University of Colombo

Faculty of Technology

Department of Information and Communication Technology

Mini Project Report

ISAMS – Integrated Student Activity Management System

Group No : 12

Lecturer In- charge : Ms. Sherina Sally

Table of Contents

1.Acknowledgement

We would like to express our sincere gratitude to several individuals for supporting us throughout our mini project developing, managing, and documenting process for over a year. First of all, we wish to express our sincere gratitude to our supervisor, Mrs. Sherina Sally, for her valuable guidance, insightful comments, helpful information, practical advice, and unceasing ideas that have helped us hugely at all times in our mini project completing process. We would like to take this opportunity to thank you for your determination to complete our project to a high standard. We would like to thank you for sharing your personal experience with us on how to manage a project, how to manage time, and how to solve problems while doing a project, it has been a great help to us.

We also wish to express our sincere thanks to our instructors Mrs. Mihirangi and Ms. Buddhi for sharing their knowledge and arranging meetings with the supervisor.

We are also very appreciative to our team members for contributing to the completion of the project and their respective module. They were constantly dedicated to their module. Finally, last but least; We would like to take this opportunity to express our gratitude to all of our colleagues who helped us make the project a success.

Group No: 12

2.Executive Summary

Nowadays, internal and external students of the universities are highly interactive with many extracurricular and academic related activities. These activities help more to develop and enhance their several kinds of abilities such as; problem solving skills, innovation skills, critical thinking skills, understanding and accepting comments. But they encounter various types of problems while gathering students for these kinds of activities. As a result of that different types of options are searched by students.

Therefore, our project is integrated student activity management system for interacting with students efficiently. Internal students can log into site using their username and password. They can view available events and elections for them and register into it. External students can view available events for them and register for those events. Both internal and external students can view previous and upcoming social work activities and join with them.

Hence, we hope to give efficient and flexible service to our students in a unique way.

3. Group Details

	STUDENT NAME	STUDENT NO.	CONTACT NO.	EMAIL ADDRESS
1	RAJAPAKSHA R.P.N.D.	2020T00899	0763112094	2020t00899@stu.cmb.ac.lk
2	PUSHPAKUMARA P.D.U.I.	2020T00898	0719980449	2020t00898@stu.cmb.ac.lk
3	PREMACHANDRA P.T.G.S.S.	2020T00897	0766344320	2020t00897@stu.cmb.ac.lk

4.Individual Work Load

STUDENT NAME	ASSIGNED TASKS
PUSHPAKUMARA P.D.U.I.	- Student Registration. • Edit and update students' new details. • Remove the details of former students from the system. • Manage the all login details regarding students. -Manage social work
RAJAPAKSHA R.P.N.D.	-Event Management • Creation and deletion of events. • - Manage the enrolling system of internal and external students for each event.
PREMACHANDRA P.T.G.S.S.	- Create the voting system. • Add candidates to the system. • Manage the permissions for voting (Faculty vice/ Department vice/ etc.) • Count the votes for each candidate. • Display the result of each candidate.

5.Introduction

5.1 Purpose

The objective of **Integrated Student Activity Management System** is allowing both internal and external students of the university to get aware about the upcoming events of the university. At the same time, they can get access to enroll in those events according to the planned procedure of the university. Above these things, voting management system is the another significant one in this system. This system can be used for the elections in university premises. Moreover, it contains all the details about internal undergraduate students such as; name, student id, address, department, DOB, etc.

Overall, this system will be really helpful and useful for every user. The main purpose of SRS document is to illustrate the requirements of the project **Integrated Student Activity Management System** and is intended to help students and users in an effective way with lots of pros such as time saving, money saving, productivity, etc.

5.2 Scope

Scope of implementing the Integrated **Student Activity Management System** is having the following functional areas.

- Student registration
- Event management
- Social work management
- Voting system management

5.2.1 Module: Student Registration

Admin registers internal students into the system using their details. At the moment student receives their username and password via their email. Admin edits students' previously entered details and update if there is any kind of inputting errors. Admin removes the student details after one year of time they left the university.

5.2.2Module: Event Management

Admin creates events for both internal and external students with details of each event. Internal students can search for available events via logging into their accounts. External students can search for events without creating accounts.

Both internal and external students can register into available events by filling a foam.

And also, admin sets permission for each event. If admin selects it as special event while creating event, then it will appear on the dashboard.

Admin can delete events due to unavoidable circumstances or considering any other occurrence. System will automatically send an email with the details of registered events

5.2.3 Module: Social Work Management

Admin sets upcoming social work activities with date, time and venue. Both internal and external students can join with those social work activities by following given details.
And also, students can have clear idea about recently done social work activities as well.

5.2.4 Module: Voting System Management

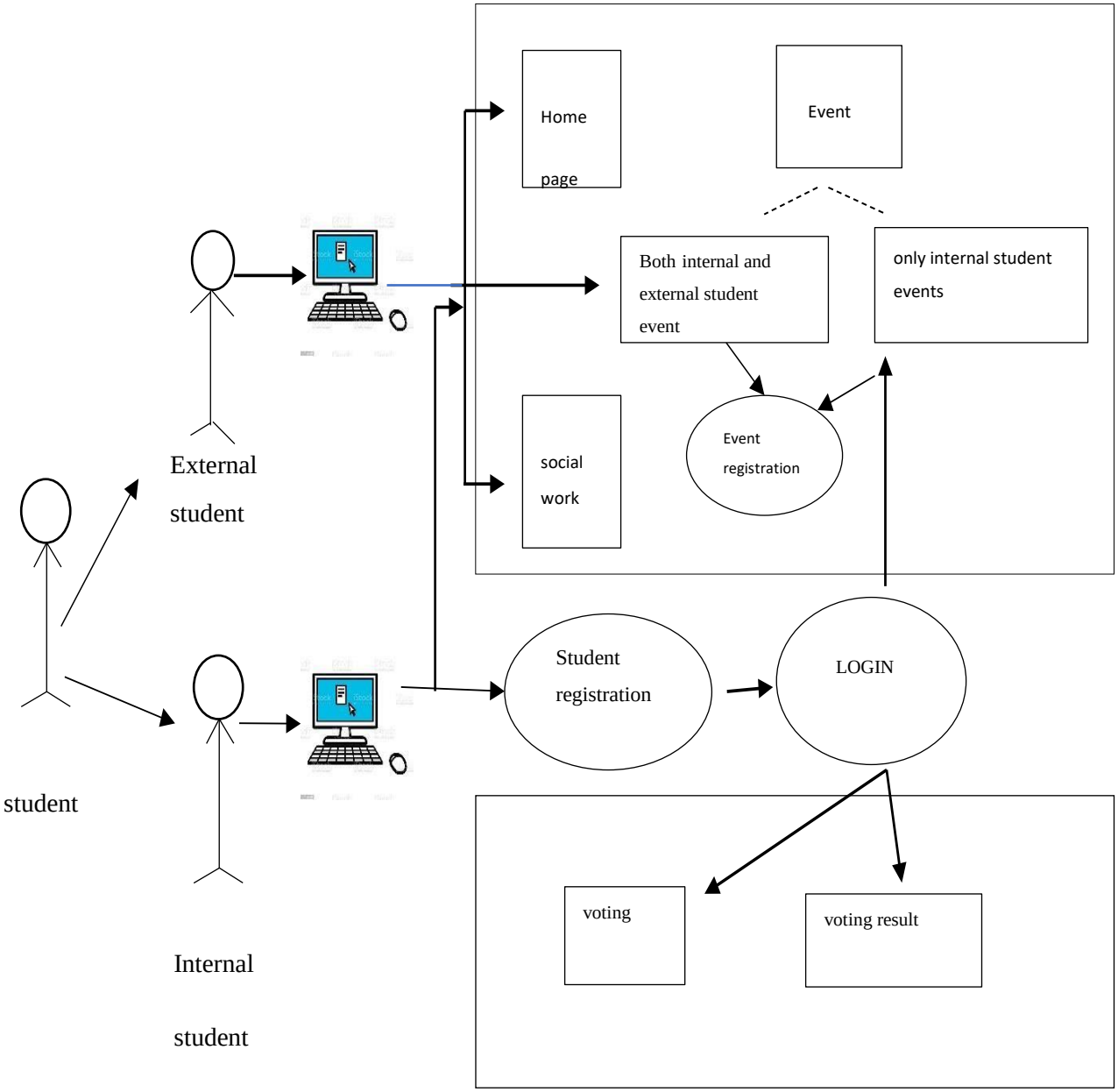
Admin creates each election my adding candidate details and set permissions. It means department vice, faculty vice, club vice or etc.
This feature is only available for internal students. Two minutes are given for each vote and students can see available elections for each batch after logging into the system.
System counts the number of votes for each candidate and results will display at the end of each election.

6.Overall System Description

6.1 Overview

When considering the overview; users can log into the site and can have a look about the latest achievements of the university with details, upcoming events. These upcoming events give chance to enroll both internal and external students in order to their desire. Accordingly, internal students can enroll in the events, both internal and external students can enroll for the events. And also, another significant feature is voting system. This can save the money, time with other additional expenses for the elections. Moreover, it is very smart and productive. Candidates can have their election results in a short period of time as votes are counted automatically by the system hastily.

6.2 High-Level System Architecture



7. Individual Components

7.1 Member 01: PUSHPAKUMARA P.D.U.I.

➢ Student Registration.

Admin registers internal students into the system using their details. At the moment student receives their username and password via their Gmail.

- Edit and update students' new details.

Admin edits students' previously entered details and update if there is any kind of inputting errors.

- Remove the details of former students from the system.

Admin removes the student details after one year of time they left the university.

- Manage the all login details regarding students.

  Student can log into their accounts using received username and password by admin.

➢ Manage social work

  Both internal and external students view social activities which were done and other upcoming social activities. If they wish to join, they can follow provided details regarding upcoming social work activities.

7.2 Member 02: RAJAPAKSHA R.P.N.D.

➢ Event Management

- Creation and deletion of events.
  Admin creates events which are scheduled to hold and delete done or canceled events.

- Develop the system for enrolling students regarding each event.

  Both internal and external students can enroll in each event.

- Manage the enrolling system of internal and external students for each event.

  Internal students can register into events by logging to their accounts. If any event is for both internal and external students, then they have to fill out a form. Then system will automatically send event details to their emails.

7.3 Member 03: PREMACHANDRA P.T.G.S.S.

- Create the voting system.

  These are the sub functions under creation of voting system.

  - Add candidates to the system.
    Admin add candidates' details to the system under each election. And also provide all the information of election (When,position,available voting period)

  - Manage the permissions for voting (Faculty vice/ Department vice/ etc.)
    Admin sets permissions for each election. It means whether the election is for only a department, faculty, club or etc.)

  - Count the votes for each candidate.
    System will automatically count the number of votes for each candidate at the end of each election.

  - Display the result of each candidate.
    After counting system displays the results for candidates.

8. Development of the System

Many different programming languages and development tools are utilized to create websites and applications using web development technologies. There are essentially two stages of development for our system. Both front-end and back-end development are available.

We have concentrated on the user interfaces of our system when it comes to front-end development. View of a web page, color schemes, themes, text color schemes, picture styles, buttons, navigation menus, etc.

We have concentrated on the technical foundation and system functionality when thinking about the back-end development stage. Web page links, functional management, database data management, request response, data security, etc.

8.1 Front-end Technologies

• HTML – HTML (Hypertext Markup Language) is a text-based approach to describing the content structure of an HTML file. A user can create a basic web page and upload it to the Internet by applying these HTML conventions to a text file in any text editor.

• CSS – CSS stands for Cascading Style Sheets. CSS describes how the HTML element should be displayed on screen, webpage, or other media. It can control the layout of several web pages at once. Normally External design sheets are stored in CSS files with .css Extension.

• Bootstrap (v4 5.3) Framework – Bootstrap is a free and open-source CSS framework for front-end web development includes design templates for typefaces, forms, buttons, navigation, and other interface components that are CSS- and (optionally) JavaScriptbased.

• Visual Studio Code (v1.51.1) – Visual Studio Code combines the simplicity of a source code editor with powerful developer tools such as IntelliSense code complement and debugging.



8.2 Back-end Technologies

• PHP – PHP (recursive acronym for PHP: Hypertext Preprocessor) is a popular open-source general-purpose scripting language that is suitable for web development and can be embedded in HTML.

• MYSQL – MySQL is a relational database management system that is free and open source. We use MYSQL to connect databases and manage data tables in our system.

• XAMPP (v7.4.12server) – XAMPP is an open-source software package that contains Apache distributions for the Apache Server, MariaDB, PHP, and Perl. This is a local server that works on a desktop or laptop. We use XAMPP to test our website before uploading it to the remote web server.

9.External Interface Requirements

9.1 User interfaces

The Student Management System web server must provide a user interface that will be accessible through any internet browser, the major ones being Google Chrome and Internet

9.2 Hardware interfaces

All components able to be executed on personal computers with Windows OS platforms and other platforms like Linux, Unix.

9.3 Software interfaces

All the interfaces will be ASPX pages running within the internet browser. The SMS must integrate with the DB though SQL Interface.

10. Functional requirements of the system

A Functional Requirement is a description of the service that the software must offer. It describes a software system or its components.

101 Shall be able to manage the student.

As an example, suppose this system is implemented in Technology faculty. The following requirements must be met.

- Shall be able to Add a new student to the system.
- Shall be able to Update a student details from the system.
- Shall be able to Delete a student from the system.
- Shall be able to view student details from the system.

10.2 shall be able to manage batch

- Shall be able to add new batch to the system.
- Shall be able to update batch details from the system.
- Shall be able to delete batch from the system.
- Shall be able to view the batch detail from the system.

10.3 Shall be able to manage the voting functionality

It is hoped to accomplish the following function in this regard.

- Shall be able to Add a new vote to the system.
- Shall be able to update vote from the system.
- Shall be able to delete vote from the system.
- Shall be able to login into the voting system.
- Shall be able to view the voting result.

10.4 shall be able to manage the event

- Shall be able to add the new event to the system.
- Shall be able to the update event from the system.
- Shall be able to delete event from the system.
- Shall be able to view the event.
- Shall be able to registration to the event

11. Non-functional requirements of the system

- Shall run on Windows ME or later operating system
- Shall be able to provide user friendly GUI.
- Shall make use of existing software and hardware
- Should provide a wen interface.
- Should provide security for student details.
- Should be able to provide reliable service.
- Registration shall not take more than 15 seconds.
- Shall be able to provide simple but efficient admin dashboard.

12.IT Infrastructure – Hardware and Networking Requirements

We focused on the hardware, software, and networking needs for the website when designing our system. Our project unavoidably calls for a wide range of requirements, from hosting to locally developing our website. Webhost was included its own set of specifications. These requirements can all be categorized as IT infrastructure, as indicated below. The website was initially created using local computers and laptops. For this, several requirements developed, including for all coding, back-end, and front-end components.

- Hardware requirements
  - o Personal computers (Laptops / Desktop computers)
  - o NIC cards/ Wi-Fi adapters
  - o Modern or Routers
  - o Servers to host the website

- Networking requirements
  - o Active Internet connectivity
  - o Routers, Switches and Cables

- Software requirements
  - o Visual Studio Code editor
  - o Chrome/ Edge or any other web browsers.
  - o XAMPP Server

13. Technical Infrastructure Requirements

- Highly Integrated
  - Cloud web server with root access and SSH (VPS or Shared)
  - 1 GB storage
  - 512 MB higher RAM
  - Supports PHP 8.0 or higher version
  - MySQL 5.7
  - Valid Gmail Account
  - Valid Google map API
  - Active domain name

- GitHub account and repository
- IT Policies and Standards
- Access Control Policy
- User Account Policy
- User Accounts Password Policy
- IS&T Web Server Access Logs Policy

♦ **Simplicity**

How simple a task is to complete defines its simplicity. The user experience will be improved if the user can complete their task more quickly. Therefore, we avoid implementing unused design components that have no bearing on the system's functionality. One thing we should keep in mind when keeping things simple is colors. The distraction increases with the number of colors. So, to design the web application, we employ a few striking colors. next, the layout of the texts (typefaces). There shouldn't be too many design variations within a typeface, and typefaces should be kept to a minimum. should maintain simplicity.. Next, we should exercise extreme caution when employing graphics like photos because occasionally, they may negatively impact specific functionalities. By taking these aspects into account, we can make things simple for users, which will eventually enhance user engagement.

♦ **Visual Hierarchy**

Visual hierarchy is the process of organizing web components such that users can easily view the most crucial ones. by strategically placing items so that the intended user's eye would be drawn to those crucial ones using the appropriate use of text colors, background colors, and element sizes.

♦ **Navigability**

How simple it is to navigate across the web pages of the web application to reach the desired location is referred to as navigation. When visiting a website, it is a major issue if the user wonders "where to go next" since they are unsure of where their intended destination is. If the user becomes frustrated trying to locate the desired web page (or couldn't find the needed activity from our web application), he or she may never return to our ISAMS. Additionally, he will never tell anyone else about our website. Therefore, flawless navigation is crucial. Our Lak Market is easily navigable, enabling users to quickly and easily reach their intended area within the ISAMS.

- **Consistency**

In order to maintain consistency, the web application's overall design should remain constant across all of the web pages. Background, colors, and navigational bars should be kept consistent throughout the web application to promote consistency and improve user friendliness. This does not imply that every page should have the same layout. It motivates the developer to create certain design layouts for a specific sort of website. This will also help the user to feel that he/she is in the write place of the web application.

- **Responsivity**

It's crucial to build a website that is extremely responsive. It involves developing web pages that appear excellent across all platforms. The screen sizes and viewing angles of various devices vary. When creating the user interface for the web pages related to the system, the web developer must keep that in mind. To do that, we used the bootstrap grid system, which uses containers, rows, and columns to align content, lay it out, and improve the responsiveness of web pages. Because of this, we believe that making the site more responsible will help it become more user-friendly and draw more visitors.

- **Conventionality**

Convention refers to the typical method that something is carried out. When considering conventionality in online applications, it is important to arrange web components in the manner in which they are typically done. For instance, the primary navigation bar is positioned at the top, beginning on the left, the website's logo is positioned in the middle of the page or in the top left corner, ecommerce sites use the cart icon to indicate how many items are currently in the cart, and image sliders are used to allow users to manually move images. Our web application ISAMS contains each and every one of the items listed in the example section. By following convention, the user won't have to learn anything because the ISAMS will operate similarly to other e-commerce sites. Users will quickly become accustomed to the web application.

14.System Development Process

14.1 Database Schema

15. Use Case Diagram

15.1 Overall Use Case Diagram