Research Article

Online Scholarship Application and Record Management System for AYZ City

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Abstract: Upon observation of the processes in the scholarship office of AYZ City, manual processing is very evident in most transactions running at the said office. As noticed, the administrator of the said municipality uses traditional way of managing their scholarship program. Hence, it is assumed that the administrator of the municipality finds difficulties in managing the scholarship program. Moreover, in the traditional record keeping, application forms and other requirements for scholarship can be misplaced. Finding records is also a tedious job using the manual filing specially when there is a bulk of compilations. Due to these difficulties and problems, the developer created a system entitled "Online Scholarship Application and Record Management System For AYZ City" to help the scholarship office in performing their work easily.

The main focus of the system is to eliminate the paper works or the manual method of processing used by AYZ City scholarship office. Thus, the result will be a rapid processing of transactions. Furthermore, having an application and record management system may lessen manpower and will result to more secured, reliable, and more organized storage of data. The scholarship office should have an internet connection to access the said developed system. It has features that suits to the needs of the scholarship office in managing and profiling of their scholars' information such as approval and disapproval of scholarship. It has functions that can filter records using the search options and manage the schedules of examination, interview and orientation of scholarship applicants. It has reports of list of scholars per school, barangay, and year level which can be viewed and printed. The total number of scholar who will graduate in Junior high school, Senior high school and college are also included in the reports.

In the system development proper, suitable software tools were used to attain the desired design and functions of the developed system. Hypertext Pre-processor (PHP) was used as the programming language. It is a server-side scripting language designed for web development. PHP code may be embedded into HTML code, or it can be used in combination with various web template systems, web content management system and web frameworks. The said programming language is easy to manipulate and is the most applicable to be used in the development process of the project. XAMMP was also used for the back-end database to serve as a repository of all records.

Furthermore, the developer used the Step Incremental Method wherein the system is designed, implemented and tested until the product is finished. For the development approach, the best concept for the system is the top down approach which starts in planning and complete understanding of the system. To determine if the system functions well, the developer conducted a series of software testing and evaluation. A survey for the users was also used to rate the system's performance. This was conducted to twenty-five respondents

composed of students and five personnel of the scholarship office of AYZ City who will be the target users of the developed system. The average weighted mean of the system resulted to a verbal interpretation of 'Agree'. This means that the system satisfied the needs of the client based on the acceptance rating.

The system was also evaluated and assessed using test cases wherein series of tasks were performed to determine the functionality of the system. Using the evaluation results, it was concluded that the developed system can maintain its level of performance and has qualities suited to the requirements being asked. The same result was analysed to meet the desired purpose of achieving the users' needs. The results of the evaluation enormously helped the developer to further enhance and develop the system's functionality, usability, reliability and maintainability. Nonetheless, all corrections and modifications eventually followed.

After all the efforts, the developer found out that the system has met its objectives. Having an Online Scholarship Application and Record Management System, the applicants or scholars can update their personal information, submit their credentials and other documents and view the status of scholarship application. Aside from these, the applicants are able to view examination, interview and orientation schedules. Another module is also provided for old scholars where they can manage their information, view status of their scholarship renewal and view the status of financial assistance. The developed system also provided a module for the head of scholarship office or administrator to set schedules of examinations, interviews and orientations. Moreover, easy approval and disapproval of scholarship applications were also included. A module of sending SMS or email notification was also included for faster information dissemination. The system was also able to generate and print reports.

Based on the data and information gathered, the developer concluded that the developed system provides the most convenient and effective way in giving ease, timeless, better service and reliable outcome. The developed system can be a great assistance for the scholarship head because it can lessen the paperwork's in the office. It can also improve the productivity of the scholarship office in terms of storing all the data in a database. It is more efficient in terms of time consuming and recording information. The developer suggested a recommendation for future researchers to provide a way wherein offline applications are possible to further enhance system access.

Keywords: PHP, Server-side Scripting Language, HTML, XAMMP, Step Incremental Method, Top Down Approach, SMS.

Introduction

Currently, the world depends on technology and everyone from the young to the old seems to be deeply involved. Technology has become one of the most important elements in today's societies and its role in our lives keeps getting complex. It is true that it has influenced all sectors of the society and even helped to increase efficiency and effectiveness. The integration of technological innovations into different facets of our lives has indeed helped to transform the world and to improve efficiency in almost everything people do. Efficiency simply denotes being effective or conducting oneself in a way that completely depicts one's input.

However, the advent of technology and the improvement of the manual systems to automatic meant that more could be achieved with less people. These technological modernizations have great contributions in many organizations and one of it is in education. Indeed, education plays a vital role in shaping tomorrow's leaders. Not only can we become a better nation by acquiring the skills necessary to be productive members of a civilized society. Education also increases knowledge to improve all areas of living for satisfaction, convenience and existence.

To attain these objectives, definitely all should finish their studies. But not all are lucky enough to have chances to go to school because of financial difficulties. Some families do not have enough money and opportunity to send their children to school. Nevertheless, the government and other private organizations or individuals are creating ways on how to resolve this by means of providing scholarships or financial assistance to those deserving learners. The local government unit (LGU) of AYZ City offers scholarship program among learners who are included in the underprivileged families. The said agency is structured in poblacion covering a total land area of 28,220.59 square kilometers. It has a total population of 391,520 as of 2007 WSO census. There are nine (9) public schools for elementary levels and one (1) public school and three (3) private schools for secondary level. It has three hundred twenty (320) scholars in 2018. This scholarship program is only open for legitimate residents of the said locality and should not have deficient grades. In spite of their good intentions to their fellowmen, they find difficulties in handling the data of the scholars due to manual process. They are just using paper and pen in recording scholars' information. Due to this, the developer created an online-based scholar application and management system.

The developed system will serve as an instrument for the scholarship office in increasing quality and fast service by having paperless work. It will secure also all the data of the said office. Moreover, the system that the developer created will provide scholars' profile, data management, reports, SMS and e-mail notifications.

This system application and record management system is supported with various programming languages and will help the clients access the system. Having this, time consuming process will be reduced and a more reliable recording of data will be achieved.

Objectives of the Study
The developer aims to design and develop an Online Scholarship Application and Record Management system for AYZ City.

Specifically, this study aims to accomplish the following objectives.

1. Design and develop an online based system with the following features:

1.1 Records of current and applicant scholars;

1.2 Provides scholar's information and examination result;

2. Provide account for each applicant and provide them module to:

2.1 Submit credentials and other documents,

2.2 View status of scholarship application; and

2.3 View examination, interview and orientation schedule;

3. Provide account for old scholar to:

3.1 Manage information;

3.2 View status of scholarship renewal; and

3.3 View status of financial assistance;

4. Provide administrator a scheduling module for:

4.1 Examination;

4.2 Interview;

4.3 Orientation; and

4.4 Information dissemination of scholarship approval and disapproval;

5. Present statistical report on the following:

5.1 Total number of scholars per school,

5.2 Total number of scholars per barangay,

5.3 Total number of scholars per level, and

5.4 Total number of scholars who will graduate in junior high, senior high and college;

6. Generate and print reports of the following :

6.1 List of scholars per school,

6.2 List of scholars per barangay,

6.3 List of scholars per grade level, and

6.4 List of scholars who will graduate in junior high/senior high and   college;

7. Provide an SMS and email notification feature that will notify the scholars on future municipal events, activities, announcement, and meetings; and

8. Test and evaluate the system using:

8.1 Test Cases; and

8.2 ISO/IEC 20510:2011 software evaluation criteria such as:

8.2.1   Functionality;

8.2.2   Reliability;

8.2.3   Usability; and

8.2.4   Efficiency.

Related Literature
The study of Gonzales *et al.,* (2016) aims to develop a website of scholarship management information system with the consideration of basic requirements, components, complete and organize information and online application system of scholars for a university. The study utilizes the design and development of the website since it focuses on online application and detection of the scholarship granted to the scholars. The respondents of the study are the regular users of the scholarship office. It provides all the information that the scholarship office can give to scholars regarding the status of scholarship grants and how they will apply online. Their study helps the users and scholars on being updated on price changes that might happen unexpectedly and information about the scholarship grants. The system developed by Villanueva (2015) is a scholarship management system for CBA Scholarship Office. The first phase made by the developer is to design and implement the database that would store all the data relevant to the system. The database consists of two primary sets of data: Applicants and Scholarships. Applicants are linked to scholarships by receiving awards and scholarships are categorized into administrative units and authorizing agents. The system can also add, edit, delete and update the information of each applicant. After the database was designed, the developer implemented it using Microsoft Access 2010.

The developed system by Seidu (2017) aims to improve an existing web based system used by a non-government organization in Ghana to manage their scholarship application process. The NGO, which sponsors High School students in Ghana, currently has a web-based application that helps them process their scholarship application and awarding process. The existing application keeps record of applicants, generate points for applicants, and send letters for these awardees. Given the current focus of the existing system, this project seeks to widen the scope of the system by adding functionalities to track payments. Therefore, instead of being just being a Scholarship Application System, the system will be a Scholarship Management System (or a Scholarship Fund Management System). At the end of this project, the NGO should be able to use less time in processing payments, get a more transparent payment system, generate reports from the system and reduce costs of operation.

According to Falogme *et al.,* (2017), it is for the Scholarship office of a city to render the best service for the clients. Primarily, the office personnel of the said office are having their transactions using MS Excel in keeping records of students' profile and funds. The record, which is taken by the scholarship head, returns the information of the qualified applicants for scholarship. Each application will undergo strict screening and one of its major requirements is that the scholar applicant must be a bonafide resident of the said city. In using MS Excel, the scholarship head consumed a lot of time before they can finish recording all the transactions per day. One thing that makes it complicated is that there are tons of data that needs to be updated about the scholars each time. It takes a month or few for the scholarship head to readily update the records.

A web-based system developed by Plata *et al.,* (2017) is used for recording of data, transactions and files of a business or organization, while a mobile application is most used in daily communication. These two can manage the task of eliminating paper works in daily human transaction. The Sagip-Eskwela Beneficiary Program Web-Based System and Mobile Application manages the records of students and data with their designated locations and benefits that they receives. The system involves creating reports of transactions of benefits given quarterly, the status of the students whether they are active or inactive, reports of student beneficiaries in barangay or district and archive information on the students who had finished the program. The system is expected to facilitate the record management of the Sagip Eskwela Program of an agency, thus providing better service and benefits to recipients of the said assistance program. Mohammed (2015) developed an e-scholarship system that was designed and implemented in order to allow students of Niger State indigents across the country to apply for scholarship online with the Niger State Scholarship Board. The system was designed using Object Oriented Analysis and Design (OOAD) methodology. The application was developed using Hypertext pre-processor (PHP), AJAX, JavaScript, Hyper Text Mark-Up Language (HTML) as the front end and MySQL database as the backend. The E-scholarship system provides online application solutions that save time, and sends notification using SMS alerts and emails on the progress of application in a timely and transparent manner.

The system project of Sauser (2015) was developed to provide a central storage to maintain all the data related to their university scholarship awards. The primary reason for developing Scholarship Management System for University of Northern Iowa was because the scholarship information was stored in many individual files spread across various locations. Any information related to the scholarship awarding process can be located more efficiently using the system. Wisconsin-La Crosse (2015) developed an online scholarship application system for their foundation. The foundation deals with a large number of scholarship

applications as the foundation uses paper-based processing. In order to automate the task performed by this foundation, a re-engineering approach named "Evolutionary Re-engineering Approach" was used to identify all critical functionalities of the existing system.

This evolution focused on replacement in which portions of the existing system is substituted for re-engineered system portions. The system was developed under Java development platform using Java in the business logic layer, JSP in the presentation layer and Oracle 10g Express Edition in the database layer. It was run under IIS application server. The developed system by Almanza *et al.,* (2015) was designed to provide an online application form for applying easily for a national certification regardless of their location. It will store the information of each applicant which will later be used for the various reports for every assessment batch. At the same time, the system will be able to store history of the different assessment batches with their schedule assessment, assessment results and certification number. In this case, applicants can easily apply for an assessment with less trouble and inconvenience. The staffs on the other will no longer be having a hard time of processing documents and generating reports.

The previous system plays a vital role in developing the present developed system where it serves as a guide on how to enhance and improve the scholarship system. It gave the developer an idea to manage the information of the applicants that are recruited by Mirof. The present system is also similar to the previous system for it can also store information of the applicants. They both give services to the applicants. The difference between the two systems is that the developed system has a wide range of activities in record management. Furthermore, it is more efficient to use because of different features unlike the previous system.

Chavez *et al.,* (2017) proposed a system for an agency. The system is developed to easily check and record all the important documents of the said agency. The system can relieve worries about the safety of the records of a blood agency. With this developed system, problems like lost files, manual registration, expiration of blood stocks, inconsistent data and lack of backup and recovery can be solved. In developing the system, the developer used the Visual basic 2010 for creating the GUI of the system and for the database, the MS SQL was used to properly organize the data.

Rizvi (2015) developed an Online Scholarship Management System for students of minor community. The main objective of this system is to develop and improve the transparency of the pre-matric and post-matric scholarship. The developer aimed to develop an online application submission system so as to facilitate submission of application form anywhere. It also aims to develop efficient, effective, and accurate scholarship disbursement system avoiding delays in disbursement, errors, scams, subjectivity in awarding scholarships, and redundancy. Lastly, it aims to enable the authorities at different levels to access the data online for verification and other purpose. Lopez (2016) developed a system that aimed to form a system which stores details of students, courses, year and section. It may also be used for local assessment of the college of nursing for their college fees. The database is designed to be used by staff and other authorized user in the college to enable them to easily produce information required by users. The database is organized to produce queries about students' names, programs, year levels and sections.

Malipol *et al.,* (2018) developed an online scholarship application and record management system for an agency to eliminate the manual process of managing and profiling the scholars'

information, scholarship approval, and notification. The main focus of the system is to improve the manual method that the said client uses, and for rapid processing of transactions. Furthermore, having an application and record management system may lessen manpower and results to more secured, reliable, and more organized storage of data. The Developed system used Microsoft Expression Web 4 as their programming language. They also used XAMMP for the back-end database to serve as a repository of all records. The developed system enabled the users to update their personal information, submit their credentials and view the current status of their scholarship. There is also a module provided for the administrator where the administrator can easily approve and disapprove applicant scholars and can effortlessly set schedule. The system can also generate and print reports.

Materials and Methods
The developer used the method of Web Development Life Cycle (WDLC) in making the system. This helped them organize the development steps effectively. The process of designing a website for World Wide Web was used in using various programming and designing technology. It helped a lot in terms of standards and procedures to be adopted for future project reviews and quality maximization. The life cycle includes the following phases: planning, analysis, design and development, testing, and implementation and maintenance. Figure 1 shows the WDLC. The principle of the cycle is to provide the designers, the process on creating a web based project. It will also help the developer to certain frameworks to ensure high quality of work.

The first phase is Planning. In this phase, it involves identifying the goals or purpose of the proposed system. This phase seeks answer to the question, "What is the purpose of this online system?". The developer will identify the features and requirements needed to be utilized in the development the system. During planning stage, the developer came up with the idea of using PHP as their programming tool and MYSQL as their database. Using SMS and email were also integrated to the developed system.

The second phase is the Analysis. It discusses the whole analysis and the requirements needed for the development of the system. In this phase, the developer conducted an interview with the scholarship head. The difficulties encountered by the scholarship head in managing the data of the scholars were analysed. After that, the third phase is the Development. This involves the layout and navigation interface of the prototype.

In this phase, the interfaces and the contents of the scholarship application and record management system were determined. The interface should be user-friendly and easy to navigate and understand. Creating interfaces may be the hardest thing to do since it shall provide all the needs of the Scholarship office in uplifting its services.

The fourth phase is Testing. In this phase, the developer used the black box testing to find errors in the following categories: Incorrect or missing functions, interface errors, errors in data structures or external database access, behavioural or performance errors and initialization and termination errors. If there are errors found, it shall be considered immediately and fixed as soon as possible.

The fifth phase is the Release, where the online scholarship application and record management system is released to the client. Proper turn-over of the system took place. Lastly is the Maintenance. After releasing the system, the developer committed to perform periodic maintenance of the system for the first year of implementation.

Figure 1. Web Development Life Cycle (WDLC)

Development Approach

The developer used the Top-down Approach in the system developed. This approach looks the system as a whole, and as the development process runs, each components of the overall system are being conceptualized and developed. It is essential to consider the breaking down of a system to gain insight into its compositional sub-systems in a reverse engineering fashion. In a top-down approach, an overview of the system is formulated, specifying, but not detailing, any first-level subsystems. Each subsystem is then refined in yet greater detail, sometimes in many additional subsystem levels, until the entire specification is reduced to base elements. A top-down model is often specified with the assistance of "black boxes", which makes it easier to manipulate. However, black boxes may fail to clarify elementary mechanisms or be detailed enough to realistically validate the model.

Figure 2 shows the development approach used by the developer. The idea is to begin from planning which eventually followed by analysis. Next to it must be the system designing and down to system maintenance. The top down approach is a development method used to explain the procedure in developing the system. The first phase is planning where all the ideas gathered are put together to cater the demands of the client. After the planning phase, the next one is the analysis phase where the proposed system is analysed for further validation of the plan. Design phase is where the structure of the system is constructed. Then, the implementation phase is where the system is being tested for several times to make sure the system is functioning properly. The last phase is the maintenance phase where the developer monitors the system. The developer will maintain the proper functions of the developed system and as well as the expectations of the client.
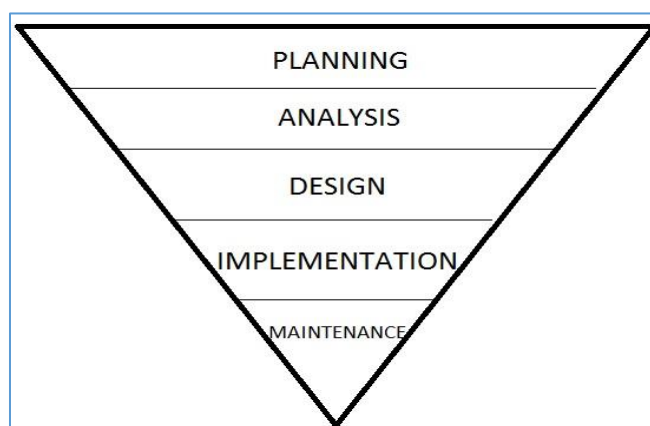
Figure 2. Top-Down Approach

Figure 3 shows the Context Flow Diagram of the system. The applicant must fill-out first the application form and send it to the administrator as well as all the requirements needed. The scholar should log in first to their account to request for another scholarship for the next semester. The scholar should pass the requirements needed for the next semester. If the administrator approves the request, the scholar will be notified by SMS or E-mail. Once the administrator accesses the system, the administrator will verify the applicant before giving schedules and results. For the old scholar, the admin will also verify the requirements given before approving the scholarship for the next semester.
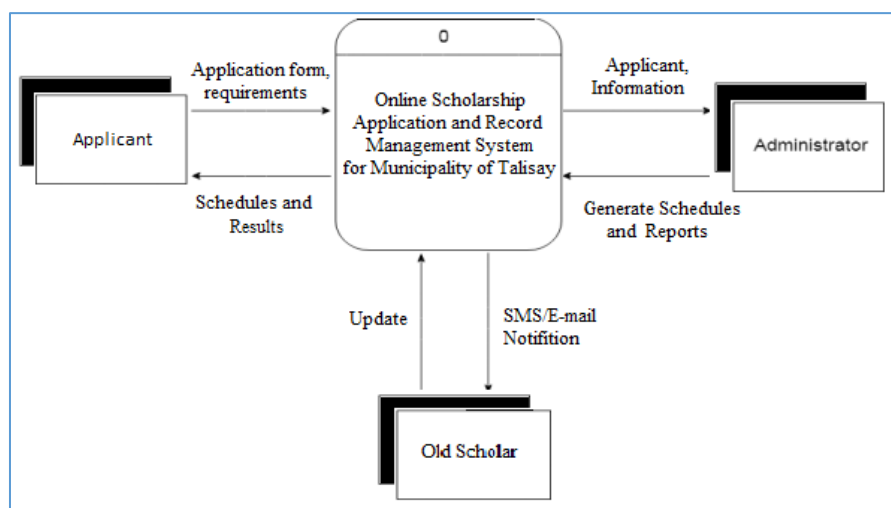
Figure 3. Context Flow Diagram

Figure 4 shows the Data Flow Diagram for the Administrator. The administrator will log in first to the system to manage the lists of all scholarship applicants. The administrator will set schedules for their examination, interview and orientation. After attending the following schedules the administrator will approve if the applicant is qualified. Then, the administrator will notify the applicant/s by SMS/E-mail notification. Also, the administrator can generate and process reports.
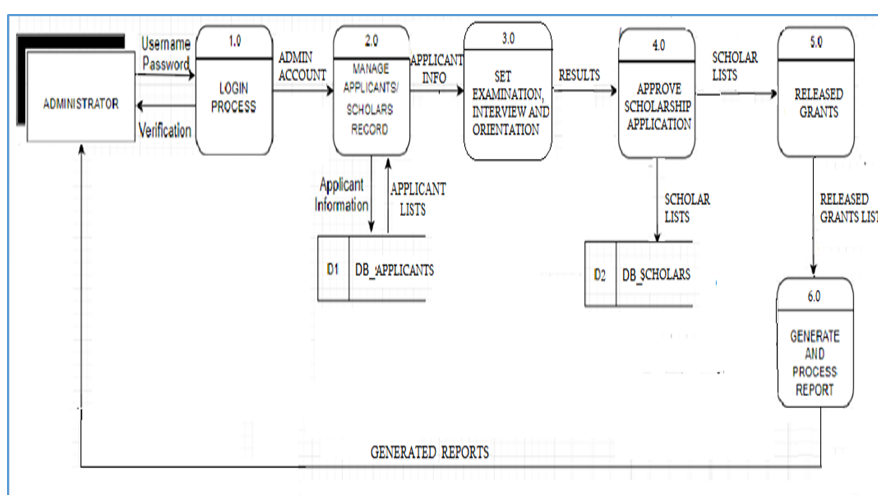
Figure 4. Data Flow Diagram for the Administrator in Applicant

Figure 5 shows the Data Flow Diagram for the Administrator for Old Scholar. The administrator should notify them if they need to renew their scholarship by SMS/Email notification. There must be a renewal schedule to be set by the administrator. Upon

submission of requirements of renewal, the same user will approve this. After such, release of grants will then follow. All transactions and will be reflected in the reports. The administrator can generate and process such reports. Reports can be generated using different query filters.
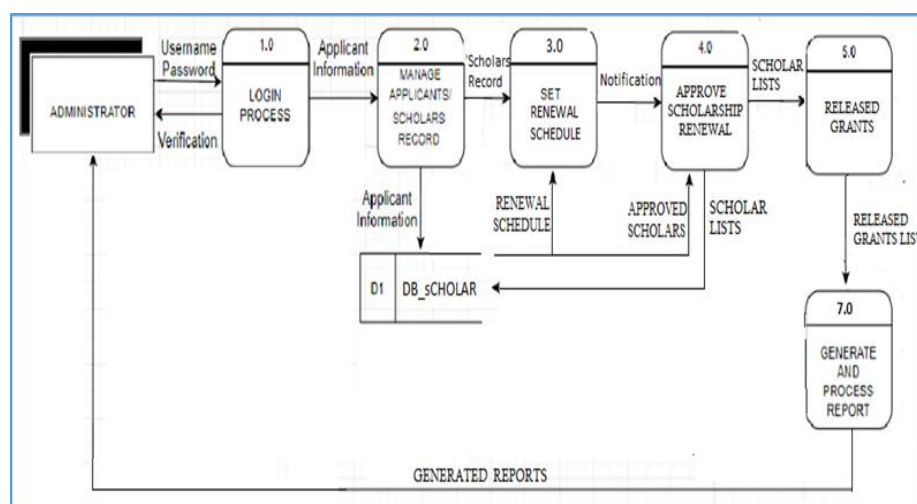
Figure 5. Data Flow Diagram for the Administrator for Old Scholar

Figure 6 shows the data flow diagram for the applicant scholar. The applicant scholar must first create an account in order to access the website. After creating an account, the applicant scholar must submit credentials and other documents. Once the applicant submits the requirements, the administrator will verify the documents. Then the applicant should view their status of application. Thereafter, the applicant can view the schedules of examination, interview and orientation. Using SMS/E-mail notification, the administrator will notify them about some important information. The administrator also notifies the applicant if their scholarship is approved or disapproved. All the mentioned transactions use data to be saved and retrieved from the database. The system is also capable of generating lists of applicants who failed to comply with the necessary requirements.
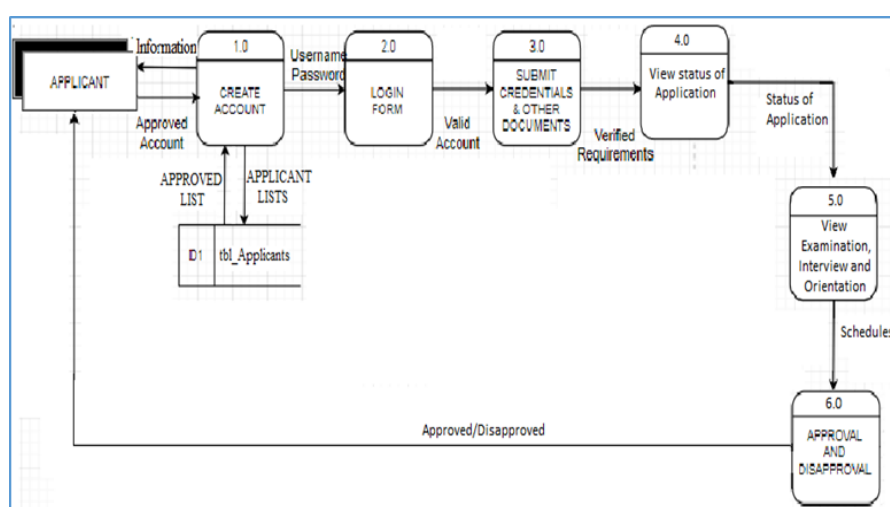
Figure 6. Data Flow Diagram for the Applicant

Figure 7 shows the data flow diagram for the old scholar. The old scholars have an account. They must login first to access the website. The old scholar will manage information in the website. Furthermore, they should submit their requirements in order to renew their

scholarship for the next semester. Once the requirements are already submitted and when the verification took place, then the applicants can view the status of financial assistance to inform them whether it will be released.
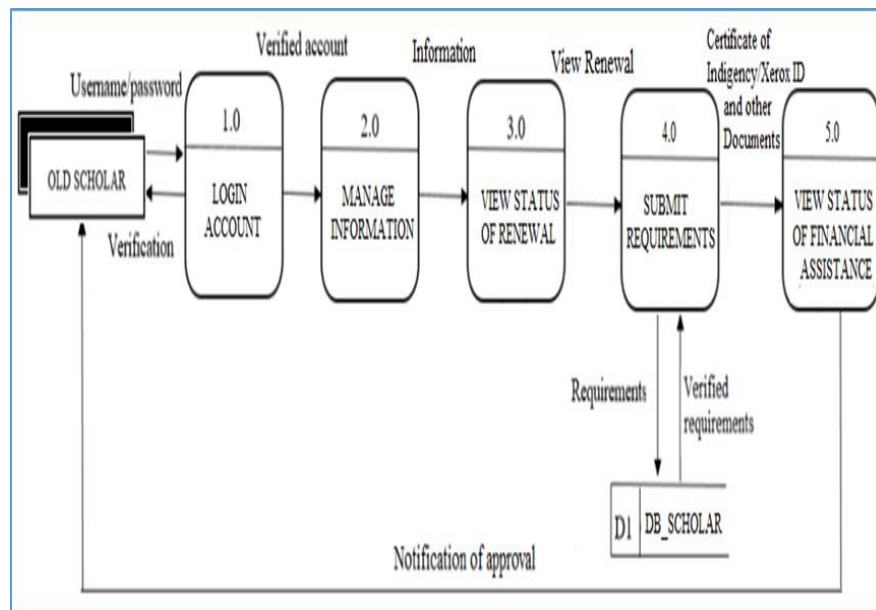
Figure 7. Data Flow Diagram for Old Scholar

Results and Discussion
Records of the Current and Old Scholars
Figure 8 shows that the administrator can view the records of the scholar together with their personal information. There will be a checking of information to be able to monitor the accuracy of the encoded data according to the scholar's background.

The actual view uses a table which contains fields necessary for relevant information of the records of scholars.

Figure 8. Records of the Current and Old Scholar

Scholar's Information and Examination Result are Provided

Figure 9 shows the scholar's information in order to know the scholar's background. The administrator should view the information of scholars to know some pertinent details about them.

Figure 9. Scholar's Information

Figure 10 shows the Examination Result of the applicant. The Administrator will set the score of the applicant based on the examination result taken.
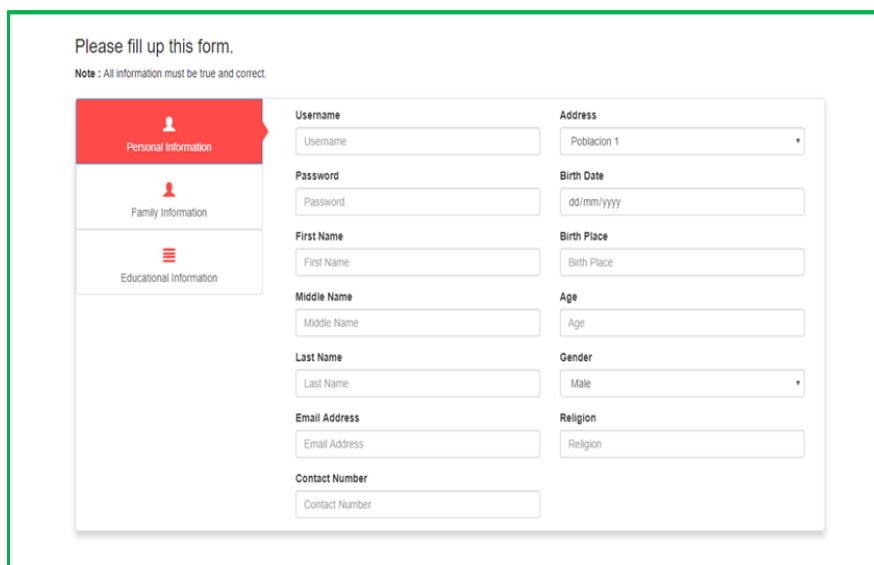
Figure 10. Scholar's Examination Result

Creating Accounts is Possible

Figure 11 displays how the applicant can create their personal account. Applicant will fill out the form intended for them. It has three (3) parts: Personal Information that contains the

personal information of the applicant, Family Information that contains the family background of the applicant, and Educational Information that contains what the applicant's desired school.
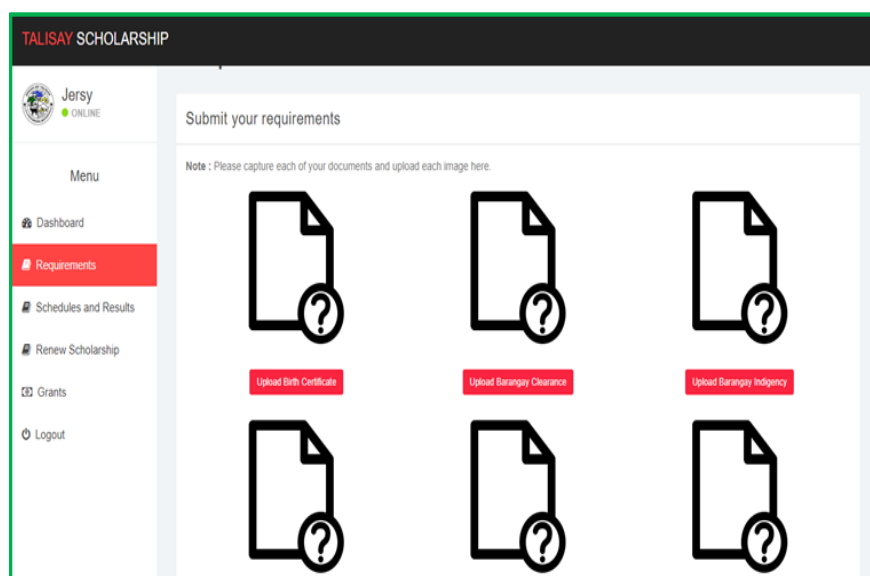
Figure 11. Account Creation

Submission of Credentials and other Documents

Figure 12 shows the applicant's requirements they need to upload. The applicant must capture the documents or have them scanned and send as a pdf or JPG file.

It has a total of six (6) documents. They need to upload Barangay clearance, Certificate of Barangay Indigency, Birth Certificate, School ID, Registration Form and Evaluation of Grades.

Figure 12. Submission of Credentials and other Documents

View Status of Scholarship Application

Figure 13 shows how the applicant can view the status of scholarship application. It is displayed on the dashboard of the applicant or scholar account.

Figure 13. View Status of Scholarship Application

View Examination, Interview and Orientation Schedule

Figure 14 shows how the applicant can view their examination, interview and orientation schedule. The applicant can check their account whether the schedule is already set by the administrator. They must attend to every process as stated otherwise their application will be on hold.

Figure 14. View Examination, Interview and Orientation Schedule

Managing Information

Figure 15 shows how the administrator can manage information. These include updating of information and reports generation.

Figure 15. Managing Information

Viewing Status of Scholarship Renewal

The scholar can view the status of their scholarship renewal which is shown in Figure 16.

The Scholar can renew their scholarship following the set date of renewal by the administrator. They need to renew their scholarship on time.
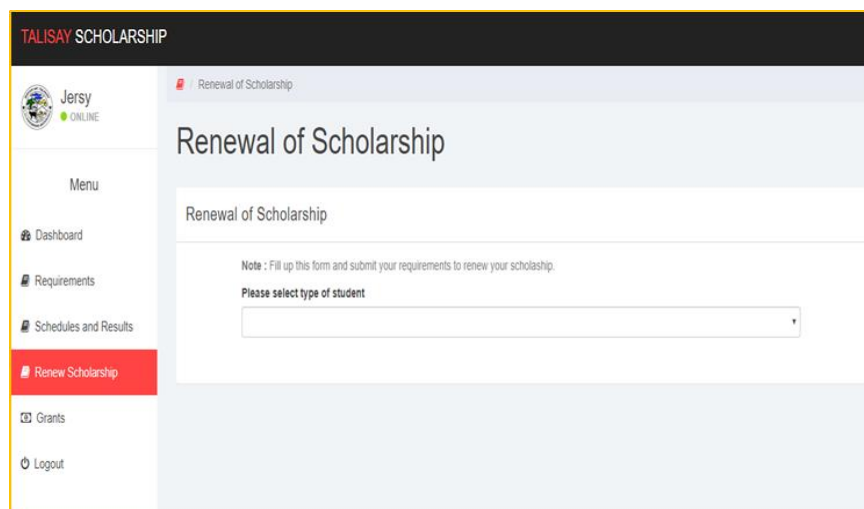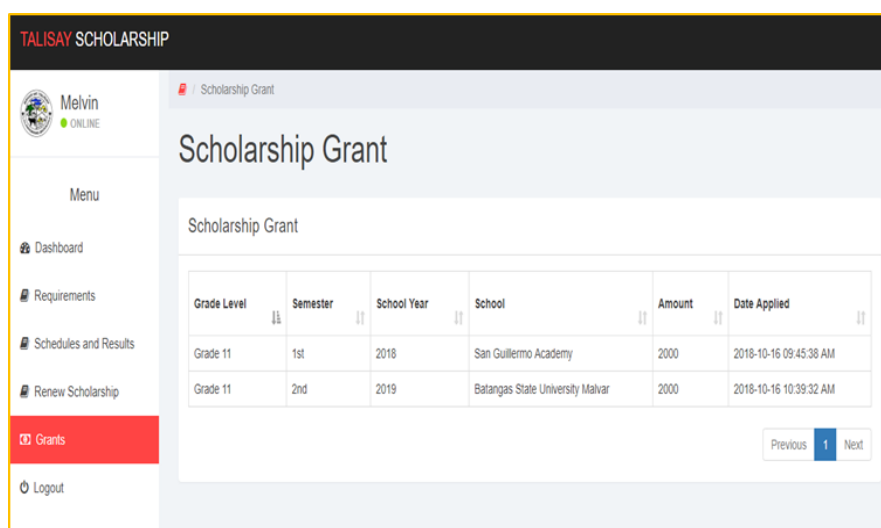

Figure 16. Viewing Status of Scholarship Renewal

Viewing Status of Financial Assistance

The scholar can view the status of their financial assistance as shown in Figure 17.

The scholar needs to view their financial assistance status in order to know whether the scholarship office already released the granted financial aid.
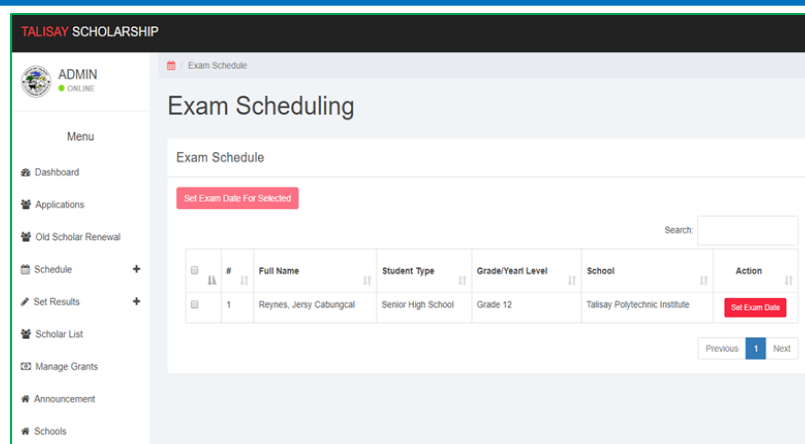

Figure 17. View Status of Financial Assistance

Examination Scheduling

Figure 18 shows how the administrator can set the schedule of examination for the applicants. Administrator will set schedule for each applicant for scholarship.

Moreover, the applicant or students are capable of checking their accounts for any notification from the administrator.

Figure 18. Examination Scheduling

Interview Scheduling

Figure 19 shows how the administrator can set the schedule of interview for the applicants. Administrator will set schedule for each applicant that applied for scholarship. Likewise, the applicant can view the corresponding interview schedule using their accounts.
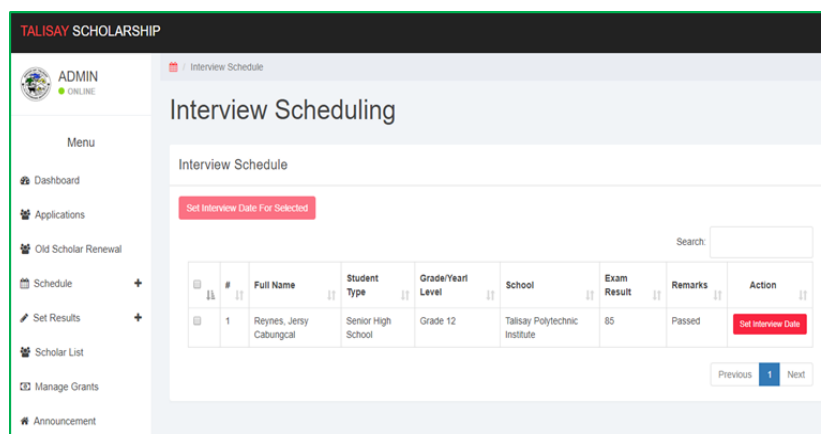
Figure 19. Interview Scheduling

Orientation Scheduling

Figure 20 shows how the administrator can set the schedule of orientation for the applicants. Administrator will set schedule on each applicant that applied for scholarship.
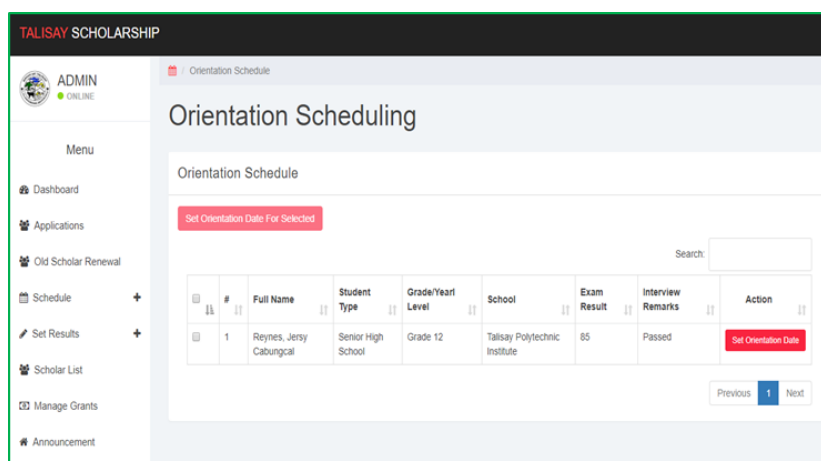
Figure 20. Orientation Scheduling

Information Dissemination of Scholarship Approval and Disapproval

Figure 21 shows how the administrator informs whether the scholarship application is approved or disapproved.

First, administrator will review the background information and will view the requirements submitted by the applicant.

Lastly, he is the one to post if the applicant is approved or disapproved to be a scholar.

Figure 21. Information Dissemination of Scholarship Approval and Disapproval

Total Number of Scholars Per School

Figure 22 shows the statistical report per school. It presents the statistical record of scholars per school applied for. This is a bar graph showing relativity and comparison of number of scholars per school. Merely, this is used when there is limited number of scholars per school.
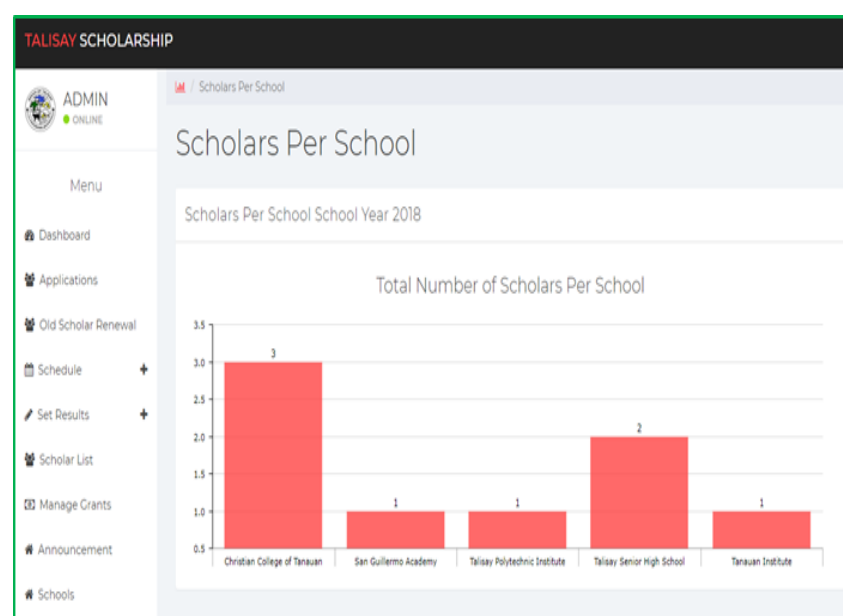
Figure 22. Total Number of Scholars Per School

Total Number of Scholars Per Barangay

Figure 23 shows the statistical report per barangay. It presents the statistical total number of record of data according to their barangays. Also this certifies on how the administrator limits the scholarship according to barangay.
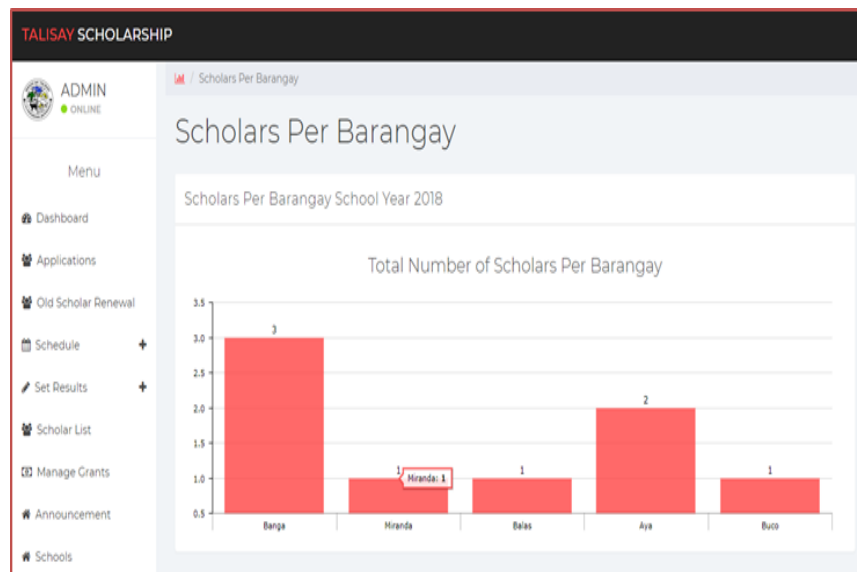
Figure 23. Total Number of Scholars Per Barangay

Total Number of Scholars Per Level

Figure 24 shows the statistical report per level. It presents the statistical total number of record of data according to their school level. Also this certifies on how the administrator limits the scholarship per level.

Figure 24. Total Number of Scholars Per Level

Total Scholars who will graduate in Junior high, Senior high and College

Figure 24 shows the statistical report who will graduate in junior high, senior high and college. It presents the statistical total number of record of data according to graduating students who will graduate.

Figure 24. Total Scholars who will graduate in Junior high, Senior high and College

List of Scholars Per School

Figure 25 shows the list of scholar per school. This presents generated and ready to print records of scholars. It includes the name of student, school and scholar type.

Figure 25. List of Scholars Per School

List of Scholars Per Barangay

Figure 26 shows the list of scholar per school. This presents generated and ready to print records per barangay. It includes the name of student, school and barangay.
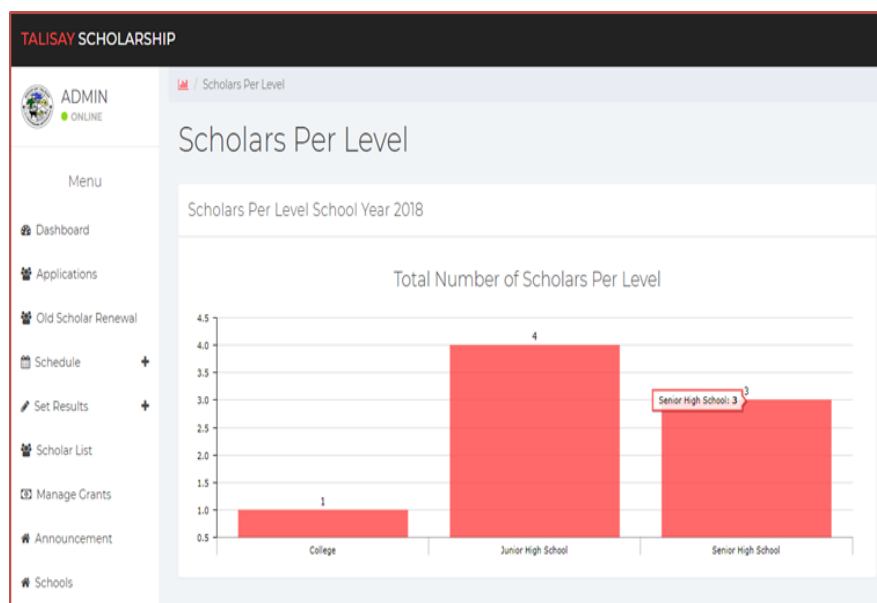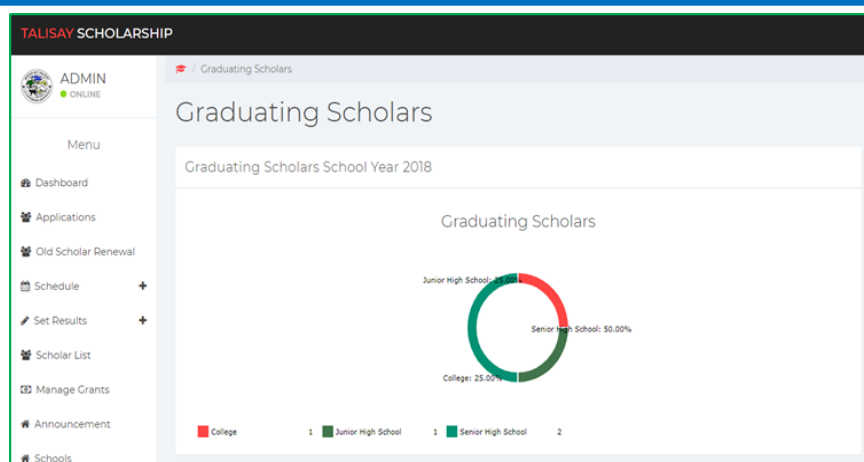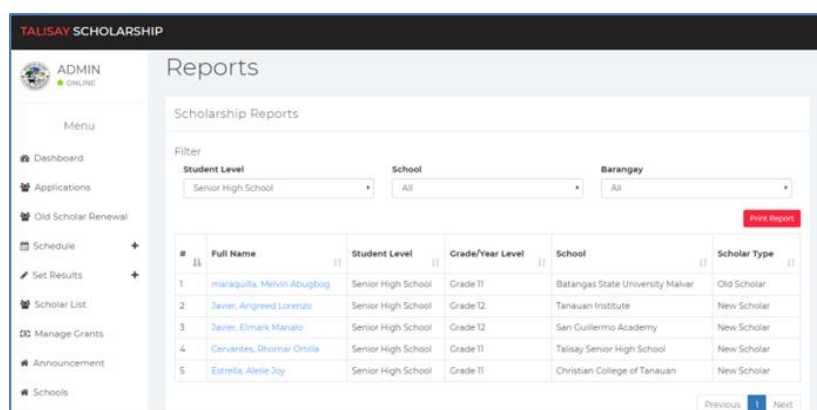

Figure 26. List of Scholars Per Barangay

List of Scholars Per Grade Level
Figure 27 shows the list of scholar per school. This presents generated and ready to print records per grade level. It includes the name of student, school and grade level.

Figure 27. List of Scholars Per Grade Level

List of Scholars who will graduate in Junior high, Senior high and College
Figure 28 shows the list of scholar who will graduate in junior high, senior high and college. This presents statistics of scholars in different categories. It includes the name of student, school and scholar type.
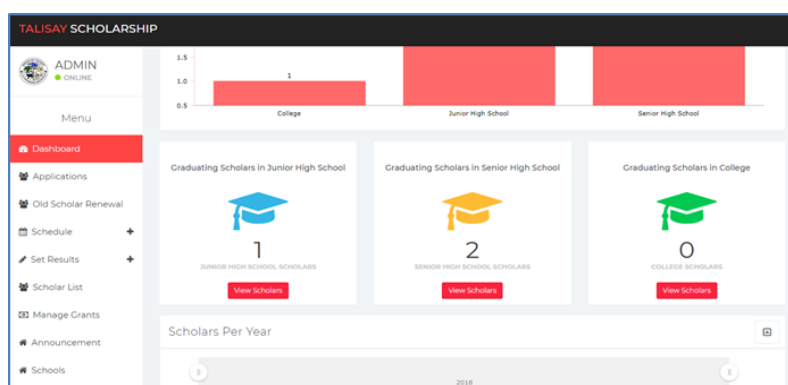
Figure 28. List of Scholars who will graduate in Junior high, Senior high and College

SMS and Email notification feature that will notify the scholars on future municipal events, activities, announcements, and meetings
Figure 29 shows how the administrator sends the SMS notification that will notify the scholars. It notifies the scholars using the mobile number they have given.

Figure 29. SMS Notification of Administrator

Figure 30 shows how the administrator sends the e-mail notification that will notify the scholars. It notifies the scholars using the e-mail accounts they have given.
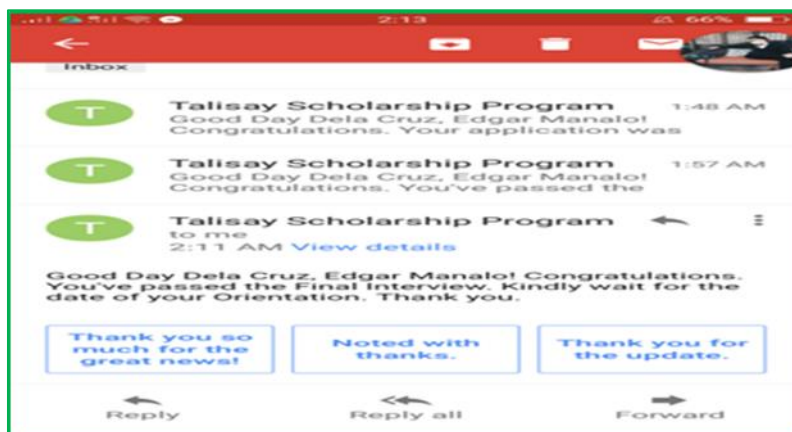

Figure 30. Gmail Notification of Administrator

Testing and Evaluation Results

The developer conducted a survey consisted of four categories. Each category has corresponding questions. This survey is used to know the functionality, reliability, usability and efficiency of the system. This section presents the system results and discussion from the administrator, scholars and applicants who became the respondents of the developed system. It includes the observations of the developer as well as the statistical results of the survey. In this approach, the developer were able to recognize if the system can be reliable and effective once it is implemented. Table 1 shows the accumulated responses from the applicants. The developer used gathered results of the questionnaire from the users and used it in determining the functionality, reliability, usability and efficiency of the developed system.

The five questions under the functionality resulted to the verbal interpretation of 'Agree'. The composite mean was 4.74 that only proved that the users were satisfied with the functions of the developed system. Also, it proved that the system passed the criteria of functionality where the respondents or the users agreed with the functionality of the developed system where the developed system provides what the scholars expected in terms of the functionality. It means that the developed system fits the needs of the user.

Table 1. Summary of Evaluation and Results for the Users in terms of Functionality

Criteria	Weighted Mean	Verbal Interpretation
Functionality		
The user is capable of creating account	4.84	Agree
The user can submit credentials and other documents needed.	4.60	Agree
The user can view the status application.	4.84	Agree
The user can view their examination, interview orientation schedule.	4.76	Agree
The user is capable of viewing result whether they are passed or failed with the help of e-mail and SMS notification.	4.68	Agree
Composite Mean	**4.74**	**Agree**

Table 2 shows the result of the survey in terms of reliability of the system which resulted to the composite mean of 4.69. It only means that the developed system satisfies the given criteria for reliability.

Table 2. Summary of Evaluation and Results for the Users in terms of Reliability

Criteria	Weighted Mean	Verbal Interpretation
Reliability		
The system satisfactorily performed the task for which it was designated or intended.	4.64	Agree
The system reacts appropriately when failure occurs.	4.76	Agree
The ability of the website to recover from errors.	4.68	Agree
Composite Mean	**4.69**	**Agree**

The result of the survey in terms of usability is shown on Table 3. There are three questions that leads to the verbal interpretation of 'Agree'. The composite mean was 4.63. It only means that the developed system fits the needs of the user in terms of usability.

Table 3. Summary of Evaluation and Results for the Users in terms of Usability

Criteria	Weighted Mean	Verbal Interpretation
Usability		
The system functions can be easily understood.	4.72	Agree
The system possesses appropriate user friendly interface.	4.68	Agree
The system is easy to understand and navigate.	4.48	Agree
Composite Mean	**4.63**	**Agree**

The last criterion tested by the developer is shown in Table 4 which is the efficiency of the system. The two questions resulted to the verbal interpretation of 'Agree'. The composite mean was 4.82. This means that the users are assured of the organization processes.

Table 4. Summary of Evaluation and Results for the Users in terms of Efficiency

Criteria	Weighted Mean	Verbal Interpretation
Efficiency		
The system responds immediately to every action done by the user.	4.92	Agree
The submission of documents can be done in a short period of time.	4.72	Agree
Composite Mean	**4.82**	**Agree**

The average weighted mean resulted to 4.72 with the verbal interpretation of 'Agree'. This only proves that the system met the needs of the users based on its functionality, reliability, usability and efficiency. The developer also found out that the developed system has a lot of improvement against the manual system process.

Table 5 shows the testing result of every task accomplished by the user of the system. If the user were able to make 100% or higher, then it means it passed.

Table 5. Summary of Evaluation and Results for System Administrator

Task No.	Test Description	Status
1	Administrator can manage all the accounts in the system.	5/5 = 100% PASSED
2	View all the documents and credentials passed by the applicants.	5/5 = 100% PASSED
3	Approved applicants form and credentials.	5/5 = 100% PASSED
4	Set schedules	5/5 = 100% PASSED
5	Send SMS and email notification for announcements that will notify the scholars on future municipal events, activities, announcement, and meetings.	5/5 = 100% PASSED
6	Generate statistical report on the total number of applicants and scholars per school, barangay and year level.	5/5 = 100% PASSED
7	Generate and print reports such as list of scholar and applicants per school, barangay and year level.	5/5 = 100% PASSED

Note: No. of administrator = 5
If the result is 100% then it passed.
Else If results is <=99% then it is failed.

Conclusions
The developer conducted a test to find the capabilities of the system and concluded the following:
1. The developer found out that the administrator can manage the whole system such as:
1.1 The administrator can record the current applicant scholars, view the scholar's information and examination results, view the credentials and other documents submitted by the scholars/applicants and he or she can also view the present statistical reports such as:
1.1.1 Total number of scholars per school, Total numbers of scholars per barangay, Total numbers of scholars per level, and Total numbers of scholars who will graduate in junior high, senior high and college; and
1.2 Administrator can schedule the following:
1.2.1 Examination, Interview and Information dissemination of scholarship approval and disapproval; and
1.3 Administrator can generate all the necessary reports such as:
1.3.1 List of scholars per school, List of scholars per barangay, List of scholars per grade level and List of scholars who will graduate in junior high/ senior high and college; and
1.4 The developed system provides an SMS and email notification feature for the administrator that will notify the scholars on the future municipal events, activities, announcements and meetings; and
2. The developer found out that the scholar/applicants can easily use the system such as:
2.1 Scholars/applicants can fill up application form, Scholars/applicants can submit credentials and other documents and Scholars/applicants can view the status of the following through SMS and email notification:

2.1.1 Status of submitted form and Status of financial assistance and;

3. The result of the conducted test cases shows that the developed system meets the objectives of the project. The developed system also became efficient and easy to use that could make the transactions of the scholars/applicants and the administrator easier than the manual process.

4. The system can be useful in terms of managing the scholars/applicants' information and document in the said client.

Conflicts of interest: There is no conflict of interest of any kind.

References

1. Almanza, Billy June, Gozo, Eloise Marie., Lim Singlee III., Maglasang, Maria Cyril and Wagas, Melanie Claire. 2015. Online Information Management System of Cebu-Technical Education Training and Assessment Center. Retrieved from https://ccsIm.uc.edu.ph/mod/ data/view.php?=d=1&advanced=0&paging8

2. Chavez, Nikko Renz, Dup-Et Grand Ford and Umali Elayzalyn. April 2017. Retrieved from Batangas State University Malvar, Campus July 6, 2018.

3. Falogme, Carl Henz F. and Motol, Limuel U. 2017. Scholarship Management System for Municipality of Malvar" Retrieved from Batangas State University Malvar, Campus, June 27, 2018.

4. Gonzales, Laura Angelica O., Pesa, Yeersly D. and Valencia, Ronald R. 2016. Modification of the Scholarship Management Information System of Batangas States University. Retrieved from Batangas State University Alangilan, Main Campus II, June 26, 2018.

5. Lopez, G. 2016. Local Enrollment Database System for the College of Nursing, WMSU. Retrieved from https:// www.scribd .com/ doc/ 670 1880 /Enrolment-System-Thesis

6. Malipol, Yannie C., Regencia, John Orly M. and Tlentino, Katrina Roxanne D. January 2018. Online Scholarship Application and Record Management System for Municipality of Bay, Laguna. Retrieved from Batangas State University Malvar, Campus, July 6, 2018.

7. Mohammed, C. March 2015. E-Scholarship for Niger State Scholarship Board. Retrieved from https://www.yumpu.com/en/document/view/ 10439 907/escholarshipsystem/2, June 21, 2018.

8. Plata, Maria Angelica A., Rodriguez, Christian M. and Liwag, Justine A. 2017. Sagip-Eskwela Beneficiary Program Web-Based and Mobile Application" Retrieved from Batangas State University Alanginan Main Campus II, June 26, 2018.

9. Rizvi, L. April 2015. Online Scholarship Management System for Students of Minotory Community", Retrieved July 6, 2018 from https://www.slideshare.net/AdmitUdhwani/onlinescholarshipapplicationsystem.

10. Sauser, J. February 2015. Scholarship Management System for University of Northern. Retrieved from https://hdl.handle.net/ 10760/13057, June 21, 2018

11. Seidu, A. 2017. Scholarship Fund Management System. Retrieved from https://air.ashesi.edu.gh/20.500.11988.292

12. Villanueva, A. 2015. Scholarship Management System for CBA Scholarship Office, Retrieved June 26, 2018 from Batangas State University Alangilan, Main Campus II.

13. Wisconsin-La Crosse. May 2015. Online Scholarship Application System for their foundation. Retrieved Jun 22, 2018 from https://hdl.handle.net/10760/12098.