# Dynamic Student Feedback Management System UsingPHP (Tech Feed)

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**Abstract**

Tech Feed is a comprehensive and efficient student feedback system designed for educational institutions. It utilizes rating scales, multiple-choice questions, open-ended responses, and comment boxes to capture diverse student perspectives. Upon submission, the system automatically collates and organizes the data, generating reports and analytics accessible to administrators, faculty members, and department heads. This enables stakeholders to identify strengths and weaknesses in their programs and teaching methodologies. Feedback is categorized into levels such as very good, good, average, below average, and needs improvement. The system features a unified feedback form for all subject faculties, streamlining the process for students. Additionally, Tech Feed includes specialized feedback systems for guest lectures and industrial visits, allowing students to provide valuable insights and suggestions. This facilitates the improvement of future events and enhances the overall learning experience. By transitioning from paper-based to online feedback, Tech Feed significantly accelerates the feedback process.

**Keywords:** feedback, web based application, PHP based feedback, student's feedback database management system.

## 1.0 Requirement Analysis
### 1.1Problem Definition

In existing system, there are several problems that need addressing. The paper- based feedback system is difficult to manage efficiently. Collecting and storing the paper feedback for every year is more difficult and require a significant place. Additionally, the maintenance and storage costs associated with paper feedback is considerably higher compared to newer systems. Moreover, the process of managing paper-based feedback takes more time, requiring manual sorting, filing, and retrieval of documents. This inefficiency leads to delays in accessing important feedback data and delays better decision-making processes.

In the existing system, students give their feedback in papers. After that paperscollected by the faculties and they calculate the overall grade for each subject faculty manually. The manual calculation of feedback by faculties is difficult and it take moretime.

### 1.2 Objectives of Proposed System

Tech feed is dynamic web-based feedback collecting system from students in educational institutions by using our system. Students can give feedback in online system as fast as compared to existing paper feedback system. Our project mainly consists of two forms student login form and admin login form.

Student will login in their login form with roll number, department details and password which is provided by the administrator at the time of registration through class counsellor.

The admin willlogin in their login form with proper id and password. Our system home page design contains links for staff feedbacks, guest lecture feedbacks, industrial visit feedbacks and exits survey feedback. Our portal contains set of questions to evaluate status of faculty, guest lectures connected by department and industrial visits arranged by college through department. Each question contains set of options like very good, good, average, below average and needs to improvement. This process overcomes the drawbacks in the existing system, such as paper cost, manual workload and more.

## 2.0 System Design
### 2.1 Input Design

Input design plays a vital role in the life cycle of software development. It requires very careful attention of developer. The input design is to feed data to the application as accurate as possible. So, inputs are supported to be designed effectively so that the errors occurring while feeding are minimized. According to software engineering concepts, the input forms or screens are designed to provide to have a validation control over the input limit, range and other related validations.

This system has screensin almost all the modules. Error message have been developed to alert the user whenever user commits some mistakes and guide him in the right way.

### 2.1.1 The objectives of input design are as follows

The important features are

- The input screen is not crowed, as the user can understand theinformation from the screen.
- The input validation is being done at program level to checkerrors & help messages are to be provided.
  The following Input are Login Process
- Login Process
- Feedback form
- Faculty feedback
- Industrial visit feedback
- Guest lecture feedback

### 2.2 Database Design
**Course (Table)**

Database: tech, Table: course

| id | dept | ac_yr | cources | term | inc |
|---|---|---|---|---|---|

**Department (Table)**

Database: tech, Table: department

| id | dept | ps01 | ps02 |
|---|---|---|---|

**Staff (Table)**

Database: tech, Table: staff

| id | staff_id | Course | dept | term | ac_yr |
|---|---|---|---|---|---|

**Student (Table)**

Database: tech, Table: student

| id | rollno | dept | ac_yr | term | key_gen |
|---|---|---|---|---|---|

**Staff Feedback (Table)**

Database: tech, Table: feedback

| Sno | rollno | dept | ac_yr | term | course | q1 | q2 | q3 | total |
|-----|--------|------|-------|------|--------|----|----|----|----|

**Figure 2.2 Database table Design**

## 2.3 Flow Diagram

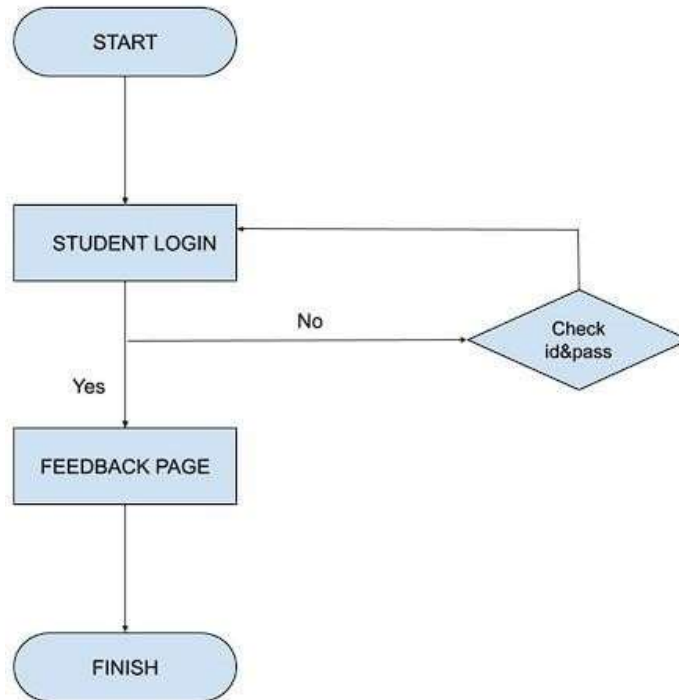**1. Student Login**



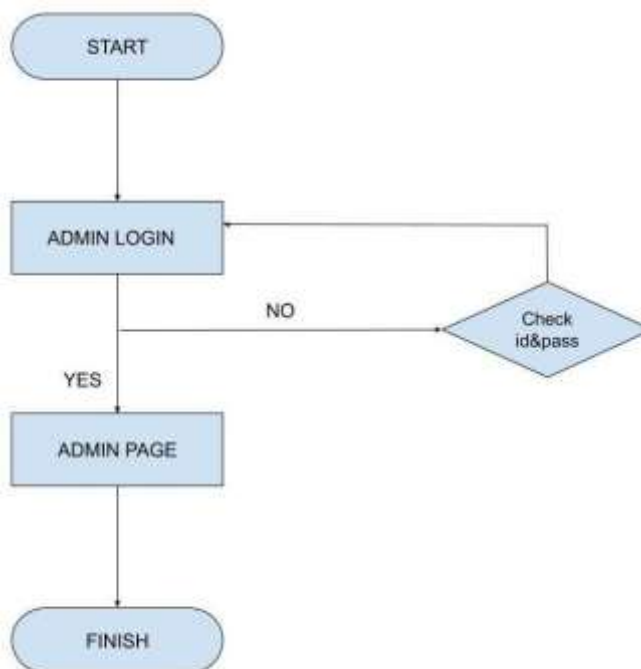**Figure 2.3.1 student login**

**2. Admin Login**



**Figure 2.3.2 Admin login**

## 2.4 Entity Relationship Diagram
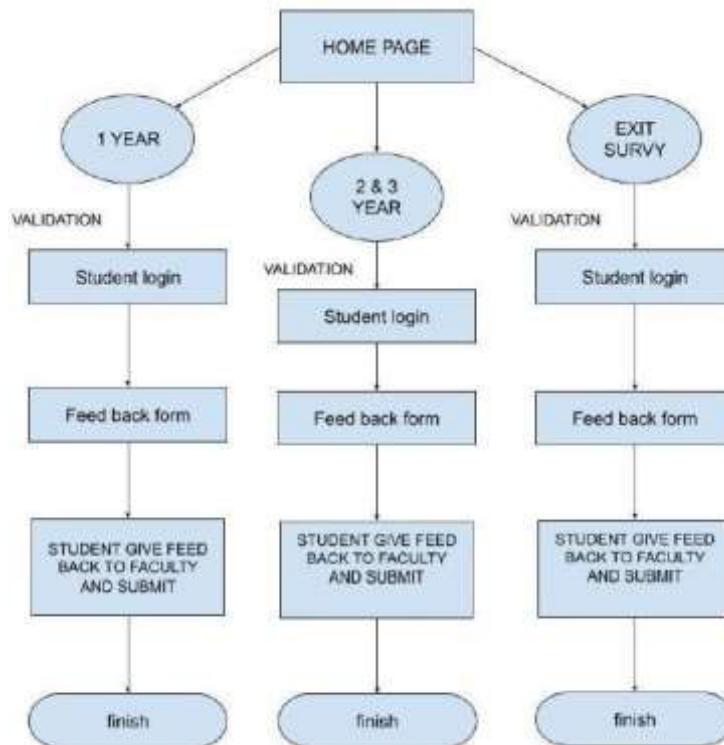### 1. Student ER diagram.



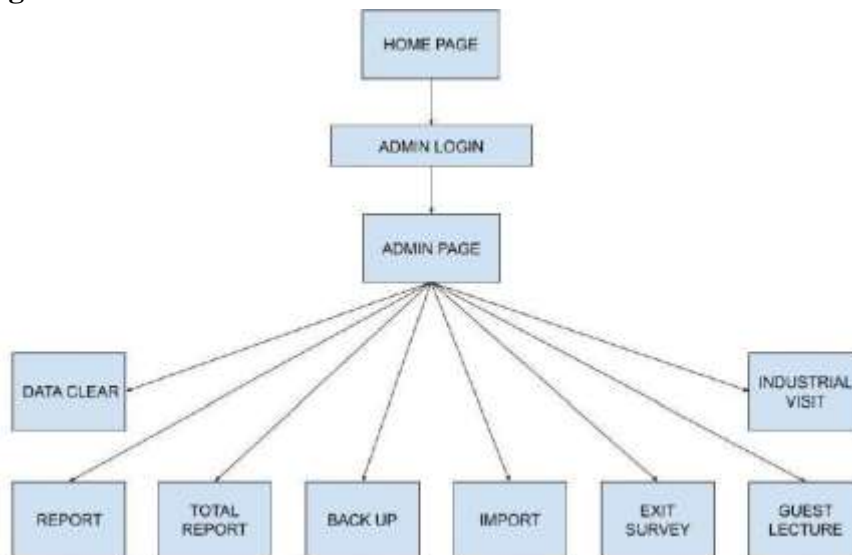**Figure 2.4.1 student ER Diagram**

### 2. Admin ER diagram



**Figure 2.4.2 Admin ER diagram**

## 3.0 Modules in Project
## 3.1 Student Module
Students will enter their roll number and department details. On the basis of department, it will display the corresponding faculty name, faculty id, guest lectureand industrial visit details. The form contains around set of questions, students will select the corresponding answers in their point of view and data is stored in the server. Student can give the feedback about the lecturers on the scale of five. Students can give feedback about the lecturer based on interaction of lecturer in the class room withstudents. The

student login module comprises four essential components: roll number,key, department, and term. To access the system, users input these details, which are then validated against the database. If the information matches, access is granted, otherwise the login attempt fails. The student module further divided into 4 submodules staff feedback, guest lecture feedback, industrial visit feedback and exit survey feedback.

## 3.2 Staff (Feed Back)

After login into student login, student can able to give feedback to the subject faculties. The form contains around set of 25 questions, students will select thecorresponding answers in their point of view and data is stored in the server. Student can give the feedback about the faculties on the scale of five. Students can give feedback about the faculties based on interaction of faculty in the class room with students.

## 3.3 Industrial Visit (Feed Back)

Students can also provide feedback for industrial visits which offer valuable insights into real-world applications of academic concepts. By using our portal, students can express their views on the organization, content relevance, and overall experience of
industrial visit. This feedback loop enables organizers to improve future industrial visit sessions to better meet student expectations and learning outcomes.

## 3.4 Guest Lecture (Feed Back)

The guest lecture feedback system serves as a valuable tool for capturing student perspectives on guest speakers. Students can provide feedback on various aspects of the lecture, such as the speaker's delivery, the relevance of the content, and the overall impacton learning. This feedback helps organizers assess the effectiveness of guest lectures and make necessary improvements for future sessions.

## 3.5 Admin Module

The admin module serves as a centralized platform for managing various administrative tasks related to student and faculty activities. Administrators have the authority to oversee and regulateall aspects of the feedback process and ensuring its smooth operation. The administrators can efficiently add or remove students and faculty members as needed, maintaining an up-to-date database.

## 3.6 Department Report

In admin module, the report option used to generate reports for specified departments andstaff members within those departments. This feature allows administrator to access specific information improve to their needs. By selecting the department and term, admin can obtain detailed reports, making it easier to track and analyze relevant data. This streamlined process enhances administrative efficiency and decision-making.

## 3.7 Total Report

The total report option is slightly difference from the regular report feature. Admin can filter staff across all departments based on performance ratings such as very good, good, average, below average. This allows for a comprehensive overview of staff performance levels across the organization. By utilizing this feature, admin can identify areas of excellence and areas that may require improvement more effectively. This streamlined approach facilitates better decision-making and resource allocation within the institution.

## 3.8 Guest Lecture (Report)

The guest lecture report format comprises details about the speaker and the content discussed are presented in text form. Additionally, set of questions are included to gather feedback. This structure helps capture essential information for assessing the lecture's effectiveness and improving future sessions.

### 3.9 Industrial Visit (Report)

The industrial visit report format includes key details about the visit, such as the location visited and the purpose of the visit, presented in a text format. Additionally, observations and insights gained during the visit are recorded. This format enables organizers to assess the value of the visit and make improvements for future visits.

### 3.10 Data Upload

The data upload (import) function allows administrators to add student, staff, and department details into the database using an Excel format. This simplifies the process by enabling bulk uploads of information, reducing manual entry errors and saving time. This streamlined approach enhances overall data management efficiently and ensures that essential information is readily available for administrative tasks.

### 3.11 back Up

The backup function is utilized to create a copy of the database containing student feedback in SQL format. This ensures that valuable feedback data is securely stored and

can be retrieved in case of system failures or data loss. By regularly backing up the database, administrators can safeguard against potential data loss and maintain the integrity of the feedback information.

### 3.12 Data Clear

Data clearing is a process that removes all data stored in the database, including feedback and other information. This action helps to refresh the database by eliminating outdated or unnecessary data. It ensures that the database remains streamlined and efficient, ready to accommodate new information. Data clearing is essential for maintaining data integrity and optimizing database performance over time.

### 4.0 System Implementation

System implementation is like making a new system design actually work. This involves training users, getting the site ready, and converting files to install the new system. It's important that this process doesn't disrupt how the organization works. The main aim is to smoothly start using the tested system while keeping costs, risks, and personal irritation to a minimum. Before using a computer system, it's checked to see if it works well. We test it based on how well it performs and how effective it is. These tests are done in a well-planned and organized way. Implementation is the stage where the theoretical design becomes a real working system. Let's break down the steps in the implementation plan. First, we make sure users are trained to use the new system. Then, we prepare the site to make sure it's ready for the system. Lastly, we convert files carefully to move data to the new system.

This detailed implementation plan aims to transition from the design to the working system smoothly while making sure the organization runs without any hesitations.

- Training and involvement of user personal
- Installation of hardware and software.
- Testing the system.
- Detection and correction of errors.
- Check with the existing system.
- Make necessary changes in the system
- Installing the Xampp server in local system
- Configure the setup and install the packages for php and MySQL
- Create required database and import the sample data into that

- Make a connection between database (back end) and html page (front end)
- Test the system with sample data.

## 5.0 System Testing
### 5.1 Testing
Testing is a series of different tests that whose primary purpose is to fully exercise the computer-based system. Although each test has a different purpose, all work should verify thatall system element has been properly integrated and performed allocated function. The philosophy behind testing is to find the errors. A good test is one that has a high probability of finding an undiscovered error.

**Types of Testing**
### 5.1.1 Unit Testing
Unit testing involves a series of tests done before combining a unit into bigger systems. In unit testing, each part is tested on its own. In our project we tested about totally of 12 different individual modules such as staff feedback, guest lecture feedback, industrial visit feedback, exit survey feedback and more. We check every part of a module separately to make sure the data flow is right and that it exits normally. This helps us find out if each piece is working correctly before putting everything together.

### 5.1.2 Integration Testing
Integration testing involves gradually combining different modules within the system and testing to confirm that everything functions properly when they are integrated. For instance, let's consider the student login module. Here, when a student enters their roll number, department details, password and the system send this information to the database to check its validity. If thecondition is met, the student can able to give feedback, otherwise, a pop-up message indicating "Invalid credentials". Integration testing acts like a quality check to ensure that all the pieces of the system fit together smoothly. The objective is to identify and address any potential issues thatmay arise when different parts of the system are integrated. Integration testing is an integral part of the software development process, ensuring that the various elements of the system come together seamlessly.

### 5.1.3 Validation Testing
Validation testing is the step where we make sure a new system design works properly. It's a phase where success means the software functions in a way that meets the customer's expectations. This is done through tests that show the software follows the given requirements. In places where users need to input information, we do validation testing. For instance, in a loginauthentication module, it's necessary for the user to enter both the roll number and key. If any of these fields are left empty, a message pops up, asking the user to fill in the missing information. Another validation check ensures that the same roll number or key isn't entered by more than oneuser. If this happens, an error message appears, saying "The feedback form has already been submitted". These validation checks make sure the system works correctly and that users providethe necessary information.

### 5.1.4 Output Testing
Output testing is the next step after validation testing, this involves checking how the system displays or creates output, based on the format desired by the user. The output format isconsidered in two ways: on-screen and printed. For on-screen output, the format is usuallycorrect as it's designed during the system phase to match what the user needs. Similarly, for hard copy output, the system generates output according to the specifications requested by the user. This ensures that when information is printed, it follows the desired format and layout as per the user's needs. This step ensures that users receive outputs that are easy

to understand, follow their requirements, and meet their expectations.

## 5.1.5 White box testing

White box testing, also known as Clear Box Testing or Structural Testing, is a method of testing software where the person doing the testing knows about the internal structure or design of what they are testing. White box testing is about understanding and testing the internal workings of the

software to ensure it functions correctly, and the term "white box" comes from the idea of looking into a transparent box to see what's inside.

- **White-box testing:** Testing based on an analysis of the internal structure of the component or system.
- **White-box test design technique:** Procedure to derive and/or select test cases based on an analysis of the internal structure of a component or system.

## 5.1.6 Black box testing

Black box testing, also called Behavioral Testing, the main goal of black box testing is to find errors or issues in different categories of the software without knowing its internal details. The tester is like a user, trying to see if the software does what it's supposed to do without needing to know the technical details. This method helps ensure that the software meets its intended requirements and works as expected from the user's perspective.

- Incorrect or missing functions
- Interface errors
- Errors in data structures or external database access
- Behavior or performance errors
- Initialization and termination errors
- **Black box testing:** Testing, either functional or non-functional, without reference to the internal structure of the component or system.
- **Black box test design technique:** Procedure to derive and/or select test cases based on an analysis of the specification, either functional or non-functional, of a component or system without reference to its internal structure.


## 6.0 System Testing

System testing is the phase where we prepare everything to test each module independently. This means getting the test data ready and checking if the fields meet the validation requirements. In this context, testing is about ensuring that the system operates correctly and smoothly before it goes live. During testing, we run the program to identify and fix any errors, ensuring everything is in good shape for actual operation. The main aim is to guarantee that the system performs accurately and efficiently.

The goal is a seamless and error-free performance when the system is officially implemented. System testing helps in building confidence that the software will meet expectations and function smoothly in real-world situations


## 7.0 Conclusion

The Tech feed project is a valuable tool for managing and maintaining student feedback in educational institutions. This system is designed to make it easy to insert, retrieve and update feedback details of students from the database. It is possible to freely submit the feedback without any hesitation. So, this portal overcomes all the limitations such as paper cost, manual work load, time consumption and offers a great deal of help at each and every stage in the whole process of availing a leave. The project has been

developed with the near future in mind and is flexible enough to adapt to changes without affecting the present system. In future, we plan to develop a mobile application for this project, so that students will be able to provide their feedback. This ongoing developmentensures that the software stays relevant and continues to meet the evolving needs of its users.

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