# Lab Automation System

Complete Project Documentation

## Project Team

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## Project Overview

The Lab Automation System is a comprehensive web application designed to streamline the testing, tracking, and reporting of electrical appliances. The system features a secure admin panel for managing test-related data and a user panel for companies to submit and view test information related to their products.

## Technologies Used

• HTML, CSS, Bootstrap (Frontend)  
• PHP (Backend)  
• MySQL (Database)  
• XAMPP (Local Server Environment)

## Admin Panel

The admin panel is used by the internal lab team to manage the system. It includes the following features:  
• Admin Authentication  
• Dashboard Overview  
• Product Management (Add, Edit, Delete Products)  
• Test Types Management (Add, View Test Types)  
• Test Records Management  
• Product-Test Association with Departments  
• Reports with CSV Export  
• Department Management

## User Panel

The user panel is designed for external electrical appliance companies to:  
• Register and Login  
• View Homepage, About Us, Companies Feedback, Contact Us  
• View Products  
• View Tests  
• Feedback  
• Contact Us

## Database Schema

Key tables include:  
• users  
• products  
• test\_types  
• tests  
• departments  
• product\_tests  
Each table uses appropriate foreign key relationships and supports CRUD operations.

## Conclusion

The Lab Automation System effectively bridges the gap between electrical appliance companies and testing laboratories. With a robust backend and user-friendly interfaces, it ensures efficient tracking and reporting of test results. This project enhances reliability, saves time, and supports digital transformation in the electrical testing industry.