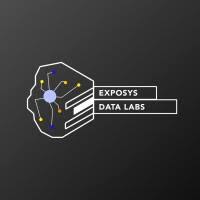
Exposys Data Labs

Bengaluru,Karnataka,560064



Internship report on

**SKILL TEST : An Online Assessment System**

**using WEB DEVELOPMENT**

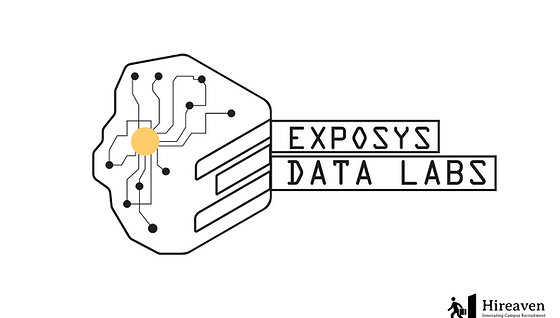
**Internship**

By

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## **ABSTRACT**

The SKILLTEST project aims to develop an online skill assessment system that facilitates the evaluation of students' knowledge in various subjects. The current manual assessment methods are time-consuming and prone to errors. SKILLTEST provides a scalable, efficient, and user-friendly solution for conducting online exams, scoring, and result processing. This report details the development process, system architecture, methodologies, implementation, and future enhancements of SKILLTEST.

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## 1. INTRODUCTION

### 1.1 Background

With the increasing reliance on digital platforms for education, there is a significant need for effective online assessment tools. Traditional examination methods involve extensive manual processes that are both time-consuming and susceptible to human error. An online skill assessment system like SKILLTEST can streamline the examination process, ensuring accuracy and efficiency.

### 1.2 Objectives of the Project

* To design and develop an online skill assessment system.
* To ensure secure and reliable exam administration.
* To automate scoring and result processing.
* To provide a user-friendly interface for students and administrators.

### 1.3 Scope of the Project

SKILLTEST is designed to support multiple subjects and question types. It includes functionalities for question management, exam scheduling, secure test-taking, automatic scoring, and result analysis. The system is intended for educational institutions and can be scaled to support a large number of users.

### 1.4 Structure of the Report

This report is organized into sections covering the introduction, existing methods, proposed method and architecture, methodology, implementation, and conclusion. Each section provides detailed information relevant to the development and functionality of the SKILLTEST system.

## 2. EXISTING METHOD

### 2.1 Overview of Current Systems/Methods

Currently, many educational institutions rely on paper-based exams or basic online forms for assessments. These methods have several drawbacks:

* Manual grading is time-consuming and error-prone.
* Difficulty in managing large-scale exams.
* Limited security and potential for academic dishonesty.

### 2.2 Limitations and Challenges of Existing Methods

* **Inefficiency:** Manual grading and result processing take significant time.
* **Human Error:** Increased chances of errors in grading and result compilation.
* **Scalability:** Difficult to manage a large number of students.
* **Security:** Susceptible to cheating and unauthorized access.

### 2.3 Need for Improvement

The limitations of current methods necessitate a more efficient and secure system. An online platform like SKILLTEST can automate many of the processes, reduce errors, and ensure secure and fair assessments.

## 3. PROPOSED METHOD WITH ARCHITECTURE

### 3.1 Description of the Proposed Method

SKILLTEST is an online platform designed to facilitate the creation, administration, and grading of exams. It provides a centralized system for managing questions, conducting exams, and processing results automatically. Key features include user authentication, question randomization, secure test-taking environment, and instant result generation.

### 3.2 System Architecture

#### 3.2.1 Diagram of System Architecture

#### 

#### 3.2.2 Components and their Interactions

* **User Interface (UI):** Provides an intuitive interface for students and administrators to interact with the system.
* **Database:** Stores user information, questions, answers, and results securely.
* **Server-Side Logic:** Handles user authentication, exam scheduling, question management, and result processing.
* **Client-Side Logic:** Manages user inputs, navigation through questions, and displays results.

### 3.3 Advantages of the Proposed Method

* **Efficiency:** Automated grading and result processing.
* **Accuracy:** Reduces human errors in scoring.
* **Scalability:** Can handle a large number of users simultaneously.
* **Security:** Ensures secure login and exam environment to prevent cheating.

## 4. METHODOLOGY

### 4.1 Research Methodology

The research methodology involved a detailed analysis of existing assessment systems, identification of their limitations, and design of a new system to overcome these challenges. User requirements were gathered through surveys and interviews with educational institutions.

### 4.2 Data Collection Methods

Data for question banks were collected from various educational resources. Feedback from educators and students was used to refine system requirements and functionalities.

### 4.3 Data Analysis Techniques

Qualitative and quantitative analysis methods were used to assess user feedback and system performance. Statistical tools were used to analyze test results and system usage data.

### 4.4 Tools and Technologies Used

* **Software:**
  + **XAMPP:** A free and open-source cross-platform web server solution stack package.
  + **PHP:** Server-side scripting language.
  + **MySQL:** Database management system.
  + **Bootstrap:** Front-end framework for developing responsive websites.
* **Hardware:**
  + Any standard server or personal computer for development and deployment.

## 5. IMPLEMENTATION

### 5.1 System Design

#### 5.1.1 Database Schema

The database schema includes tables for users, questions, answers, exams, and results. Each table is designed to store relevant information securely and efficiently.

**5.1.2 User Interface Design**

The user interface is designed to be intuitive and easy to navigate. Bootstrap is used to ensure the interface is responsive and works well on various devices.

### 5.2 Coding and Development

#### 5.2.1 Key Code Snippets

**Connecting to the Database:**

**PHP**

$connect = mysqli\_connect($server, $user, $pwd, $database);

if (!$connect) {

die("Failed to connect: " . mysqli\_connect\_error());

}

**Fetching Questions:**

**PHP**

$questionsQuery = mysqli\_query($connect, "SELECT \* FROM questions WHERE sub\_code='$sub\_code'");

$questions = mysqli\_fetch\_all($questionsQuery, MYSQLI\_ASSOC);

**Processing Answers:**

**PHP**

foreach ($\_POST as $key => $value) {

if (strpos($key, 'q') === 0) {

$question\_id = substr($key, 1);

$answer = $value;

$correctAnswerQuery = mysqli\_query($connect, "SELECT correct FROM questions WHERE sub\_code='$sub\_code' AND id='$question\_id'");

$correctAnswer = mysqli\_fetch\_assoc($correctAnswerQuery)['correct'];

if ($answer == $correctAnswer) {

$score++ } }}

### 5.3 Testing and Debugging

#### 5.3.1 Test Cases

Test cases were developed to ensure all functionalities work as expected. These included tests for user registration, exam scheduling, question randomization, answer submission, and result processing.

#### 5.3.2 Results

All tests were executed, and any bugs or issues were resolved. The system was tested under various conditions to ensure reliability and performance.

### 5.4 Deployment

#### 5.4.1 Steps for Deployment

* Set up a web server using XAMPP.
* Deploy the PHP files and database to the server.
* Configure the server settings and ensure secure access.

#### 5.4.2 Hosting Environment

The system can be hosted on any standard web server with PHP and MySQL support. Cloud hosting options like AWS or DigitalOcean can be used for scalability.

## 6. CONCLUSION

### 6.1 Summary of Findings

SKILLTEST successfully automates the process of conducting exams, grading, and result processing. The system is efficient, scalable, and secure, addressing the limitations of traditional assessment methods.

### 6.2 Contributions to the Field

The project provides a robust framework for online skill assessment, contributing to the digital transformation of educational assessments. It can serve as a model for other institutions seeking to implement similar systems.

### 6.3 Limitations of the Study

* The system's performance under extremely high loads needs further testing.
* The user interface can be further enhanced based on continuous feedback.

### 6.4 Future Work and Recommendations

* Implementing AI-based proctoring to enhance security.
* Adding support for more question types like essay and programming questions.
* Integrating with learning management systems (LMS) for seamless operation.

## REFERENCES

* Include all the sources, books, articles, and online resources referred to in the report.
* Ensure proper citation format (e.g., APA, IEEE).