



Design and Appraisal Implementation of a Web-Based Performance System

¹Mr. Devendra B. Dandekar, ²Uruwela M. Suryawanshi, ³Dhanshree S. Bhatkar, ⁴Suhani R. Bele, ⁵Dhanshri S. Chafle, ⁶Bapurao G. Pardhi, ⁷Chetan M. Khirwatkar

^{1,2,3}Department of Computer Science and Engineering, Shri Shankarprasad Agnihotri College Of Engineering, Wardha, Maharashtra, India

¹uruwelasuryawanshi@gmail.com, ²ghanashree.bhatkar8@gmail.com,
³suhanibele303@gmail.com, ⁴chafledhanshri@gmail.com, ⁵bapurao881@gmail.com,
⁶chetankhirwatkar00@gmail.com

Article History

Received on: 25 Mar 2026

Revised on: 15 Apr 2026

Accepted on: 28 Jul 2026

Keywords: PBAS, Faculty Evaluation, Web-based System, Performance Analysis, PHP, MySQL, Automation

e-ISSN: 2455-6491

DOI: 10.65809/IJAITE/26/v03sp01/016

**Production and hosted
by**

www.insightiveinc.org
©2026|All right reserved.

ABSTRACT

In many colleges and universities, evaluating the performance of teachers is essential for maintaining the quality of education. The Performance Based Appraisal System (PBAS) is widely used to assess the academic and professional activities of faculty members. However, in many institutions, this process is still carried out manually using paper-based records or spreadsheets. Such methods are time-consuming, prone to calculation errors, and inefficient in terms of data management. To address these challenges, this study presents the development of a web-based system that automates the faculty appraisal process. The system allows teachers to enter their academic data through an online interface, while performance scores are calculated automatically based on predefined criteria. The application is developed using PHP and MySQL for efficient data processing and storage. The proposed system reduces manual effort, improves accuracy, and ensures a transparent and organized evaluation process, making it easier for institutions to manage faculty performance records and generate reports.

1. INTRODUCTION

In higher education institutions, evaluating the performance of faculty members is essential for maintaining academic quality and supporting institutional development. The Performance Based Appraisal System (PBAS) is widely used as a structured framework to assess the academic,

research, and administrative contributions of teachers. This system enables institutions to evaluate overall faculty performance based on criteria such as teaching activities, research work, publications, and participation in academic programs. However, in many institutions, the appraisal process is still conducted using manual methods such as paper records or spreadsheet files. These traditional approaches require

significant time and effort for data management and score calculation. Moreover, manual processes are prone to errors and create difficulties in maintaining and retrieving records over a long period, especially when handling large volumes of data. With advancements in web technologies, digital solutions can be developed to simplify and automate such processes. A web-based appraisal system allows faculty members to submit their academic activities through an online platform while enabling automatic calculation of performance scores. In this study, a web-based PBAS application is developed using PHP for backend development and MySQL for data storage and management. The proposed system aims to improve accuracy, reduce manual workload, and provide an efficient and organized approach to managing faculty performance records.

2. PROSPECTIVE APPLICATION

The proposed web-based PBAS system can be effectively used in colleges and universities to automate the faculty appraisal process. It helps in maintaining accurate records of teaching, research, and administrative activities while reducing manual effort and minimizing errors. The system ensures transparency and consistency in performance evaluation. Additionally, it can be used for generating reports, supporting administrative decision-making, and monitoring faculty progress over time. In the future, the system can be integrated with other institutional platforms and enhanced with advanced features such as analytics and performance tracking.

3. OBJECTIVES OF PERFORMANCE APPRAISAL

A. Salary Increase:

Performance appraisal helps in deciding salary increments based on the teacher's performance. It evaluates how effectively a teacher performs their duties and determines appropriate compensation.

B. Promotion

Performance appraisal plays an important role in promotion decisions, which are based on performance and seniority. It identifies strengths and weaknesses, helping to determine whether a teacher is suitable for higher positions.

C. Training and Development

Performance appraisal identifies the strengths and weaknesses of teachers. This information is useful for designing training and development programs to improve their performance. Guidance, and

D. Feedback

Performance appraisal provides feedback to teachers about their work. It helps them

understand their performance level and align their activities with institutional goals.

E. Motivation

Performance appraisal motivates teachers to perform better, as their future growth and career opportunities depend on their evaluation.

Level of Description: The proposed Performance Based Appraisal System (PBAS) follows the Academic Performance Indicator (API) framework prescribed by the University Grants Commission (UGC). The methodology is structured into three main parts: Part A – General Information, Part B – Academic Performance Indicator, and Part C – Other Relevant Information. Part A collects basic faculty details such as designation, department, experience, and qualifications, which are required for appraisal identification and record management. Part B forms the core of the appraisal process and evaluates faculty performance through four categories. Category I assesses teaching, learning, and evaluation activities including lectures, instructional material preparation, teaching methodologies, and examination duties. Category II evaluates co-curricular, extension, and professional development activities such as institutional responsibilities and training programs. Category III focuses on research and academic contributions including research publications, ICT-enabled content development, research participation in committees, coordination roles, and extension activities. Part C captures additional relevant academic information that supports qualitative assessment. The system automatically validates entered data, calculates API scores based on predefined UGC weightages, and generates criterion-wise as well as overall appraisal reports. This methodology ensures accuracy, transparency, and efficiency in faculty performance evaluation.

4. FEATURES AND FUNCTIONALITY

The proposed web-based Performance Based Appraisal System (PBAS) offers a comprehensive set of features designed to support both faculty members and administrators throughout the appraisal process. The system provides secure login and authentication using unique user credentials, ensuring that only authorized users can access appraisal data. Role-based access control is implemented to differentiate functionalities available to teachers and administrators, thereby enhancing security and operational efficiency. Faculty members can enter PBAS data online for Criteria I, II, III, and IV through a user-friendly interface. The system automatically validates the entered data in accordance with UGC PBAS norms, reducing errors and ensuring compliance. Real-time API score

Calculation is performed based on predefined weightages, allowing faculty members to view category-wise as well as total scores instantly. This improves transparency and helps users clearly understand their performance evaluation. The system also supports uploading and management of supporting documents, which facilitates verification and record maintenance. Structured digital PBAS reports are generated automatically, eliminating the need for manual report preparation. Submission tracking and status updates allow faculty members to monitor the progress of their appraisal. Administrators can verify submitted data, approve or reject entries through a defined workflow, and maintain centralized records for long-term storage, analysis, and institutional reporting.

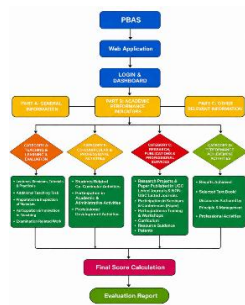


Figure 1: Flow of the Facial Expression Recognition System

5. TECHNOLOGIES USED

A. Frontend

HTML, CSS, JavaScript, Bootstrap – for responsive and user-friendly interface.

B. Backend

PHP – for server-side logic and API calculations.

C. Database

MySQL – to store faculty data, research papers, and calculated API scores.

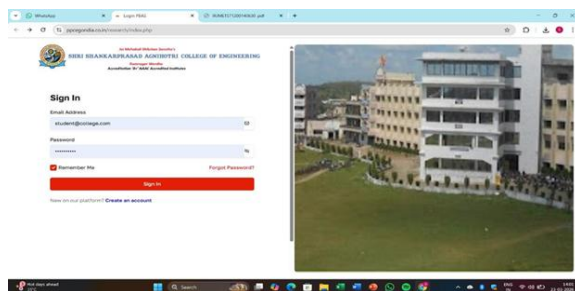
D. Web Server

Apache to host the application. Additional

E. Tools

Excel (for reference calculation), query (for dynamic UI), and secure session management.

System Images and information



his page provides secure user authentication using valid login credentials for faculty members and administrators.

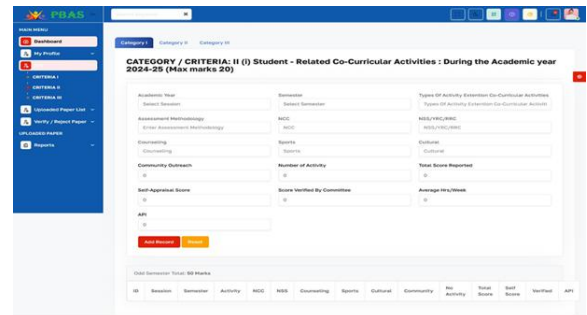


Figure 3: PBAS Data Entry Page

This page allows faculty to enter research paper details and academic activities required for PBAS evaluation

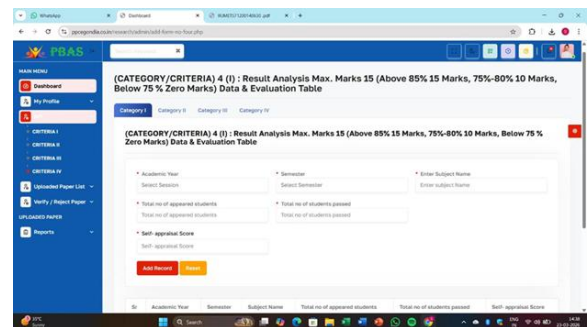


Figure 4: PBAS Data Entry Page

This page allows faculty to enter research paper details and academic activities required for PBAS evaluation.

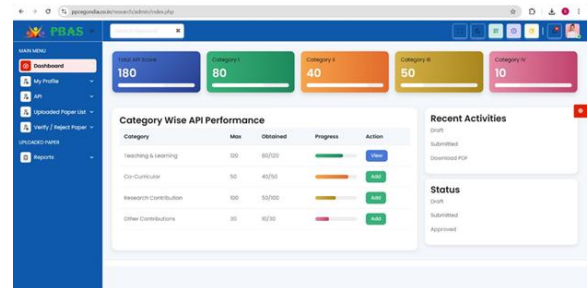


Figure 5: PBAS Report Page

This page displays the overall calculation of API score along with verification and approval status by the committee.

CONCLUSION

The proposed web-based Performance Based Appraisal System (PBAS) provides an efficient and transparent method for evaluating faculty performance. It reduces manual effort, minimizes errors, and ensures accurate score calculation based on predefined criteria. The inclusion of four categories enables comprehensive assessment of teaching, research, professional, and administrative activities. Overall, the system improves data management, supports decision-

Making, and enhances the quality of the appraisal process in educational institutions.

CHALLENGES AND FUTURE SCOPE

A. Challenges

- Initial data entry may require time and effort from faculty members.
- Resistance to adopting a new digital system in some institutions.
- Ensuring data accuracy and completeness during submission.
- Requirement of proper training for users to effectively use the system.
- Dependence on internet connectivity and system availability.

B. Future Scope

- Integration with mobile applications for easy access.
- Implementation of data analytics and visualization for better insights.
- Use of AI-base techniques for performance prediction and analysis.
- Integration with university management systems for seamless data exchange.
- Enhancement of security features for better data protection.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this research paper.

FUNDING SUPPORT

The author declare that they have no funding support for this study.

REFERENCES

- [1] Dhamne, Aishwarya, Dipali Jadhav, and Mohini Somvanshi. "Performance Based Appraisal System for Teachers of University/Colleges." *International Research Journal of Engineering and Technology (IRJET)*, vol. 4, no. 2, Feb. 2017, pp. 1–4, e-ISSN 2395-0056, p-ISSN2395-0072.
- [2] Desai, Roshni Jignesh. *Evolving a Performance Appraisal System for Teacher Educators*. Diss. Maharaja Sayajirao University of Baroda (India), 2017.
- [3] Camilleri, Mark Anthony, and Adriana Caterina Camilleri. "The performance management and appraisal in higher education." (2018).
- [4] Hasure, Santosh V., and Viraj V. Jadhav. "Study of Performance Appraisal System for Faculty Members in Selected Management Institutes Affiliated to Shivaji University, Kolhapur." *International Journal of Trend in Scientific Research and Development (IJTSRD)*, conference issue, Mar. 2019, e-ISSN 2456-6470.
- [5] Attipoe, Wright Evans, George K. Agordzo, and Mr John E. Seddoh. "Effect of performance appraisal system on employee productivity (selected public senior high schools, Ho Municipality, Ghana)." *Journal of economics and sustainable development* 12.2 (2021): 1-14.
- [6] Khurjekar, Sonali, and Ranpreet Kaur. "Performance Appraisal Practices in Indian HEI-A Critical Analysis." *Journal of Engineering Education Transformations* (2023): 158-173.

- [7] Pooja, Ms, and Ms Sushma Kumari. "A Study on Performance Management and Appraisal in Higher Education Sector (Delhi NCR)." *Northern Economic Review* 15.1 (2024): 15.
- [8] Singh, Seema, Sarthak Sengupta, and Anurika Vaish. "A Study on Performance Appraisal in Higher Education: A Bibliometric Analysis and ANOVA Approach." (2025).