

Proposal: Automated Web-based SIWES Management System

INTRODUCTION

During my Industrial Training (IT) as a Data Entry Personnel, I encountered several challenges in processing SIWES applications due to the manual process. These challenges hinder efficiency and cause unnecessary delays. To address these issues, I propose the development of an automated web-based SIWES Management System to streamline data entry, automate verification, and enable real-time tracking.

AIM AND OBJECTIVES

The primary aim of this project is to develop an automated system that enhances the efficiency of SIWES management processing. The specific objectives include:

1. **Reduce Manual Data Entry Errors**
Automate the application process to minimize mistakes.
2. **Minimize Office Overcrowding**
Provide an online system for application.
3. **Eliminate Paper-Based Documentation Challenges**
Implement a digital record management system.
4. **Improve Transparency**
Enable students to receive real-time updates on their applications.
5. **Enhance Supervisor Allocation** – Allow SIWES Coordinators to assign supervisors based on student location:
 - Coordinators can assign supervisors to students.
 - Store supervisor details, including name and phone number.
 - Supervisors can access assigned student details.

RESEARCH GAP

Despite existing manual processes, there are critical gaps that need addressing:

1. **Daily Activity Tracking** – Students lack a platform to submit their daily work reports, making it difficult to monitor participation and progress.
2. **Student Payment Account Submission** – There is no system for students to submit their account details for allowance payments, leading to processing delays and overcrowded
3. **Manual Issuance of Introduction Letters** – The current system requires students to manually request and collect introduction letters, leading to delays and inefficiencies. The proposed system automates this process by generating introduction letters after registration.

4. **Manual Submission of Acceptance Letters** – The existing system requires students to physically submit their acceptance letters, which is slow and prone to errors. The new system will allow digital submission, reducing paperwork and improving efficiency.

5. **Unrestricted Student Signup** – The existing system allows any student, regardless of their level, to sign up for SIWES, which is incorrect. The new system will restrict access to only IT students, ensuring that only eligible students can register and participate.

STATEMENT OF THE PROBLEM

Several challenges were identified during my Industrial Training (IT):

1. Manual Data Entry Issues:

- Entering student details manually was time-consuming and prone to errors.
- Duplicate entries and incorrect records were common due to human mistakes.

2. Overcrowding and Long Processing Time:

- Staff had to manually search for student records, input their details making the process slow and inefficient.

3. Paper-Based Documentation Challenges:

- Misplacement of documents was a common issue.

FEATURES AND FUNCTIONALITIES

The proposed system will include the following features:

1. User Authentication & Role Management

- Students log in using their registration number.
- Staff and Admin log in with assigned credentials for verification and approval.

2. Student Dashboard

- Apply for SIWES application online and upload required documents.
- Submit daily activity reports for tracking.
- Submit account details for payment allowance.

3. Application Verification & Approval (Staff Dashboard)

- Staff review student applications and verify uploaded documents.
- Approve, reject, or request corrections for an application.

4. Bulk Student registration number Management

- Admin/Staff can add student registration numbers manually or upload them in bulk via CSV.
- The system validates registration number format and rejects duplicates.

5. Introduction Letter Automation

- Students can request and download their SIWES introduction letter online.
- Automated approval process eliminates manual issuance delays.

6. Student Payment Account Submission

- Secure portal for students to submit bank account details for allowance payment.
- System validates account information to prevent errors.

7. Admin Dashboard

- View total applications (Pending, Approved, Rejected).
- Manage user accounts (Add/Remove Staff, Reset Passwords).