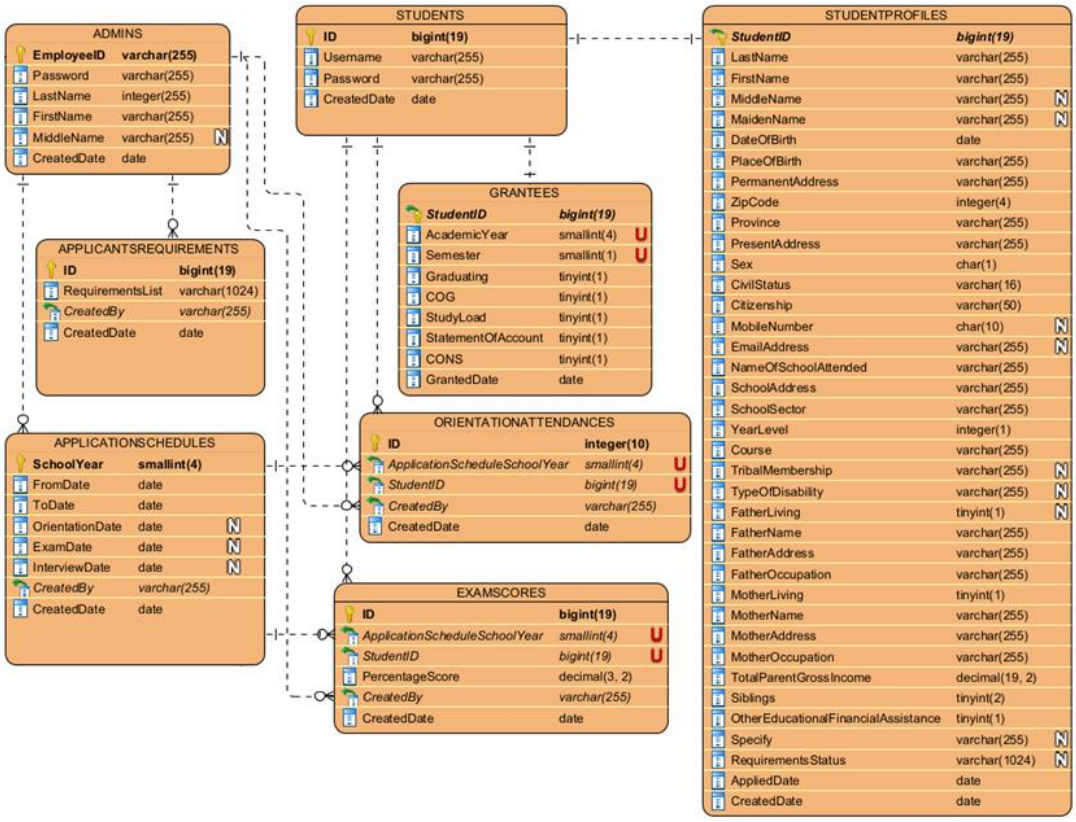

Figure 10. Entity Relationship Diagram (ERD)

The entity-relationship diagram (ERD) for the Municipal Tertiary Assistance Program illustrates the structure and connections between various tables within the system. It encompasses:

The "Students" table, housing fundamental details like usernames, passwords, and creation dates, directly relate to the "Student Profiles" table. This latter table holds comprehensive student information, including names, addresses, contacts, personal

identifiers, family details, and educational backgrounds. Admins: This table contains administrative employee particulars and login credentials. Applicants and Grantees: The "Applicants" table intersects with the "Application Schedules" table, outlining significant dates such as application deadlines, exam schedules, and interview dates. Additionally, the "Applicants Requirements" table, tied to "Applicants," features the list of requirements and associated data. Meanwhile, the "Grantees" table manages scholarship grant specifics and is connected to the "Students" table via "StudentID." Orientation: The attendance record for orientations is stored in the "Orientation Attendances" table, respectively. This table reference the "Application Schedules" table to denote the events corresponding to each academic year. Exam Scores Percentage: This table logs exam scores and links them to specific school years through reference to the "Application Schedules" table. Overall, this ERD elucidates the intricate relationships within the system, illustrating how student particulars, application procedures, scholarship grants, orientation sessions, and exam results intricately intertwine within the Municipal Tertiary Assistance Program.

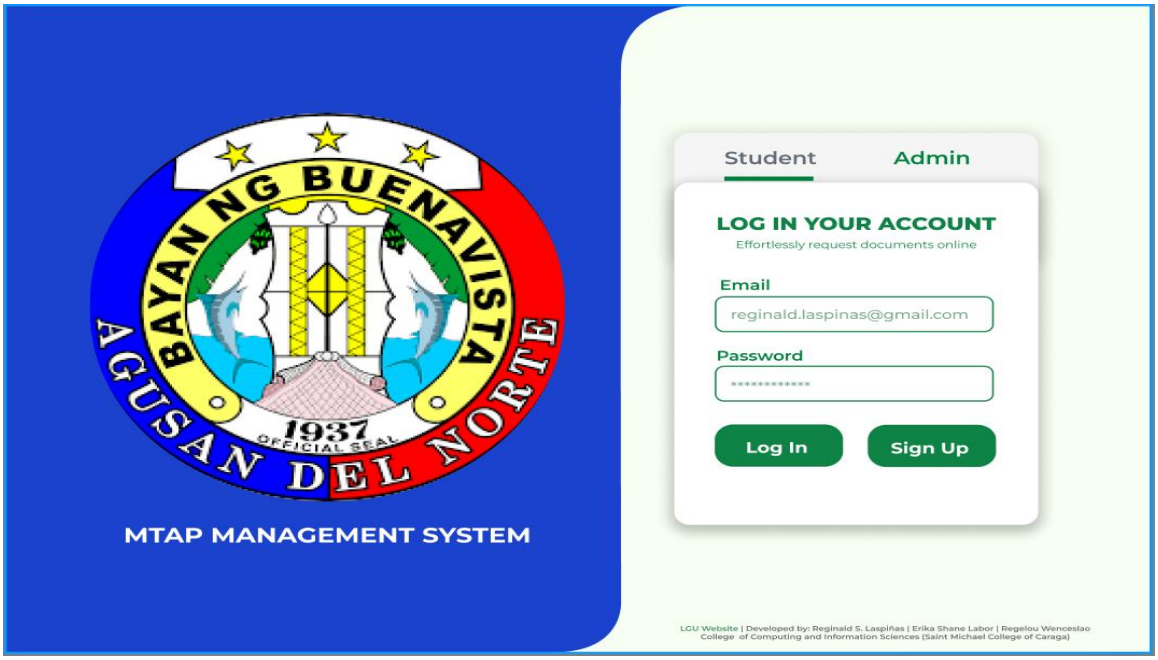

Figure 11. All Users - Login Page

This section includes fields for entering an email address and password, with tabs for either "Student" or "Admin" login options. Additionally, there are buttons for "Log In" and "Sign Up".

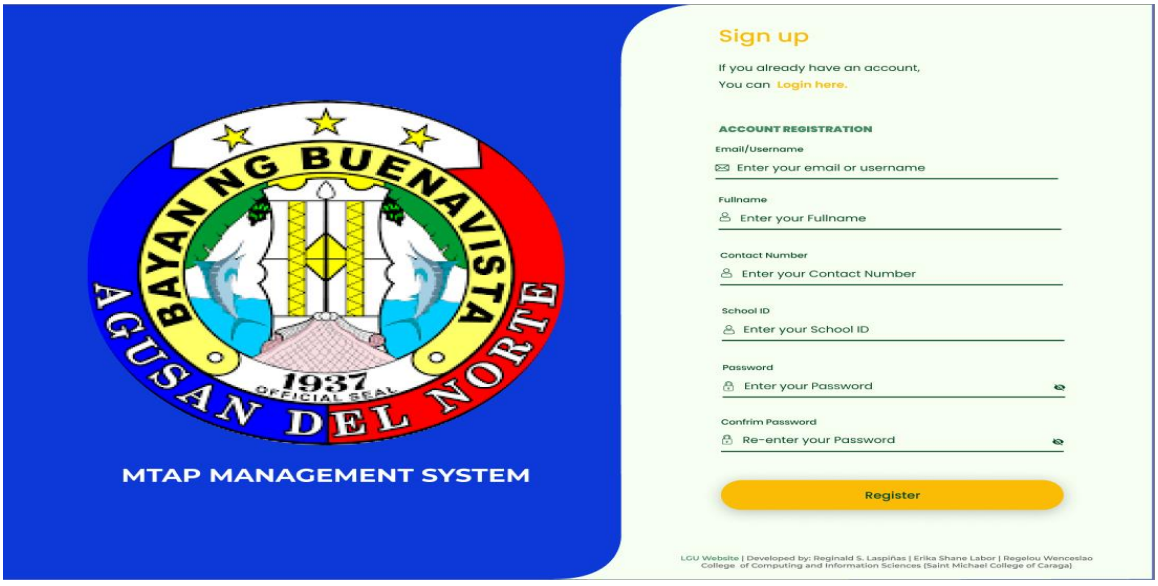

Figure 12. All Users - Account Registration

The image depicts the account registration interface for the "MTAP MANAGEMENT SYSTEM". There is a user interface titled "Sign up," where a new user can create an account. The interface includes fields for entering an email or username, full name, contact number, school ID, password, and a field to confirm the password. The form provides a "Register" button at the bottom. There is also a link for users who already have an account to "Login here."

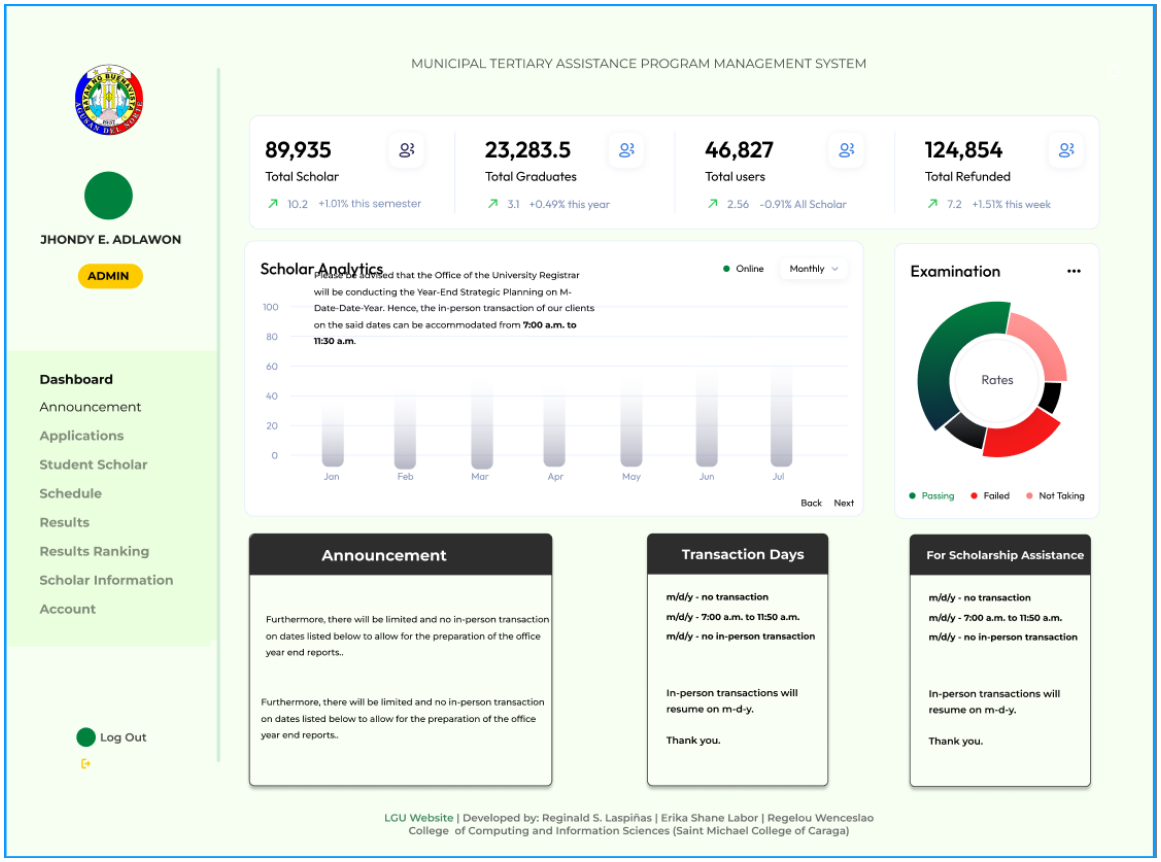

Figure 13. Dashboard – Admin

The image displays the administrator dashboard of the "Municipal Tertiary Assistance Program Management System." Across the top panel, there are metrics such as "Total Scholar," "Total Graduates," "Total Users," and "Total Refunded," each with specific figures and graphical indicators showing percentage changes.

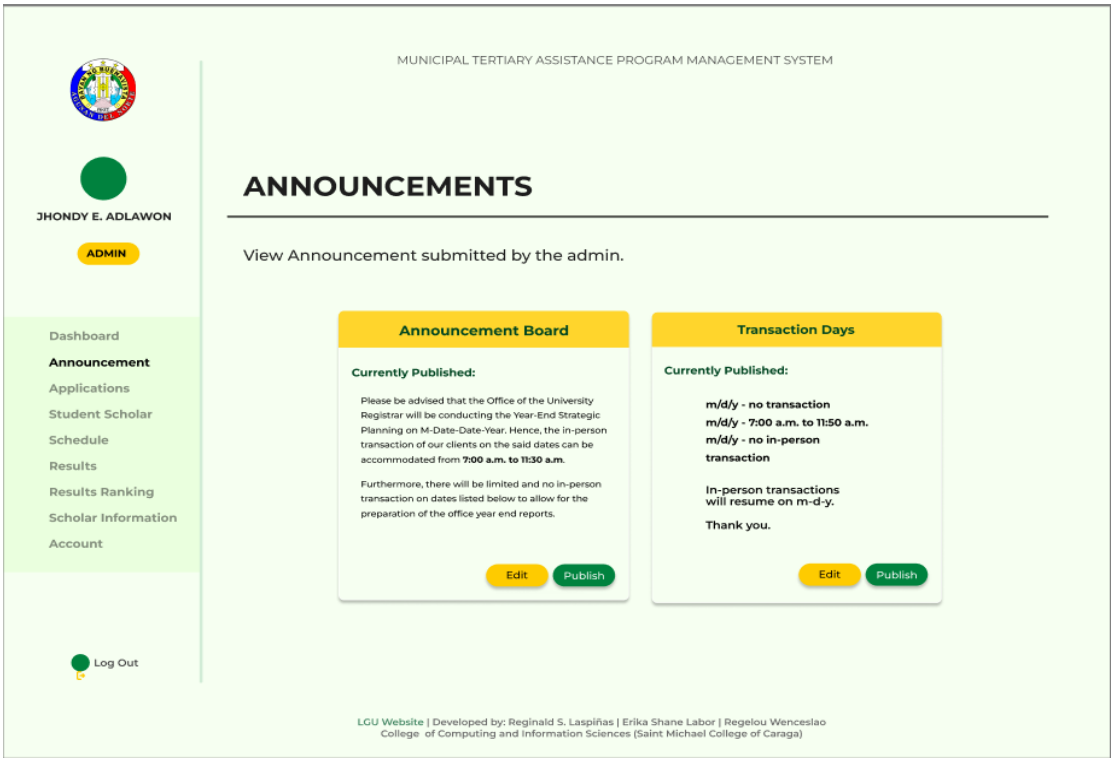

Figure 14. Announcements - Admin

The image showcases a portion of the "Municipal Tertiary Assistance Program Management System," specifically focusing on the "Announcements" section of the administrator interface. At the top, the page is titled "ANNOUNCEMENTS" with a subtitle stating "View Announcement submitted by the admin." This section offers "Edit" and "Publish" buttons for modifying or updating the announcements.

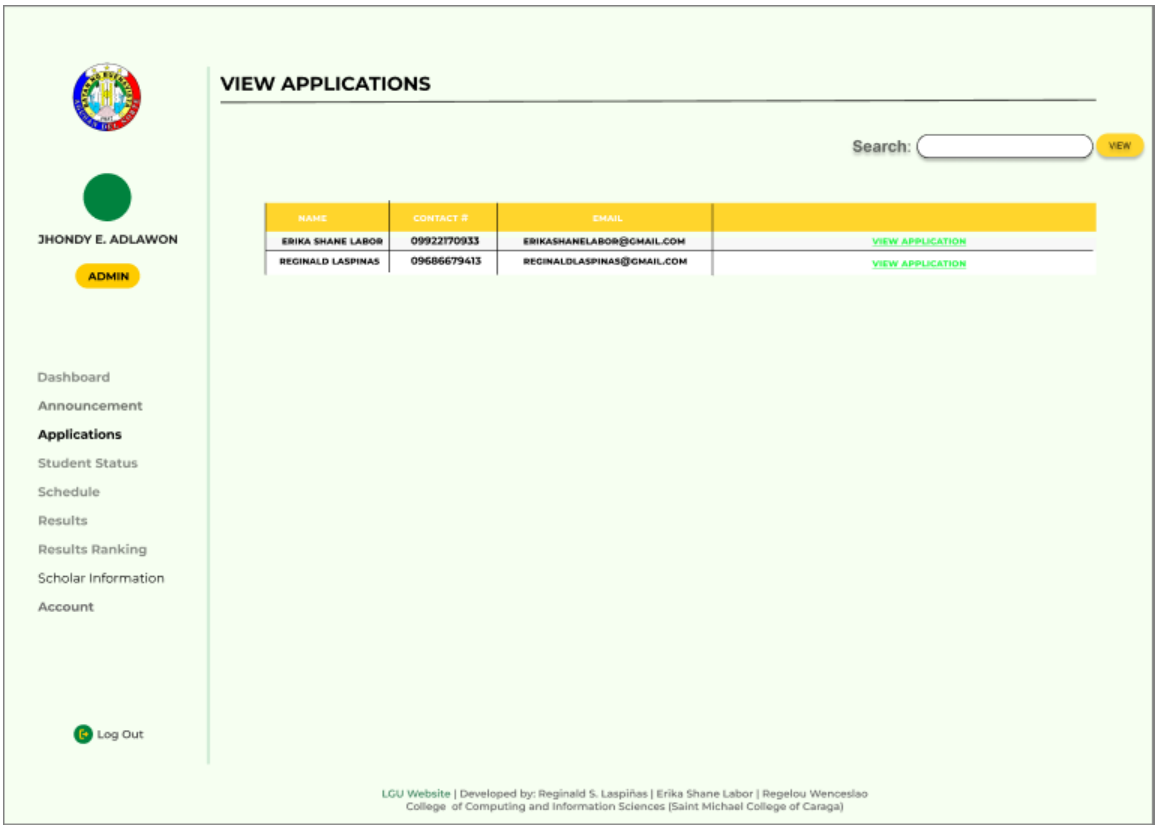

Figure 15. Applications – Admin

The image features a user interface titled "VIEW APPLICATIONS" from the "Municipal Tertiary Assistance Program Management System," designed for administrative use. The top of the page displays the system's logo and the active user, "Jhondy E. Adlawon," is marked as an "ADMIN." Above the table, there is a search bar to filter or find specific applications.

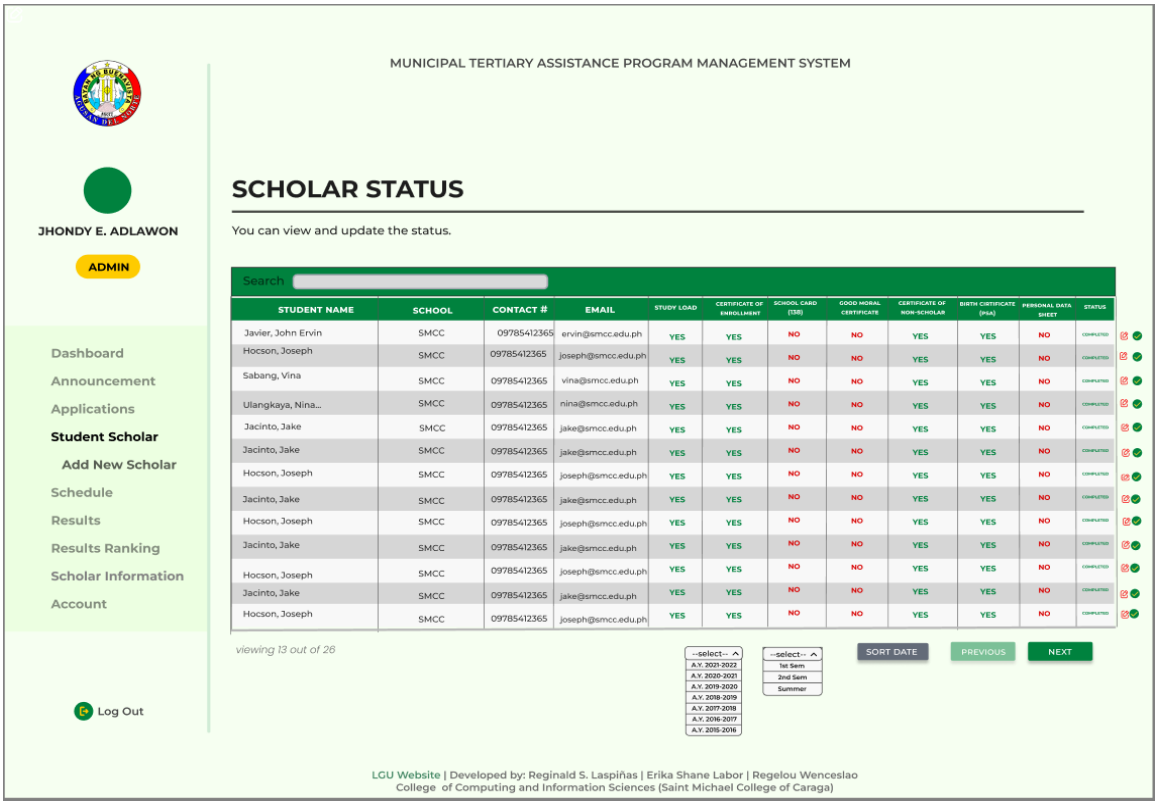

Figure 16. Scholar Status/Documents Submitted – Admin

The image presents a detailed "SCHOLAR STATUS" page from the "Municipal Tertiary Assistance Program Management System," designed for administrative purposes.

The table displays rows of data for students, providing a snapshot of each student's compliance with necessary documentation and their current status, which can be marked as "YES" or "NO." The interface is structured to support efficient monitoring and updating of scholar statuses within the municipal program.

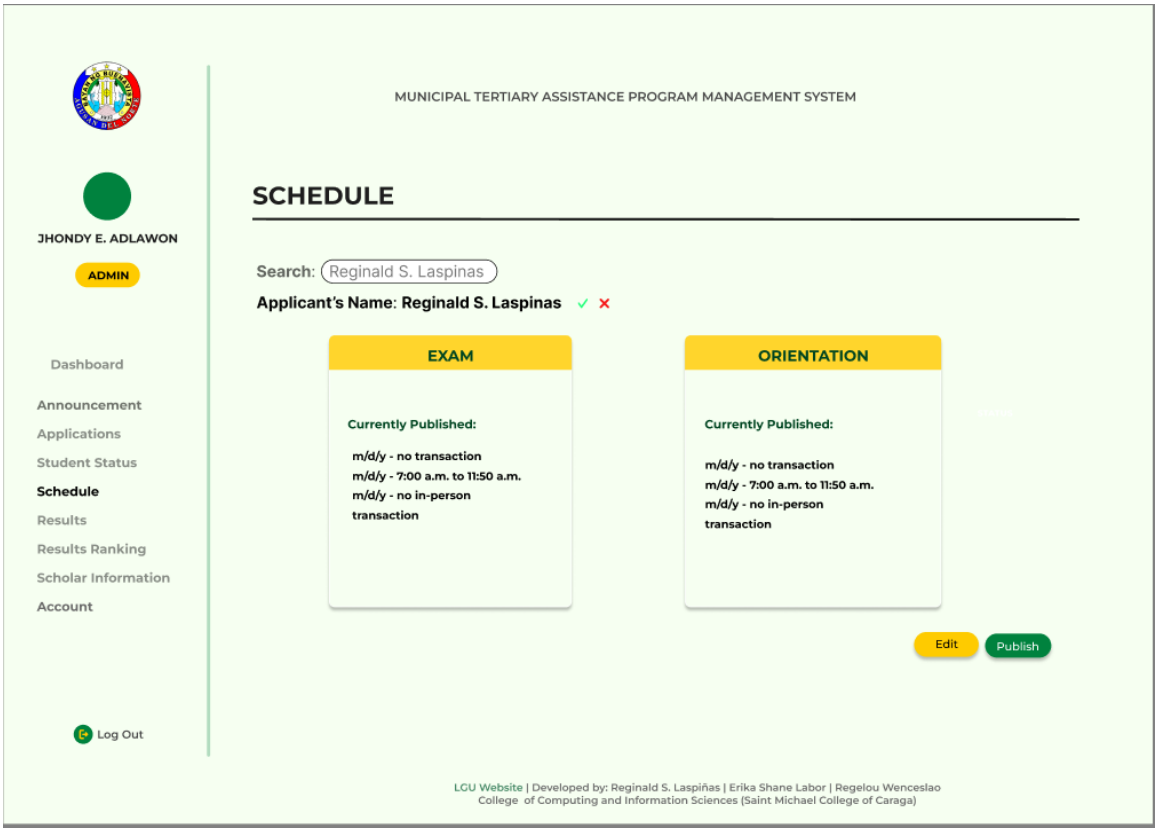

Figure 17. Schedule – Admin

The image displays the "SCHEDULE" section of the "Municipal Tertiary Assistance Program Management System," This part of the system provides a user-friendly interface for managing and viewing schedules related to exams and orientations for applicants.

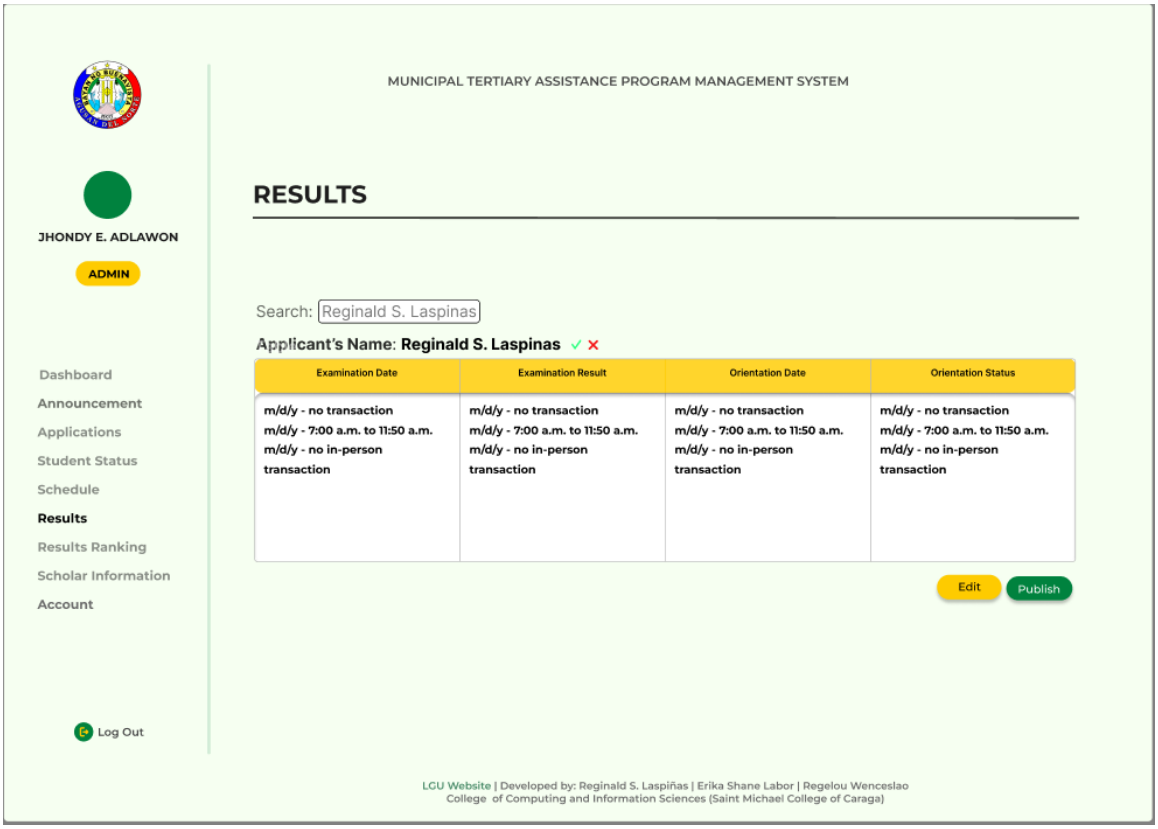

Figure 18. Results- Admin Interface

The image depicts the "RESULTS" section of the "Municipal Tertiary Assistance Program Management System". This section provides an interface for reviewing and publishing examination and orientation results for applicants. The design and organization of the interface emphasize functionality and ease of use, aiding administrators in effectively managing the results for various program participants.

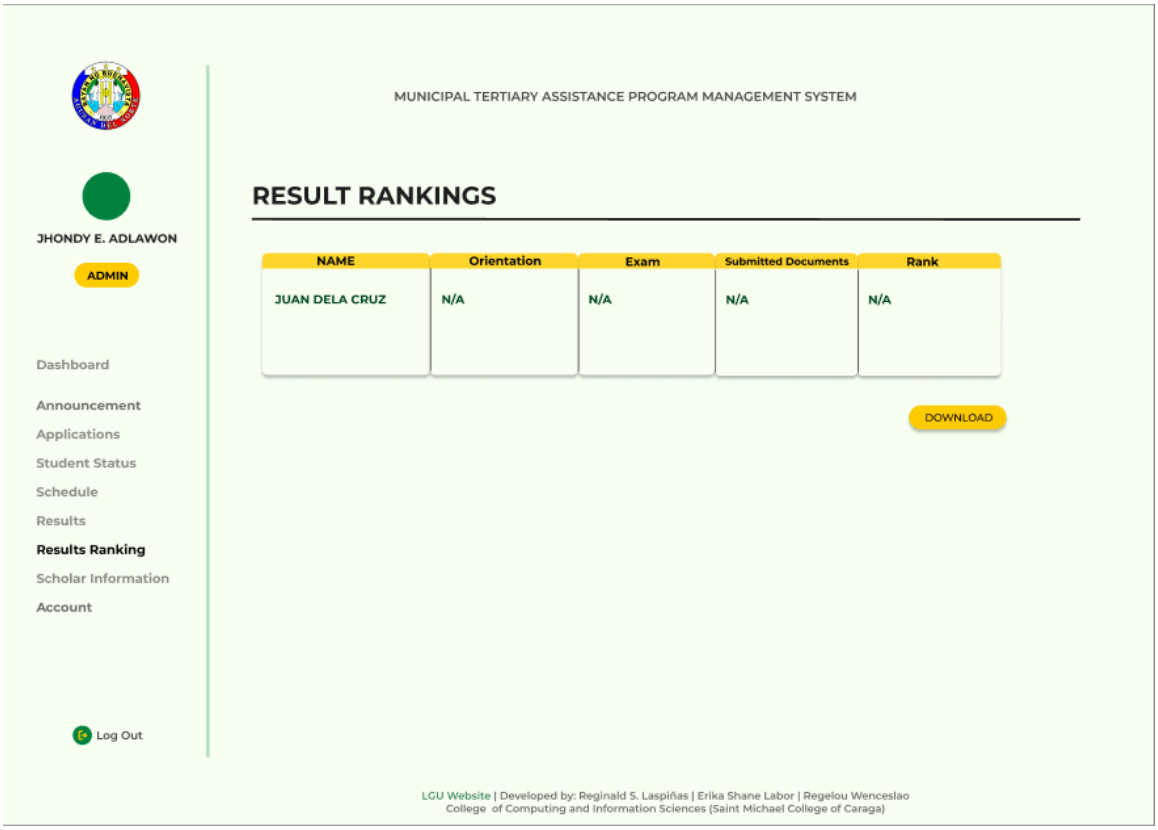

Figure 19. Result Rankings – Admin Interface

The image illustrates the "RESULT RANKINGS" section of the "Municipal Tertiary Assistance Program Management System,". This interface is designed to display and manage the rankings of program participants based on various criteria such as orientation, exam results, and document submission.

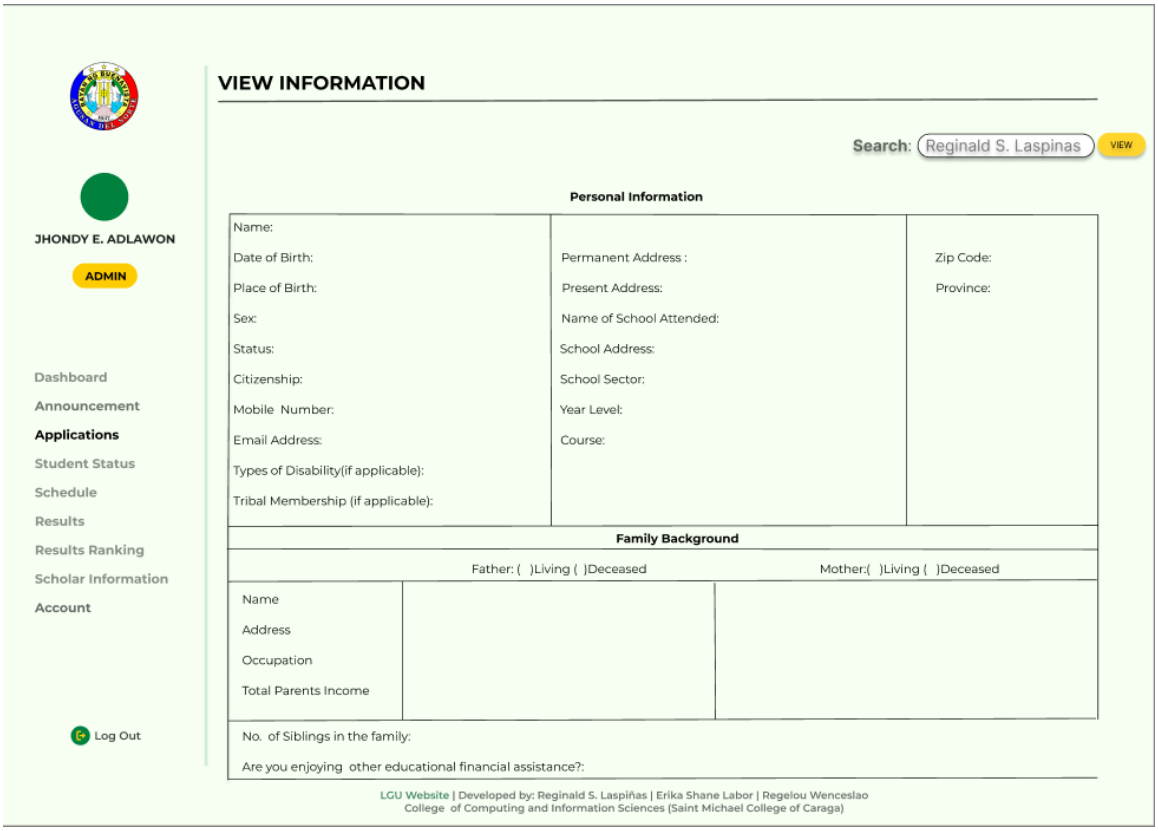

Figure 20. Scholar Information – Admin Interface

The image showcases the "VIEW INFORMATION" page within the "Municipal Tertiary Assistance Program Management System,". This interface is part of a broader administrative system intended to manage and review applicants detailed personal and family background information. This interface is designed to efficiently manage and access comprehensive information about scholars within the program, aiding administrators in decision-making and program management processes.

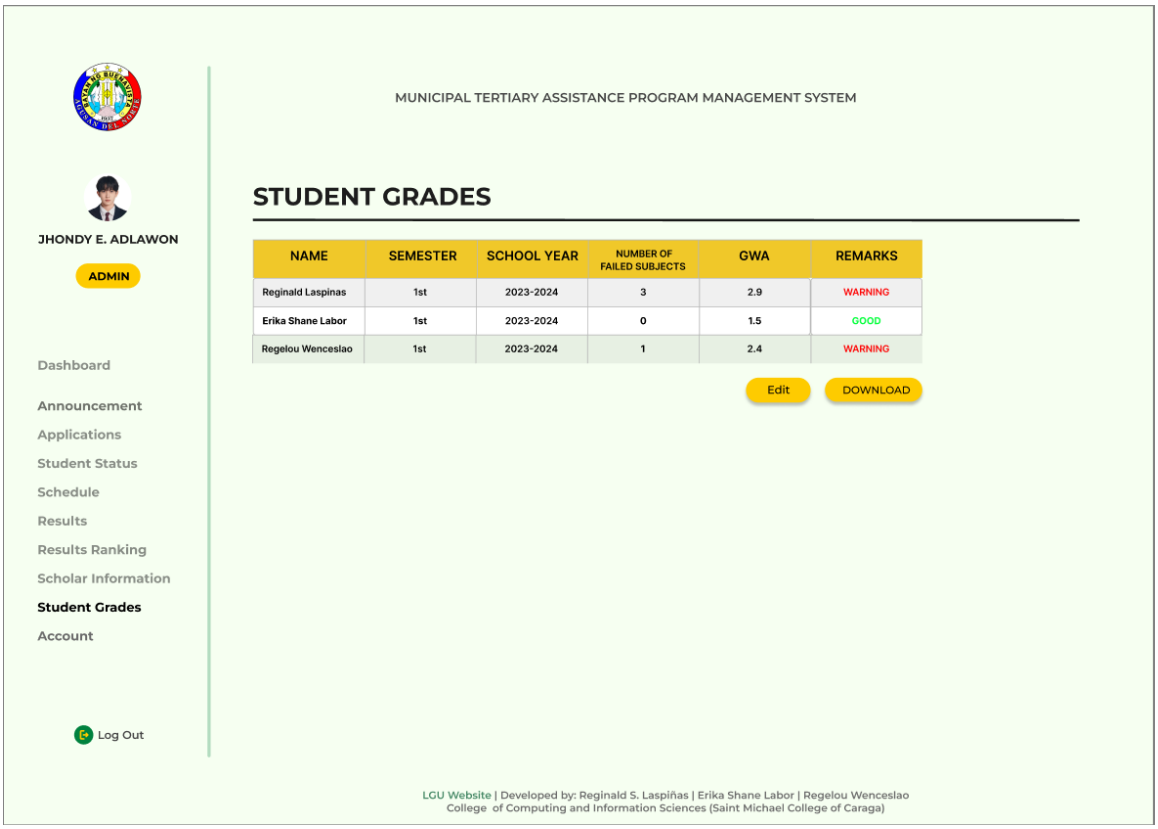

Figure 21. Student Grades – Admin Interface

The figure shows the admin interface on student grades where the admin can view and the general weighted average of the municipal scholars as well as the number of failed subjects per semester. The system will automatically put “warning” if there’s a failed subject on each semester and “good” if there’s none.

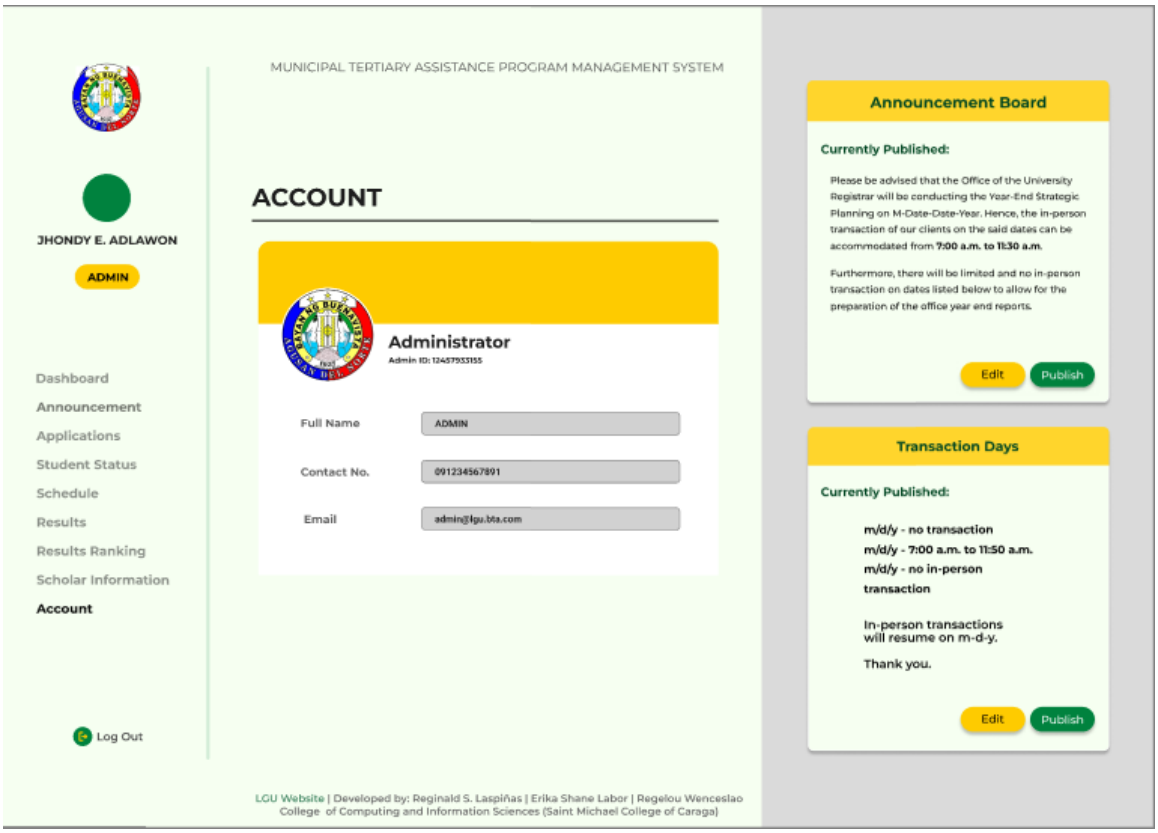

Figure 22. Account – Admin Interface

The image presents the "ACCOUNT" section of the "Municipal Tertiary Assistance Program Management System". This section serves as a personal dashboard for the Administrator, providing access to account settings and administrative functions. Overall, this interface is designed to give the Administrator a comprehensive overview of personal account settings and quick access to manage and publish essential information and schedules, enhancing administrative efficiency.

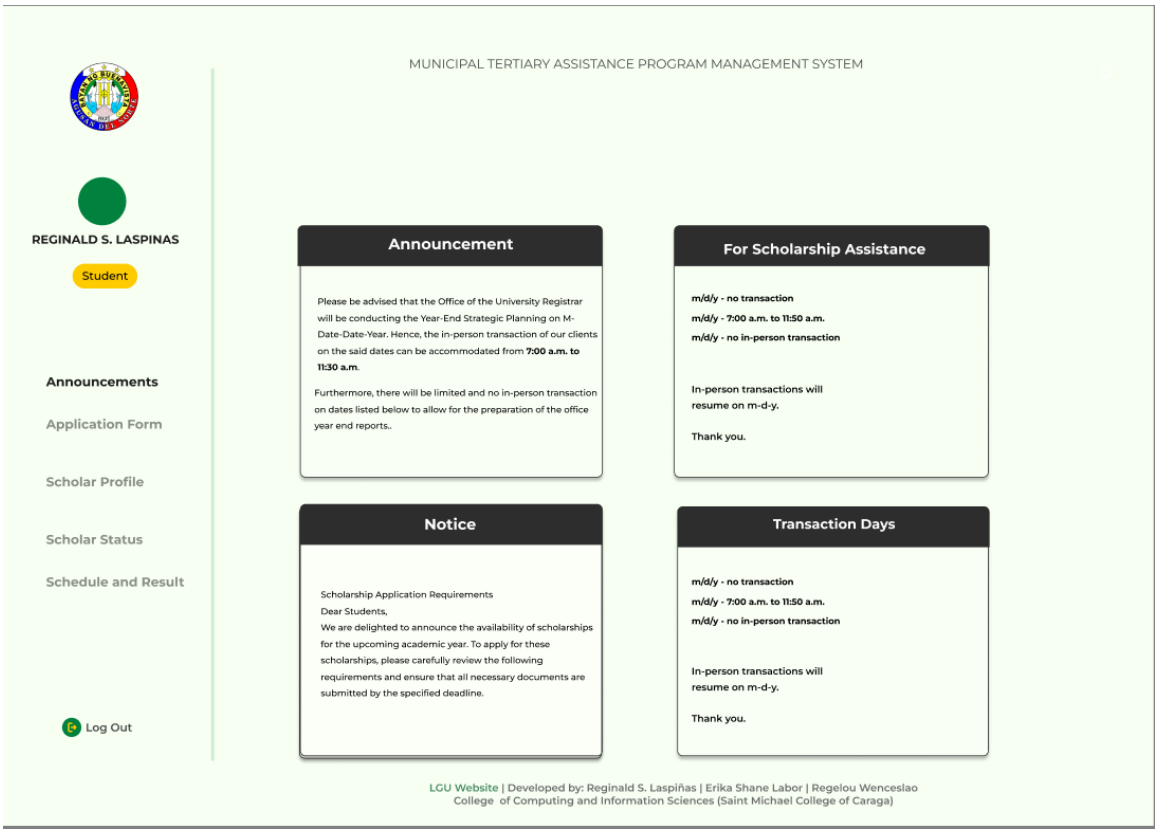

Figure 23. Announcements – Scholarship Applicants and Grantees Interface

The image displays the student view of the "Municipal Tertiary Assistance Program Management System". In this interface the student can view the posted announcements of the MTAP Office Admin.

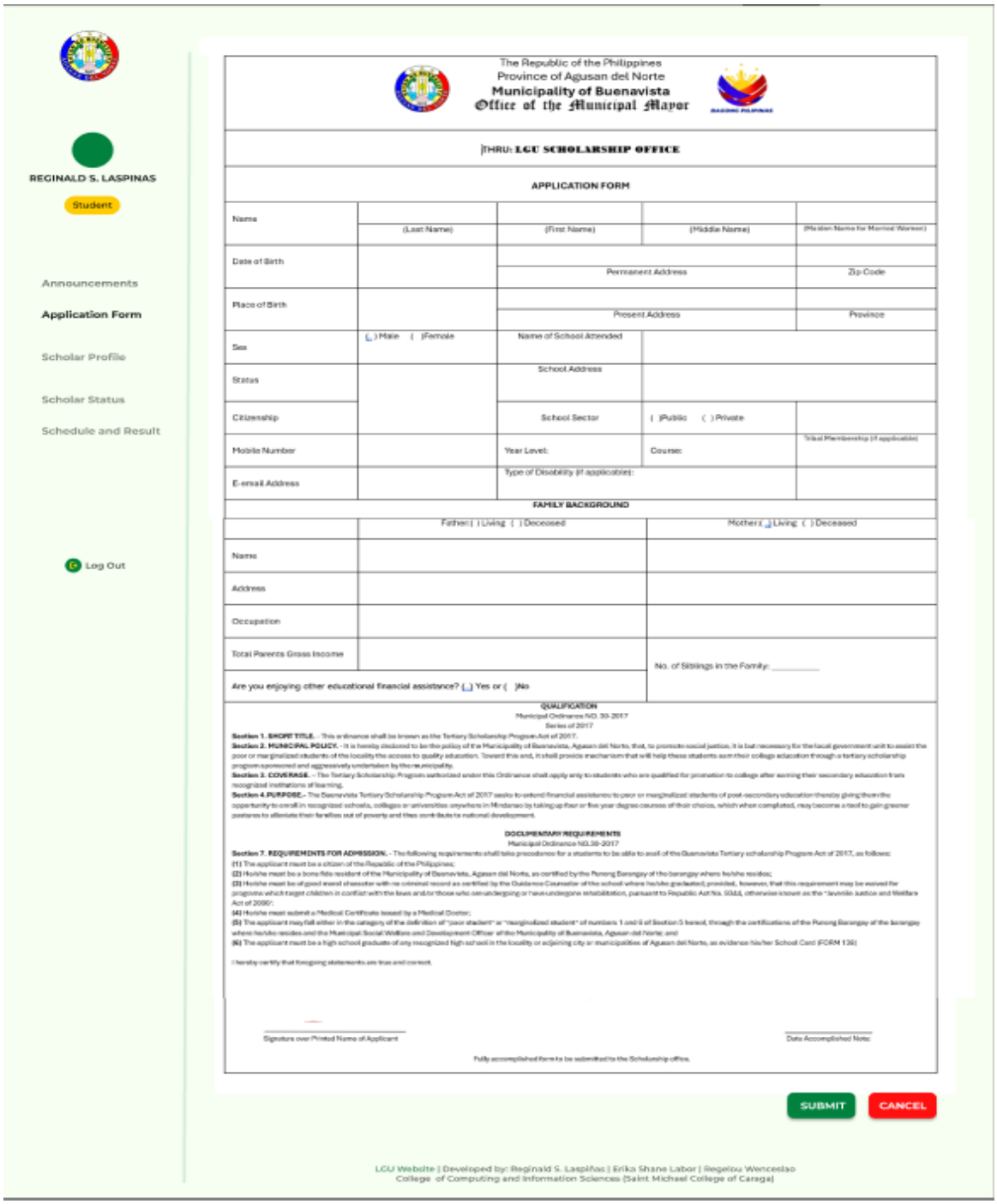

Figure 24. Application Form – Scholarship Applicants Interface

The image shows an online "APPLICATION FORM" from the "Municipal Tertiary Assistance Program Management System." specifically designed for student applicant users. In this page, this is where the students can apply for the scholarship online.

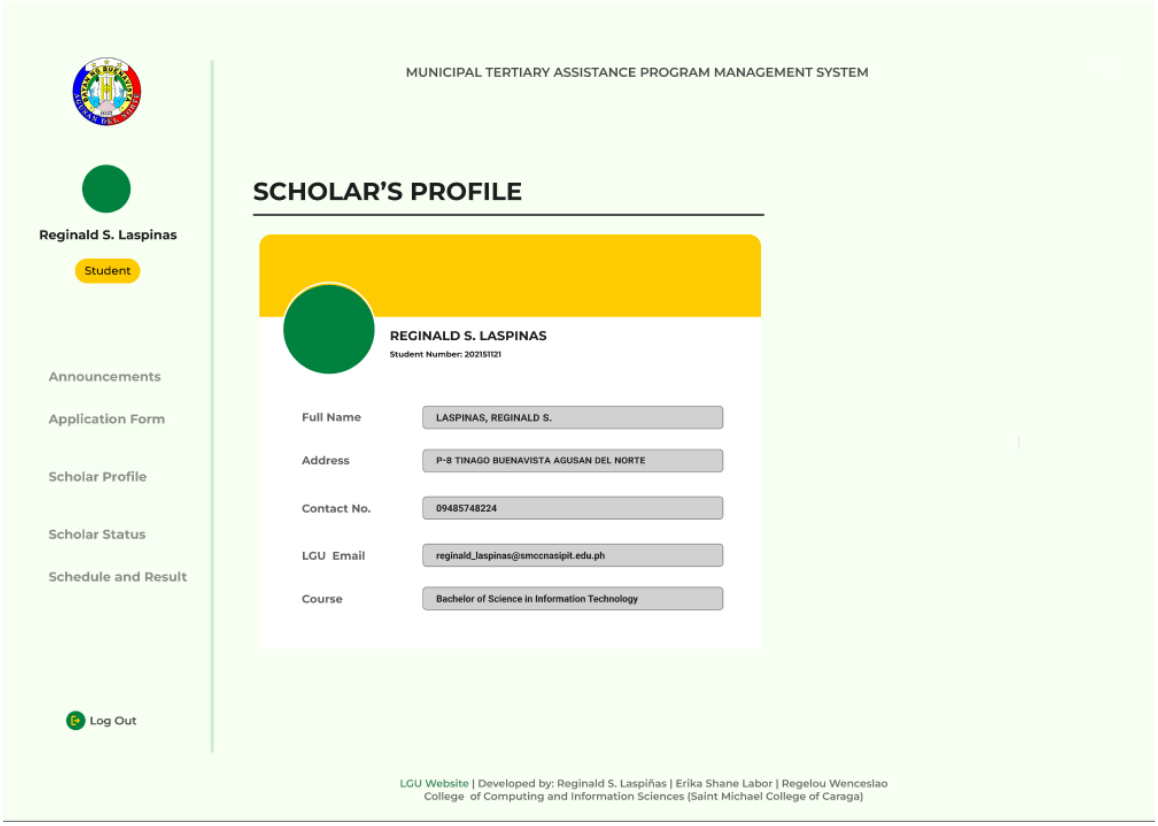

Figure 25. Scholar's Profile – Scholarship Grantees' Interface

The image depicts the "SCHOLAR'S PROFILE" page from the "Municipal Tertiary Assistance Program Management System," specifically tailored for the scholarship grantees' user. This is where they can view their personal information on the system.

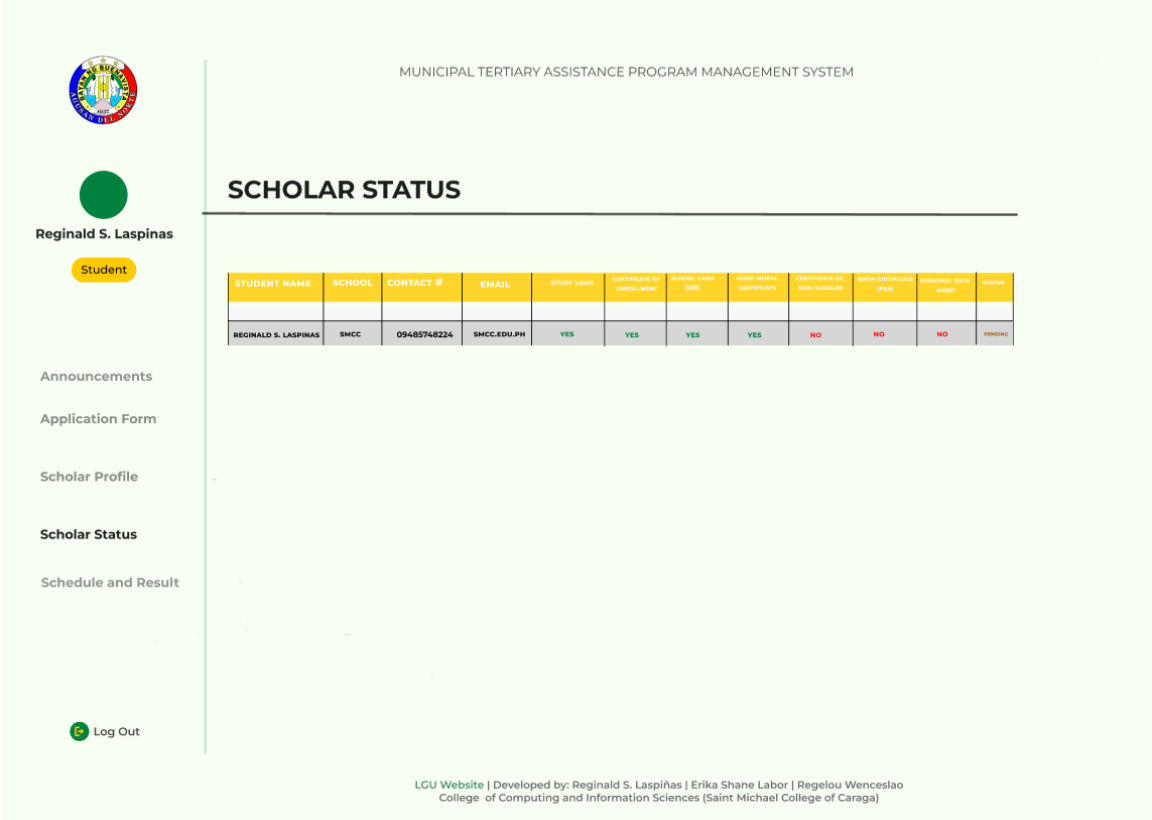

Figure 26. Scholar Status – Scholarship Grantees' Interface

The image shows the scholar status interface of the scholarship grantees of LGU Buenavista. In this interface, the grantees will see the status of their submitted requirements.

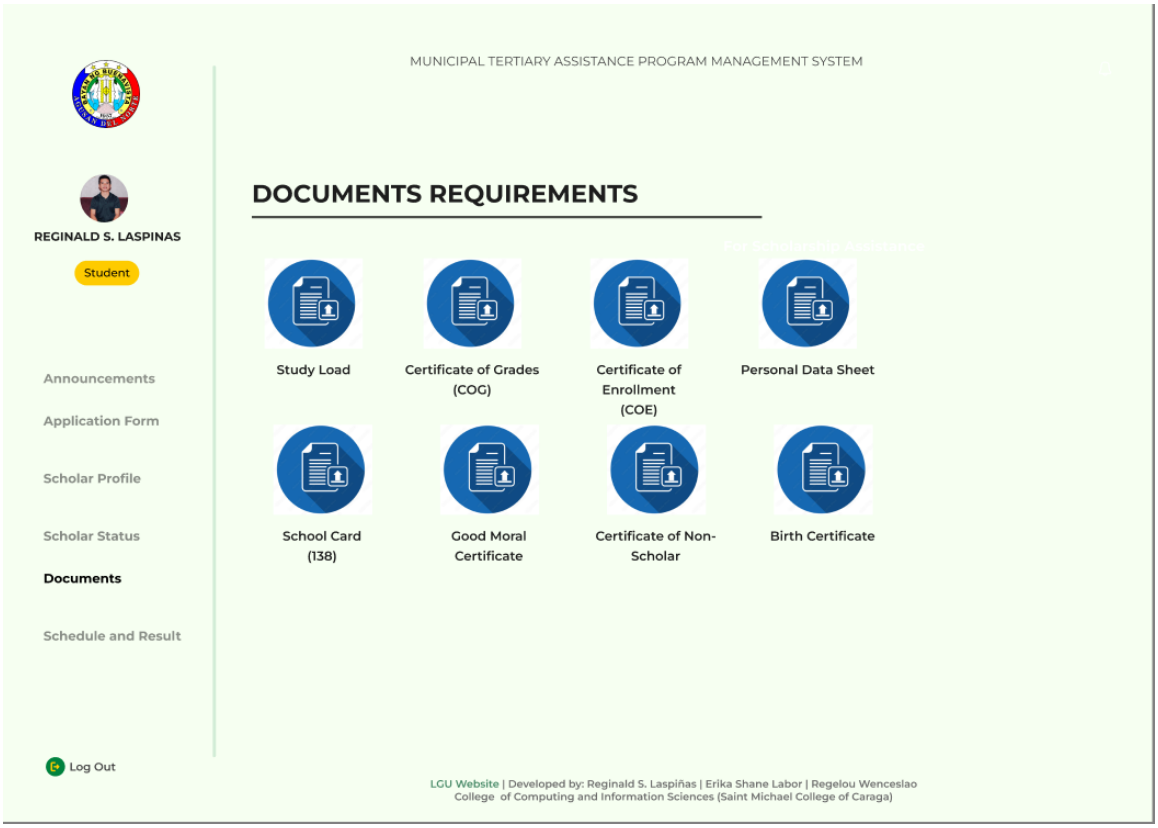

Figure 27. Documents – Scholarship Applicants & Grantees Interface

The image shows the documents interface for the scholarship applicants and grantees of LGU Buenavista. On this page, they will upload the scanned copy of their submitted requirements for duplication and verification purposes.

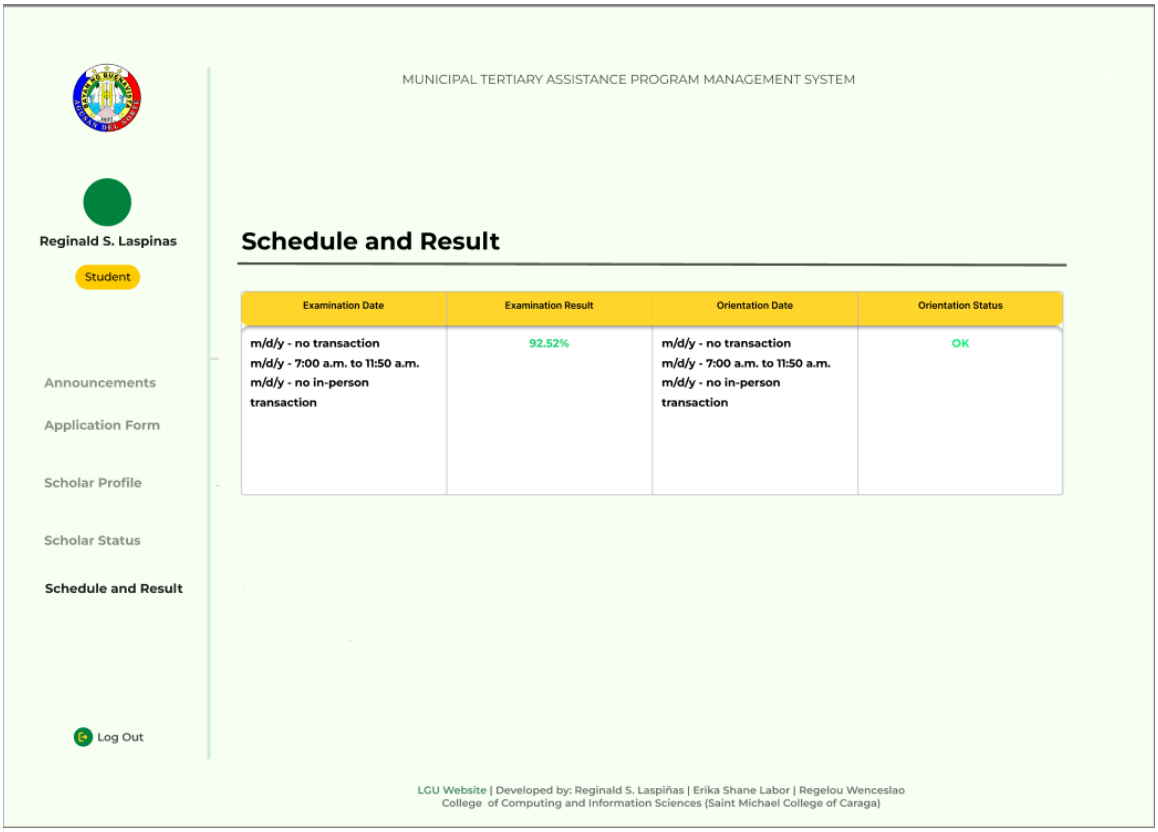

Figure 28. Schedule and Result – Scholarship Applicants' Interface

The image illustrates the schedule and result interface for the scholarship applicants of LGU Buenavista. On this page, the applicants will see the examination date, examination result, orientation date, and orientation status.

TABLE 1

Software Platforms, Development Environments and Tools

COMPONENTS	SPECIFICATION	USAGE
Operating System	Windows	This operating system, created by Microsoft Corporation, is the basis for operating the entire system. It is extensively used for servers, personal computers, and laptops
Front End	HTML5 CSS JavaScript JQuery TailwindCSS	**Frontend**: Manages the system's user interface and facilitates user interaction. **HTML5**: HTML5, the backbone of all websites, furnishes the fundamental structure and content for front-end development. It serves as the language for organizing and presenting internet content. **CSS**: CSS (Cascading Style Sheets) plays a pivotal role in shaping a web page's visual aesthetics. It defines the styling, layout, and typography, adding colors, designs, and fonts to enhance the user experience. **JavaScript**: Empowers front-end functionality. It's a high-level, interpreted programming language that infuses web pages with interactivity and dynamic effects. **JQuery**: JQuery simplifies web development by streamlining DOM manipulation, event handling, and AJAX requests. **TailwindCSS**: TailwindCSS, a utility-first CSS framework, facilitates rapid custom design creation by composing utility classes directly in HTML, promoting an efficient and consistent approach to front-end development.
Back End	PHP (Preprocessor Hypertext) v8.2.12 MySQL (v8.3)	**Backend**: Manages server-side logic, facilitates communication with the frontend, and handles data storage in the database. **PHP**: PHP is a widely used server-side scripting language that complements the backend by enabling dynamic content generation, form processing, and database interactions.

		MySQL: MySQL, on the other hand, serves as a robust relational database management system for data storage and retrieval.
Server	XAMPP Control Panel (Apache Server and MySQL Server)	**XAMPP Control Panel:** The XAMPP Control Panel is a graphical user interface (GUI) that allows you to manage various components included in XAMPP. It provides buttons to start or stop services like Apache, MySQL, and FileZilla, making it easier to regulate your local web server. **Apache Server:** An open-source web server that serves web content. **MySQL Server:** A relational database management system for data storage and retrieval.

Table 1 shows the software tools needed to develop the system. With the use of these tools, the system can perform CRU (Create, Read, Update) functions and serve its intended purpose and ease the workload of the MTAP Office staff.

TABLE 2

Hardware Requirements

COMPONENTS	SPECIFICATION	USAGE
PC/Laptop	**Processor** Intel Core i3 or AMD equivalent or higher **Memory** 4GB RAM or higher **Storage** 256 GB SSD or Higher	**PC/Laptop:** A compact and budget-friendly microcomputer capable of performing diverse tasks, ideal for personal use. **Processor:** Executes instructions and processes data for applications. As the central processing unit (CPU), it provides the necessary computational power to carry out the computer's tasks. **Memory:** Temporarily stores data and instructions actively used by the application. Random Access Memory (RAM), a type of computer memory, enables swift data retrieval during processing. **Storage:** Houses data and files essential for the application. It encompasses application and database files. Solid-State Drives (SSDs), non-volatile storage devices, utilize flash memory for efficient data storage and retrieval.
Router	**Internet Connection** (5Mbps or higher)	An **Internet Connection** establishes the link between a system and the web, enabling users to access and exchange digital map data. With an active internet connection, users can view, download, and share map data stored locally, as well as utilize online mapping and analysis tools.

Table 2 shows the hardware requirements for the Municipal Tertiary Assistance Program Management System. It will not be possible to perform and experience the full feature of the said framework without these.

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