

**ALUMNI MANAGEMENT SYSTEM
FOR WEERAKETIYA RAJAPAKSHA
CENTRAL COLLEGE**

P.D. Gunasekara

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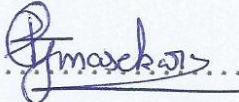
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This dissertation is submitted in partial fulfilment of the requirement of the Degree of Bachelor of Information Technology (external) of the University of Colombo School of Computing

DECLARATION

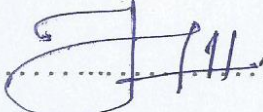
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ABSTRACT

The past pupils of Weeraketiya Rajapaksha College are spread all over Sri Lanka. Many of them have splendid accomplishments in their personal and professional fields bringing laurels to their Alma Mater. The Past Pupils' Association of Weeraketiya Rajapaksha College was formed to strengthen the ties between the past pupils and to facilitate the development of the school.

As the number of memberships grow larger the administration of association get complex and also the communication channels get less. So this project aims at developing a user friendly dynamic website for past pupils to have a place to share information, make donations, purchase tickets, online membership registration and view upcoming events & latest news. Further project emphasize on implementing a web application for the association to manage memberships, scholarships, donations and events. The Rational Unified Process model was used during the lifecycle of development and the system has been implemented using the technologies PHP and MYSQL.

The system had been implemented to fulfill the clients' requirements. The system was tested by some representatives and finally the system was delivered to the association. The committee and the members of the association have positive attitudes towards the system as it has ease their alumni management process.

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LIST OF ACRONYMS

- 1NF - First Normal Form
- 2NF - Second Normal Form
- 3NF - Third Normal Form
- AJAX - Asynchronous JavaScript and XML
- CSS - Cascading Style Sheet
- HTML - Hypertext Markup Language
- MVC - Model View Controller
- PHP - PHP: Hypertext Preprocessor
- PPFA - Past Pupils' Friendship Association
- URL - Uniform Resource Locator

1.1 GENERAL INTRODUCTION

Alumni are one of the most important assets to the school as they are the people who represent the school in the real world. Alumni forms associations to promote a spirit of unity and loyalty among former students and to strengthen the ties between alumni, the community, and the school. These associations gained added importance in the development of the school because of their enormous outreach potential that benefits the school and helps current students in their career paths.

Past Pupils' Friendship Association of Weeraketiya Rajapaksha Central College is one of the strongest alumni associations among the rest in Sri Lanka. It was formed in 1990, 50 years after the school was established. It was formed with the aim of developing and sustaining friendship and brotherhood among past pupils and teachers of the college and to facilitate the development of the school and the students while serving the community at large. Most alumni members are leading professionals spread across the country and worldwide. With more than three hundred members alumni association is working toward achieving the objectives such as building team strength, developing friendship and brotherhood among the membership, facilitating the upgrading of the college academic, extra-curricular activities and infrastructure etc. The alumni association provides a channel for professional and social communication between the past pupils themselves and the school.

1.2 MOTIVATION FOR THE PROJECT

Currently the alumni association is maintaining, updating and managing records manually. This does not allow efficient data management and retrieval process. It is a tough task to communicate with members for renewals, events, meetings etc. The past pupils who are interested in joining the alumni has to contact alumni committee member to get an alumni form, fill-up the form and submit back to complete the registration process. Some of them think the process to become an alumni member is inconvenient. Thus the committee needs an easy comprehensive system to manage the day to day

aspects of the association. Further they expect to connect and interact with members, grow and retain the membership, increase participation in events through the new system.

1.2.1 DRAWBACKS IN THE CURRENT PROCESS

- Lack of an accurate and homogeneous database of the school's alumni

Alumni records over the history of the school have been maintained in a variety of methods. Once the student had graduated the records were archived, thus making access to these records difficult and time consuming.

- Limitations in expanding the membership

As the members have to submit the membership forms by hand most past pupils are reluctant to get the association membership. There is geographic limitation in developing international alumni relations and get the membership of overseas alumni.

- Conventional process for communication

Communication is critical for the association to inform members and others about its goals, activities and motivate them to take an interest in the association and the school. In the conventional process the alumni are informed about membership renewals, meetings and events by sending individual letters through mail. This method is time consuming, costly and the response rate is low.

- Outdated information in the current static website

The existing website provide information only about the school through one-way communication and it has little room for future activities and interaction between the members. The members have no or slight chances to join in decision making process by giving their feedback to align services with existing and emerging needs.

1.2.2 NECESSITY FOR AN ALUMNI SYSTEM

- Get the support of the alumni for the development of the school

The government support for educational activities is lessening. As a result, the schools need to secure alternative sources of cash inflow. It is beneficial to the school to maintain healthy relationships with the alumni who have the financial solvency to

donate to their school. Hence, a web based system expands the possibilities of obtaining monetary gifts.

- Open career paths to the current students

The alumni can provide assistance to the current students for their future progress. The students should have a source to get contact information of the alumni and the alumni association should have a media to communicate with the current students regarding job fairs, seminars and job opportunities.

- School's need to highlight itself as a leading school within the province

With the achievements of the students the school has managed to reach high stands provincially and nationally. That will be enriched with publicizing notable alumni in leading professions within the country and worldwide.

1.3 OBJECTIVES OF THE SYSTEM

The proposed system is intended to meet the following objectives:

- Maintain the updated and current information of all alumni
- Encourage, foster and promote close relations between the school and the alumni and among the alumni themselves
- Encourage the alumni to support and participate in programs, services and events of the association.
- Obtain feedback and opinions from alumni for planning and implementing the activities of the association.
- Provide a contemporary centralized base of information that is easy to use by alumni committee members.
- Provide efficient standard reporting and ad hoc reporting capabilities

1.4 SCOPE OF THE PROJECT

Create a user friendly dynamic website for past pupils of Weeraketiya Rajapaksha Central College to have a place to share information, make donations, purchase tickets, online membership registration and list upcoming events & latest news. Implement a web application for the association to manage memberships, donations, scholarships and events.

1.5 STRUCTURE OF THE DISSERTATION

Information on the project carried out is given in a comprehensive manner in the following chapters.

Chapter 2 - Discusses the requirements and brings out a requirement analysis with the details of currently available software.

Chapter 3 - This chapter includes System designing, presenting overall structure of the system

Chapter 4 - 'Implementation Chapter' is the core part of the project. It includes important code segments and module structures.

Chapter 5 - Test plans which ensure the system would work properly.

Chapter 6 - The conclusion and discusses results of the project. Describes future work based on this specific project.

2.1 INTRODUCTION

The software requirements are description of features and functionalities of the target system. Requirements convey the expectations of users from the software product. The requirements can be obvious or hidden, known or unknown, expected or unexpected from client's point of view [1]. Requirement analysis helps to study the nature of the present situation and it gives a clear picture of the existing process and the weaknesses associated with the current practices. Requirement gathering was performed through two areas; interviews and studying documentation.

2.2 REQUIRMENT GATHERING TECHNIQUES

Collecting requirements is a tedious task. Wrong or incomplete requirements lead into incomplete product that will result in customer dissatisfaction. A proper methodical approach will help to gather user needs completely.

Interviews commenced with the President of the association from the beginning of the project. The President had a general idea of what he wanted the system to do and he explained the current manual system the association is following. The functionalities in the proposed system was verified with him. The initial interviews were lasted approximately two hours. Secretary, treasurer and some of the committee members were interviewed to get an idea about what they are expecting through the new system. Document review technique is an effective data collection method as it is a relatively low cost method which provides spontaneous data The documents were reviewed to ensure that the proposed system obtain the required data. Some of the important documents are member registration form, scholarship forms, event budgets etc.

2.3 CURRENT PROCESS

After a domain analysis major activities of the association has been identified as Member Registration, Donation Management, Scholarship Management and Event Management. A detailed study had been carried out to get a deep understanding of each process.

MEMBER MANAGEMENT

If a past pupil of the college wishes to join the association he has to fill a form which should be signed by a proposer who is currently a member of the association. Then he pays the membership fee to a bank and submits the filled form along with the bank slip. The treasurer verifies the payment details, President or the Secretary gives his/her consent. At the end a membership ID is assigned to the new member. The members have to renew the membership at the end of one year period.

DONATION MANAGEMENT

The members of the association and also the non-members can donate to the association. Association looks for donations under the categories; school event, association event, scholarship, welfare of the association. Also association has welfare shop which sell gifts items.

In school event category association ask donations for school projects and school events. The association hand over the collected donations to the school. The members can contribute for association events also. The association expects donations for welfare of the association. They are used as benevolent fund, for alms giving, funerals and etc.

The use case diagram is a high level description of how the users interact with the system. The diagram in figure 2.1 is a use case diagram of the donation management module.

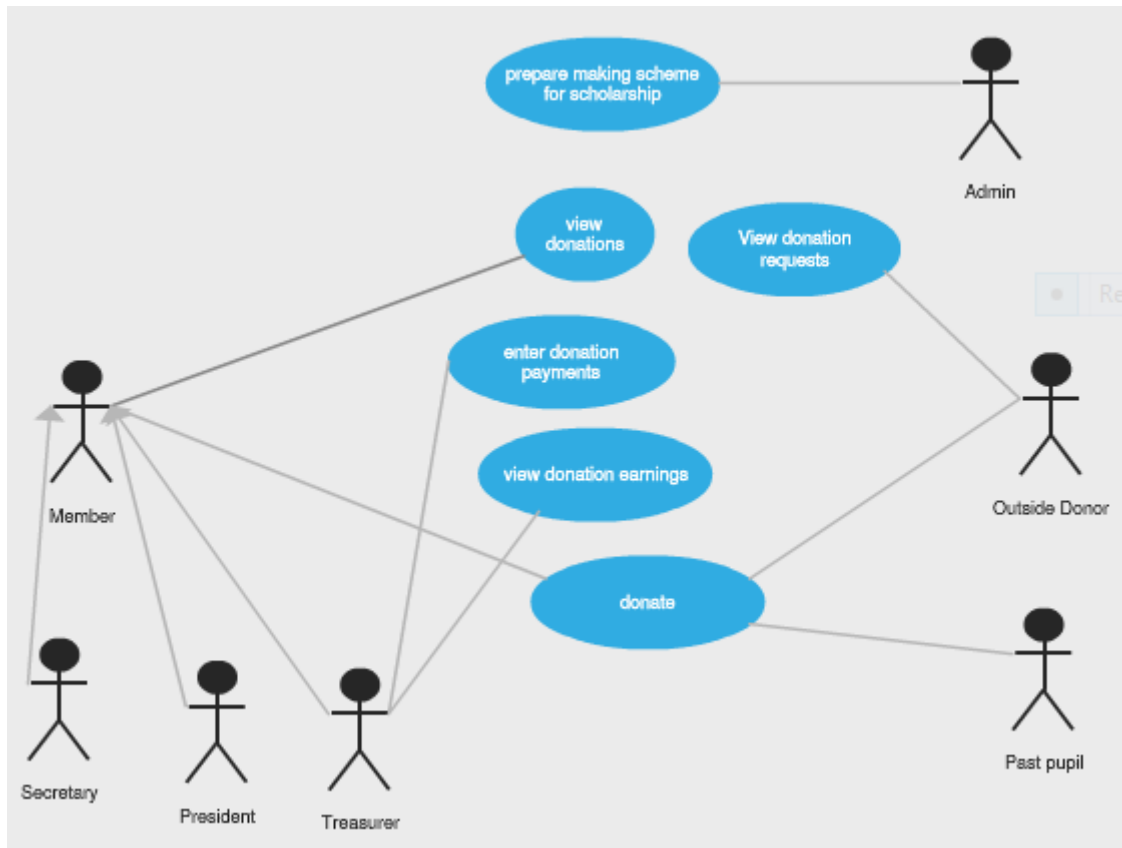


Figure 2.1 Use Case Diagram; Donation Management

SCHOLARSHIP MANAGEMENT

Association offer scholarships to students who have demonstrated outstanding academic performance in the school. Students are selected from those got university entrance in last year that have financial difficulties. Annually students who prefer to get the scholarship submit the application form and the scholarship committee chooses the beneficiaries through a predetermined selection criteria. Members as well as non-members can sponsor for these students for scholarships.

EVENT MANAGEMENT

The association organizes events such as musical events, annual trips, friendship cricket match, etc. The secretary assigns members for the tasks. The treasure prepares a budget plan for which he gets the approval from committee. The members can participate for any event and for some events such as annual trip they have to pay an advance to confirm participation. Event committee is responsible for informing members, plan the process,

gather resources, and sell tickets to success the event. At the end of the event the committee publish the budget and other details for members to refer.

The current process is well depicted by figure 2.2 use case diagram.

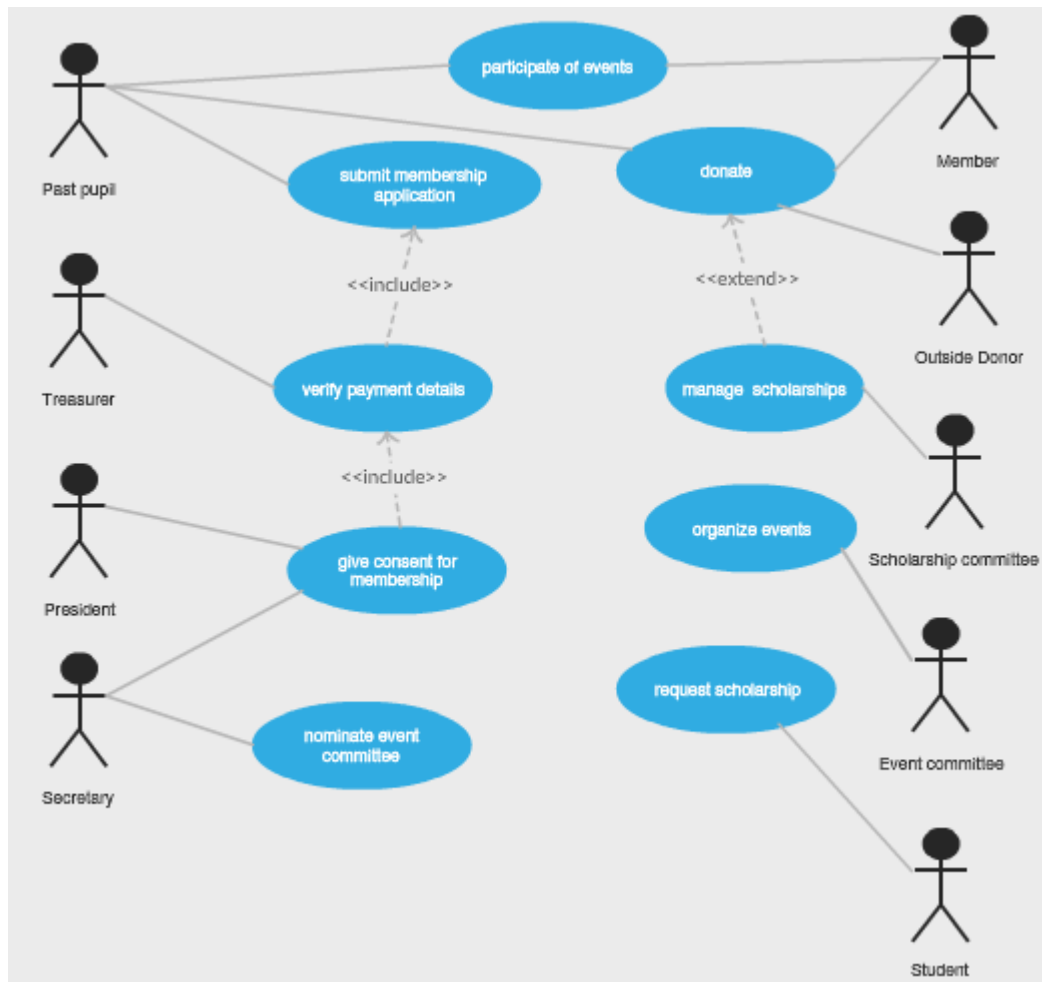


Figure 2.2: Use Case Diagram of the existing system

2.4 SIMILAR ALUMNI MANAGEMENT SYSTEMS

To be familiarize with the system to be implemented, similar alumni management systems had been studied. There are many commercial alumni management software but there are only few free software that can be used for alumni management but they are actually implemented for membership management.

- **WILD APRICOT**

Wild Apricot is a web based membership management software which maintains a membership database. Auto membership renewal, fund raising and event management

are some of the features which had been integrated to this system. The software is free for one admin and up to 50 members, if the organization is bigger than have to upgrade for a paid version [2].

- **GRADUWAY**

Graduway is a commercial software which provides many features such as membership management, event management, fund raising management and mailing list management. It is a cloud based platform which can be customized for different types of institutions. The institutes can register through Facebook or LinkedIn account. The starting price of the product is \$5,000.00 per a year [3].

2.5 FUNCTIONAL REQUIREMENTS

Functional requirements are associated with specific functions, tasks or behaviors the system must fully support [4]. A functional requirement relates directly to a process the system has to perform or information it needs to contain [1]. Following are the functional requirements identified by the analysis.

- **MEMBER MANAGEMENT MODULE**

The past pupils should be able to get the membership online. The executive members should get the privileges to authorize the registration. The system must maintain the membership details as well as pending membership details. The system must generate mail/ SMS to notify the past pupil and the executive members about registration request, registration completion and registration rejection. Members should be able to renew the membership once a year. The executive members should be able to get summaries of member registration, membership income etc. The members should be able to update their profiles and view profiles of other members.

- **DONATION MANAGEMENT MODULE**

Donations can be made to one of several funds; example funds are the College's General Fund, the Scholarship Fund, and CSR Fund etc. The donors should be able to view the

donations required and he should be able to donate online. The donors receive appreciations, requests and remainders through mail. The president should be notified about donations made. The executive members should be able to get list of donors, donation income etc.

▪ SCHOLARSHIP MANAGEMENT MODULE

The students in need of scholarships, should be able submit their details online. The committee should be able to select students through the system and the eligible students should receive notifications. When the scholarships are awarded those details should be available to members through the system. Donation request report, eligibility list, scoring reports, donation history report should be generated from the system.

▪ EVENT MANAGEMENT MODULE

All the users of the web site should be able to view the events. The users who have permission should be able to register for an event and confirm the participation. The system should facilitate the event committee to organize the event by providing a budget planner, a communication channel and a task manager. The system should be able to track attendance of participants. The members should be notified about events through an SMS or a mail. The participants should be able to buy the tickets for the events through the system.

▪ WEB SITE

The association needs a web site which presents information about the association, latest news, upcoming events and photographs of events. Moreover the members should be able to share their school time experiences through the site. An e shop should be there for online purchasing of car stickers, t shirts etc. Online ticketing facility should be there for buying event tickets online.

2.6 NON FUNCTIONAL REQUIREMENTS

Non functional requirements are the constraints the system must work within.

- **SECURITY**

The system facilitates to create users with specific rights for the application usage. The system must maintain the privacy of the users by maintaining their personal information inaccessible to others. Physical access to the computer storing the past pupil database shall be restricted to authorized personnel.

- **USER INTERFACE REQUIREMENTS**

The user interface of the application must be user-friendly, intuitive and easy to use. The interface must provide ways to navigate easily from one place to another. The system must allow the user to preview queries and reports before printing.

- **PERFORMANCE REQUIREMENTS**

The system shall function in real-time: any operation on the stored information, triggered by the member, should complete in less than 10 seconds. The system should allow simultaneous use by at least 50 users, without data corruption.

2.7 PROCESS MODEL FOR THE SYSTEM

Among many of the process models available, Rational Unified Process is used for the system. It is a modern approach inspired by UML and Unified Software Development Process. It has four goal directed phases namely Inception, Elaboration, Construction and Transition.

- **Inception** - In this stage, the project's business case is stated and the team decides if the project is worth doing or if it is even possible. It is important to the process to first formulate the scope of the project and also determine what resources will be needed.
- **Elaboration** - In this stage, the developers take a closer look at the project to determine its architecture and to evaluate the architecture in relation to the project.

- Construction-- In this stage, the development of the project is completed. The application design is finished and the source code is written. It is in this stage that the software is tested to determine if the project has met its goal laid out in the inception phase.
- Transition -- In this stage, any fine-tuning is performed. Any final adjustments can be based on user feedback, usability or installation issues [5].

The figure 2.3 presents the phases of Rational Unified Process.

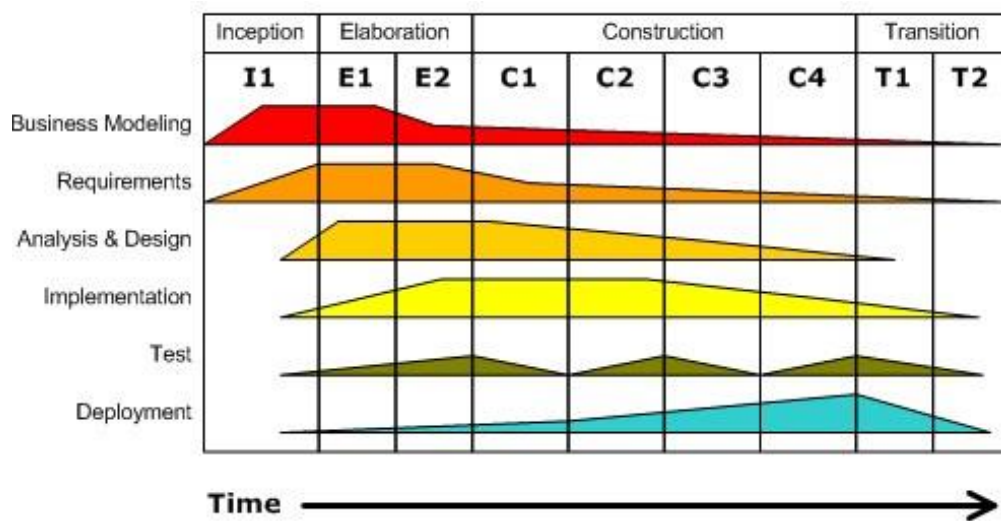


Figure 2.3: Rational Unified Process

Rational Unified Process was chosen focusing on following benefits of it.

- Less time is required for integration as the process of integration goes on throughout the software development life cycle.
- The development time required is less due to reuse of components.
- Requirements can be changed during the process, this can manage this
- Changing requirements
- This process uses UML which helps in clearly visualizing the system

Findings of the requirement analysis phase was taken into consideration when designing the system. A good design leads to a successful implementation. This chapter describes the desired features and the operations of the system in detail, using screen layouts, process diagrams and database diagrams.

3.1 DESIGN STRATEGIES

While the software is being conceptualized, a plan is chalked out to find the best possible design for implementing the intended solution [6]. Out of the following alternative solutions, develop a web based application was selected as best possible solution to implement the system.

- Solution 1 : Develop a web based application

After the design stage, the system could be implemented as a web solution using reusable codes and components. This way the system would have the features and attributes the association needed. Reusing existing components will speed up the work and enhance the quality of the system. Web solution will allow the office bearers to use the system from anywhere and it will be accessible for the members as well. Furthermore this approach enables customization in future releases.

- Solution 2: Develop a standalone application

Currently the association is managing the data manually. A standalone system could be implemented for the office bearers of the association. The main issues that can occur are the members will not have any interaction with the system so self-registration, communication, even registration will not be possible. The office bearers will have to visit association premises to use the system. This approach was rejected as the information needed to be accessible from multiple computers.

3.2 SYSTEM DESIGN

Unified Modeling Language (UML) was used to design the diagrams based on Object Oriented concepts. To elaborate the functionalities of the system diagrams such as use

case diagrams, activity diagrams, sequence diagrams had been used. Such design diagrams were useful when explaining the proposed system to the client.

3.2.1 MEMBER MANAGEMENT MODULE

This module is used to handle details related to members. Other than their personal information module keeps their registration details, login details and an activity log. The members can maintain a profile for them which is visible to other members of the association.

The sequence diagram in figure 3.1 describes the member registration process based on a time line.

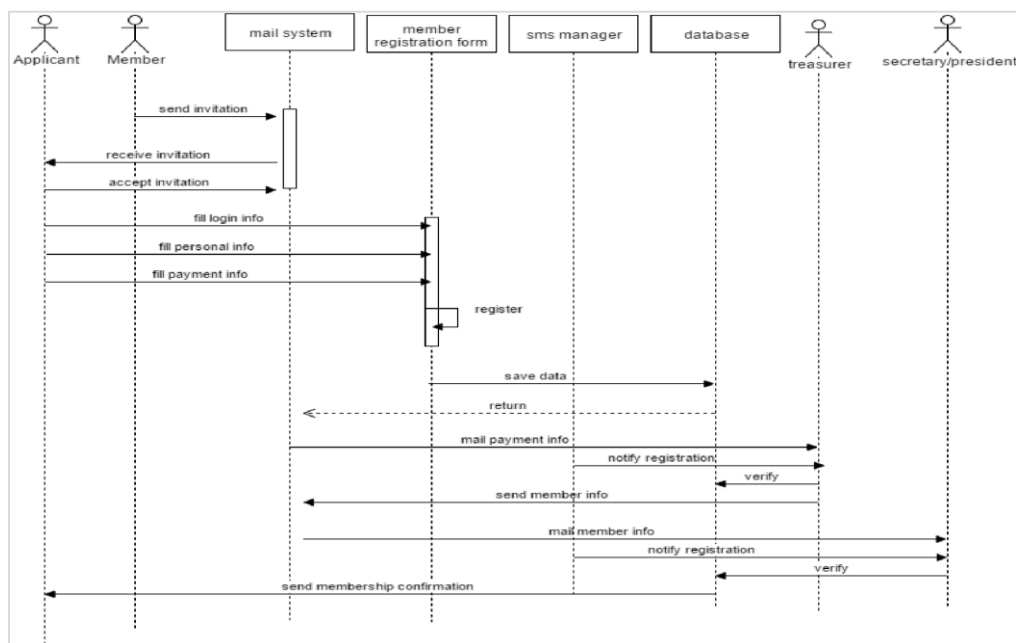


Figure 3.1: Sequence Diagram; Member Registration

3.2.2 DONATION MANAGEMENT MODULE

Donation Management Module captures, stores and tracks wide variety of donation related information. The module is used to register donors, allocate donations, automatically send reminders and appreciation letters to donors and also for report generation.

3.2.3 SCHOLARSHIP MANAGEMENT MODULE

This module deals with issuing scholarships to the students. The module maintains data about scholarship requests, scholarship allocation schemes and scholarship offers.

Mechanism as shown in table 3.1 had been used to rank the eligible scholarship applicants.

Criteria	Values	Marks	Factor	
A/L stream	Physical	50	1 st attempt	1
	Biology	40		
	Technology	30	2 nd attempt	0.95
	Commerce	20		
	Arts	10		
Result	A	20		
	B	15		
	C	10		
	S	05		
	F	00		
Z score			100	
Extra-Curricular activities	2 activities or more	10		
	1 activity	05		
Family Income (Annum)	Below Rs.50,000	15		
	Rs.50,000 –Rs.100000	10		
	Above Rs.100000	05		
Income of the head of the household			Permanent – 1 Temporary - 2	
Parents' Information	Father and mother deceased	20		
	Father deceased	15		
	Father Disabled	10		
	Mother deceased	05		
Siblings' Information	5 or more siblings	15	Doing A/L -3	
	3 or 4 siblings	10	Doing O/L -2	
	2 or less	05	1-10 grades – 1.5	

Table 3.1: Scholarship Selection Mechanism

Following notations are used when defining the formula

- A/L Stream Marks - A_m
- A/L Attempt Factor – A_f
- Result Marks for subject i- R_i
- Z Score – Z
- Z Score Factor - Z_f
- Extra Curricular Activity Marks - E_m
- District Rank – D

- Family Income Marks - I_m
- Parents' Information Marks- P_m
- Siblings' Information Marks- S_m
- Siblings' Information Factor – S_f
- Head of The Household Income Factor – I_f

$$\text{Grade} = (A_m * A_f) + \frac{\sum_{i=1}^n R_i}{n} + (Z * Z_f) + E_m + 100 * \left(\frac{1}{\sqrt{D}}\right) + (I_m * I_f) + P_m + (S_m * S_f)$$

Students are ranked based on the descending order of the grade

3.2.4 EVENT MANAGEMENT MODULE

Event Management Module keeps track of event data, event attendee data, event history and event payments. Part of the module is accessible for the outsiders and members through the web site.

User actions were grasped by the activity diagrams. The activity diagram in figure 3.3 describes the event management process.

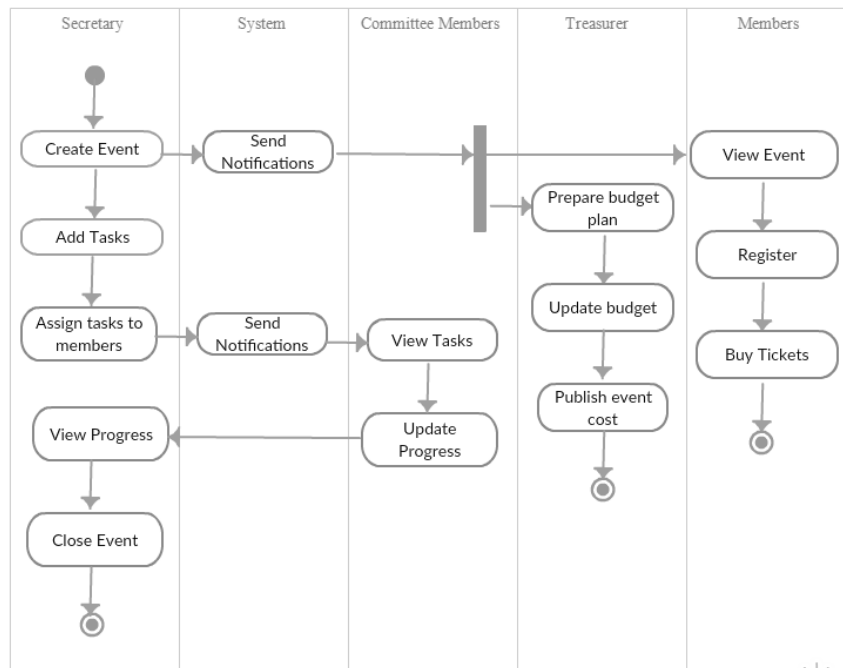


Figure 3.2: Activity Diagram; Event Management

3.3 INTERFACE DESIGN

Graphic User Interface (GUI) of an application is receiving greater attention, since it can be decisive in determining if the application is accepted or rejected by users [7]. Different mechanisms had been used to increase user friendliness and to keep user attracted. Familiar Terminology, Cool colors, Image icons and instant help are some of them. Combo boxes, dialog boxes are used to limit user typing and hence limit user errors and increase speed. Prototypes had been used to verify the content in the user interfaces.

3.3.1 MAIN USER INTERFACES

HOME PAGE

The home page of the PPFA can be accessed through the url [www. weeraketiyarajapaksa-ppfacolombo.lk](http://www.weeraketiyarajapaksa-ppfacolombo.lk). It is a dynamic site which attractively presents the association information, latest news, upcoming events and facilitates in buying souvenirs through the e-shop. Through the site members can purchase event tickets and register for events as well. Moreover, the site provides facility for outsiders to make donations. Figure 3.4 shows the home page of the web site in both desktop and mobile view.

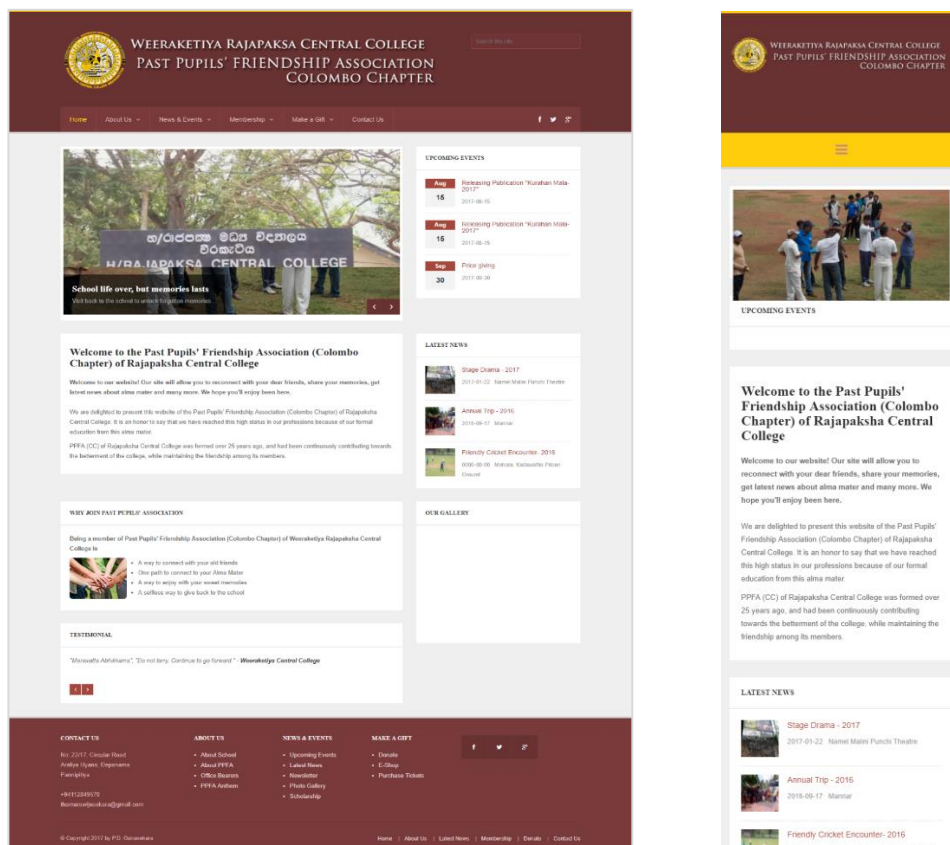


Figure 3.3: PPFA Web Site Home Page Desktop & Mobile view

DASHBOARD

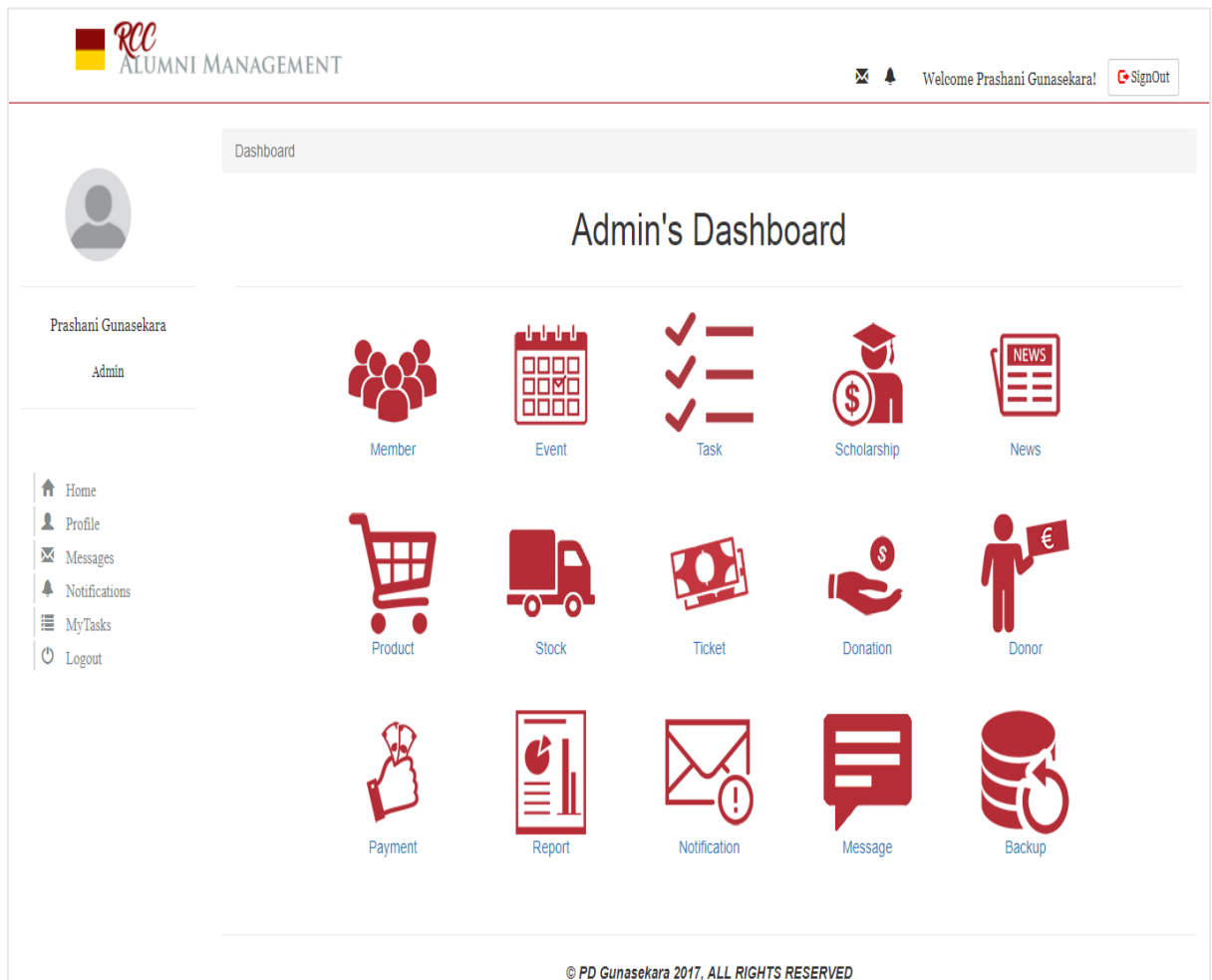


Figure 3.4: Dashboard; Alumni Management System

Figure 3.5 shows the main screen a user would get that has provision for access into the system. The available features may differ based on the privileges of the user. Guest users who have limited access are not allowed to access the system.

MEMBER PROFILE

Every member with log in credentials to the system is able edit his/her own individual profile .The profile is created at the time of registration with some personal information which he/she can complete later. Other users can view the profile. Figure 3.6 illustrates the profile page.

RCU ALUMNI MANAGEMENT

Welcome Prashani Gunasekara! [SignOut](#)

Member | Applicant

Dashboard / Member Management / Member Profile

Prashani's Profile

Prashani Gunasekara
Admin

- Home
- Profile
- Messages
- Notifications
- MyTasks
- Logout

[Send Message](#)

Last Online : 2017-09-20

Personal Information:

First Name	Ms Prashani
Middle Name	Dinusha
Last Name	gunasekara
Maiden Name	-
Date of Birth	1988-04-19
Gender	Female
ID No	886000626v
A/L Batch	2014
Role	Admin

Contact Information:

Email	tina@gmail.com
Telephone No	0719496590
Address	12, School Lane, Piliyandala
Skype Id	tina_dinu
Designation	QA Engineer
Office Address	15, Temple Rd, Colombo 09

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Figure 3.5: Profile Page of a member

TASK PROGRESS VIEW

Each event comprises of multiple tasks. The tasks are assigned to committee members and they are updating their task progress from time to time. Secretary/ President and the committee members can view the progress of the event through the interface shown in figure 3.7

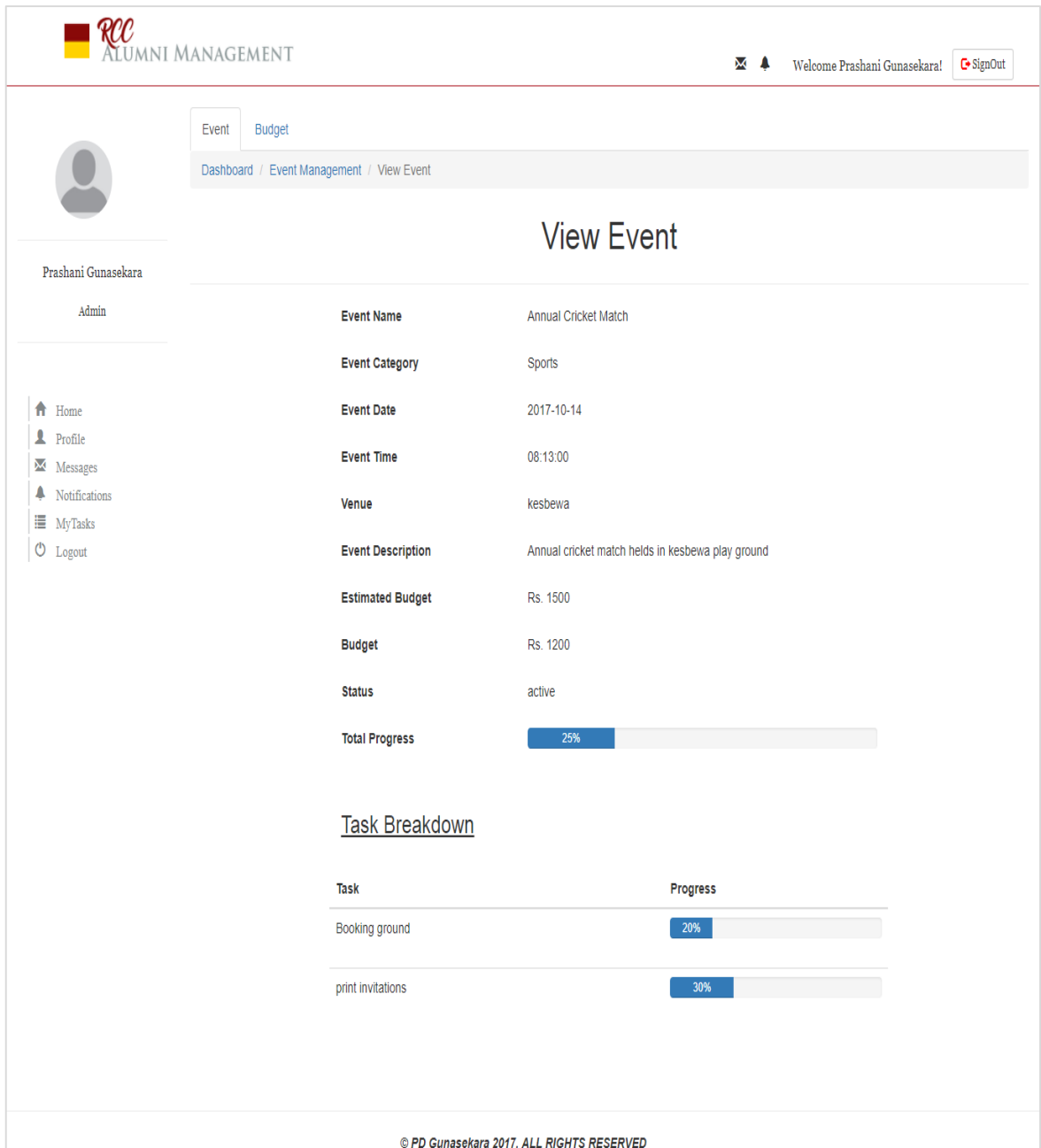


Figure 3.6: Task Progress Window

DATA ENTRY FORM

The system has input forms to gather necessary data and to pass them to the database. The forms are designed in a user friendly manner and data validation has been implemented to minimize user errors. Data retrieved from the database are filled in to input forms so same form is used for updating data. The system consists of many forms similar to the one shown in figure 3.8.

RCL ALUMNI MANAGEMENT

Welcome Prashani Gunasekara! [SignOut](#)

Member Applicant

Dashboard / Member Management / Add a Member

Add a Member

Prashani Gunasekara
Admin

- Home
- Profile
- Messages
- Notifications
- MyTasks
- Logout

First Name *	<input type="text" value="First Name"/>	Middle Name	<input type="text" value="Middle Name"/>
Last Name *	<input type="text" value="Last Name"/>	Maiden Name	<input type="text" value="Maiden Name"/>
Date of Birth	<input type="text" value="mm/dd/yyyy"/>	Sex *	<input type="radio"/> Male <input type="radio"/> Female
ID No	<input type="text" value="ID No"/>	A/L Batch *	<input type="text" value="A/L Batch"/>
Email *	<input type="text" value="Email Address"/>	Telephone No	<input type="text" value="Telephone Number"/>
Address	<input type="text" value=""/>	Skype Id	<input type="text" value="Skype Id"/>
Designation	<input type="text" value="Designation"/>	Office Address	<input type="text" value=""/>
Role *	<input type="text" value="Select a Role"/>	Image	<input type="button" value="Choose File"/> No file chosen

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Figure 3.7: Add Member Form

3.4 DATABASE DESIGN

Data are a valuable asset of any organization. Database design is a process of modeling an enterprise in the real world. In fact, a database itself is a model of the real world that contains selected information needed by the enterprise [8]. A good database design results in proper management, easy retrieval of data in the system. The figure 3.9 illustrates the database design of the system.

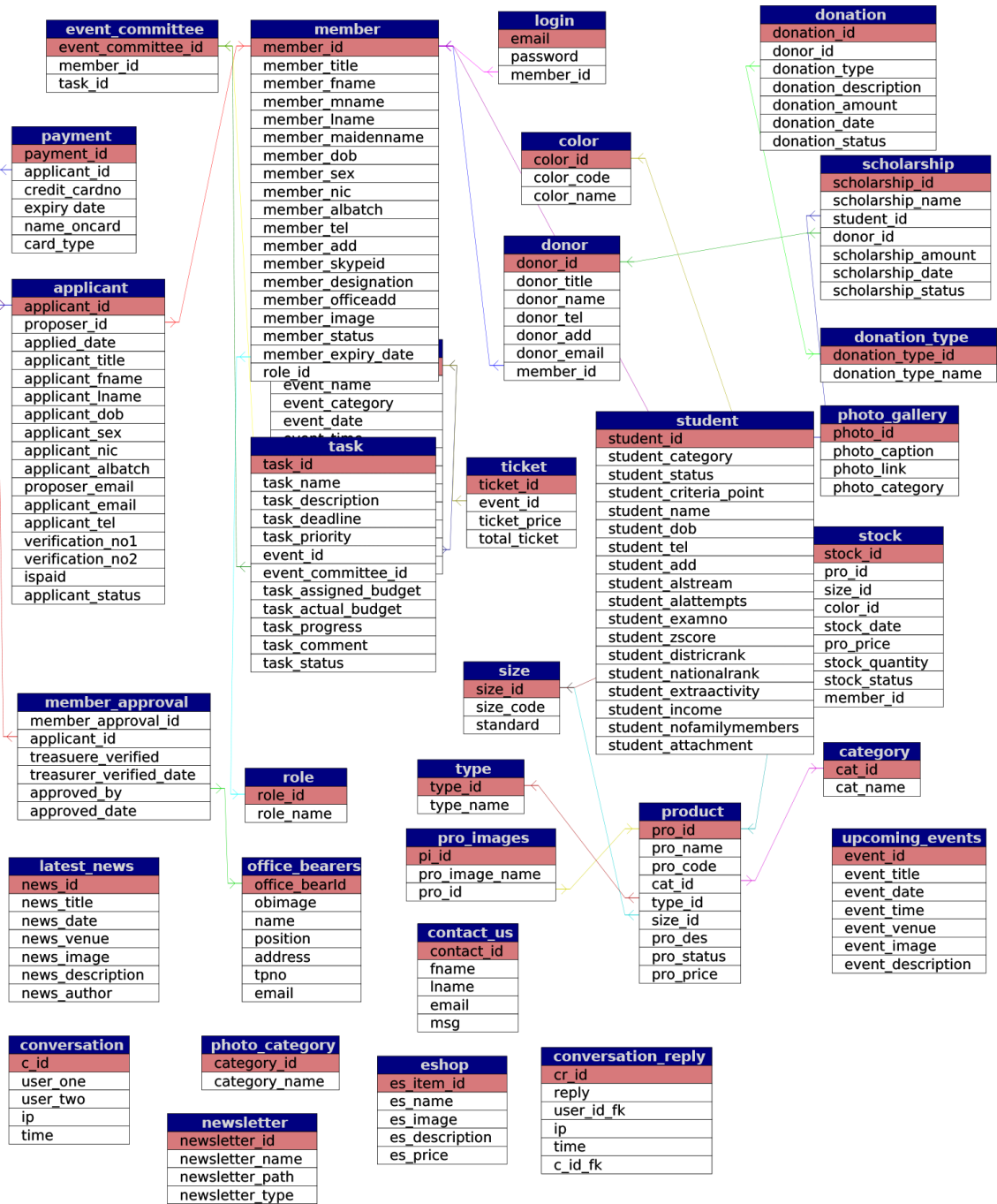


Figure 3.8: Database Design

3.4.1 DATA NORMALIZATION

Normalization is a systematic approach of decomposing tables to eliminate data redundancy and undesirable characteristics like Insertion, Update and Deletion anomalies [9]. It follows multiple steps to remove duplicate data from relational tables. The purpose of normalization is to eliminate data redundancy and ensuring data consistency.

For example table 3.2 show the initial form of Office_bearers table

name	position	address	tpno	email
R.L.Karunasena	Secretary	23/5, Gammana Rd, Maharagama	0773467451	karu@yahoo.com
Thamara Waidyaratne	Patron	34,Circular Rd,Mahalwarawa	075-3423679	thamara789@gmail.com
Jayantha Fernando	Treasurer	56 B, Piliyandala Rd, Siddamulla, Kottawa	0112-615896/0777856321	jayantha56@gmail.com
T.Gamage	Patron	67B,Kawdana,Rathmalana	011-2435896/076-668843234	tgamage@yahoo.com
Mr.A.K.Perera	President	No 2, Malwatta Rd, Maharagama	011-2617564/0712347892	akperera@gmail.com

Table 3.2: Office_bearers table

As per first normal form each column must have a unique value so the above table is converted in to 1NF as follows.

name	position	address	tpno	email
R.L.Karunasena	Secretary	23/5, Gammana Rd, Maharagama	0773467451	karu@yahoo.com
Thamara Waidyaratne	Patron	34,Circular Rd,Mahalwarawa	075-3423679	thamara789@gmail.com
Jayantha Fernando	Treasurer	56 B, Piliyandala Rd, Siddamulla, Kottawa	0112-615896	jayantha56@gmail.com
Jayantha Fernando	Treasurer	56 B, Piliyandala Rd, Siddamulla, Kottawa	0777856321	jayantha56@gmail.com
T.Gamage	Patron	67B,Kawdana,Rathmalana	011-2435896	tgamage@yahoo.com
T.Gamage	Patron	67B,Kawdana,Rathmalana	076-668843234	tgamage@yahoo.com
Mr.A.K.Perera	President	No 2, Malwatta Rd, Maharagama	0712347892	akperera@gmail.com
Mr.A.K.Perera	President	No 2, Malwatta Rd, Maharagama	0712347892	akperera@gmail.com

Table 3.3: Office_bearers table; 1NF

The applicant table in 1NF shown in table 3.4

applicant_id	int(10)
proposer_id	int(11)
applied_date	date
applicant_title	varchar(5)
applicant_fname	varchar(200)
applicant_lname	varchar(200)
applicant_dob	date
applicant_gender	varchar(20)
applicant_nic	varchar(20)
applicant_albatch	int(10)
proposer_email	varchar(100)
applicant_email	varchar(100)
applicant_tel	varchar(20)
verification_no1	varchar(50)
verification_no2	varchar(50)
ispaid	varchar(10)
applicant_status	varchar(20)
treasuere_verified	varchar(10)
treasurer_verified_date	date

approved_by	varchar(100)
approved_date	date

Table 3.4: Applicant Table; 1NF

As per the Second Normal Form there must not be any partial dependency of any column on primary key [9]. So to achieve the 2NF the above table was split in to two moving the approval details in to an independent table.

New applicant table 2NF would be shown in table 3.5;

<u>applicant_id</u>	int(10)
proposer_id	int(11)
applied_date	date
applicant_title	varchar(5)
applicant_fname	varchar(200)
applicant_lname	varchar(200)
applicant_dob	date
applicant_gender	varchar(20)
applicant_nic	varchar(20)
applicant_albatch	int(10)
proposer_email	varchar(100)
applicant_email	varchar(100)
applicant_tel	varchar(20)
verification_no1	varchar(50)
verification_no2	varchar(50)
ispaid	varchar(10)
applicant_status	varchar(20)

Table 3.5: Applicant Table; 2NF

New applicant_approval table introduced for 2NF would be

Applicant_approval_id	Int(11)
Applicant_id	Int(11)
treasuere_verified	varchar(10)
treasurer_verified_date	date
approved_by	varchar(100)
approved_date	date

Table 3.6: Applicant Approval Table; 2NF

3NF applies that every non-prime attribute of table must be dependent on primary key. So this transitive functional dependency should be removed from the table and also the table must be in Second Normal form [9].

IMPLEMENTATION CHAPTER 4

Implementation converts the concept presented in the design into an outcome. Latest available technologies had been used to implement the system. This chapter presents the implementation environment, implementation approach and the coding details.

4.1 IMPLEMENTATION ENVIRONMENT

A suitable environment has to be established to ensure that the implementation process runs smoothly. Hardware was used to implement the system efficiently and to get best performance of software. When choosing software compatibility, features were considered and more attention was given to choose free and open source software.

4.1.1 SOFTWARE ENVIRONMENT

Following languages and technologies had been used for system development

- PHP
- HTML
- CSS
- Javascript
- JQuery
- AJAX

Following software and development tools had been used with above languages and technologies.

- Windows 8.1 Pro operating system
- XAMPP version 5.6.31 including
- Apache server 2.4.26
- PHP 5.6.31
- phpMyAdmin 4.7.0
- Ozeki NG SMS Gateway 10.0.45

- NetBeans IDE 8.2
- Adobe Photoshop CS6

4.1.2 HARDWARE ENVIRONMENT

The System was implemented in a computer having following hardware configurations.

- Intel® Core™ i5 Duo CPU 1.60 GHz
- 4 GB RAM
- 1 TB Hard disk

The system incorporates SMS feature which was tested using a GSM mobile phone.

4.2 REUSED MODULES

- FolioGallery

It is a photo gallery implemented using the technologies PHP, AJAX and JQuery. It is a simple and lightweight gallery that does not require a database to run. It has features such as display multiple albums and/or full gallery in one page, automatic thumbnail creation, enable captions for thumbnail, etc [10].

- JQuery Date Picker

It is a highly customizable plugin for bootstrap that supports multiple languages [11].

- Fusion Charts

It is a Javascript charting solution for web and mobile. It supports basic charts such as line, column, pie etc and most complex ones such as waterfall, gantt, candlestick, zoomline etc [12].

- Data Tables

DataTables is a free and open source plug-in for the jQuery Javascript library. It is a highly flexible tool, and add advanced interaction controls to any HTML table. It supports Pagination, instant search and multi-column ordering [13].

4.3 WEB FRAMEWORKS USED

4.3.1 BOOTSTRAP

Bootstrap is a free and open source client side web UI framework. It helps to overcome the overhead associated with common activities performed in designing the front end of the web pages. Bootstrap contains HTML and CSS-based design templates for typography, forms, buttons, navigation and other interface components as well as optional JavaScript extensions [14].

```
<div class="dash">Member Management</div>
  <div class="container-fluid">
    <div class="row">
      <div class="col-md-6">
        <a href="../view/addmember.php">
          <button type="button" class="btn btn-primary btn-sm">
            <i class="glyphicon glyphicon-user"> </i>
            &nbsp;&nbsp;&nbsp;Add a Member
          </button>
        </a>
      </div>
      <div class="col-md-6" style="text-align: right">
        <form action="searchmember.php"
method="post">
          <input type="text" class="input-sm"
required=""
name="searchkey" placeholder="Search Members" />
          <button type="submit" name="search"
class="btn btn-primary btn-sm">
            <i class="glyphicon glyphicon-search"></i>
          </button>
        </form>
      </div>
    </div>
  </div>
```

The above code creates the output shown in figure 4.1

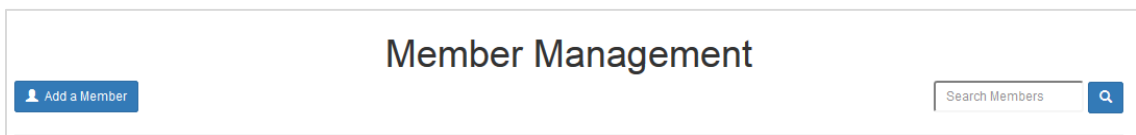


Figure 4.1 Bootstrap code output

4.3.2 MVC FRAMEWORK

MVC is a well known architectural pattern popular among professionals in IT industry. It divides a given application into three interconnected parts. That is, it separates data modal with the business logic as well as user interface. The benefit of using the MVC pattern speeds up the development process and also the modifications does not affect the entire model.

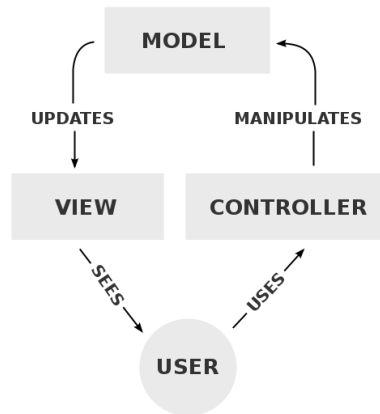


Figure 4.2: MVC Pattern

Source: <https://en.wikipedia.org>

4.4 MAJOR CODE SEGMENTS

The code was written in readable and understandable format to ease future enhancements. The readability of the code was maintained by comments, meaningful variable names and code indentation.

MVC design pattern had been followed when writing the code. According to MVC pattern, code related to a specific function comprises of three parts; Model, View and a Controller. Implementation of each component is described below with appropriate code segments.

4.4.1 LOGIN

MODEL

The username and password passed for the login model is obtained by the controller and if the values are not null, the value is matched with the usernames in the database. A user

session is created if relevant record is found and the status of the user is 'active' and the user is redirected to the dashboard.

LoginModel.php

```
<?php
class login {
    public function loginvalidate($email, $pass) {
        $con = $GLOBALS['con'];
        //sql query
        $sql = "SELECT * FROM login l,member m,role r WHERE
l.email='$email' AND l.password='$pass' AND
l.member_id=m.member_id AND m.role_id=r.role_id AND
m.member_status='Active'";
        //Execute a query
        $result = $con->query($sql);
        return $result;
    }
}
?>
```

VIEW

The users are interacting with the View component which is presented to the users as forms. For client side validation form displays error messages if data are empty and server side validation if data are invalid.

Login.php

```
<div class="alert-danger" style="text-align: center" id="error">
    <?php
        //If there is an error
        if (isset($_REQUEST['msg'])) {
            echo base64_decode($_REQUEST['msg']);
        }
    ?>
</div>

<br/>
<form action="../../../controller/logincontroller.php"
        method="post">
    <input type="text" id="email" name="email"
        placeholder="Email Address" />
```



```

<input type="password" id="pass" name="pass"
        placeholder="Password" />
<input type="submit" name="login" value="Login"
        class="login-btn login-btn-
submit" />
</form>

```

CONTROLLER

The controller gets the username and password through the \$_POST method while removing blank spaces in front and back of the email & password. After that it encrypts the password using sha1 algorithm because passwords are saved in database encrypted using SHA1. Then it checks the results gets from login model. For the given username & password, if a record available and expiry date not passed it adds member info to session and let user to redirect to dashboard. If a record available but expiry date passed it redirect user to renewal page. If user name and password not matching with database table it shows a validation message "Invalid Email address or Password".

loginController.php

```

<?php

//To start the session
if (!isset($_SESSION)) {
    session_start();
}

//To set default time zone
date_default_timezone_set("Asia/colombo");

//Server side validation
if ($_POST['email'] == "" || $_POST['pass'] == "") {
    //To encode the message
    $msg = base64_encode("Empty Email address or Password");
    //Data passing through URL
    header("Location:../view/login.php?msg=$msg");
    exit();
}

include '../common/dbconnection.php';
include '../model/loginmodel.php';

//Get the db connection
$obj = new dbconnection();
$con = $obj->connection();

//Get the values
$email = trim($_POST['email']); //remove space before and after
$password = sha1(trim($_POST['pass'])); //Encrypt the password to
compatible with table field
//Get login details for given user

```

```

$obj = new login();
$result = $obj->loginvalidate($email, $pass);
$row = $result->fetch_array();
$member_id = $row['member_id'];
$member_expiry_date = $row['member_expiry_date'];

if ($result->num_rows == 1 && $row['member_expiry_date'] >=
date("Y-m-d")) {

//To get member details
    $_SESSION['member_info'] = $row;

    header("Location:../view/dashboard.php");
    //renewal
} elseif ($result->num_rows == 1 && $row['member_expiry_date'] <
date("Y-m-d")) {
    $expirydate = base64_encode("$member_expiry_date");

header("Location:../view/renewal.php?member_id=$member_id&expiry
date=$expirydate");
    //invalid logins
} else {
    $msg = base64_encode("Invalid Email address or Password");
    header("Location:../view/login.php?msg=$msg");
}
?>

```

A software evaluation is a type of assessment that seeks to determine if software or a combination of software programs is the best possible fit for the needs of a given client [15]. The system was tested to find errors and to ensure that it is free from bugs. Then the software was evaluated by potential users to check whether how much the original intended goals had been achieved.

5.1 TESTING

Testing process determines whether the system meets its expected results. Rational Unified Process was chosen as the software process model so testing was carried out in elaboration, construction and transition phases.

5.1.1 TEST PLAN

Testing was carried out according to the scheme presented in the test plan. Initially unit testing was carried out with the classes. Methods in the classes were tested by sending a specific input to a method and verifies that the method returns the expected value. After unit testing integration testing was carried out to discover the issues arise when different modules are interacting with each other. Finally system testing was done to check the overall functionality of the system.

5.1.2 TEST CASES

A test case is a set of test inputs, execution conditions, and expected results developed for a particular objective [16]. System functionality could be tested with properly planned test cases. The system was decomposed in to modules to reduce the complexity and to minimize the dependency. Test cases of major modules are presented below. (Refer Appendix E for the test case results)

TEST CASES FOR MEMBER LOGIN

Test cases and expected results of the member login are displayed in below table 5.1

Test Case No	Test Description	Testing Steps	Test Data	Expected Result
TC 01	Validate input details in login form	<ol style="list-style-type: none"> 1. Enter user name according to test data 2. Enter password according to test data 3. Press login button 	Blank user name & blank password	Error message "Both Email and password are Empty"
TC 02			Blank user name & given password	Error message "Empty Email"
TC 03			Given user name & blank Password	Error message "Empty password"
TC 04			Wrong email and correct password	Error message "Invalid Email address or Password"
TC 05			Correct email and wrong password	Error message "Invalid Email address or Password"
TC 06			Both incorrect email & password	Error message "Invalid Email address or Password"
TC 07			Correct email & correct password	Redirect to Dashboard
TC 08			Correct email & correct password with account disabled	Error message "Invalid Email address or Password"

Table 5.1: Login test case

TEST CASES FOR MEMBER MODULE

Test cases and expected results of the member module are displayed in below table 5.2

Test Case No	Test Description	Testing Steps	Test Data	Expected Result
TC 01	Validate input data in add a member form	1. Enter first name, last name, date of birth, gender, ID No, A/L batch, email, telephone no, role, image according to test data 2. Press save button	First name empty	Error message "Empty First Name"
TC 02			Last name empty	Error message "Empty Last Name"
TC 03			Gender not selected	Error message "Please select your gender"
TC 04			Date and NIC not matching	Error message "DOB and NIC are not matching"
TC 05			Empty A/L batch	Error message "Empty A/L Batch"
TC 06			Empty email	Error message "Invalid Email"
TC 07			Email address used before	Error message "Already taken"
TC 08			New email address	Message "Available to use"

TC 09			Telephone No with less than 10 digits	Error message “Invalid Telephone No”
TC 10			Telephone No with alphabetical letters or characters	Error message “Invalid Telephone No”
TC 11			Role not selected	Error message “Please Select a Role Name”
TC 12			Select wrong image extension	Error message “Invalid Image Extension”
TC 13	Active member	1. Click the status buttons according to test data	Click active button	Message “Do you want to active this member?”
TC 14	Deactive member		Click deactive button	Message “Do you want to deactivate this member?”
TC 15	Search	1. In search box search keywords according to test data 2. Press search button	Enter keyword that not existing	Error message “No records & No of Records: 0”
TC 16			Correct keyword	Message “No of Records: 2”

Table 5.2: Member module test cases

TEST CASES FOR PRODUCT MODULE

Test cases and expected results of the product module are displayed in below table 5.3

Test Case No	Test Description	Testing Steps	Test Data	Expected Result
TC 01	Validate input data in add a product form	<ol style="list-style-type: none"> Enter product name, product type, category, size, price according to test data Press save button 	Product name empty	Error message "Empty Product Name"
TC 02			Product type empty	Error message "Empty Product Type"
TC 03			Category empty	Error message "Empty Category"
TC 04			Size empty	Error message "Empty Size"
TC 05			Price empty	Error message "Empty Price"
TC 06			Letters type in price	Can't type
TC 07			Numeric type in price	Can type
TC 08			Delete	<ol style="list-style-type: none"> Click the buttons according to test data

Table 5.3: Product module test case

TEST CASES FOR EVENT MODULE

Test cases and expected results of the event module are displayed in below table 5.4

Test Case No	Test Description	Testing Steps	Test Data	Expected Result
TC 01	Validate input data in add an event form	1. Enter event name, event category, event date, estimated budget, actual budget according to test data 2. Press save button	Event name empty	Error message "Empty Event Name"
TC 02			Event category empty	Error message "Empty Event Category"
TC 03			Event date empty	Error message "Empty Event Date"
TC 04			Letters type in estimated budget	Can't type
TC 05			Numeric type in estimated budget	Can type
TC 06			Letters type in actual budget	Can't type
TC 07			Numeric type in actual budget	Can type
TC 08			Active event	1. Click the status buttons according to test data
TC 09	Close event	Click close button	Message "Do you want to close this event?"	

Table 5.4: Event module test case

TEST CASES FOR TASK MODULE

Test cases and expected results of the task module are displayed in below table 5.5

Test Case No	Test Description	Testing Steps	Test Data	Expected Result
TC 01	Validate input data in add a task form	<ol style="list-style-type: none"> Enter task name, event name, task deadline, task priority, estimated budget, actual budget according to test data Press save button 	Task name empty	Error message "Empty Task Name"
TC 02			Event name empty	Error message "Empty Event Name"
TC 03			Task deadline empty	Error message "Empty Task Deadline"
TC 04			Task priority empty	Error message "Empty Task Priority"
TC 05			Letters type in estimated budget	Can't type
TC 06			Numeric type in estimated budget	Can type
TC 07			Letters type in actual budget	Can't type

TC 08			Numeric type in actual budget	Can type
TC 09	Complete task	2. Click the status buttons according to test data	Click complete button	Message “Do you want to complete this task?”
TC 10	Pending task		Click pending button	Message “Do you want to pending this task?”

Table 5.5: Task module test case

5.1.3 ACCEPTANCE TESTING

The system was hosted in a test server and first tested by the developer her self. Then it was tested by a set of representatives from the association. They checked whether the system meets the operational needs of the association. Some modifications were requested by the representatives and after doing necessary modifications system was deployed in the actaul servers with real data. System was accessed with different previledges to check the functionality requested for each role was implemented properly. The system was accepted by the users and they expect that the association would function smoothly and efficiently after introducing the system.

5.2 USER EVALUATION

User evaluation provides direct information about how users perceive the new systems and the challenges they face when using the new system. Users’ perception was evaluated through the questionnaire below.

Alumni Management System Evaluation Form

Role :					
Please choose the most relevant answer					
Criterion	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
The system does what was proposed					
the user interface is easy to understand					
I am satisfied with the look and feel of the system					
it is easy to navigate through the system					
The system provides help in a clear manner					
The system generated errors in a problematic manner					
I am satisfied with the performance of the system					
I am satisfied with the security of the system					
I will recommend this system to other members					
Do you have any thoughts in improving the system?					

Figure 5.1: System Evaluation Form

The above printed questionnaires were distributed among set of members shown in table 5.6

Role	No of members
Administrator	1
President	1
Secretary	1
Treasurer	1
Committee Members	3
Members	23

Table 5.6: Sample for questionnaire distribution

5.2.1 EVALUATION RESULTS

Questionnaire Results Summary

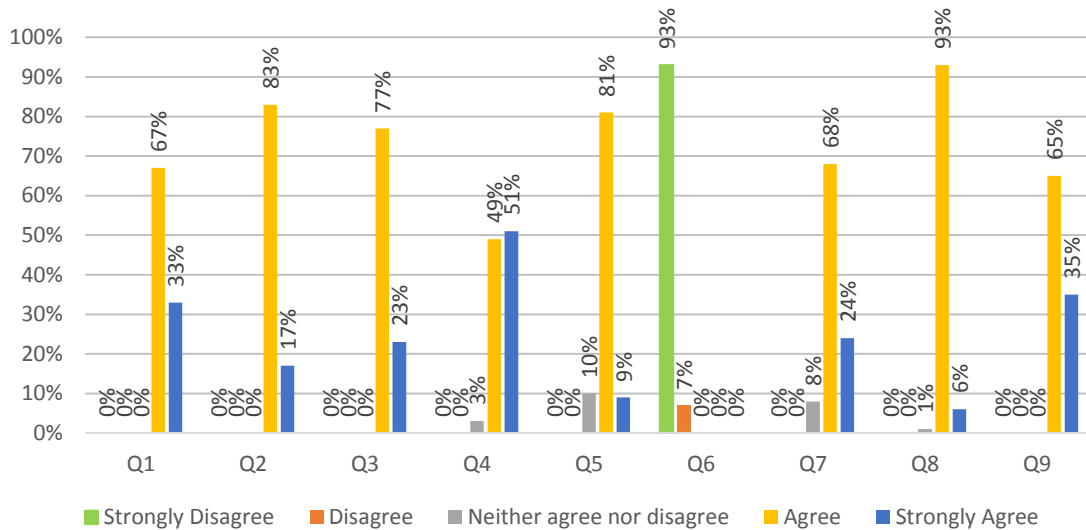


Figure 5.2: Questionnaire Results Summary

The table above indicates that the system has met user expectations as everyone agree that the system does what it supposed to do. According to the above results most users are satisfied about the user friendliness of the system. On average 70% believe that the system is user friendly and 30% strongly believe that. As per the users' feedback the help provided by the system, could be improved in the future. The results indicate that the system is error free and the system had fulfilled the non functional requirements up to certain extent. Users are willing to recommend the system to others as well.

The users expect to more interaction with the members through the system. It is obvious from the following comment.

“I wish this similar to facebook”

Some users prefer to have a mobile app as an improvement of the current system. It is clear by the statement.

“I don't use the computer very much. If I can access this system through my phone it is easy for me”

The aim of the project was to implement an alumni management system for the PPFA of Weeraketiya Rajapaksha College. The functions of the association had been carried out manually and they had maintained a static web site. So with an initial idea of the president, this project was initiated. Requirements were gathered by interviewing office bearers and members of the association and was finalized by some discussions with responsible personnel. The system was implemented as a web solution as the office bearers and members needed access to the system from anywhere. And also it was convenient to share data between the web site and the system. The implemented system provides a platform for communication and active interaction between alumni as well as current students. Each user is classified into user groups and the user could interact with the system based on the permissions and functionalities which are pre-defined for the user group. The system was implemented using latest web technologies such as PHP, MYSQL, AJAX and JQUERY. Bootstrap had been used as the front end framework and MVC had been used as the back end framework. The system was tested in many stages using appropriate testing mechanisms for each stage to enhance the quality. The system was hosted and successfully used by the association. By users' feedback it is evident that the project succeeded.

6.1 LESSONS LEARNT

This course component has given a chance to apply the theoretical knowledge gained in the first two years of the degree program. The concepts learnt in project management had been used in great extent throughout the project. The domain area is different compared to the domains considered when implementing management information systems. Thus mapping client requirement to a computerized system was a complex task and gained a lot of experience in providing a computerized solution to an existing manual process in an alumni association.

The programming knowledge was vital to implement the system with new technologies and finally deliver a quality product in an acceptable manner. This component had helped me to apply my programming skills for a real world scenario and I learnt new tools and technologies such as Ajax, JQuery. It was interesting to study the MVC architecture and implement the system according to that design pattern.

When working with real clients I understood that implementing the system is not enough but maintaining the quality of the system is much more important. Thus the system was tested with many test cases and finally tested by the client as well.

This course component has helped to develop the soft skills such as technical writing, communication skills, time management and problem solving. Preparing the dissertation has increased the technical writing skills and the interviews, discussions, negotiations had sharpened the communication skills. By developing the system according to a schedule I learnt to manage activities efficiently and in a timely manner.

6.2 FUTURE IMPROVEMENTS

With a project addressing a real world scenario there is always room for improvement.

- Integrating a mobile app

The system evaluation summary indicates that the users prefer a web app of the system. Then users can access to the application anytime using their smart phones and a better experience can be delivered to the user as screen size and touchscreen make web application much more difficult to use through mobile phones.

- Expand the number of users

The PPFA alumni management system is only usable by members of the Colombo chapter. In the future access to the system can be allowed to the members of other chapters as well.

- Improve the collaboration module

Messaging module is already implemented which can be enhanced to allow chatting. Photo sharing component can be added so that it has functionalities of social media sites such as tagging, commenting, liking.

- Implement a job portal

A job portal can be integrated to the current system. As there are past pupils who are leading professionals they can share career opportunities with students as well as fellow members.

- Improve report module

More reports can be generated by the system to derive meaningful information from the existing data. An accounting module could be integrated to get a comprehensive idea about the cash flow of the association.

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APPENDIX A –

SYSTEM DOCUMENTATION

This document gives step by step instructions to install RCC Alumni Management System.

SYSTEM REQUIREMENTS

HARDWARE REQUIREMENTS

Hardware	Minimum Requirement
Processor	3.0 GHz Intel Processor
Memory	1 GB RAM
Hard Disk	40GB Capacity
Internet	Standard Internet Connection

Table A.1: Hardware Requirement

SOFTWARE REQUIREMENTS

Software	Minimum Requirement
Operating System	Windows 7, Windows 8.1, Windows 10
XAMPP	XAMPP V5.6.31 or Separate Installation of Apache 2.4.26 /MySQL 5.5.32 / PHP 5.6.31 / phpMyAdmin 4.7.0 / Mercury Mail Transport System v4.63
Web Browser	Google Chrome Version 61.0.3163.100 Fire Fox 55.0.3
PDF Reader	Adobe Acrobat Reader

Table A.2: Software Requirement

INSTALLATION

- Download and install XAMPP for Windows from <https://www.apachefriends.org/index.html>. Give installation path to C:\xampp of the computer.

- Install a given web browser above.
- Open the CD and copy the ppfa folder and paste into “C:\xampp\htdocs”

DATABASE INSTALLATION

- Open the web browser and type the URL <http://localhost/phpmyadmin/>
- Create a new database named “ppfa” and in “Import” tab browse CD for ppfa database.
- After selecting ppfa in CD click Go.

SYSTEM LAUNCHING

- Open XAMPP control panel and start Apache & MySQL services.
- Open web browser and type URL <http://localhost/ppfa> and press enter button.

APPENDIX B - DESIGN

DOCUMENTATION

The diagram in figure B1 is a detailed use case diagram of the member registration process.

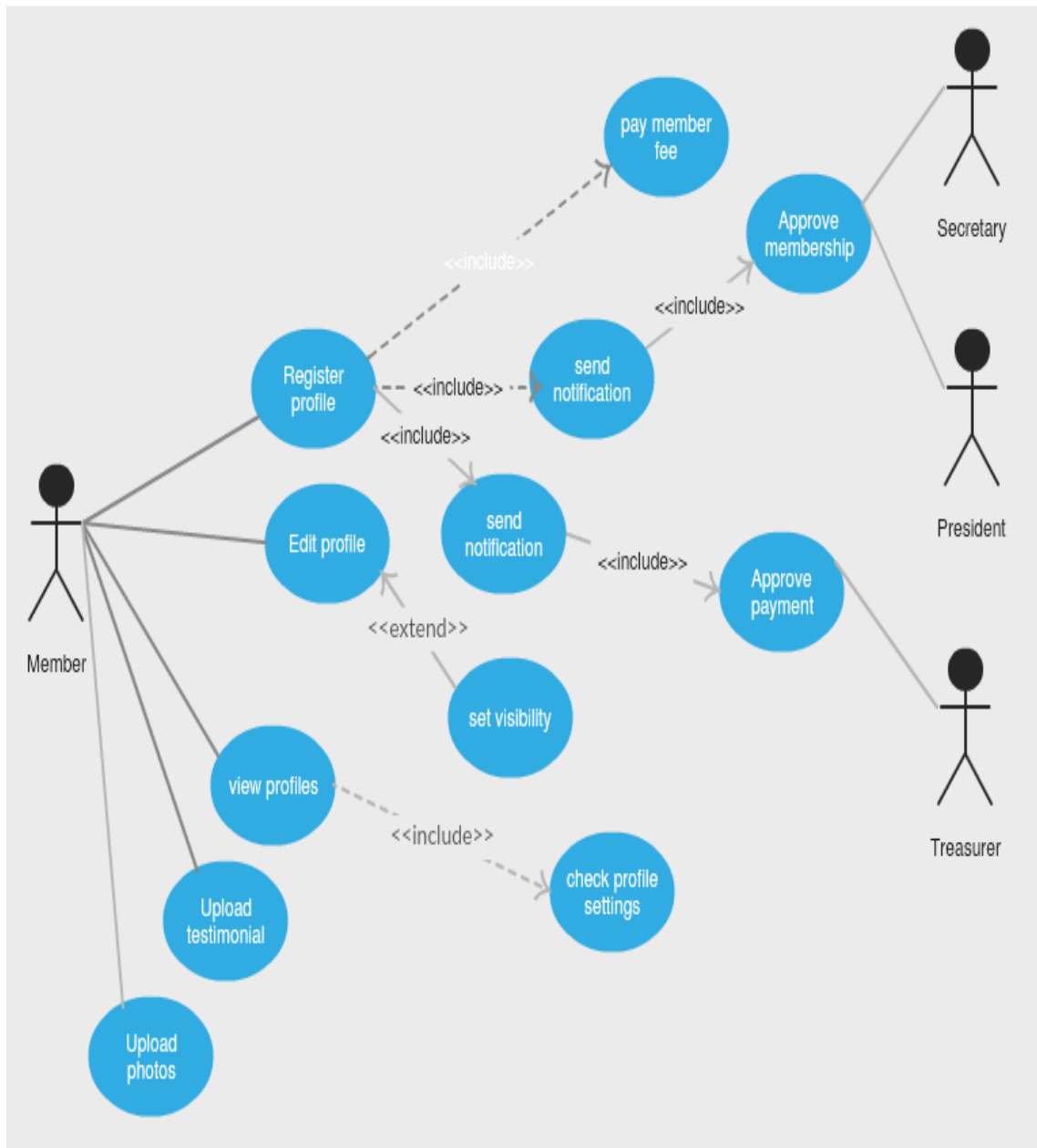


Figure B.1: Use Case Diagram; Member Registration Process

Throughout the year, PPGA organizes many events for our alumni and the community. Figure B.2 shows the use case diagram of event management process.

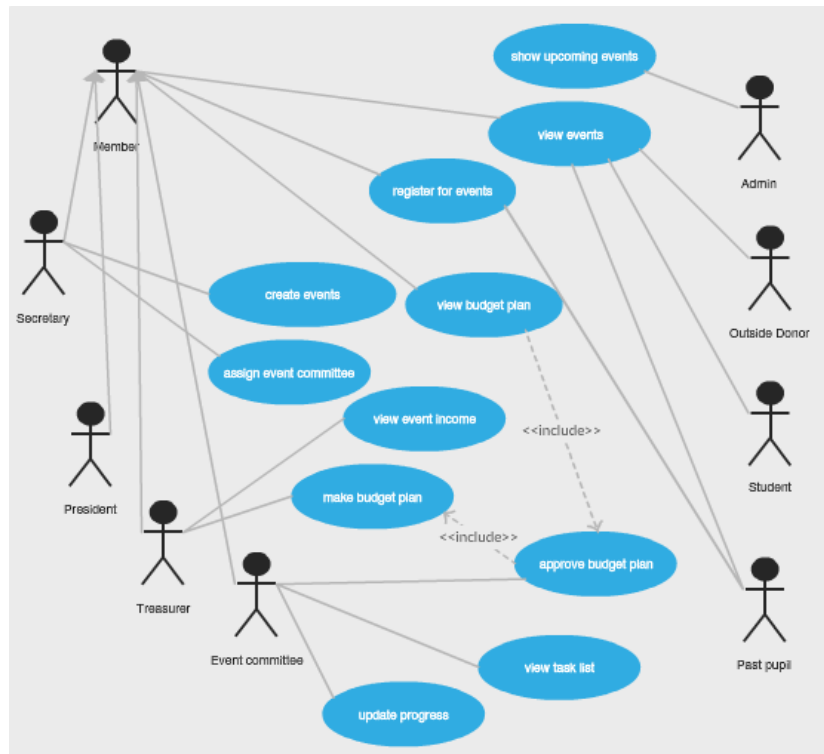


Figure B.2: Use Case diagram; Event Management

Notification module automatically creates membership renewal reminders; membership confirmations, donation requirements and event reminders. Activities in notification module is depicted in figure B.3

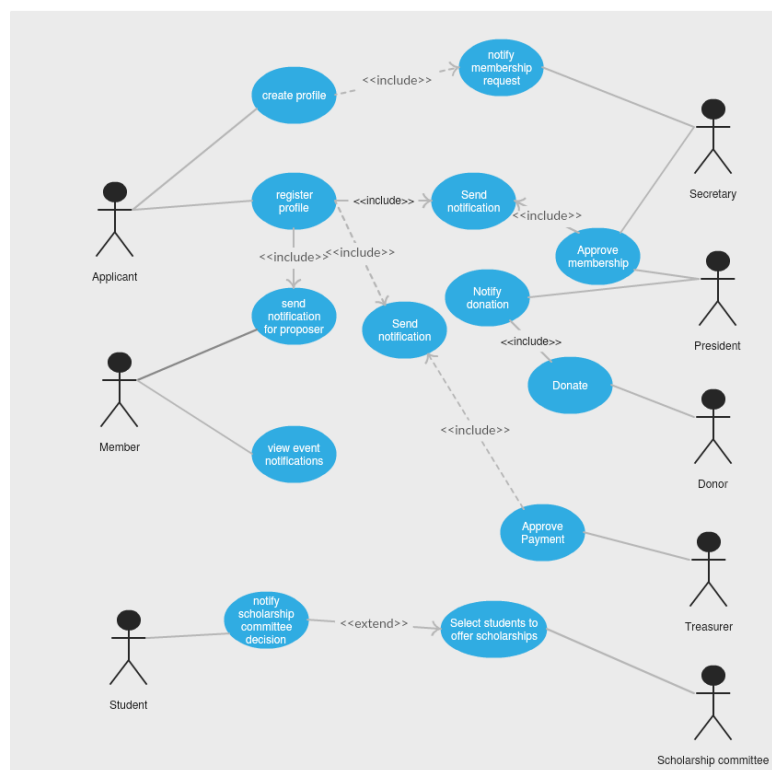


Figure B.3: Use Case Diagram: Notification Module

More than 100 users will be accessing the system under different privileges. Figure B.4 shows how they are interacting with the system.

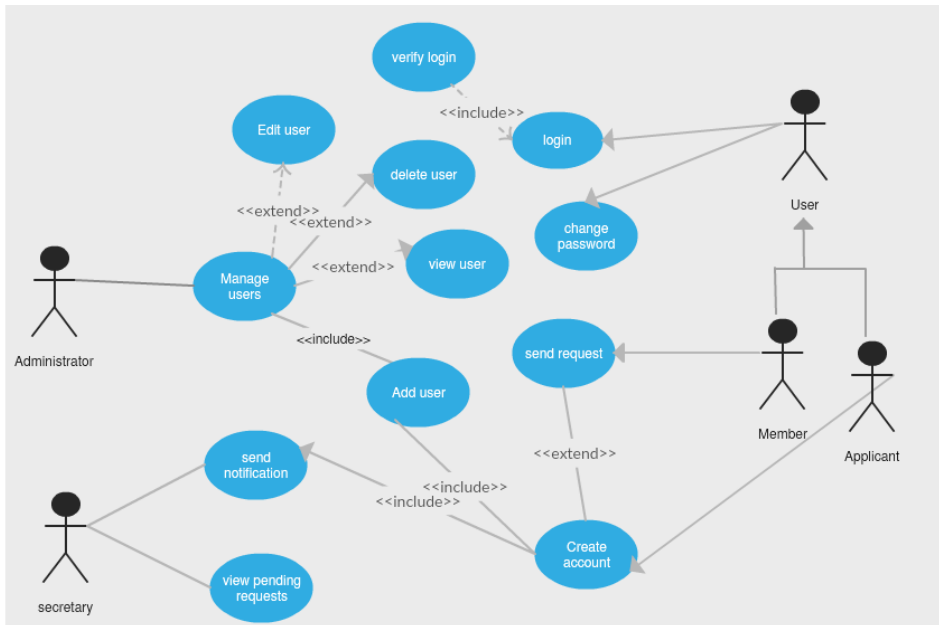


Figure B.4: Use Case Diagram: User Module

Sequence diagram show interaction among objects in a time sequence. Figure B.5 shows the sequence diagram of the donation management process.

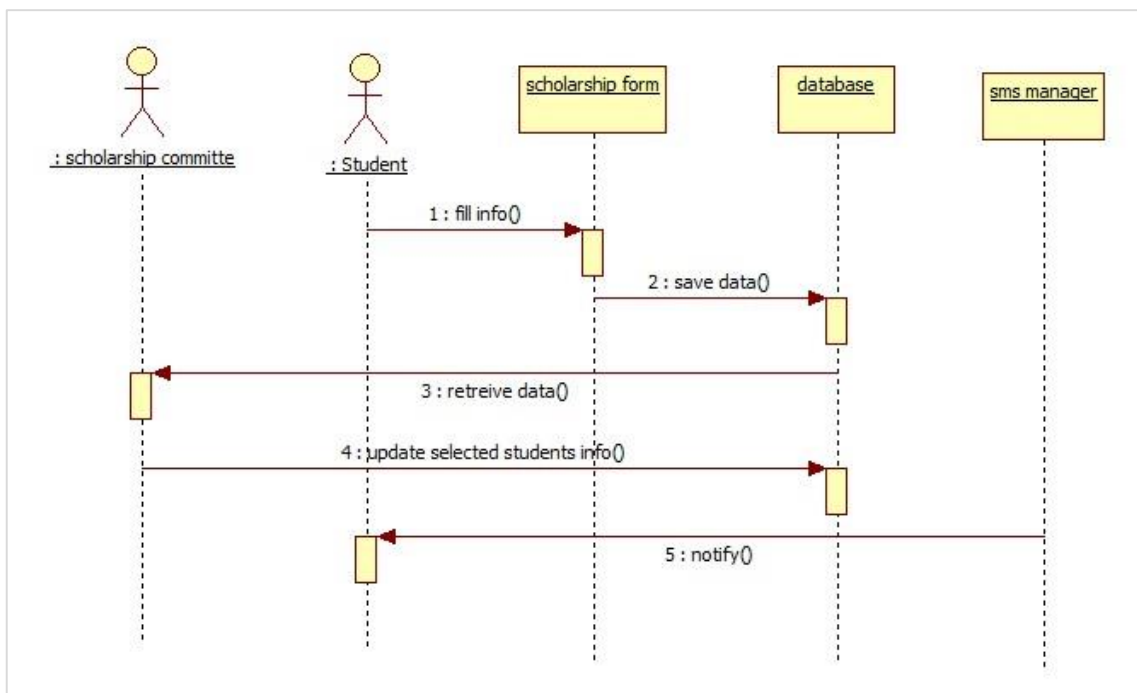


Figure B.5: Sequence Diagram: Donation Management

Activity diagram visually presents a series of actions or flow of control in a system similar to a flowchart. The activity diagram of the member registration process shown in figure B.6.

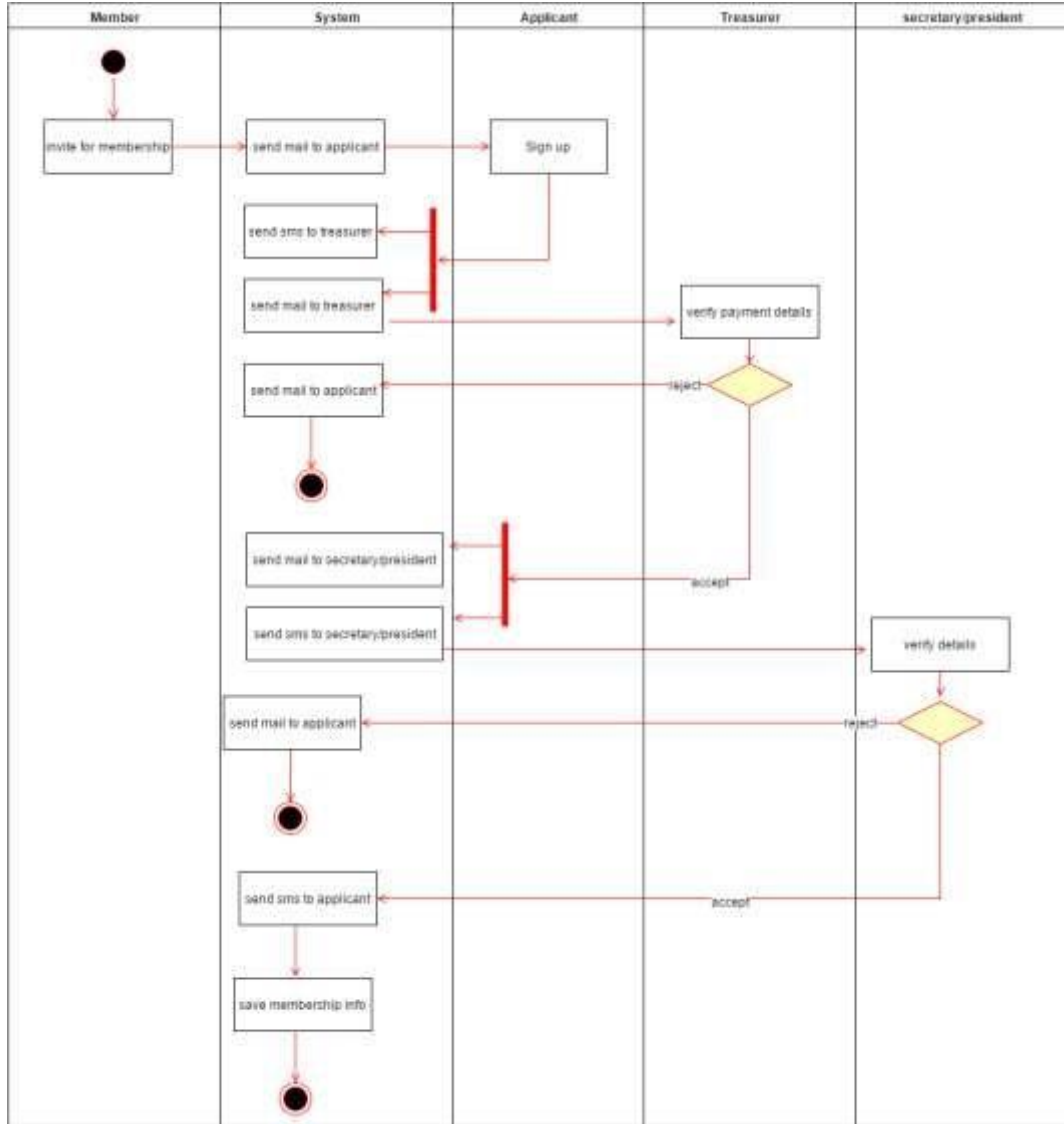


Figure B.6: Activity Diagram; Member Registration Process

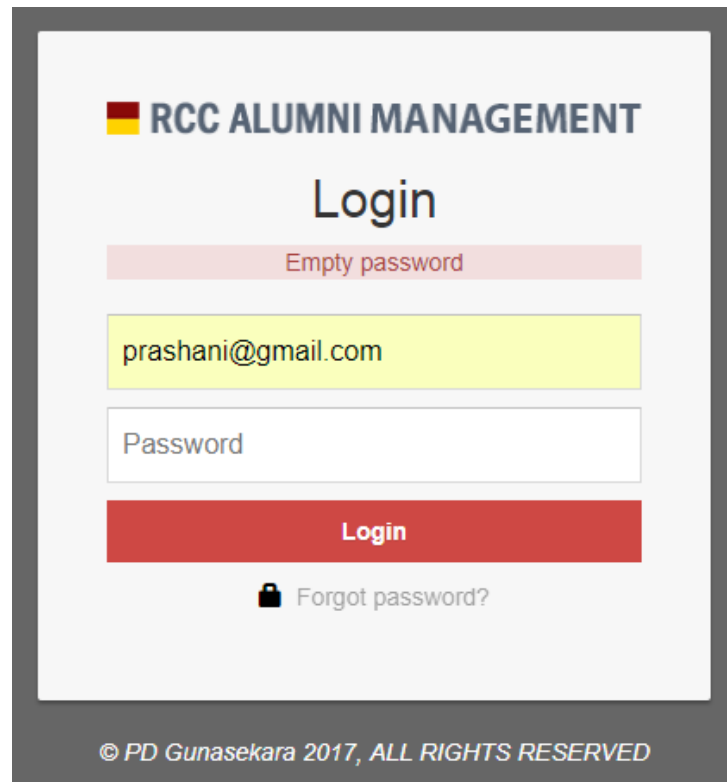
APPENDIX C –

USER DOCUMENTATION

Different user levels has different system privileges so profiles are different in each and every user level. This user documentation assumes administrator role which has all the system privileges.

LOGIN FORM

Following C.1 figure shows the login form which used to login into the system. User can use email address and password to login into system. Validations in the user form check for correct user name and password. User can change the password using forgot password link.



RCC ALUMNI MANAGEMENT

Login

Empty password

prashani@gmail.com

Password

Login

Forgot password?

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Figure C.1: Login Form

DASHBOARD

All the modules of the system can access through the system dashboard. The modules that appear on the dashboard may differ according to user privileges. Left side bar includes common frequent access items for easy access. Signout button is always available at the top left on the window.

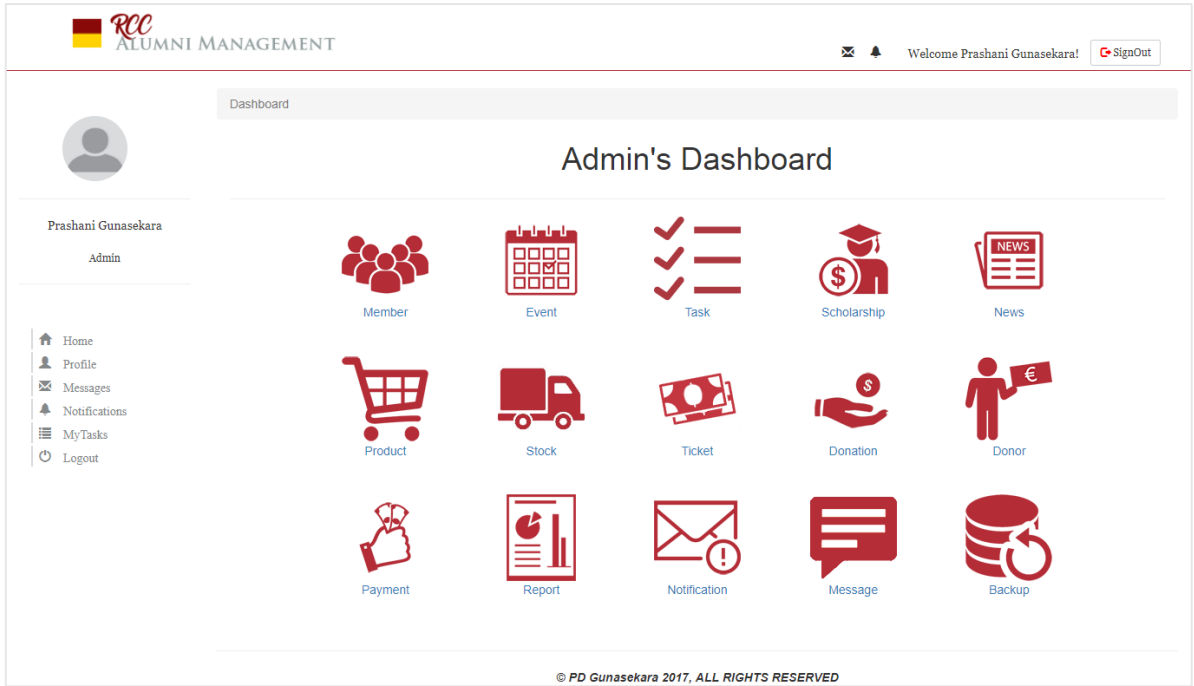


Figure C.2: Dashboard

DATA TABLE VIEW PAGE

In almost every module there is a data grid with important data used as main page. On the left side of each record there are operation buttons. In figure C.3: Member page given as an example to show the basic structure of the data table view page.

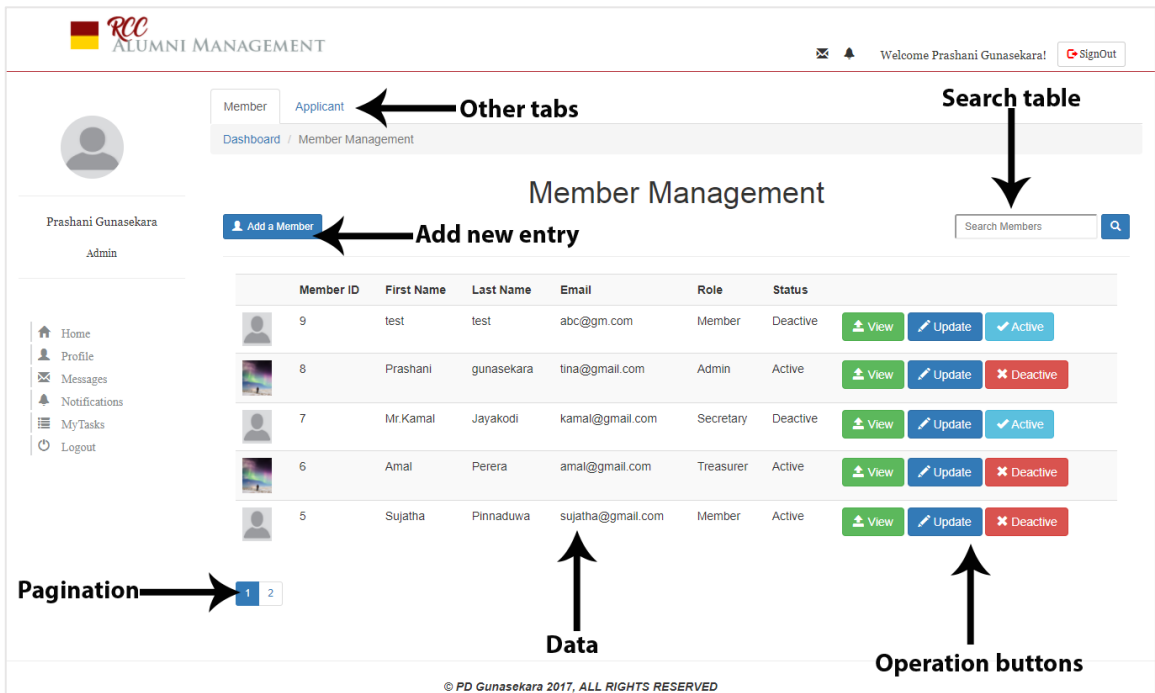


Figure C.3: Main data table view page

OTHER TABS

Shows current module tab and other tabs related to that module.

SEARCH TABLE

Data in the table can be search using search field. Searching is possible with this data or set of data.

ADD NEW ENTRY

New entry can be added to the table using the given button.

PAGINATION

Use to go through the pages of the data table

OPERATIONAL BUTTONS

View – Can get the full view of the relevant entry

Update- Update the entry

Active/Deactive – change the status of the entry

MEMBER PAGE

After applicant get approved he/she gets a member id and his/her data are saved into member table. There is 'all member details table' and in top right corner "Add new member" button in the main page.

ADD MEMBER FORM

New member details can entered the system via this form. Member role is selected from Role. Also member can upload image or if image not uploaded a default image is shown. There are validations for invalid data and if invalid data entered an error message is shown and the user will be unable to submit the form. Duplicate email addresses cannot be entered to the system as the system verifies the new email address with the existing ones in the database.

The screenshot shows the 'Add a Member' form in the RCC Alumni Management system. The form is titled 'Add a Member' and is located in the 'Member Management' section. The user is logged in as Prashani Gunasekara, an Admin. The form includes the following fields:

- First Name *
- Middle Name
- Last Name *
- Maiden Name
- Date of Birth (mm/dd/yyyy)
- Sex * (Male, Female)
- ID No
- A/L Batch *
- Email *
- Telephone No
- Address
- Skype Id
- Designation
- Office Address
- Role *
- Image (Choose File | No file chosen)

At the bottom of the form, there are two buttons: 'Save' (blue) and 'Clear' (orange). The footer of the page reads '© PD Gunasekara 2017, ALL RIGHTS RESERVED'.

Figure C.4: Add a member form

DONATION PAGE

Can get information about all types of donations received and the person who donated.

ADD DONATION PAGE

A donation can add through add donation page and select which category donation belongs. Can search the donor list for name an existing name or can add a new donor name. If donation date not given current date takes as donation date. There are validations to check empty or incorrect data types and if user add invalid data validation message shows and can't proceed further until correct the error.

The screenshot shows the 'Add a Donation' form within the RCC Alumni Management interface. The header includes the RCC logo and 'ALUMNI MANAGEMENT'. The user is logged in as Prashani Gunasekara, Admin. The breadcrumb trail is 'Dashboard / Donation Management / Add a Donation'. The form fields are: Donor Name (with a 'Title' dropdown menu), Donation Type (dropdown menu), Donation Date, Description (text area), and Donation Amount (with an 'Rs.' prefix). There are 'Save' and 'Clear' buttons at the bottom of the form. The footer contains the copyright notice: '© PD Gunasekara 2017, ALL RIGHTS RESERVED'.

Figure C.5: Add a donation form

DONOR PAGE

All information about donors shows in donor page

ADD A DONOR

Donor's contact information added into donor page. If donor is member his/her information can be retrieved after inserting member Id. There are validations to check empty or incorrect data types and if user add invalid data validation message shows and can't proceed further until correct the error.

The screenshot shows the 'Add a Donor' form within the RCC Alumni Management interface. The header includes the RCC logo and 'ALUMNI MANAGEMENT'. The user is logged in as Prashani Gunasekara, Admin. The breadcrumb trail is 'Dashboard / Donor Management / Add a Donor'. The form fields are: Member ID, Donor Name, Telephone No, Address (text area), and Email. There are 'Save' and 'Clear' buttons at the bottom of the form. The footer contains the copyright notice: '© PD Gunasekara 2017, ALL RIGHTS RESERVED'.

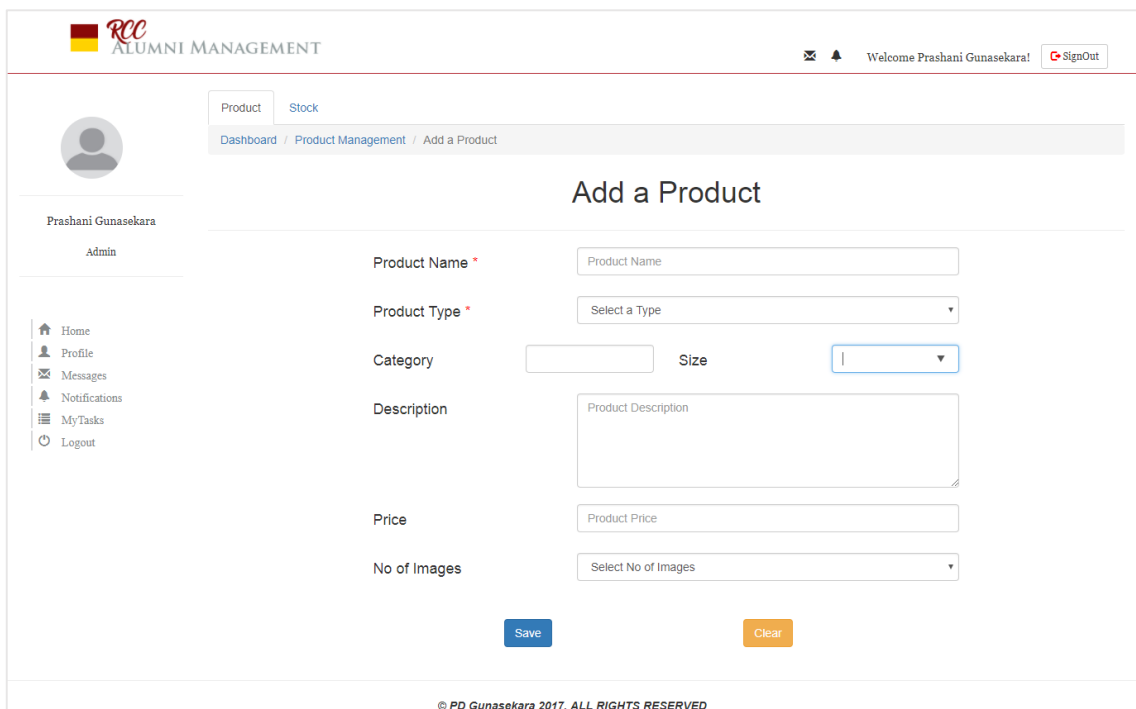
Figure C.6: Add a donor form

PRODUCT PAGE

The products shown in association web site's eshop page are added through the system. Product category, product type, size, price shows in Product page and user can view, update and delete the products.

ADD A PRODUCT FORM

In Figure C.7 shows add a product form. User can select product type and can search category and size or add new category and size. User can add maximum 5 no of images of the product. There are validations to check empty or correct data types and if user add invalid data validation message shows and can't proceed further until correct the error.



The screenshot displays the 'Add a Product' form within the RCC Alumni Management system. The interface includes a header with the RCC logo and 'ALUMNI MANAGEMENT' text, a user profile section for Prashani Gunasekara (Admin), and a navigation menu with options like Home, Profile, Messages, Notifications, MyTasks, and Logout. The main form area contains the following fields and controls:

- Product Name ***: A text input field.
- Product Type ***: A dropdown menu with 'Select a Type' as the placeholder.
- Category**: A text input field.
- Size**: A dropdown menu with a vertical bar as the placeholder.
- Description**: A large text area for 'Product Description'.
- Price**: A text input field for 'Product Price'.
- No of Images**: A dropdown menu with 'Select No of Images' as the placeholder.

At the bottom of the form, there are two buttons: a blue 'Save' button and an orange 'Clear' button. The footer of the page contains the copyright notice: © PD Gunasekara 2017, ALL RIGHTS RESERVED.

Figure C.7: Add a product form

STOCK PAGE

Stock details about the products are shown in stock page. Administrator can add a stock using the button in the upper left corner. The stock page shows product name, product code, color, size and stock quantity. Only "view stock" option is available for users other than the administrator. Only the administrator has the privilege to add, update or delete stock.

ADD A STOCK FORM

Stock form page can be used to add stock to the system. Products can be selected using drop down menu and if stock date not added current date is taken as the stock date. A size already in the database is selected or a new size can be added. User can either select a color or give a color name. The color name will be hidden if the user selects a color

code. There is validations to check empty or incorrect data types and if user add invalid data validation message shows and can't proceed further until correct the error.

The screenshot shows the 'Add a Stock' form within the RCC Alumni Management system. The header includes the RCC logo and 'ALUMNI MANAGEMENT' text. The user is identified as Prashani Gunasekara, Admin. The form fields are: Product Name (dropdown menu with 'Select a Product'), Stock Date (text input with 'mm/dd/yyyy' placeholder), Size (dropdown menu with 'Select a Size'), Color Code (color picker showing black), Color Name (text input with 'Color Name' placeholder), and Quantity (text input with 'Stock Quantity' placeholder). There are 'Save' and 'Clear' buttons at the bottom. A copyright notice '© PD Gunasekara 2017, ALL RIGHTS RESERVED' is visible at the bottom of the page.

Figure C.8: Add a product form

EVENT PAGE

Event pages shows all currently planned events in the association. Event data table shows event name, category, date, estimated budget, actual budget and event status.

ADD AN EVENT FORM

Using add event can add event to the system. Event name, event category and date are the compulsory field. Event can be selected through the drop down box. Afterwards description about event, time, venue and estimated budget, actual budget can be added. Relevant tasks to the particular event can be added from here. Then from the task management window those tasks can be modified further. There are validations to check empty or incorrect data types and if user add invalid data validation message shows and can't proceed further until correct the error.

The screenshot displays the 'Add an Event' form within the RCE Alumni Management system. The interface includes a top navigation bar with the RCE logo and user information. A sidebar on the left provides navigation options. The main form area contains the following fields:

- Event Name ***: Text input field.
- Event Category ***: Dropdown menu with 'Select a Type'.
- Event Description**: Text area for description.
- Event Date ***: Text input field with a date format mask 'mm/dd/yyyy'.
- Event Time**: Text input field with a time format mask '--:-- --'.
- Venue**: Text input field.
- Estimated Budget**: Text input field with a 'Rs.' prefix.
- Actual Budget**: Text input field with a 'Rs.' prefix.
- Task**: Text input field with a '+ Add' button next to it.

At the bottom of the form, there are 'Save' and 'Clear' buttons. The footer contains the copyright notice: © PD Gunasekara 2017, ALL RIGHTS RESERVED.

Figure C.9: Add an event form

TASK PAGE

The task page shows all task details including Task name, deadline, priority, event name of the given task, assigned person name and status shows in task page.

ADD A TASK FORM

Figure C.10 shows add a task form. Using this form task name, event name that task belongs to, description, deadline and priority can be added. It can also be used to assign members to do the task and further more can add assigned budget, actual budget, comments and task progress. There are validations to check empty or incorrect data types and if user add invalid data validation message shows and can't proceed further until correct the error.

The screenshot shows the 'Add a Task' form in the RCE Alumni Management system. The form is titled 'Add a Task' and is located in the 'Task Management' section. The form includes the following fields:

- Task Name *
- Event Name *
- Task Description
- Task Deadline * (format: mm/dd/yyyy)
- Task Priority
- Assigned Member (with an 'Add' button)
- Assigned Budget
- Actual Budget
- Task Comments
- Task Progress

The form also features a 'Save' button (blue) and a 'Clear' button (orange) at the bottom. The sidebar on the left contains navigation links: Home, Profile, Messages, Notifications, MyTasks, and Logout. The user profile section shows 'Prashani Gunasekara' as the user and 'Admin' as the role. The footer contains the text '© PD Gunasekara 2017, ALL RIGHTS RESERVED'.


Figure C.10 Add a task form

SCHOLARSHIP PAGE


Using Scholarship page user can view scholarship holder's name, donor's name, scholarship amount, scholarship date and scholarship status. In operational buttons user can get a detailed view of the scholarship, update and change the status of the scholarship.

ADD A SCHOLARSHIP FORM

Add scholarship form is used to add a scholarship. User can select the scholarship name, then select student name, donor name and scholarship amount. Selected students details shows in a table.



Welcome Prashani Gunasekara! SignOut



Prashani Gunasekara
Admin

- [Home](#)
- [Profile](#)
- [Messages](#)
- [Notifications](#)
- [MyTasks](#)
- [Logout](#)

Scholarship Student

[Dashboard](#) / [Scholarship Management](#) / [Add a Scholarship](#)

Add a Scholarship

Scholarship Name *

Student Name *

Donor Name

Scholarship Amount*

Show entries
Search:

	Student Name	Criteria Point	Z-Score	Total Income (Rs.)
<input type="radio"/>	Prashani Gunasekara	89	1.42	23,100
<input type="radio"/>	Piyal Jayasooriya	75	1.2	35,000
<input type="radio"/>	Soma Perera	53	1.0	50,000

Showing 1 to 3 of 3 entries

Previous 1 Next

Save
Clear

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Figure C.11: Add a scholarship form

APPENDIX D – MANAGEMENT REPORTS

MEMBER REPORTS

Reports related to members and renewal can see under this section. All members' information, members' age variation graph, last year renewal memberships reports displayed under Figure D.1, D.2, D.3 and D.4.

The screenshot displays the 'Member Information' report within the RCC Alumni Management system. The report is presented as a table with the following data:

Member ID	Name	Email	Telephone	Address	Role
1	Ms. Prashani Gunasekara	prashani@gmail.com	0112500600	16, alubogahawatta, jamburialiya, madapatha	Admin
2	Mrs. Dinusha Perera	dinusha@gmail.com	0718456893	45/7, dematagoda	President
3	Mrs. Nishani Gunasena	nishani@gmail.com	0786657140	99, temple Rd, maradana	Secretary
4	Mr. Dilupatest Fernandotest	dilupatest@gmail.com	0719496590	beach road, moratuwa	President
5	Mrs. Sujatha Pinnaduwa	sujatha@gmail.com	0716865204	30, dehiwala	Member
6	Mr. Amal Perera	amal@gmail.com	0719496591	45, gamhapa	Treasurer
7	Mr. Kamal Jayakodi	kamal@gmail.com	0719496590	15, temple rd, colombo 05	Secretary
8	Ms. Prashani gunasekara	tina@gmail.com	0719496590	12, School Lane, Piliyandala	Admin
9	Ms. test test	abc@gm.com	0745634459	89, Borella	Member

The interface also shows a sidebar with navigation options: Home, Profile, Messages, Notifications, MyTasks, and Logout. The top navigation bar includes the RCC Alumni Management logo, a user profile for Prashani Gunasekara (Admin), and a SignOut button. The report is titled 'Member Information' and includes a search bar and export options (Copy, Excel, PDF, Print, CSV, Column visibility).

Figure D.1: Member Information Report

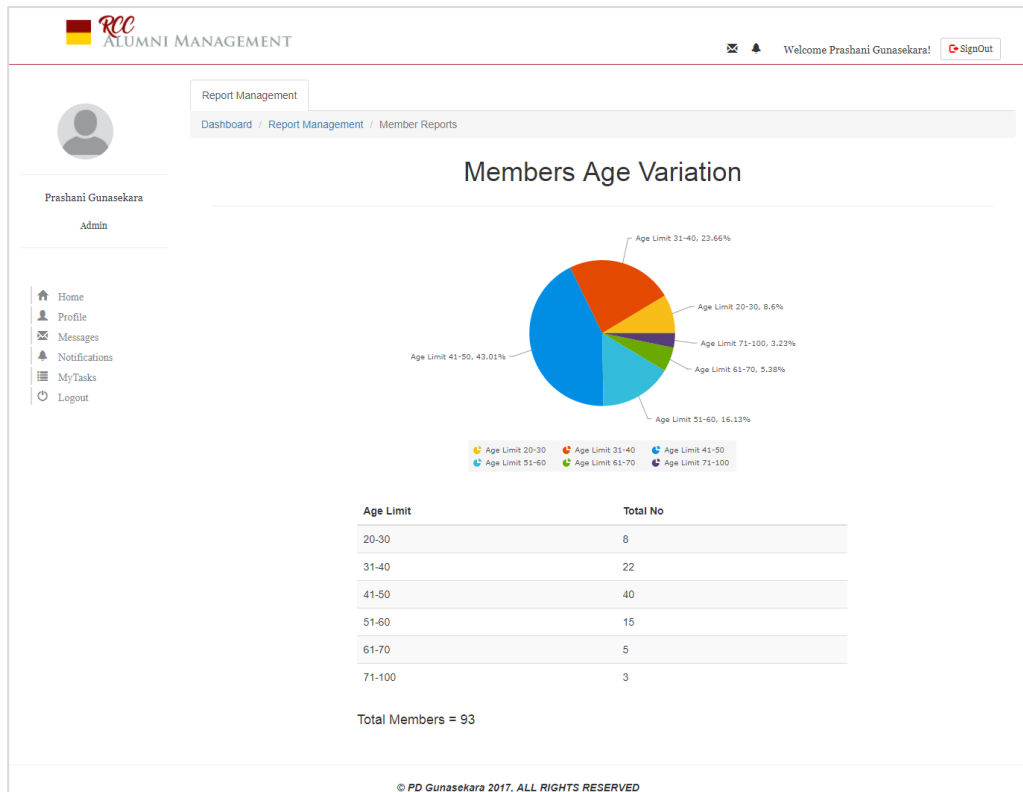


Figure D.2: Member Age Variation Report

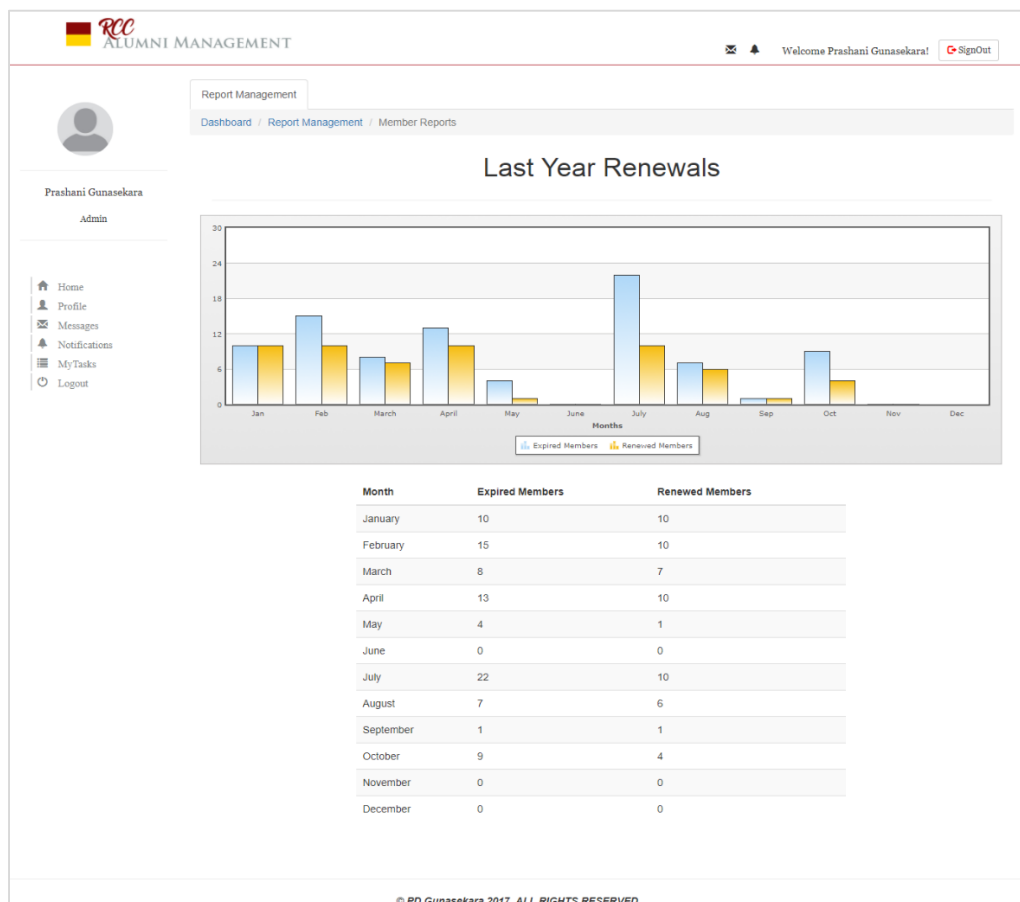


Figure D.3: Last Year Renewals Report

DONATION REPORTS

Donation, Donation income reports generated through the donation reports. Donation categories displayed in figure D.4.

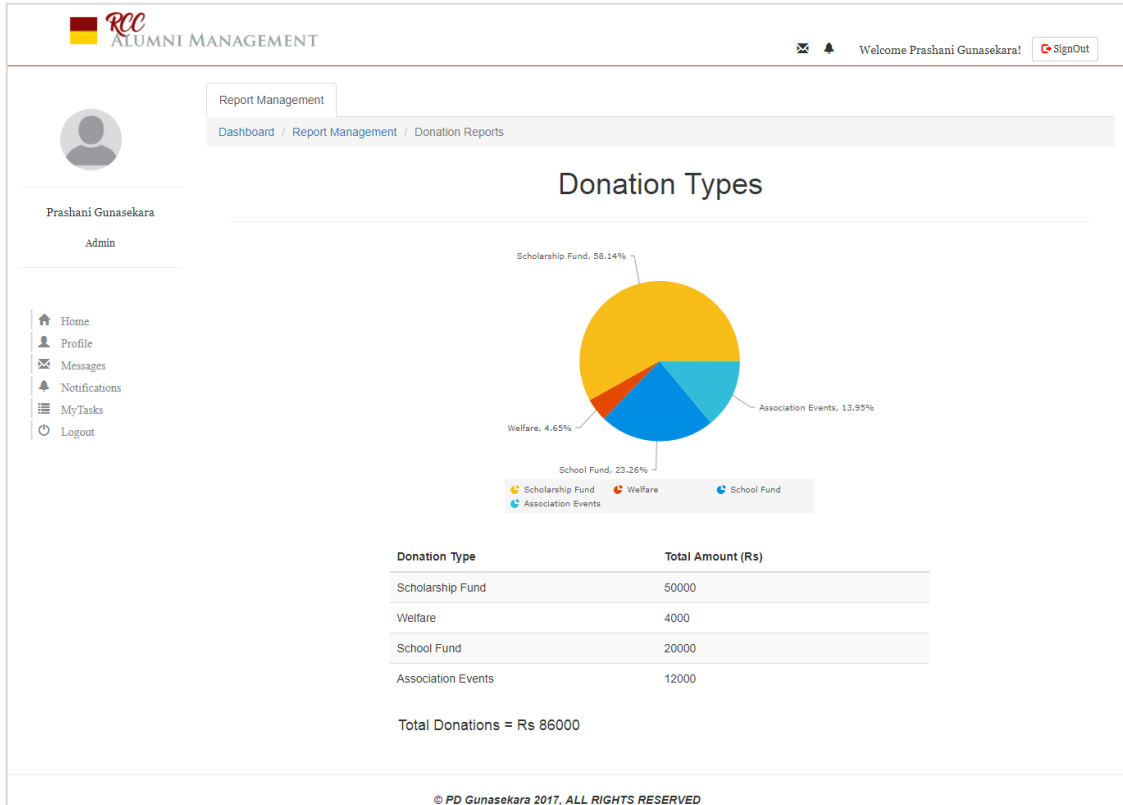


Figure D.4: Donation Types Report

APPENDIX E –TEST RESULTS

Test cases given in evaluation stage along with test results are given in this chapter.

E.1 TEST CASES FOR MEMBER LOGIN

Test cases with expected results and actual results of the member login are displayed in below table E.1

Test Case No	Testing Steps	Test Data	Expected Result	Actual Results	Status
TC 01	1. Enter user name according to test data	Blank user name & blank password	Error message “Both Email and password are Empty”	Display Error Message Both Email and password are Empty	Pass
TC 02	2. Enter password according to test data	Blank user name & given password	Error message “Empty Email”	Display Error Message Empty Email	Pass
TC 03	3. Press login button	Given user name & blank Password	Error message “Empty password”	Display Error Message Empty password	Pass
TC 04		Wrong email and correct password	Error message “Invalid Email	Display Error Message Invalid Email address or Password	Pass




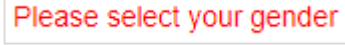

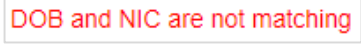

			address or Password”		
TC 05		Correct email and wrong password	Error message “Invalid Email address or Password”	Display Error Message Invalid Email address or Password	Pass
TC 06		Both incorrect email & password	Error message “Invalid Email address or Password”	Display Error Message Invalid Email address or Password	Pass
TC 07		Correct email & correct password	Redirect to Dashboard	Welcome Prashani Gunasekara! 	Pass
TC 08		Correct email & correct password with account disabled	Error message “Invalid Email address or Password”	Display Error Message Invalid Email address or Password	Pass

Table E.1: Login test case

E.2 TEST CASES FOR MEMBER MODULE

Test cases with expected results and actual results of the member module are displayed in below table E.2

Test Case No	Testing Steps	Test Data	Expected Result	Actual Result	Status
TC 01	1. Enter first name, last name, date of birth, gender, ID No, A/L batch, email, telephone no, role, image according to test data 2. Press save button	First name empty	Error message "Empty First Name"	Display Error Message 	Pass
TC 02		Last name empty	Error message "Empty Last Name"	Display Error Message 	Pass
TC 03		Gender not selected	Error message "Please select your gender"	Display Error Message 	Pass
TC 04		NIC with letters or less nos	Error message "Invalid NIC"	Display Error Message 	Pass
TC 05		Date and NIC not matching	Error message "DOB and NIC are not matching"	Display Error Message 	Pass
TC 06		Empty A/L batch	Error message "Empty	Display Error Message 	Pass


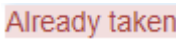
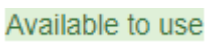


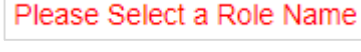

			A/L Batch”		
TC 07		Empty email	Error message “Invalid Email”	Display Error Message 	Pass
TC 08		Email address used before	Error message “Already taken”	Display Error Message 	Pass
TC 09		New email address	Message “Availabl e to use”	Display Message 	Pass
TC 10		Telephone No with less than 10 digits	Error message “Invalid Telephone No”	Display Error Message 	Pass
TC 11		Telephone No with alphabetic al letters or characters	Error message “Invalid Telephone No”	Display Error Message 	Pass
TC 12		Role not selected	Error message “Please Select a Role Name”	Display Error Message 	Pass
TC 13		Select wrong	Error message “Invalid	Display Error Message 	Pass

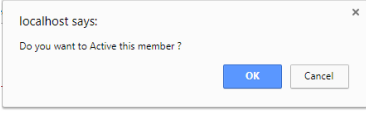
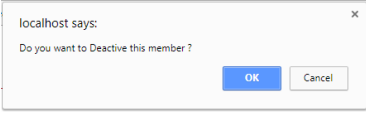
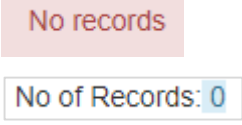

		image extension	Image Extension ”		
TC 14	1. Click the status buttons according to test data	Click active button	Message “Do you want to activate this member?”	Display Message 	Pass
TC 15		Click deactivate button	Message “Do you want to deactivate this member?”	Display Message 	Pass
TC 16	1. In search box search keywords according to test data	Enter keyword that not existing	Error message “No records & No of Records: 0”	Display Error Message 	Pass
TC 17	2. Press search button	Correct keyword	Message “No of Records: 2”	Display Message 	Pass

Table E.2: Member module test cases

E.3 TEST CASES FOR PRODUCT MODULE

Test cases with expected results and actual of the product module are displayed in below table E.3


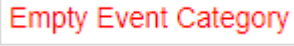
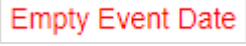
Test Case No	Testing Steps	Test Data	Expected Result	Actual Result	Status
TC 01	1. Enter product name, product type, category, size, price according to test data 2. Press save button	Product name empty	Error message "Empty Product Name"	Display Error Message Empty Product Name	Pass
TC 02		Product type empty	Error message "Empty Product Type"	Display Error Message Empty Product Type	Pass
TC 03		Category empty	Error message "Empty Category"	Display Error Message Empty Category	Pass
TC 04		Size empty	Error message "Empty Size"	Display Error Message Empty Size	Pass
TC 05		Price empty	Error message "Empty Price"	Display Error Message Empty Price	Pass
TC 06		Letters type in price	Can't type	Can't type	Pass
TC 07		Numeric type in price	Can type	Can Type	Pass

TC 08	1. Click the buttons according to test data	Click delete button	Message “Do you want to delete this product?”	Display Message 	Pass
-------	---	---------------------	---	---	------

Table E.3: Product module test case

E.4 TEST CASES FOR EVENT MODULE

Test cases and expected results of the event module are displayed in below table E.4

Test Case No	Testing Steps	Test Data	Expected Result	Actual Result	Status
TC 01	1. Enter event name, event category, event date, estimated budget, actual budget according to test data	Event name empty	Error message “Empty Event Name”	Display Error Message 	Pass
TC 02		Event category empty	Error message “Empty Event Category”	Display Error Message 	Pass
TC 03		2. Press save button	Event date empty	Error message “Empty Event Date”	Display Error Message 

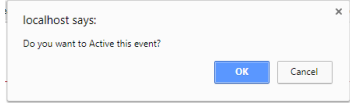
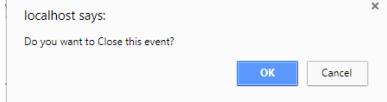
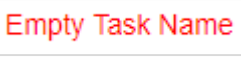

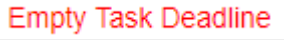

TC 04		Letters type in estimate d budget	Can't type	Can't type	Pass
TC 05		Numeric type in estimate d budget	Can type	Can type	Pass
TC 06		Letters type in actual budget	Can't type	Can't type	Pass
TC 07		Numeric type in actual budget	Can type	Can type	Pass
TC 08	1. Click the status buttons accordin g to test data	Click active button	Message “Do you want to active this event?”	Display Message 	Pass
TC 09		Click close button	Message “Do you want to close this event?”	Display Message 	Pass

Table E.4: Event module test case

E.5 TEST CASES FOR TASK MODULE

Test cases and expected results of the task module are displayed in below table E.5

Test Case No	Testing Steps	Test Data	Expected Result	Actual Result	Status
TC 01	1. Enter task name, event name, task deadline, task priority, estimated budget, actual budget according to test data 2. Press save button	Task name empty	Error message “Empty Task Name”	Display Error Message 	Pass
TC 02		Event name empty	Error message “Empty Event Name”	Display Error Message 	Pass
TC 03		Task deadline empty	Error message “Empty Task Deadline”	Display Error Message 	Pass
TC 04		Task priority empty	Error message “Empty Task Priority”	Display Error Message 	Pass
TC 05		Letters type in	Can't type	Can't type	Pass

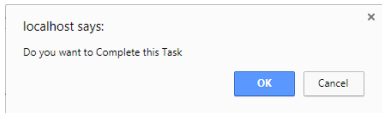
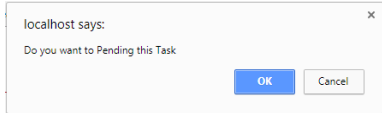
		estimated budget			
TC 06		Numeric type in estimated budget	Can type	Can type	Pass
TC 07		Letters type in actual budget	Can't type	Can't type	Pass
TC 08		Numeric type in actual budget	Can type	Can type	Pass
TC 09	1. Click the status buttons according to test data	Click complete button	Message "Do you want to complete this task?"	Display Message 	Pass
TC 10		Click pending button	Message "Do you want to pending this task?"	Display Message 	Pass

Table E.5: Task module test case

USER ACCEPTANCE TEST RESULT SHEET

Sample user acceptance test result sheet given in figure E.1

Alumni Management System Evaluation Form

Role : <i>Administrator</i>					
Please choose the most relevant answer					
Criterion	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
The system does what was proposed				✓	
the user interface is easy to understand					✓
I am satisfied with the look and feel of the system					✓
it is easy to navigate through the system					✓
The system provides help in a clear manner				✓	
The system generated errors in a problematic manner		✓			
I am satisfied with the performance of the system					✓
I am satisfied with the security of the system				✓	
I will recommend this system to other members					✓
Do you have any thoughts in improving the system?					

Figure E.1: Sample User Acceptance Test Result Sheet

APPENDIX F - CODE LISTING

CODE FOR VIEW DONOR

Donormodel.php

```
class donor {

    public function viewDonor($donor_id) {
        $con = $GLOBALS['con'];
        //sql Query
        $sql = "SELECT * FROM donor d, member m, donation do WHERE
d.member_id=m.member_id AND d.donor_id=do.donor_id AND
d.donor_id='$donor_id'";
        // execute Query
        $result = $con->query($sql);
        return $result;
    }
}
```

CODE FOR ADD/UPDATE MEMBER

Membercontroller.php

```
$obj = new member();

$status = strtolower($_REQUEST['status']);

switch ($status) {
    case "add":
        $arr = $_POST;
        //To check whether image has been uploaded
        if ($_FILES['member_image']['name'] != "") {
            $iname = $_FILES['member_image']['name'];
            $tmp_loc = $_FILES['member_image']['tmp_name'];
        } else {
            $iname = "";
            $tmp_loc = "";
        }
        $member_id = $obj->addMember($arr, $iname, $tmp_loc);

        header("Location:../view/member.php?member_id=$member_id");

        break;
```

```

    case "update":
        $arr = $_POST;
        $member_id = $_REQUEST['member_id'];
        $p = $_REQUEST['p'];
        $result = $obj->viewMember($member_id);
        $row = $result->fetch_assoc();
        echo $member_image = $row['member_image'];

//To check whether image has been uploaded

    if ($_FILES['member_image']['name'] != "")
    {
        $iname = $_FILES['member_image']['name'];
        $tmp_loc = $_FILES['member_image']['tmp_name'];
        $path = "../images/member_images/$member_image";
        echo $path;
        unlink($path); //To delete an image

    } else {

        $iname = "";
        $tmp_loc = "";
    }

    $obj->updateMember($member_id, $arr, $iname, $tmp_loc);
header("Location:../view/member.php?member_id=$member_id&page=$p");

    break;

    case "deactive":
        $member_id = $_GET['member_id'];

        $page = $_GET['page'];

        $obj->deactiveMember($member_id);

        header("Location:../view/member.php?page=$page");

        break;

    case "active":
        $member_id = $_GET['member_id'];

        $page = $_GET['page'];

        $obj->activeMember($member_id);

        header("Location:../view/member.php?page=$page");

        break;
}

```


Membermodel.php

```
Class member {
function addMember($arr, $iname, $tmp_loc) {
    $member_fname = $arr['member_fname'];
    $member_mname = $arr['member_mname'];
    $member_lname = $arr['member_lname'];
    $member_maidenname = $arr['member_maidenname'];
    $member_dob = $arr['member_dob'];
    $member_sex = $arr['member_sex'];
    $member_nic = $arr['member_nic'];
    $member_albatch = $arr['member_albatch'];
    $email = $arr['email'];
    $member_tel = $arr['member_tel'];
    $member_add = $arr['member_add'];
    $member_skypeid = $arr['member_skypeid'];
    $member_designation = $arr['member_designation'];
    $member_officeadd = $arr['member_officeadd'];
    $role_id = $arr['role_id'];

    $con = $GLOBALS['con'];
    $sql = "INSERT INTO member
(member_fname,member_mname,member_lname,member_maidenname,member_dob,member_sex,member_nic,member_albatch,member_tel,member_add,member_skypeid,member_designation,member_officeadd,role_id,member_status)
VALUES ('$member_fname','$member_mname','$member_lname','$member_maidenname','$member_dob','$member_sex','$member_nic','$member_albatch','$member_tel','$member_add','$member_skypeid','$member_designation','$member_officeadd','$role_id','Active')";
    $result = $con->query($sql) or die($con->error);
    $member_id = $con->insert_id; //Last ID

    $p = sha1("123"); ///Encryption
    //Insert into login table
    $sqllog = "INSERT INTO login (email,password,member_id)
VALUE ('$email','$p','$member_id')";
    $resultlog = $con->query($sqllog) or die($con->error);

    if ($iname != "") {
        $inewname = $member_id . "_" . $iname;
        //To update Image
        $update = "UPDATE member SET member_image='$inewname'
WHERE member_id='$member_id'";
        $con->query($update) or die($con->error);
        $new_path = "../images/member_images/" . $inewname;
        //move image from temp loc to new path
        move_uploaded_file($tmp_loc, $new_path);
    }

    return $member_id;
}
}
```

```

function updateMember($member_id, $arr, $iname, $tmp_loc) {
    $member_fname = $arr['member_fname'];
    $member_mname = $arr['member_mname'];
    $member_lname = $arr['member_lname'];
    $member_maidenname = $arr['member_maidenname'];
    $member_dob = $arr['member_dob'];
    $member_sex = $arr['member_sex'];
    $member_nic = $arr['member_nic'];
    $member_albatch = $arr['member_albatch'];
    $email = $arr['email'];
    $member_tel = $arr['member_tel'];
    $member_add = $arr['member_add'];
    $member_skypeid = $arr['member_skypeid'];
    $member_designation = $arr['member_designation'];
    $member_officeadd = $arr['member_officeadd'];
    $role_id = $arr['role_id'];

    $con = $GLOBALS['con'];
    $sql = "UPDATE member SET
member_fname='$member_fname',member_mname='$member_mname',member_lname='$member_lname',member_maidenname='$member_maidenname',member_dob='$member_dob',member_sex='$member_sex',member_nic='$member_nic',member_albatch='$member_albatch',member_tel='$member_tel',member_add='$member_add',member_skypeid='$member_skypeid',member_designation='$member_designation',member_officeadd='$member_officeadd',role_id='$role_id' WHERE member_id='$member_id'";
    $result = $con->query($sql) or die($con->error);

    if ($iname != "") {
        $inewname = $member_id . "_" . $iname;
        //To update Image
        $update = "UPDATE member SET member_image='$inewname'
WHERE member_id='$member_id'";
        $con->query($update) or die($con->error);
        $new_path = "../images/member_images/" . $inewname;
        //move image from temp loc to new path
        move_uploaded_file($tmp_loc, $new_path);
    }

    return $member_id;
}

function deactivateMember($member_id) {
    $con = $GLOBALS['con'];
    $sql = "UPDATE member SET member_status='Deactive' WHERE
member_id='$member_id'";
    $result = $con->query($sql);
}

function activeMember($member_id) {
    $con = $GLOBALS['con'];
    $sql = "UPDATE member SET member_status='Active' WHERE
member_id='$member_id'";
    $result = $con->query($sql);
}

```

APPENDIX G – CLIENT CERTIFICATE

වීරකැටිය රාජපක්ෂ මධ්‍ය විද්‍යාලයීය ආදි ශිෂ්‍ය මිත්‍රත්ව සංගමය (කොළඹ සංස්ථා)
WEERAKETIYA RAJAPAKSA CENTRAL COLLEGE PAST PUPILS' FRIENDSHIP ASSOCIATION (COLOMBO CHAPTER)



අංක 325/12/50,
කුරුළු උයන, පැනිපිටිය,
පන්තිවිය.
දු.ක. (+94) 71-8032609
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Auditor:
Mr Piyadasa Rathnayake

05th November 2017

Project Examination Board,
University of Colombo School of Computing,
No 17, Swarna Road,
Colombo 06.

Dear Sir/ Madam,


LETTER OF CERTIFICATION

It is a pleasure to inform that Ms. P.D.Gunasekara has implemented an Alumni Management System & web portal for our association as a part of her final year project requirement in Bachelor of Information Technology.

This system was tested by relevant members of the association which was identified as bug free and user friendly. We strongly believe that this system could be implemented to enhance the quality of the service provided by the association.

Thank you,

Yours Faithfully,


Wasantha Dewage
(The President)

Past Pupils Friendship Association – Weeraketiyarajapaksha Central
College

GLOSSARY

AJAX - Method of building interactive applications for the Web that process user requests immediately.

Bootstrap - Front-end website and web app development framework

CSS –Cascading Style Sheets used to format the layout of Web pages

HTML – Hypertext Markup Language, a standardized system for tagging text files to World Wide Web pages.

jQuery - A cross-platform JavaScript library designed to simplify the client-side scripting of HTML

MySql - Open source relational database management system (RDBMS) based on Structured Query Language (SQL)

UML - Unified Modeling Language. Standardized modeling language enabling developers to construct and document artifacts of a software system

XAMPP - Free and open source cross-platform web server developed by Apache Friends

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