FACULTY OF INFORMATION SCIENCE

BACHELOR OF INFORMATION SCIENCE (HONS) INFORMATION SYSTEM MANAGEMENT (CDIM262)

UNIVERSITI TEKNOLOGI MARA (UiTM), PUNCAK PERDANA CAMPUS

ADVANCED WEB DESIGN DEVELOPMENT AND CONTENT MANAGEMENT (IMS566)

GROUP PROJECT:

IVAPPROVAL (INTERVIEW LETTER APPROVAL MANAGEMENT SYSTEM)

PREPARED BY:

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SUBMISSION DATE: 2nd FEBRUARY 2026

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ACKNOWLEDGEMENT

First and foremost, all praise and thanks be to Allah SWT, the Almighty, for His endless blessings and for granting us the strength, patience and perseverance to successfully complete this assignment. Without His divine guidance, none of this would have been possible.

We would like to extend our heartfelt appreciation to our beloved parents and siblings for their unwavering support, continuous encouragement and prayers throughout this journey. Their belief in us has been a source of constant motivation.

A special thank you goes to our respected lecturer, Dr. Muhammad Asyraf Bin Wahi Anuar, whose invaluable guidance, insightful feedback and encouragement have played a crucial role in shaping this assignment. His dedication and patience have truly inspired us to do our best.

Apart from that, we are also deeply grateful to our friends who generously offered their time, shared their knowledge and stood by us through challenges. Their help and companionship made this experience more meaningful.

Lastly, we would like to acknowledge our own dedication and commitment throughout the process of completing this assignment. Despite the challenges faced, we remained focused and disciplined in our efforts. This experience has strengthened our perseverance, enhanced our teamwork and allowed us to grow both personally and academically.

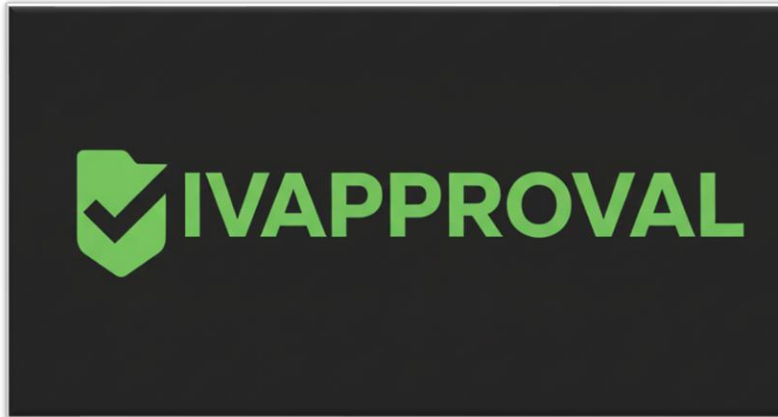**TABLE OF CONTENTS**

1.0 INTRODUCTION

Figure 1: Logo of IVAPPROVAL

IVAPPROVAL is a specialized online management system designed to facilitate the formal approval process for university students conducting research-based interviews within external organizations. Unlike standard job interview tools, this application focuses on the academic necessity of verifying research intent, ensuring that student inquiries are sanctioned by their university departments. By digitizing the workflow, the system allows students to submit research proposals and participant information sheets directly to faculty supervisors for immediate review and digital sign-off.

This platform acts as a bridge between university studies and the business community through a simple digital platform that enables students to apply for a research interview with a company. When a student selects a company to study, they apply through the website with their faculty information and the company's information. Instead of a computer program, a university administrator reviews the request to ensure it is legitimate. Once the university administrator has reviewed the request and has given their approval, the system will send out an official letter to the student to give to the company. This letter will increase the business's comfort level with the students, making it very easy for them to get the approval for their research interview.

To sum up, IVAPPROVAL turns what was once a complex process into a swift and professional process for everyone involved. By providing a clear process from the initial student request to the final administrator sign-off, the system ensures that each and every research project is handled with care and precision. This process not only saves valuable time for the student and the staff, but it also creates a strong and trusted link between the university and the professional business world.

2.0 GITHUB REPOSITORY LINK

https://github.com/almaqstnaa/IMS566-IvApproval-System.git

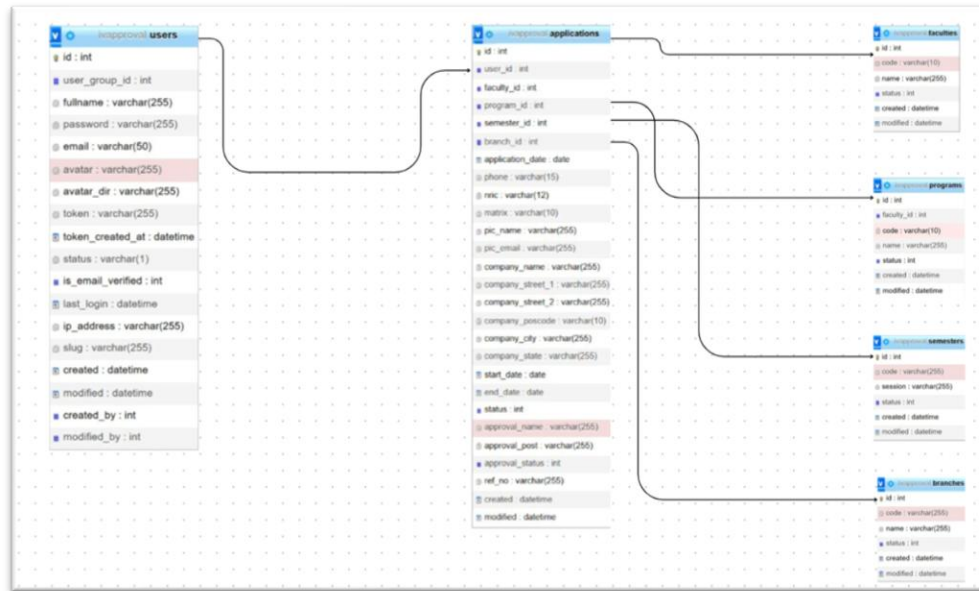**3.0 ENTITY - RELATIONSHIP DIAGRAM (ERD)**

Figure 2: ERD of IVAPPROVAL

The Entity Relationship Diagram for IVAPPROVAL demonstrates the logical structure of a database designed to manage and facilitate the approval of interview letter applications. The Applications entity represents the core element of the system, holding all relevant details pertaining to each application, including student data, company data, internship period, and approval status. Each application is created by a user from the Users entity, who is a registered member of the system. This demonstrates a one-to-many relationship, where a user can have many applications, and an application can only have one user. In addition to the main entity, Applications, to ensure data normalization and consistency, a number of additional entities have been included in the system which is Faculties, Programs, Semesters, and Branches. Each of these entities is connected to the Applications entity via a foreign key, enabling each application to have a specific faculty, program, semester, and branch. This structure of entities helps to minimize data duplication, maintain data integrity, and facilitate easy access to data during the interview letter application and approval process.

4.0 SYSTEM REQUIREMENTS

The IV Approval System is a web-based application that is intended for the management of the submission, review, and approval of interview applications in an organized and efficient way. For the system to function in a smooth, secure, and efficient way, certain hardware and software requirements are needed.

1. **Operating System**

   The IV Approval system is independent of any particular operating system. It can be deployed on any operating system that has a web server environment. However, during the development and testing phases, the system is typically deployed on:

   - Windows 10

   The operating system must be able to support PHP, Apache, and MySQL services to allow the system to work properly.

2. **Development & Server Environment**

   - Laragon

     This is used as the local development environment. Laragon is an easy-to-use and lightweight solution for using PHP, Apache, and MySQL.

   - Apache Web Server

     This is used as the web server to process HTTP requests and serve the IV Approval website to the users. This is provided by Laragon.

3. **Backend Framework**

   - PHP 8.1

     The programming language used for backend development in the IV Approval system is PHP 8.1. This language is used to manage server-side logic, handle forms, validate them, and also for approval processes.

4. **Database**

   - MySQL

     MySQL is used as a relational database management system to store user data, application data, and approval status in a secure and efficient manner.

5. **Frontend Technologies**
   - HTML – It is used for structuring the content of the website.
   - CSS – It is used for designing the user interface.
   - Bootstrap 5 – It is used for developing a responsive, modern, and user-friendly interface.

6. **Web Browser**

   For accessing the system, users should use a modern web browser like:
   - Google Chrome
   - Microsoft Edge

   These browsers provide complete compatibility with the features of HTML5, CSS3, and Bootstrap 5.

5.0 USER INTERFACE OVERVIEW

> ➢ **Login page**
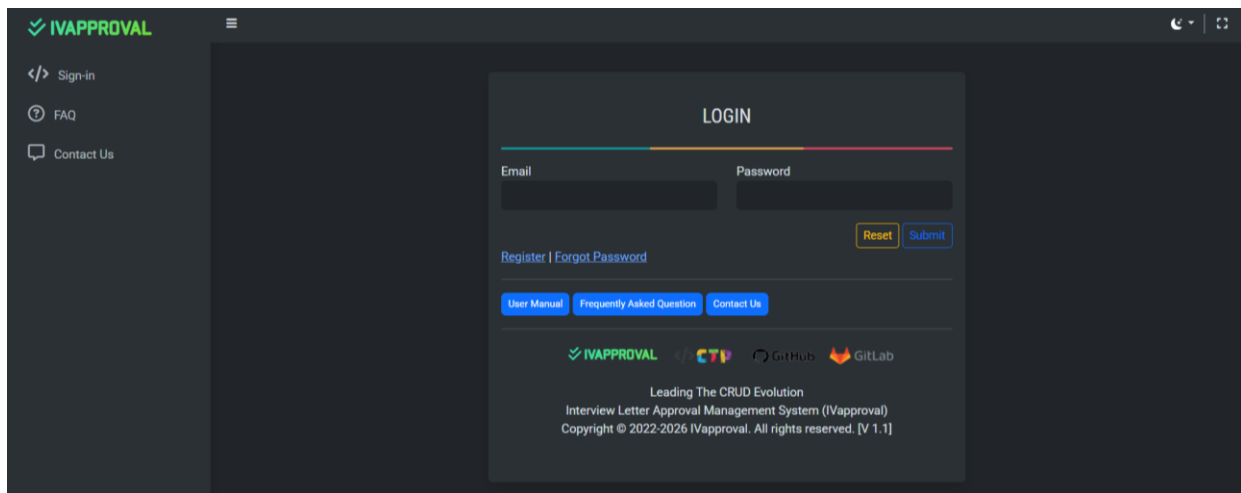
Figure 3: Login page

The IVAPPROVAL Login Page uses a simple layout to help users sign in. On the left side there is a navigation menu with links for Sign-in, FAQ, and Contact Us. The main part of the page is the login form in the center where users need to fill in their email and password to login. If a user wants to register new account, they can click the "Register" link below the email placeholder. There is also a button that linked to the "User Manual", "Frequently Asked Questions" and "Contact Us" at the below of the "Register" and "Forgot Password" link.

➢ **Dashboard page**
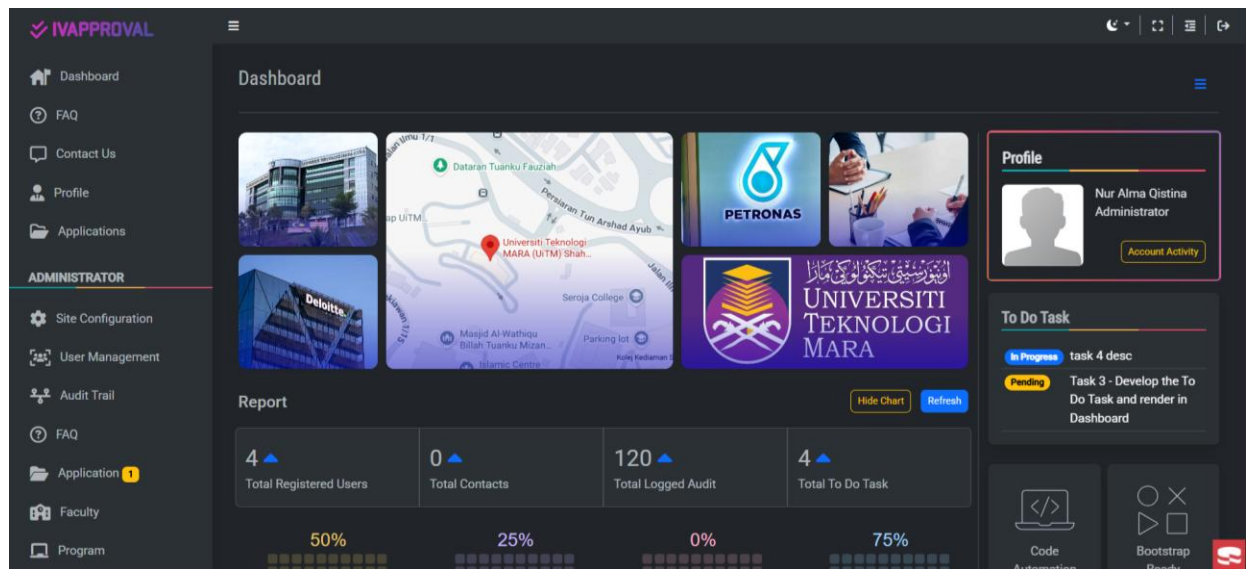
Figure 4: Dashboard page

The Dashboard page provides a quick overview of the system. The Navigation Sidebar on the left organizes links into several items such as Dashboard, FAQ, Contact Us, Profile, Application and many more. There is a data hub at the center featuring visual tiles of UiTM and corporate partner logos. On the right side, there is a profile panel that provides personal information such as user's name and role.
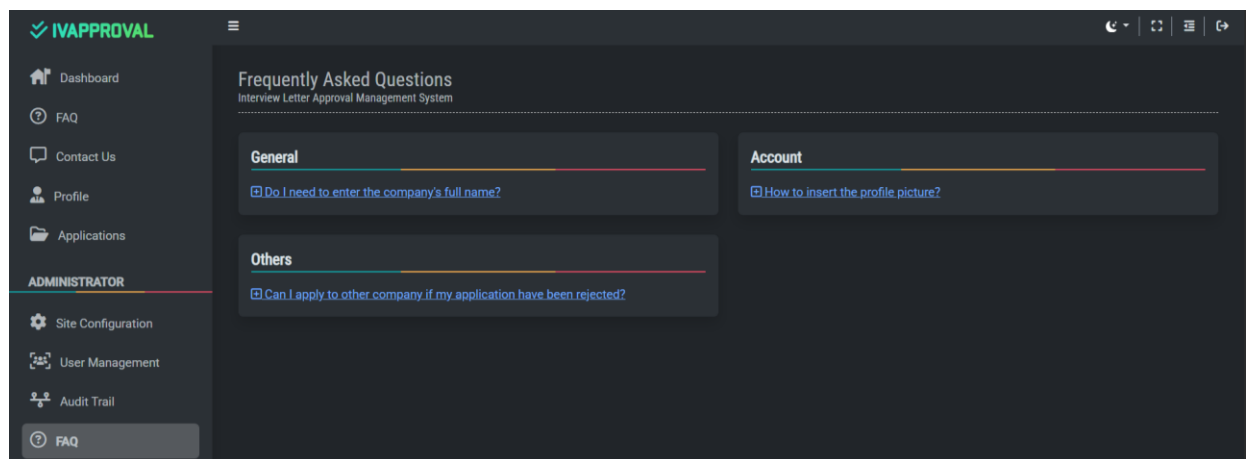
➢ **FAQ page**

Figure 5: FAQ page

This page is built to help users find answers to common questions quickly without needing to ask for help. There are three types of questions which is "General", "Account" and "Others".
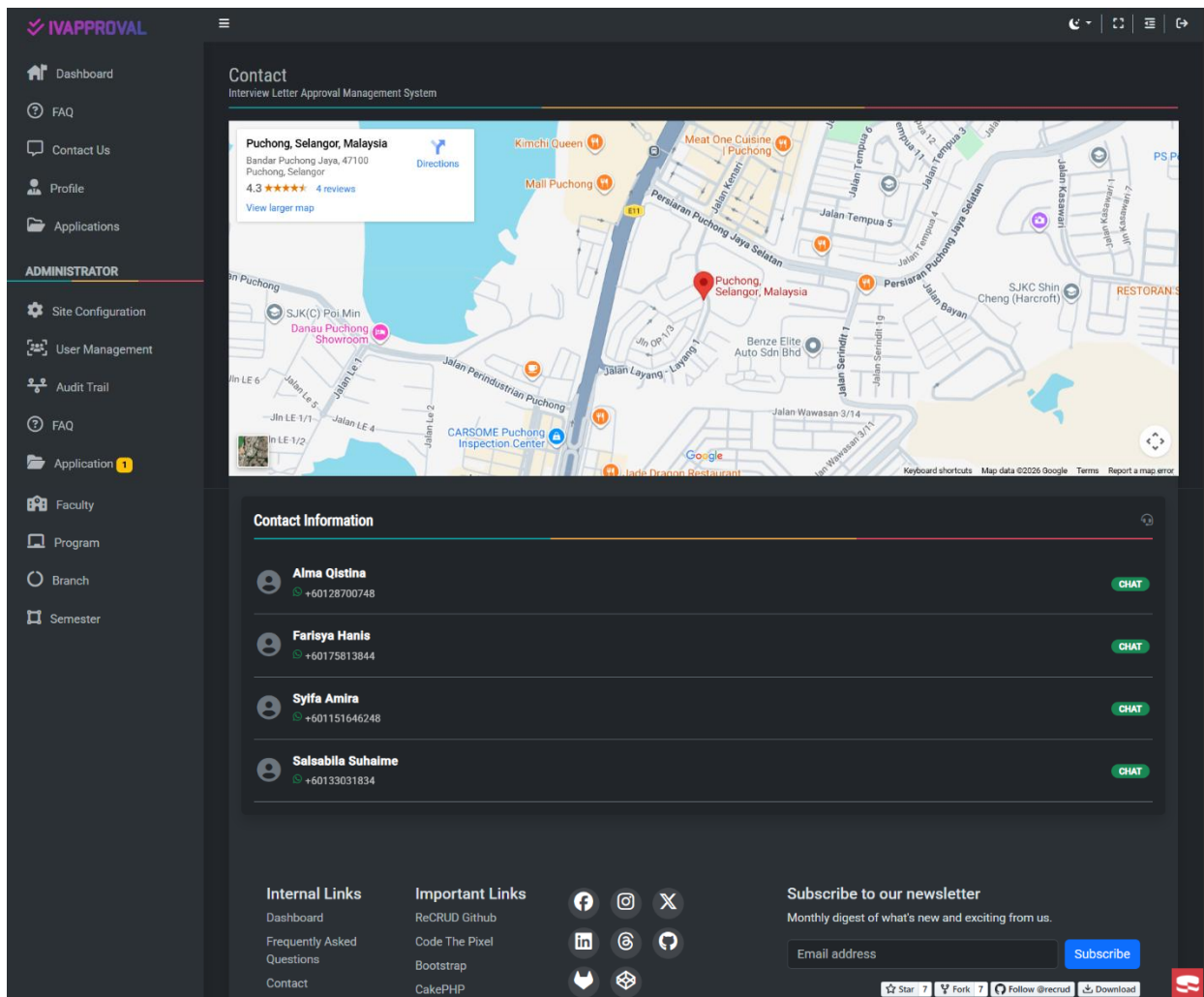
➢ **Contact page**

Figure 6: Contact page

This Contact Us page is divided into two clear sections to aid IVAPPROVAL users. The top section features a large interactive map showing our office location. Below the map, the Contact Information section lists all support teams, which are Alma Qistina, Farisya Hanis, Syifa Amira and Salsabila Suhaime along with their phone numbers. Each person has a green "Chat" button next to their name, allowing users to chat them immediately if they have questions regarding our system.
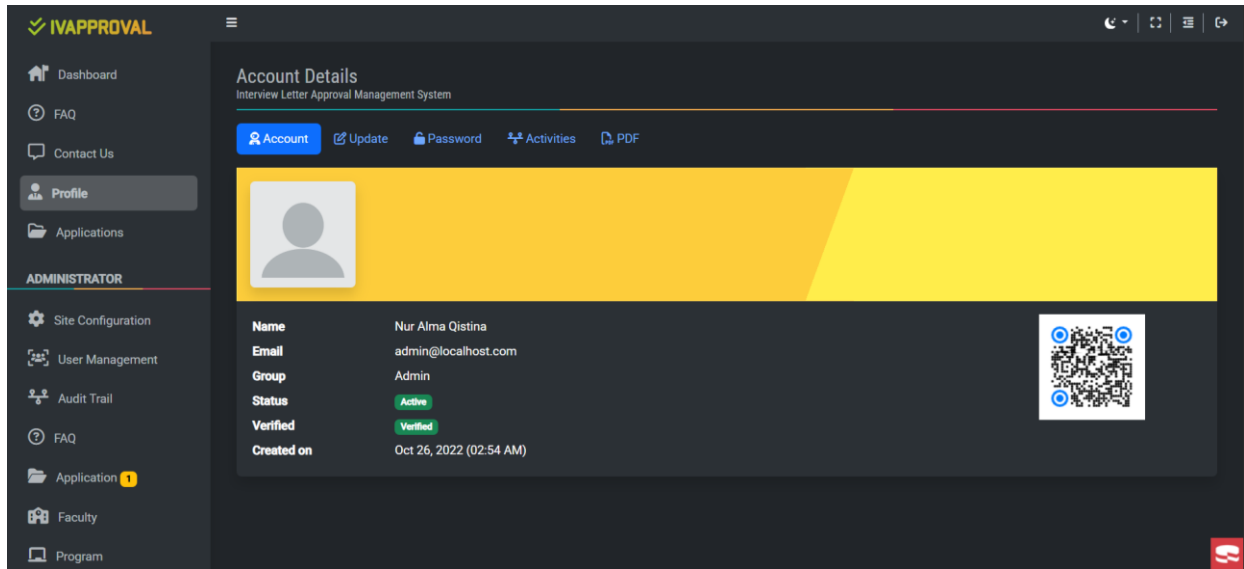
➢ **Profile page**

Figure 7: Profile page

This Profile page enables users to view their proile details such as profile picture, name, email, status and many more. Above the profile picture section, there are several buttons which is "Account", "Update", "Password", "Activities" and "PDF". Users can browse through all these buttons to update their information, change password or many more.

➢ **Application page**

Figure 8: Application page

The Application page is where users can submit their information for the interview letter approval. Based on Figure 8, there are several details required such as Faculty, Program, Semester, Branch, Application Date, Phone Number, Identification Card Number and Student ID for the "Personal Details" section. In other hand, users need to fill in the proposed company details like Person In-charge Name, Company Name, Company State and many more.

➢ **User Management page**
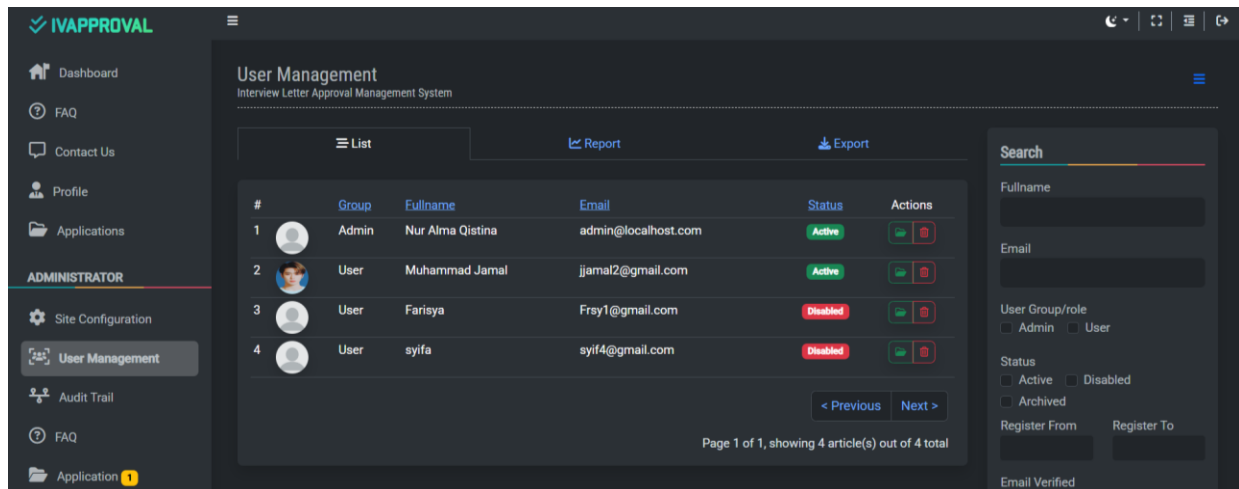
Figure 9: User Management page

This page provides administrators with a structured way to monitor and control all accounts within the system. Admin can edit users' status or delete it. On the right side of the page, there is a Search Sidebar that offers several filters to help find specific users quickly.

➢ **Faculty page**

Figure 10: Faculty page

The Faculty page lets admin manage academic department data within the system. There is a table that displays Faculty ID, Faculty Code, Faculty Name and Status. Admin then can edit, view or delete the data at the "Action" section next to the "Status".

➢ **Program page**
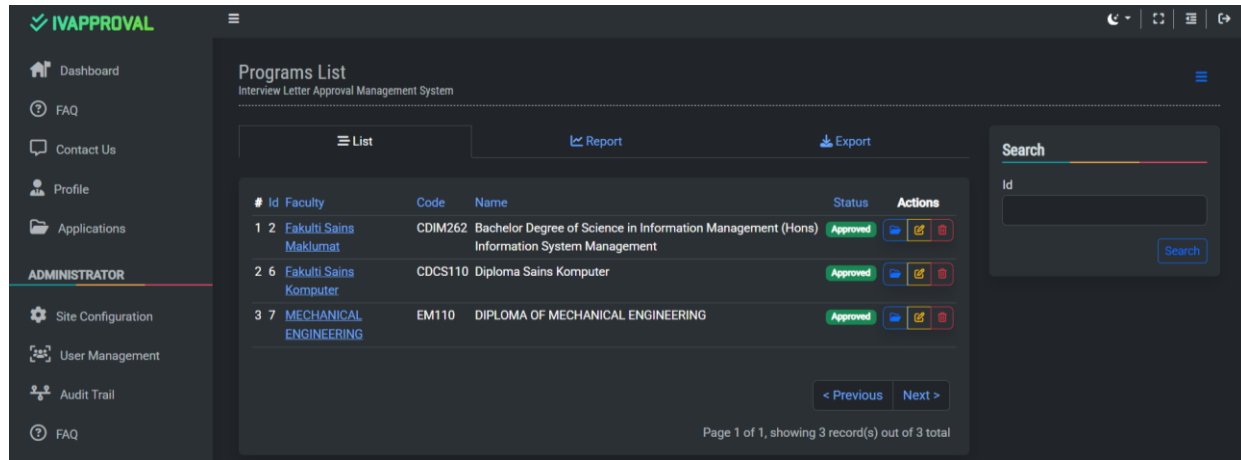
Figure 11: Program page
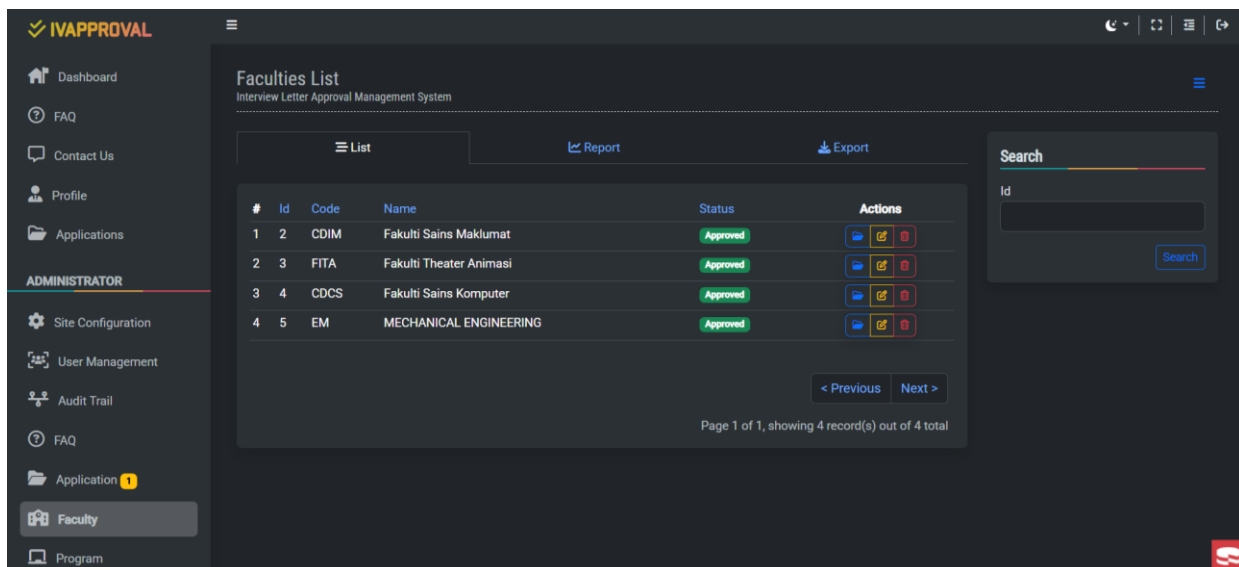
This page allows administrators to manage the different academic programs connected to each faculty. The main section features a List table that shows the program's unique ID, the associated Faculty, the Program Code (such as CDIM262 or EM110) and the full Program Name. For managing these records, the "Actions" column includes buttons to view more details, edit program information or delete an entry.

➢ **Branch page**
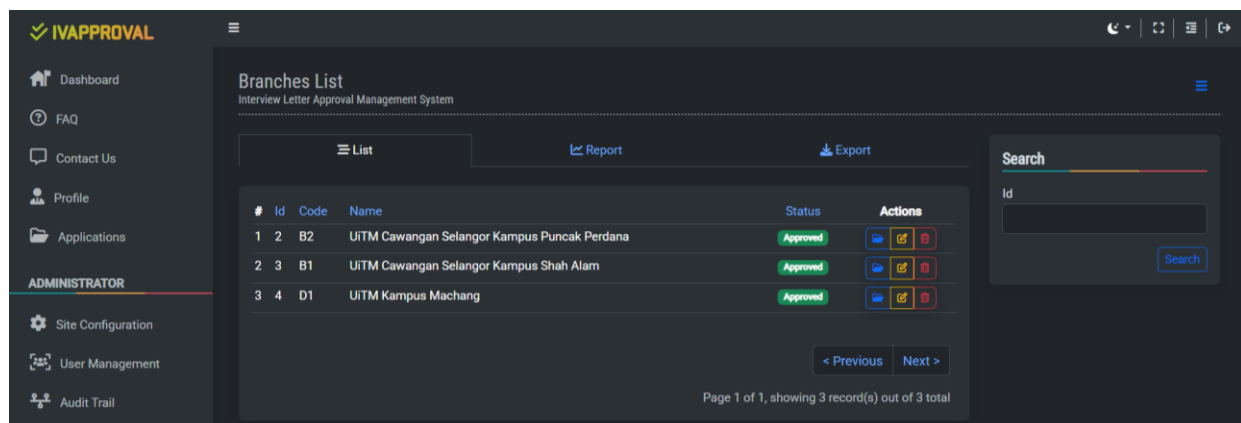
Figure 12: Branch page

This Branch page is used to manage UiTM campus locations within the system. The List table shows each branch's unique ID, specific branch code and the full name of the campus such as UiTM Cawangan Selangor Kampus Puncak Perdana. Admin also can add new branches, edit the branch, view it or delete the branch in this page.

➢ **Semester page**
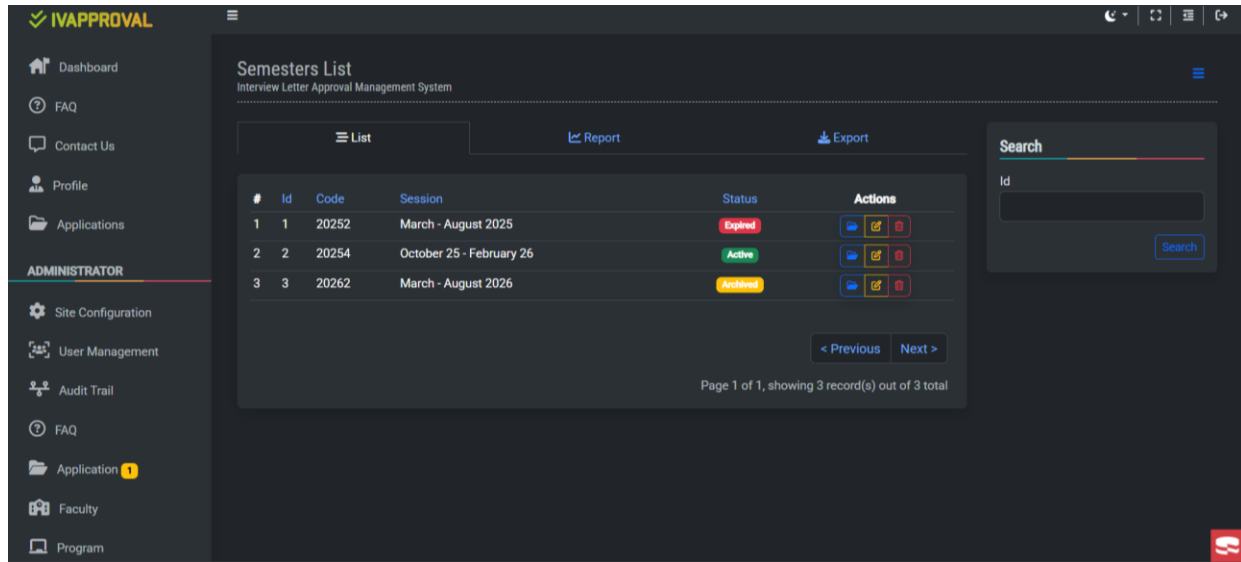
Figure 13: Semester page

This Semester page shows all information regarding UiTM's semester. It contains the ID, Semester Code, Semester Session and the Status of the semester. The "Expired" Status means the semester has already finished, "Active" Status means the ongoing semester while "Archived" is used for the upcoming semester.

- **PDF File**

Figure 14: PDF File

This is an example of PDF file that has been generated if any application has been approved by the administrator.

6.0 FEATURES AND FUNCTIONALITIES

IVAPPROVAL system provides several features and functionalities for every user. Here are the features and functionality.

1. **Role-Based Access Control**: IVAPPROVAL system distinguishes between general users and administrators, with a dedicated "Administrator" sidebar for managing system-wide settings.

2. **Interactive Dashboard**: Provides a visual summary of the system, including total registered users, logged audits and pending tasks.

3. **Theme Customization (Dark/Light Mode)**: A utility icon in the top navigation bar allows users to toggle between dark and light display modes.

4. **Integrated Map View**: The Contact page features an interactive Google Map to help users locate the physical office of IVAPPROVAL.

5. **Direct Communication (Chat)**: The Contact page provides direct WhatsApp "Chat" buttons to connect users instantly with specific staff members.

6. **Multi-Step Application Form**: A structured "New Applications" form allows users to input personal details and proposed company information for interview approvals.

7. **Dynamic Data Filtering**: Users Management page, Applications page, FAQ page, Faculty page, Program page, Branch page and Semester page include a "Search" function to filter results by name, ID, group, status or many more.

8. **Automated Audit Trail**: A dedicated feature tracks system activities and changes, ensuring all actions are logged for security and accountability.

9. **Academic Lifecycle Management**: The Semester page tracks session statuses, marking the semester as "Expired" (finished), "Active" (current) or "Archived" (upcoming).

10. **Data Export Tools**: Users can download PDF file of the data via an "Export" tab on several selected pages.

11. **User Profile Management**: The Profile page allows users to view personal information, check account activity and change passwords.

12. **Status Tracking Badges**: The system uses color-coded badges (Green, Yellow, Red) to show the real-time status of applications, users and semesters.

13. **QR Code Identification**: Each user profile generates a unique QR code, likely for quick digital verification or identification.

14. **Categorized FAQ System**: A Frequently Asked Questions (FAQ) page organizes topics into "General", "Account" and "Others" for easy self-service.

15. **Institutional Hierarchy Setup**: Administrators can manage the core data structure of the university by adding or editing Faculties, Programs and Branches.

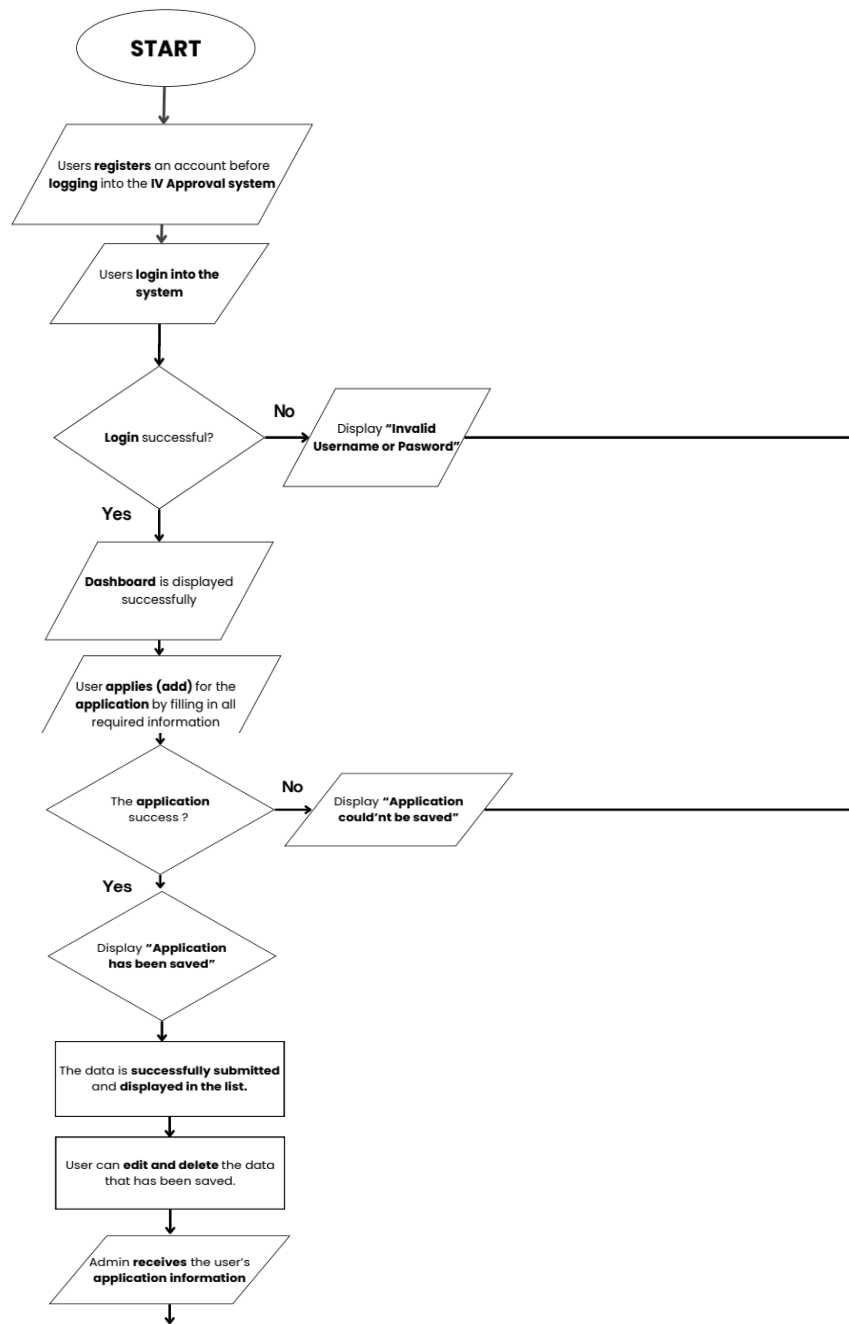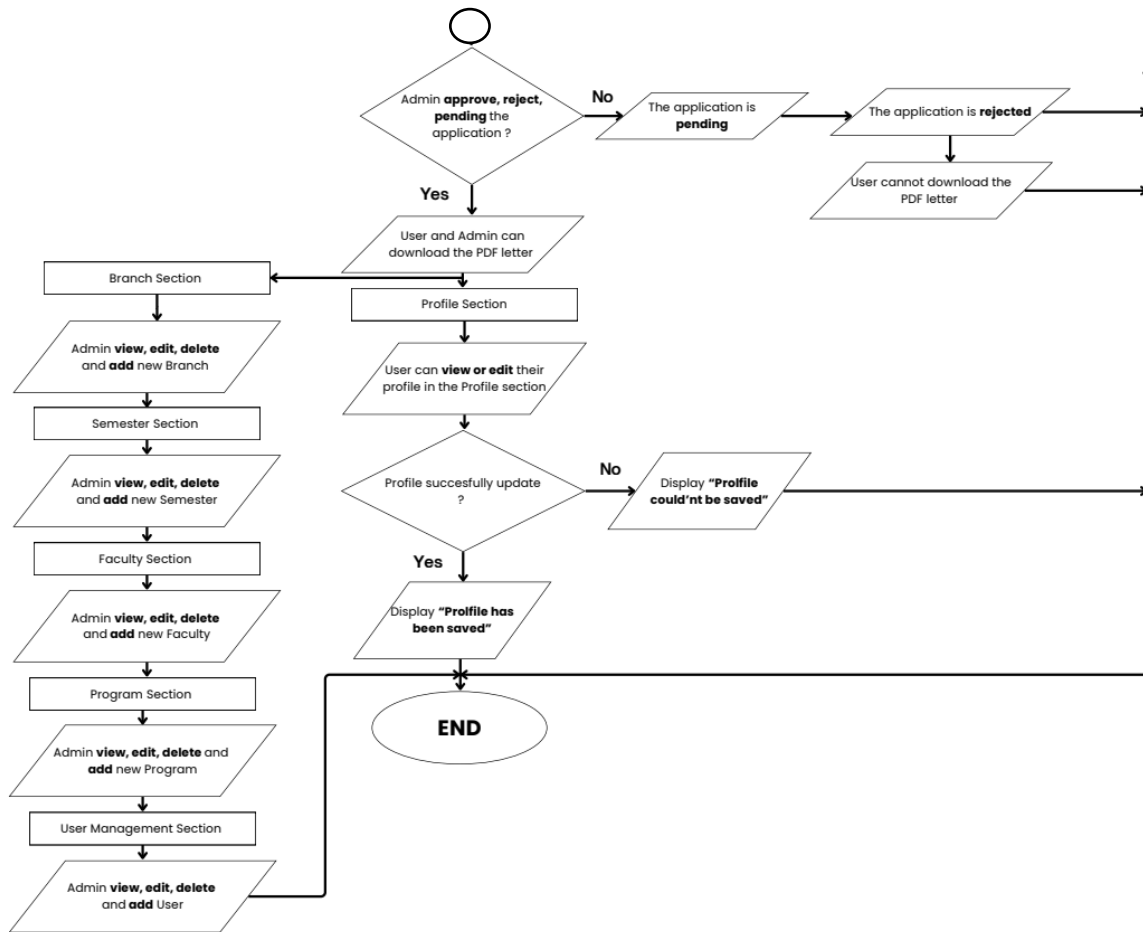## 7.0 WORKFLOWS OF FORM

Figure 15: Flowchart 1

Figure 16: Flowchart 2

This flowchart describes the overall process of the IV Approval system, indicating in a clear manner the different stages of action involved in the system. The flowchart begins with user login and application submission, then continues with data storage and review, and finally ends with the decision of approval or rejection.

8.0 TEAM ROLES AND CONTRIBUTIONS

The development of IVAPPROVAL was done in a structured lifecycle where each member of the team contributed their technical skills to ensure that the requirements of this group project were met. This was achieved through the division of labor among the team members.

TEAM MEMBERS	ROLES	CONTRIBUTIONS
Nur Syifa Amira Binti Saifol	Team Leader and Project Manager	• **Process Identification and Digitalization:** Identified the manual university approval process and developed a plan for the digital transformation of the process into a web application. • **Project Lifecycle Oversight:** Oversaw the progress of the group from the identification of the project to the final submission in Week 14 to ensure that all project milestones were achieved. • **Team Collaboration and Presentation:** Led the group presentation in Week 13 to coordinate the presentation of system workflow and technical capabilities of the system among the group members. • **Quality Assurance:** Performed final testing using Google Chrome to ensure consistency and functionality before the final handover.
Nur Alma Qistina Binti Zamri	System Developer	• **Authentication System:** Implemented the secure Login and Logout features for ensuring the privacy of students and the authority of the lecturer. • **Core CRUD Engine:** Implemented the logic for students to "Create" new applications and for lecturers to "Update"

		status, ensuring smooth interaction with the database for all operations. • **Data Retrieval and Filtering:** Implemented "Read All" data listing for the admin dashboard and developed a robust search or filter feature for efficient data management. • **PDF Export Functionality:** Implemented a technical solution for exporting the final research request in a PDF format, meeting the specific data export requirement of this project.
Nur Farisya Hanis Binti Azhar	Database Designer	• **Entity-Relationship Diagram (ERD):** The formal design of the ERD was created to demonstrate the logical structure of a database designed to manage and facilitate the approval of interview letter applications. • **Database Schema Implementation**: The normalized database tables for storing metadata from the digitized forms were created. • **SQL Management:** The management of the database interaction was done, ensuring that the back-end framework could execute queries for data detail views. • **Structural Integrity:** The tables in the database were well structured to meet the requirements for a high-grade evaluation.

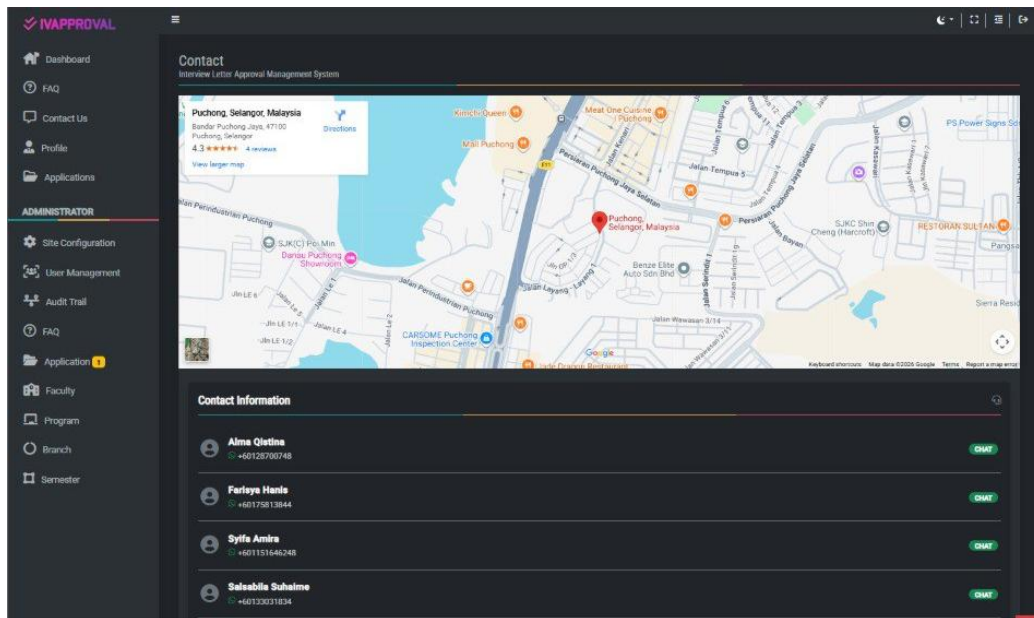| Salsabila Binti Suhaime	Technical Writer and Documenter	**Structured Documentation:** Created the documented report containing the system introduction, purpose, and technical requirements. **Comprehensive User Manual:** Created a comprehensive user manual with screenshots to describe the system navigation and functionality for both Student and Lecturer roles. **Workflow Visualization:** Created illustrations and descriptions of the form workflow, focusing on the CRUD process from submission to approval. **Repository Management:** Made sure that the GitHub repository URL was documented correctly and that the source code was organized and commented for the final output.

9.0 CONTACT INFORMATION (SUPPORT)

Figure 17: Contact Information

IVAPPROVAL system provides a contact support section in order to help users get assistance when they face problems or have questions regarding the system. The "Contact Us" section enables users to communicate directly with our support team for guidance, feedback and technical assistance at any time. Users can click the chat button or the phone numbers and it will be redirected to our support team's WhatsApp account. Then, users can write their inquiries there and wait for our support team to reply.

The support team for IVAPPROVAL consists of four members and each team member plays an important role in maintaining the system and responding to every user inquiry. For example, users can contact our team for issues related to login problems, application submission, account details, password changes or approval status. This helps ensure that the system runs smoothly and users receive assistance in timely manner.

By providing clear support channels, IVAPPROVAL can improve user satisfaction and system reliability. This feature shows that IVAPPROVAL is not only focused on functionality but also on user needs and service quality. In conclusion, the "Contact Us" section provide the contact information of our support team, which is Alma Qistina, Farisya Hanis, Syifa Amira and Salsabila Suhaime that helps users to receive proper help and guidance thus making the IVAPPROVAL system more efficient, trustworthy and user-friendly.

10.0 CONCLUSION AND REFLECTIONS

The development of the IV Approval website has been carried out by the project team using a web-based application that facilitates the process of submitting, approving, and reviewing IV applications. The development of this application has been carried out using PHP 8.1 as the backend technology, MySQL as the database management system, and HTML, CSS, and Bootstrap 5 for the front end of the application. During development, Laragon has been used for creating a development environment that provides Apache and MySQL services for efficient development and testing of this application. The development of this website has been carried out to improve efficiency in the process of submitting and approving IV applications.

In conclusion, the development of the IV Approval system was successful in achieving the objectives set out for the project, which is to create a functional, user-friendly, and efficient IV application approval system that can be accessed via the web. The IV Approval system was able to process the applications using the combination of PHP 8.1 and MySQL, which made the system efficient in processing the applications. Additionally, the system's responsiveness was improved using Bootstrap 5, which made the system accessible to users with different devices.

Throughout the process of developing the IV Approval website, important knowledge and skills were acquired, especially in the development of web applications. The IV Approval project improved knowledge in backend development with PHP (CakePHP), database development with MySQL, and frontend development with Bootstrap 5. Difficulties in database relationships, form validation, and approval processes were experienced. However, these difficulties led to improved skills in problem-solving and debugging. Moreover, the use of Laragon as the development platform assisted in understanding server setup and deployment. Overall, this project offered significant hands-on experience and improved technical skills and teamwork, which will be of great benefit in future system development projects.