



San Sebastian College-Recoletos, Canlubang

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The Implementation of Attendance Management System Using Biometrics for San Sebastian College-Recoletos Canlubang Campus.

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I. Introduction

Effective and accessible administration of student attendance is critical in the modern educational setting. Conventional approaches, which frequently depend on manual record-keeping, are difficult, prone to mistakes, and do not provide real-time accessibility. In order to better serve the needs of administrators, teachers, and students, this paper presents a dynamic web-based platform that streamlines and improves student attendance management. The website, which was created with PHP, HTML, CSS, and JavaScript, offers a centralized system for viewing and editing student attendance data in addition to user management features and crucial institutional data.

The project provides a website wherein teachers can view and edit student attendance records for easier administrative handling. The website will hold a database that will retrieve data from a biometric scanner and record the time in and time out of the students. Admins will also be able to edit and delete users, and view audit logs which are detailed, chronological records of events and changes within the system which will help with security and accountability.

Regular attendance in class is essential because it has a big impact on students' academic performance, socioemotional development, and future opportunities. According to Daily et al. (2020) chronic absenteeism is associated with academic difficulties and decreased use of school resources. This problem affects any organization where attendance is important, not just educational institutions. Problems also arise when using a traditional or manual



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approach to taking attendances like proxies are possible risks when attendances are taken manually (Nadhan et al., 2022). Therefore, it is important to give careful thought to putting in place efficient attendance management systems. Even the study conducted by Suthari et al., (2023) agrees that to overcome the challenges or drawbacks of manual attendance taking methods automated attendance systems are needed.

According to Rahman et al., (2023) an automated class attendance system also makes it less difficult for educators and administrators as they can keep tabs on students' attendance, monitor punctuality, and spot tardy or absent students. With this in mind, pairing the project with a website that will be able to provide a user friendly interface for both student and teacher alike will effectively enhance efficiency and effectiveness of an automated attendance system. Even according to the study conducted by Al-Emadi et al., (2021) where they emphasize the importance of user friendliness as it enables users to understand how to operate a system without the need to refer to a user manual.

II. Requirements

Software Requirements

- **Text Editor:** Visual Studio Code ver. 1.99.0
- **XAMPP** ver. 8.2.12-0
 - PHP Version 8.2.12
 - Web server: Apache
 - Database: MySQL



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III. Configuration

The website is created with 4 languages consisting of HTML, CSS, Javascript and PHP. These languages work together to create a seamless, interactive, and functional user friendly experience.

HTML: HTML or HyperText Markup Language was used to create the structure and content such as images, text and links in the website.

CSS: CSS or Cascading is used to control the visual presentation and design of the webpage. It was used to design the website from giving color to buttons to resizing the elements added by HTML.

Javascript: JavaScript adds interactivity and dynamic behavior to the website. It enables features such as form validation, interactive buttons, pop-up messages, and smooth transitions. It was used to simply put interactivity on the introduction and reference buttons seen on the homepage of all users.

PHP: PHP or Hypertext Preprocessor is a server-side scripting language used to handle dynamic content and process user requests on the backend of the website. It was used to verify if the input of email and password from the login is correct.

IV. Usage

There are 3 main users of the website which consists of Students, Teachers, and Admins. All users will have the ability to view their respective homepages which will display an



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introduction and reference dropdown, vision and mission statement of the school, and a blog section which consists of the latest news and events with the school.

Students: Students will be able view their own and others' attendance as a whole. This allows them to be able to see if any problems arise with the time in or time out times and allowing them to view other students' attendance will encourage them to also attend on time.

Teachers: Teachers will be able to view the students' attendances and be able to edit them if there are any problems that arise i.e. when a student times in the school but is not present in the class the teacher will be able to mark their status in the attendance as either late or absent. They will also be able generate monthly or weekly reports on attendances for better administration and identifying trends.

Admins: Admins will have the same access that teachers will have with the addition of having audit logs and admin panel. The admin panel will allow the admins to edit and delete the users of the website which would allow for better control within the users and delete inactive or unenrolled users. The audit logs will serve as the records within the system where the admin will be able to view all activity that happens in the website i.e. when someone edits their profile or when someone logs in it will be recorded within the audit logs, this allows for better security and accountability within the system.



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V. Screenshots

The screenshot shows the homepage of the San Sebastian College-Recoletos website. At the top, there is a navigation bar with links for HOME, DOCUMENTATION, PROFILE, LOGIN, and REGISTER. To the right of the navigation bar is a red button labeled "OFFICIAL WEBSITE". Below the navigation bar, there are two red buttons: "Introduction ▾" and "References ▾". The main content area features a large image of a building with multiple windows. Overlaid on this image are two sections: "VISION & MISSION" on the left and "EXPERIENCE OUR TRADITION OF EXCELLENCE" on the right. The "VISION & MISSION" section contains text about the institution's commitment to integral formation. The "EXPERIENCE OUR TRADITION OF EXCELLENCE" section lists various achievements with corresponding numbers: 84 years of providing education, 9 ranked law school graduates, 8 ranked psychometric licensure exam takers, 20 CPA Topnotchers, 56 NCAA Volleyball Championships, and 5 longest NCAA Championships in Seniors' Basketball. A watermark for "Activate Windows" is visible at the bottom right of the page.

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Caritas et Scientia

HOME DOCUMENTATION PROFILE LOGIN REGISTER OFFICIAL WEBSITE

Introduction ▾

References ▾

VISION & MISSION

EXPERIENCE OUR TRADITION OF EXCELLENCE

84 Years of Providing Transformative Catholic Christian Education

9 Ranked Law School in the Philippines with successful Bar takers from 2011-2020

8 Ranked Psychometric Licensure Examination

20 Certified Public Accountant (CPA) Topnotchers

56 NCAA Volleyball Championships

5 Longest NCAA Championships in Seniors' Basketball

Activate Windows
Settings to activate Windows



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SSC-R News and Events

Happy Birthday! Happy Birthday, Mr. Arnaldo M. Dilig!

CONGRATULATIONS!!! New Certified Public Accountants #BastaBasteDiBastaBasta

VIEW ALL

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BROCHURES
ONLINE SERVICES
CAREERS
PRIVACY POLICY

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Activate Windows
Go to Settings to activate Windows

Homepage

This view shows the base homepage without any logged in accounts. The navigation under the header shows 5 buttons where there is: Home button takes the user to the homepage, Documentation shows the papers of the project, Profile which is not accessible since there is no logged in account as of viewing, Login where the user has three options to pick as to what kind of user they are, and register where they will be able to register if they do not already have an account. The homepage also houses the introduction and reference button which shows the introduction and reference part of the paper, mission and vision statement of the school, and a blog section which shows the latest news and events on the school.



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OFFICIAL WEBSITE

HOME DOCUMENTATION PROFILE LOGIN REGISTER

Admin Login
Teacher Login
Student Login

OFFICIAL WEBSITE

HOME DOCUMENTATION PROFILE LOGIN REGISTER

Admin Login

Email _____
Password _____
 Remember me

Login

OFFICIAL WEBSITE

HOME DOCUMENTATION PROFILE LOGIN REGISTER

Teacher Login

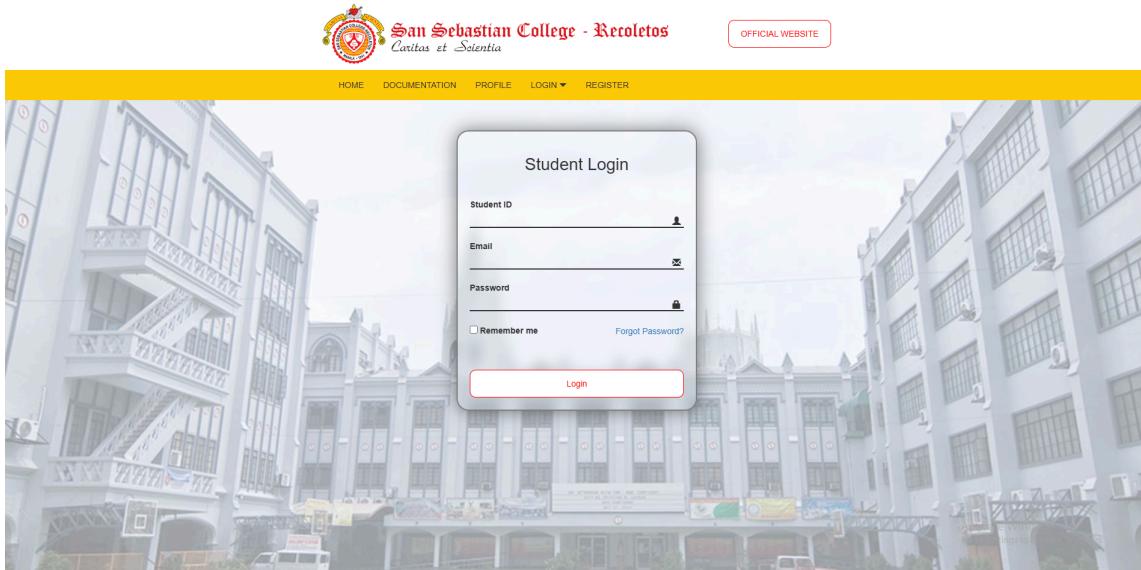
Email _____
Password _____
 Remember me

Login



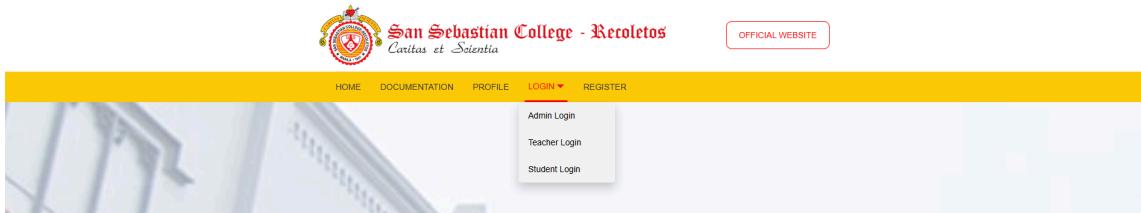
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Login Forms

The login forms are present in the dropdown where the user is able to then choose what type of user they are e.g. Student, Teacher, or Admin.





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Student webpages

The homepage of the student-user is basically the same as the base home page but with the addition of access to the profile, view attendance, and logout buttons. In the profile section they will be able to edit their personal information and their profile picture. In the view



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attendance they can see their own and others' attendance and apply filters to the search for enhanced viewing. Lastly the logout button logs out their account and returns to the base home page.





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The screenshot shows the 'Student Attendance' section of the website. At the top, there is a search bar, a dropdown for 'All Courses', a date input field, and buttons for 'Apply Filter' and 'Export Logs'. Below this, a summary table shows student counts: Total Students (7), Present (3), Late (1), and Absent (2). A detailed table lists individual student attendance logs:

Student ID	Name	Time In	Time Out	Duration	Status
2020100793	Issey Matt Babao	08:02 AM	03:30 PM	7h 28m	Present
2020100416	Derick Nathan Ejie	09:55 AM	03:35 PM	5h 30m	Late
2022100500	Andrew Angeles	-	-	-	Absent

On the right side of the page, there is a sidebar with the text 'Activate WiFi Now! Go to settings > WiFi > WiFi'.

Teacher webpages

The homepage of the teacher-user is basically the same as the base home page but with the addition of access to the profile, view attendance, and logout buttons. In the profile section they will be able to edit their personal information and their profile picture. In the view attendance they can see the student's attendance, edit the status of their attendance, apply filters for much easier searching, and export logs for report generation. Lastly the logout button logs out their account and returns to the base home page.

The screenshot shows the 'Profile' section of the website. At the top, there is a search bar, a dropdown for 'All Courses', a date input field, and buttons for 'Apply Filter' and 'Export Logs'. Below this, a summary table shows student counts: Total Students (7), Present (3), Late (1), and Absent (2). A detailed table lists individual student attendance logs:

Student ID	Name	Time In	Time Out	Duration	Status
2020100793	Issey Matt Babao	08:02 AM	03:30 PM	7h 28m	Present
2020100416	Derick Nathan Ejie	09:55 AM	03:35 PM	5h 30m	Late
2022100500	Andrew Angeles	-	-	-	Absent



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A screenshot of the "My Profile" page from the San Sebastian College-Recoletos website. The page features a yellow header with the college's name and navigation links: HOME, DOCUMENTATION, PROFILE, VIEW ATTENDANCE, ADMIN PANEL, AUDIT LOG, and LOGOUT. The main content area shows a profile card for "Kyle Wesley Cotiangco" (College Student) with a placeholder photo. Below the card is a form for editing information, including fields for First Name (Kyle Wesley), Last Name (Cotiangco), Role (College Student), E-mail (kycotiangco@ssccan.edu.ph), Phone number (+63 916 282 4681), and Password. A "Change password" link is also present. The background of the page is a grayscale image of a large, multi-story building with many windows and architectural details.

A screenshot of the "Student Attendance" page from the same website. The page has a yellow header with the same navigation links. The main content is titled "Student Attendance" and includes a search bar, filter options (All Courses, mm/dd/yyyy), and buttons for "Apply Filter" and "Export Logs". Below this is a summary table showing "Total Students" (7) and their attendance status: "Present" (3), "Late" (1), and "Absent" (2). At the bottom is a detailed table of student attendance logs:



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A screenshot of the San Sebastian College-Recoletos Admin Panel. The page features a yellow header bar with the school's name and a navigation menu. Below the header is a large image of a multi-story building. A modal window is open, displaying a table of user data with columns for ID, Full name, Role, E-mail, Password, Edit, and Delete. The data includes seven entries, each with a unique ID and corresponding details.

ID	Full name	Role	E-mail	Password	Edit	Delete
2020100793	Issey Matt Babao	Student	isbabao@sscrcan.edu.ph	1234	<button>EDIT</button>	<button>DELETE</button>
2020100416	Derick Nathann Eje	Student	deeje@sscrcan.edu.ph	1234	<button>EDIT</button>	<button>DELETE</button>
2022100500	Andrew Angeles	Student	anangeles@sscrcan.edu.ph	1234	<button>EDIT</button>	<button>DELETE</button>
2022100832	Jerome Misa	Student	jemisa@sscrcan.edu.ph	1234	<button>EDIT</button>	<button>DELETE</button>
2021100602	Aldwin Aaron Villarino	Student	avillarino@sscrcan.edu.ph	1234	<button>EDIT</button>	<button>DELETE</button>
2020100841	Jam Lumbres	Student	jalumbres@sscrcan.edu.ph	1234	<button>EDIT</button>	<button>DELETE</button>
2022100441	Kyle Wesley Cotiangco	Admin	kycotiangco@sscrcan.edu.ph	1234	<button>EDIT</button>	<button>DELETE</button>

A screenshot of the San Sebastian College-Recoletos Admin Panel showing the Audit Logs section. The page has a yellow header and a large background image of a building. At the top, there is a search bar and filter options for timestamp, user, role, and action. Below this, a table lists audit log entries with columns for Timestamp, User, Role, and Action. The data shows five log entries from March 30, 2025, at various times, detailing actions like log in, log out, and delete.

Timestamp	User	Role	Action
2025-03-30 14:25:32	is.babao	Student	Log in
2025-03-30 14:22:18	de.eje	Student	Log out
2025-03-30 14:15:42	ky.cotiangco	Admin	Delete
2025-03-30 14:10:05	an.angeles	Student	Edit

Teacher webpages

The homepage of the admin-user is basically the same as the base home page but with the addition of access to the profile, view attendance, admin panel, audit log, and logout buttons. In the profile section they will be able to edit their personal information and their profile



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picture. In the view attendance they can see the student's attendance, edit the status of their attendance, apply filters for much easier searching, and export logs for report generation.

Admin panel is where the admin will be able to edit and delete the accounts or users of the website. The audit log is where the admin will be able to view a chronological record of events and actions within a system, providing a detailed history of user activity. Lastly the logout button logs out their account and returns to the base home page.

VI. References

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