



## Lab/Project Final Report

Only for course Teacher						
		Needs Improvement	Developing	Sufficient	Above Average	Total Mark
Allocate mark & Percentage		25%	50%	75%	100%	40
Problem Understanding	10					
Analysis	15					
Implementation	10					
Task Efficiency	5					
Total obtained mark						
Comments						

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# DIU Lab Portal

## Abstract

The DIU Lab Portal is a web-based platform designed to streamline the management and maintenance of computer laboratories at Daffodil International University (DIU). It enables real-time reporting and monitoring of PC issues within various labs, ensuring faster problem resolution and improved operational efficiency. The system includes features such as problem reporting, lab-wise PC status tracking, admin dashboard, and automated updates to the PC database. It also supports login and registration functionalities for both students and administrators. This portal minimizes manual tracking and enhances communication between users and lab administrators, resulting in a more reliable and transparent lab environment.

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# Introduction

## Background:

Currently, lab-related issues at DIU are often reported informally—either verbally or via isolated messages—making it difficult to track, prioritize, or resolve problems effectively. Lab administrators lack a centralized database to monitor faulty PCs, view issue history, or generate real-time reports. This results in delays in maintenance, unnoticed issues, and general dissatisfaction among lab users. Recognizing this gap, the DIU Lab Portal was initiated as a digital solution to automate and organize lab issue management.

## Reason:

Managing and maintaining numerous PCs across different labs at DIU is a challenging and time-consuming task. Frequent technical issues, lack of centralized reporting, and delayed communication between users and lab administrators often result in inefficiencies. The need for a streamlined, transparent, and efficient system prompted the development of the DIU Lab Portal.

## Purpose:

The primary purpose of the DIU Lab Portal is to:

- Provide a centralized platform for students and users to report problems in lab PCs.
- Allow administrators to monitor, update, and manage the status of each PC.
- Maintain historical records of problems reported for each PC for future analysis.
- Improve communication between users and administrators.
- Enhance overall lab efficiency and user satisfaction through timely maintenance and transparency.

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# Objective

- Enable students to report faulty PCs easily.
  - Help admins monitor and update PC statuses in real-time.
  - Maintain a history of all reported issues.
  - Provide secure login and registration for users and admins.
  - Improve communication and speed up maintenance responses.
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## Project Description

The DIU Lab Portal is an interactive web application developed to enhance the efficiency of lab maintenance and management at Daffodil International University (DIU). The platform facilitates communication between students, lab assistants, and administrators by providing a centralized system for reporting and managing computer-related issues in university laboratories. Through the portal, users can:

- Report faulty or non-functional PCs with relevant details.
- View a visual representation of lab PCs to identify which are problematic.
- Submit updates or mark issues as resolved (admin access).
- Track historical problem reports for each individual PC.

Admin users can:

- Log in and manage access via role-based authentication (admin, user).
- Administrators can dynamically add, remove, or update PC statuses, ensuring accurate real-time data.
- The system stores all problem logs for accountability and performance analysis over time.

This project is built using HTML, CSS, JavaScript, and PHP for the front and backend, with MySQL serving as the database. Integration with Google Sheets was also considered for easy data sync and backup.

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## Technological Breakdown

The system integrates a variety of advanced technologies to ensure robustness, scalability, and efficiency:

### Frontend Technologies:

HTML, CSS, and JavaScript: Facilitate a dynamic and interactive user experience.

### Backend Technologies:

PHP : Offers a secure and efficient backend architecture for managing business logic and system operations.

### Database Management:

MySQL: A reliable database system for managing patient, appointment, and billing data securely and efficiently.

### Additional Tools:

Git: Facilitates version control and collaborative development.

Testing Frameworks: Ensures a bug-free experience through rigorous unit and integration testing.

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# Use Case

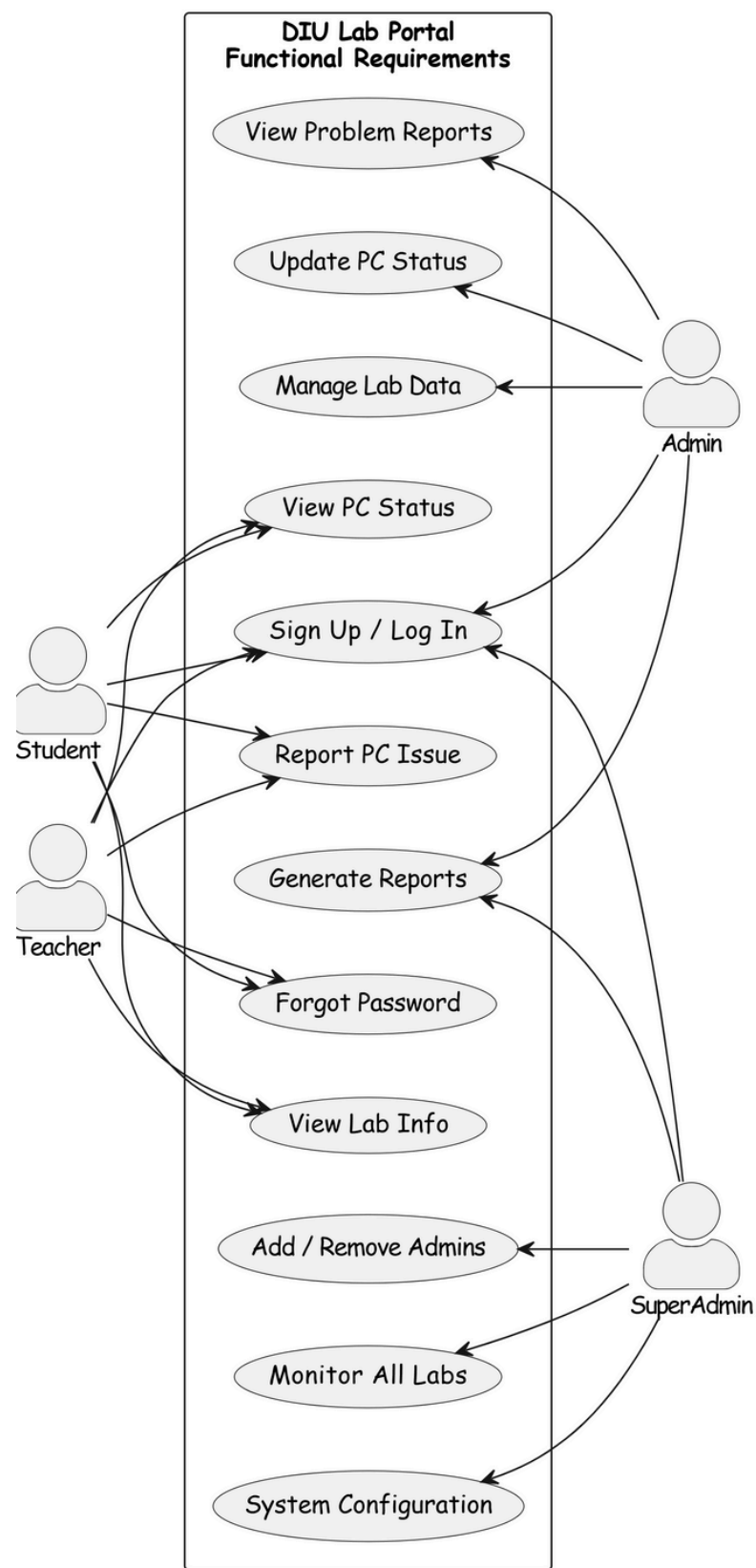
## 1. User Roles

- Students/Users  
: Report PC issues, register/login, and check the status of PCs in their respective labs.
- Lab Admins  
: View and manage lab setups, resolve reported issues, and maintain PC records.
- Super Admin (Optional)  
: Oversee all labs, manage lab admins, generate performance reports, and configure system-wide settings.

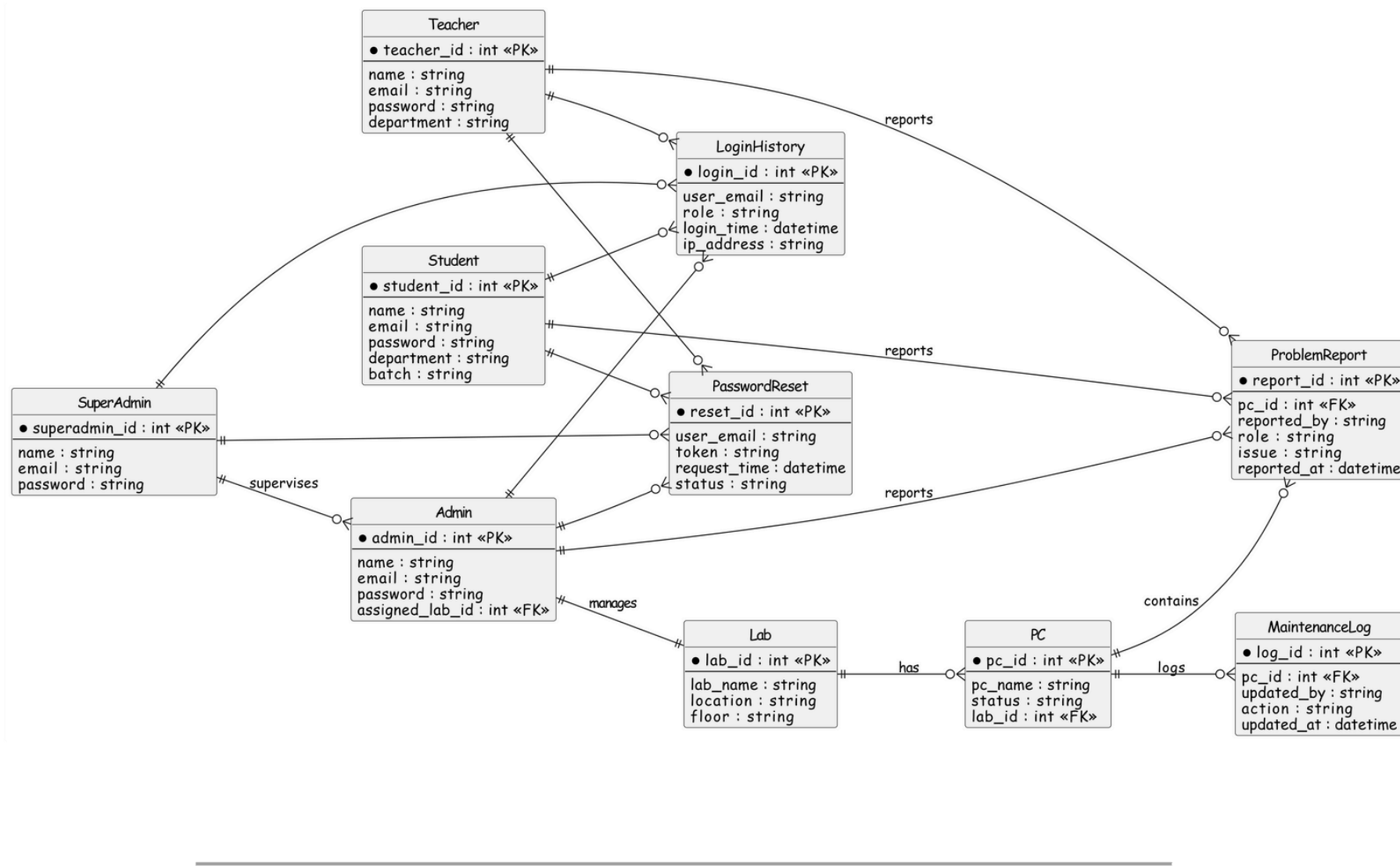
## 2. Workflow :

- Users log in or sign up to report an issue with a lab PC.
- A lab is selected, and the specific PC and problem details are submitted.
- Admins access the dashboard to view new reports.
- Admins update the status after resolving the issue.
- System maintains a history log of each reported issue and resolution.
- Optionally, a super admin monitors overall system health and reports.

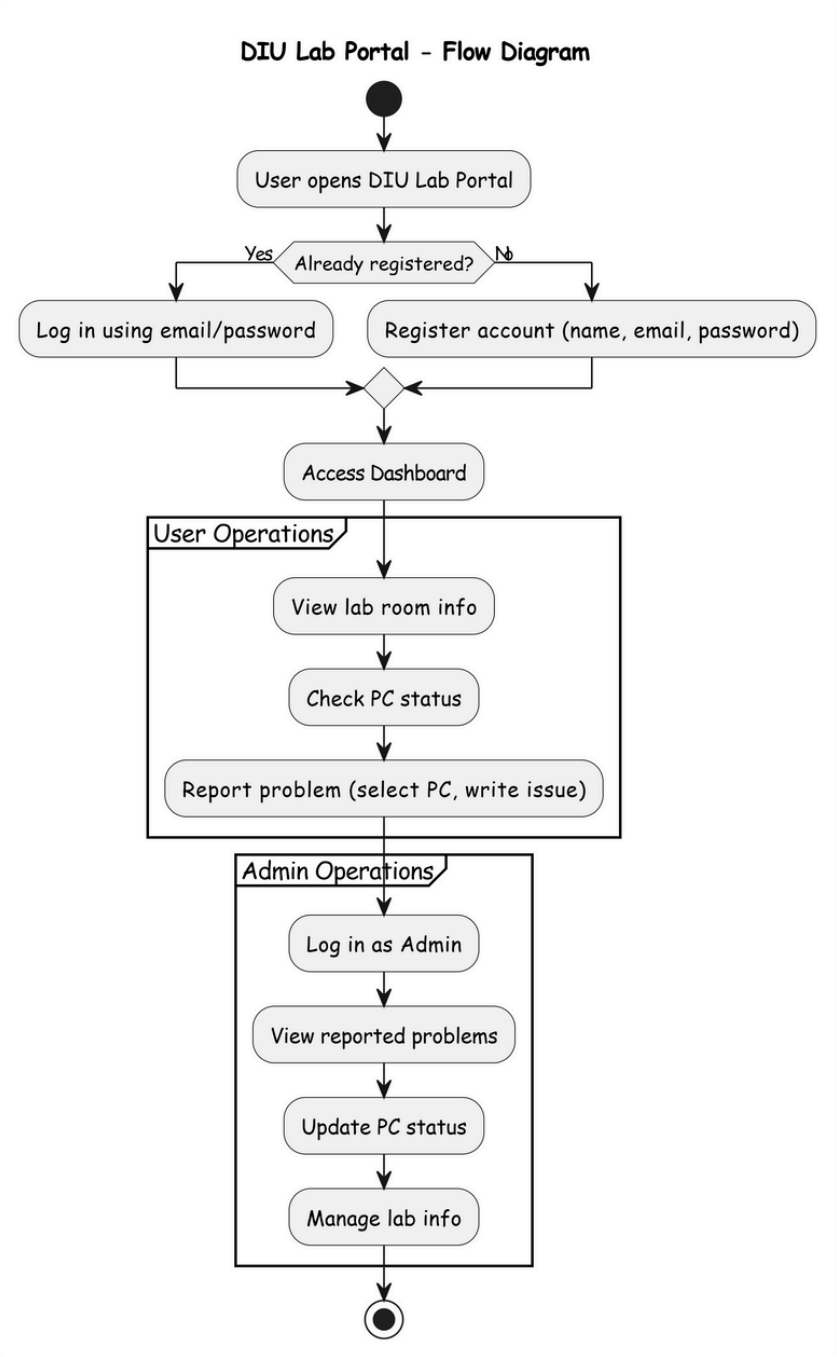
3. Diagram Representation:



ERD



# Flow Diagram





## Timeline

Phase	Task Description	Start Date	End Date
Phase 1	Planning Define project scope and goals	06-03-2025	12-03-2025
Phase 2	Design Develop UI/UX prototypes	13-03-2025	26-03-2025
Phase 3	frontend and backend systems	27-03-2025	10-04-2025
Phase 4	Testing Conduct unit and integration testing	11-04-2025	19-04-2025
Phase 5	Deployment Finalize and deploy the system	20-04-2025	23-04-2025

## Budget

Expense Category	Estimated Cost BDT
UI/UX Design	₹60,000
Frontend Dev.	₹70,000
Backend Dev.	₹80,000
Testing Tools	₹20,000
Hosting Card	₹5,000
Domain	₹10,000
Total	₹245,000

## Risk Analysis

Risk	Impact	Likelihood	Mitigation Strategy Break down tasks into smaller,
Technical Complexity	High	Medium	manageable modules and provide extensive documentation.
Data Security	High	Medium	Implement strong encryption protocols and role-based access control mechanisms.
Budget Overrun	Medium	Low	Monitor expenses regularly and prioritize essential features during development.
User Resistance	Medium	Medium	Conduct training sessions and gather user feedback to address concerns proactively.

## Future Plan

### 1. Feature Expansion:

- Introduce maintenance scheduling based on issue history
- Add dashboards for analytics & reports
- Develop a mobile app for reporting/viewing status
- Enable real-time notifications for updates
- Add feedback and user rating system
- Create a help center with basic troubleshooting guides

### 2. Technology Upgrades

- Migrate to cloud hosting for better performance
  - Add 2FA and input validation for stronger security
  - Refactor into microservices for scalability
  - Add machine learning to suggest issue fixes
  - Implement CI/CD for smoother updates
  - Provide REST API for future system integrations
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## Conclusion

The DIU Lab Portal successfully streamlines the process of reporting and managing PC and lab-related issues within the university. By connecting students, teachers, admins, and super admins in a centralized system, it improves transparency, reduces downtime, and enhances lab efficiency. The portal lays the foundation for a smart campus by ensuring quicker maintenance and better lab resource utilization.

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### Key Achievements:

- Built a role-based access system for students, teachers, admins, and super admins
  - Enabled real-time PC issue reporting and status updates
  - Developed admin dashboard for lab and problem management
  - Provided lab-wise PC tracking and performance overview
  - Ensured database integration with secure user authentication
  - Designed user-friendly interface for ease of use
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DEMO

DIU Lab Portal

Sign In

@Email

KeyPassword

Forgot Password?

Sign In

If you are not regesterd yet then SignUp.

Sign Up

Or connect with

G

Total Lab  
2+

Total PC  
21

Working PC  
21

Problematic PC  
0

# Show Lab

Select Lab

Show Lab

Total Lab  
2+

Total PC  
21

Working PC  
21

Problematic PC  
0

Show Lab

Select Lab

Show Lab

Lab 616

PC-1

Report

PC-2

Report

PC-3

Report

PC-4

Report

PC-5

Report

PC-6

Report

PC-7

Report

PC-8

Report

PC-9

Report

PC-10

Report

PC-11

Report

PC-12

Report

PC-13

Report

PC-14

Report

PC-15

Report

PC-16

Report

PC-17

Report

Show Lab

Select Lab

Show Lab

PC-1

Report

PC-2

Report

PC-3

Report

PC-4

Report

PC-9

Report

PC-10

Report

PC-11

Report

Submit the issue here

Select Lab:

Select Lab

PC Number:

PC Number

Problem Type:

Select Problem

Description:

Optional

Your Name/ID:

Optional

Submit Problem

