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# Be on Path: A Digital Career Path Intelligence System for Monitoring OJT Progression

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**Abstract** **Original Research Article**

On-the-job training (OJT) is a core requirement in higher education programs, providing students with practical experience and exposure to real workplace environments. Despite its importance, many institutions continue to face challenges related to internship placement, monitoring of student progress, documentation, and coordination among students, academic institutions, and host training establishments (HTEs). These challenges are often exacerbated by the use of manual or fragmented systems that limit efficiency and transparency.

This study presents Be on Path: OJT Career and Monitoring System, a web-based platform designed to streamline OJT placement, monitoring, and evaluation processes. Using a developmental research design, the system was developed following the System Development Life Cycle (SDLC) methodology. Key features include personalized internship recommendations, automated daily time records, evaluation and feedback tools, notification services, and automated report generation. System functionality was verified through test case testing, while system acceptability was evaluated using the ISO/IEC 25010 Software Quality Model.

Evaluation results revealed that the system was highly acceptable in terms of functional suitability, usability, security, and compatibility. Users reported improved efficiency in OJT coordination and monitoring, as well as enhanced communication among stakeholders. Minor performance limitations were observed during periods of high data processing. Overall, the findings indicate that the proposed system is an effective tool for managing OJT programs and strengthening collaboration between educational institutions and industry partners.

**Keywords:** On-the-Job Training, Internship Management System, Career Monitoring, Web-Based System, ISO/IEC 25010.



## Introduction

On-the-job training (OJT) serves as a bridge between academic learning and professional practice by allowing students to apply theoretical knowledge in actual work settings. Despite its importance, many educational institutions continue to rely on manual or fragmented systems for internship placement, attendance tracking, evaluation, and reporting. These practices often result in delayed monitoring, mismatched placements, and communication gaps

among students, OJT coordinators, and host training establishments (HTEs).

With advancements in information systems and recommendation technologies, there is an increasing opportunity to modernize OJT management. A centralized, web-based system can enhance transparency, efficiency, and accountability throughout the internship process. This study addresses these needs through the development of Be on Path: OJT Career and Monitoring System, a platform designed to streamline OJT processes and support data-driven decision-making.

The study aimed to design, develop, and evaluate a web-based system that (1) provides customized internship recommendations, (2) automates monitoring and documentation, and (3) evaluates system quality using the ISO/IEC 25010 standard.

## Objectives of the Study

Our research aimed to support the design, development, and evaluation of an information system addressing identified gaps in on-the-job training management.

The study aimed to achieve the following objectives:

1. To design and develop a web-based OJT career and monitoring system that supports internship placement, personalized recommendations, attendance monitoring, student evaluation, notification services, and automated report generation;
2. To implement the proposed system using the System Development Life Cycle (SDLC) methodology to ensure systematic and structured system development;
3. To determine the functional performance of the system through test case–based system testing; and
4. To evaluate the acceptability of the developed system using the ISO/IEC 25010 Software Quality Model in terms of functional suitability, performance efficiency, compatibility, interaction capability, reliability, security, maintainability, and flexibility.

## Materials and methods

### A. Data Source and Collection

The study focused on the development and evaluation of the *Be on Path: OJT Career and Monitoring System*, a web-based platform designed to facilitate internship placement, monitoring, and communication among students, OJT coordinators, administrators, and host training establishments (HTEs). The system was implemented within the context of the On-the-Job Training (OJT) program at Carlos Hilado Memorial State University – Alijis Campus.

Data for system evaluation were gathered from system users involved in the OJT process, including students, OJT coordinators, administrators, and HTE representatives. The collected data primarily consisted of feedback regarding system usability, functionality, and performance. Strict data privacy practices were observed, and user information was handled in accordance with institutional ethical guidelines.

### B. System Development Process

The development of the system followed the System Development Life Cycle (SDLC) methodology, which guided the phases of planning, analysis, design, development, testing, and implementation. This structured approach ensured that system requirements were clearly identified and translated into functional components.

The system was developed as a web-based application with four primary user roles: administrator, OJT coordinator, student, and host training establishment. Core functionalities included internship posting and filtering, personalized recommendations, daily time record (DTR) management, student evaluation, notifications, and automated report generation.

During the design stage, system architecture and workflow were modeled using common system

analysis tools to illustrate the interaction between users and system components. The resulting platform integrates several features to support OJT management, including job posting and filtering, daily time record monitoring, notifications, evaluations, and report generation.

### C. System Features and Functional Components

The developed system includes several modules designed to streamline internship coordination and monitoring. These include internship posting and application management for host training establishments, automated monitoring of student daily time records (DTR), evaluation modules for both students and HTE supervisors, notification mechanisms for updates and announcements, and automated report generation for monitoring internship progress.

These integrated features support efficient communication and coordination among administrators, OJT coordinators, students, and partner organizations.

**System Features:**

The system includes the following key features:

- Personalized Internship Recommendation - matches students with appropriate internship positions which their skills and qualifications and personal preferences match.
- Internship Posting and Application Management - permits host training establishments (HTEs) to post their internship opportunities while they handle student applications.
- Daily Time Record (DTR) Automation System - enables students to record their daily attendance together with their activities which coordinators can track in real-time. Evaluation and Feedback System - enables HTE supervisors to assess student performance while students review their internship performance.
- Notification System - delivers instant updates together with official announcements to students and coordinators and administrators.
- Automated Report Generation - produces student progress reports that include attendance data and evaluation results which serve monitoring and documentation needs.

**Hardware Requirements:**

The system requires the following hardware components for operation:

- The system needs a desktop computer or laptop to be used by administrators and coordinators and HTEs. Students need mobile devices which include smartphones and tablets.
- The system needs an uninterrupted internet connection.
- The system needs either server hosting or cloud hosting to function.

**Software Requirements:**

The system operates through these software components:

- Web browser (e.g., Google Chrome, Mozilla Firefox, Microsoft Edge)
- Web server (e.g., Apache or Nginx)
- Backend programming language (e.g., PHP, Node.js, or Python)
- Database management system (e.g., MySQL or PostgreSQL)
- Frontend technologies (e.g., HTML, CSS, JavaScript)
- Operating system (e.g., Windows, Linux, or macOS)

The system uses these components to provide functional and accessible performance capabilities which enable effective OJT management and monitoring.

### D. System Testing

System functionality was verified through test case evaluation, where each system feature was tested to ensure correct performance and compliance with system requirements. Functional testing focused on validating system processes such as user registration, internship posting, student monitoring, and report generation.

The system was implemented as an online-based platform, requiring internet connectivity for users to access and update information in real time.

### E. System Evaluation

To determine the acceptability and quality of the developed system, evaluation was conducted using the ISO/IEC 25010 Software Quality Model. This framework measures several quality characteristics, including performance efficiency, reliability, security, maintainability, and usability.

Feedback from system users was analyzed to determine the effectiveness of the platform in supporting OJT monitoring and internship placement activities.

### 2.1 Testing Procedure

Functional testing was conducted using test cases to verify whether each module performed according to its intended purpose. Errors identified during testing were corrected prior to system evaluation.

### 2.2 System Evaluation

The acceptability of the system was evaluated using the ISO/IEC 25010 Software Quality Model. Evaluation criteria included functional suitability, performance efficiency, compatibility, interaction capability, reliability, security, maintainability, and flexibility. Respondents consisted of students, OJT coordinators, administrators, and HTE representatives involved in the internship process.

## 3. Results and Discussion

The results of the system evaluation demonstrate that the Be on Path: OJT Career and Monitoring System effectively supports the management and monitoring of on-the-job training programs. Using the ISO/IEC 25010 Software Quality Model, the system was assessed across multiple quality characteristics by students, OJT coordinators, administrators, and host training establishment representatives.

### 3.1 Functional Suitability and Usability

The system achieved high ratings in functional suitability, as all core features—including internship recommendation, daily time record automation, evaluation tools, notifications, and report generation—performed according to their intended functions. Respondents indicated that the system addressed common challenges in OJT management by reducing manual processes and centralizing internship-related information.

Usability and interaction capability were also rated highly. Users found the interface intuitive and easy to navigate, enabling efficient task completion with minimal training. These findings align with prior studies emphasizing the importance of user-centered design in educational information systems.

### 3.2 Security, Compatibility, and Reliability

Security features received strong positive evaluations, reflecting user confidence in data protection, access control, and confidentiality of student and institutional information. The system's compatibility across commonly used devices and browsers further enhanced accessibility for different user groups.

Reliability results indicated stable system performance under normal operating conditions. However, some respondents experienced slight delays during periods of high user activity or large data processing, suggesting the need for performance optimization to improve scalability.

### 3.3 Performance Efficiency and System Limitations

While the system generally performed efficiently, performance efficiency received comparatively

lower ratings due to occasional response-time delays. These limitations highlight areas for technical improvement, particularly in database optimization and server resource management. Addressing these issues is essential for ensuring consistent performance as system usage expands.

Overall, the evaluation results confirm that the system meets most of the ISO/IEC 25010 quality standards and provides a reliable and effective solution for OJT career and monitoring needs.

**Results:**

The *Be on Path:* A Digital Career Path Intelligence System for Monitoring OJT Progression was evaluated using the ISO/IEC 25010 Software Quality Model and functional test cases. Key results include:

**System functionality:**

- The system successfully operated all essential features which included personalized internship recommendations and automated daily time tracking and internship posting and evaluation and feedback and notification delivery and report creation.
- The functional testing process demonstrated that students OJT coordinators administrators and HTEs could access their respective interfaces without facing any errors during usage.

**System Performance:**

- The system operated efficiently under normal usage conditions.
- The system displayed minor delays when it handled large data processing operations at the same time.

**Usability and Interface:**

- Users reported the interface was intuitive and easy to navigate.
- The system required minimal training for students and coordinators to use it effectively.

**Security and Compatibility:**

- The system maintained data privacy through secure login credentials and access control mechanisms.
- The system operated across various web browsers and devices which included desktops and laptops and mobile devices.

**Findings:**

The analysis of user feedback together with system evaluation procedures produced the following results.

1. The system simplifies OJT coordination by centralizing internship placement, progress tracking, and reporting.
2. Students benefit from personalized internship recommendations and automated progress monitoring, which together increase their engagement and career readiness.
3. HTEs can efficiently manage applications, track intern performance, and communicate with schools.
4. The notification system ensures timely updates, which improve decision-making processes for OJT coordinators.
5. The system requires future optimization because it shows performance limitations during high data load conditions.

**Discussions:**

The evaluation results show that Be on Path successfully solves the problems which OJT management system needs to overcome.

- The system achieves two objectives through its automated system which processes daily time records and generates reports because it

enables automatic student progress monitoring.

- The internship recommendation system provides students with customized internship options which help them to match their academic knowledge with actual job requirements.
- The platform establishes a transparent and efficient internship process which enables better collaboration among students, OJT coordinators, administrators, and HTEs.
- The system achieved high ratings for its overall performance and usability despite showing slight operational delays which make it suitable for use in standard OJT program administration.
- The literature comparison with related systems which use automated attendance and notification systems shows that the system which combines its recommendation engine with DTR automation and feedback and notifications delivers better performance results.

## 4. Conclusion

The study successfully developed and evaluated Be on Path: OJT Career and Monitoring System, a web-based solution for managing on-the-job training programs. The system addressed key challenges in internship placement, monitoring, and reporting, and was found to be highly acceptable based on ISO/IEC 25010 criteria.

Despite minor performance issues, the system demonstrated strong potential to enhance OJT management and collaboration between educational institutions and industry partners. Future improvements may include system optimization, mobile application support, and expanded features to further improve accessibility and performance.

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