ITDM: Information Technology Development and Management
Volume 2, (2) 2026, pp. 101-110
E-ISSN: XXXX-XXXX
©2025. The Author(s). This is an open access article under cc-by-sa

Analysis and Design of a Career Guidance Service System at PT Tumbuh Global Indonesia

Normaliza Firdia[1], Yuni Sugiarti [2], Dewi Octafiani [3]

[1,2] Department of Information Systems, UIN Syarif Hidayatullah Jakarta, Indonesia
[3] Department of Informatic, STMIK Amikom Surakarta, Indonesia

[1] normaliza.firdia22@mhs.uinjkt.ac.id
[2] yuni.sugiarti@uinjkt.ac.id
[3]dewi.octafiani@dosen.amikom.ac.id

* *normaliza.firdia22@mhs.uinjkt.ac.id*

Received: 24 July 2026, Revised: 25 August 2026, Accepted: 26 September 2026, Published: 31 October 2026

Abstract

This study aims to analyze and design a career guidance information system at PT Tumbuh Global Indonesia (Growth Hub). The main problem identified is the absence of an integrated information system, resulting in inefficient management of participant data, guidance programs, and monitoring activities conducted across separate platforms. The research method applied is Rapid Application Development (RAD), with data collected through observation, interviews, and documentation studies. The results indicate that the designed web-based career guidance information system produces a structured system model aligned with user requirements. The system design is represented using Unified Modeling Language (UML), including use case diagrams, activity diagrams, sequence diagrams, and class diagrams. This design is expected to serve as a foundation for developing an integrated information system that enhances the effectiveness and efficiency of career guidance services at Growth Hub.

Keywords: Career Guidance, Information System, Rapid Application Development, UML

I. Introduction

The development of the digital era has made information systems an important component in improving the operational efficiency and effectiveness of organizations. In the context of career guidance services, information systems play a role in providing access to information, training, and connectivity between students and the world of work. Growth Hub is a career guidance platform that serves students from various countries by offering a range of career development programs. However, as the number of users and services increases, Growth Hub faces the challenge of lacking a structured and integrated information system to support its operations optimally. Several studies show that applying the Rapid Application Development (RAD) method in designing guidance and counseling information systems can improve service effectiveness and facilitate data management and communication among stakeholders [1], [2], [3]. The method is considered suitable for organizations that need rapid system development while still adapting to user requirements, making it relevant to Growth Hub's need to reach users more broadly and efficiently.

ITDM: Information Technology Development and Management
Volume 2, (2) 2026, pp. 101-110
E-ISSN: XXXX-XXXX
©2025. The Author(s). This is an open access article under cc-by-sa

In addition, the moderate level of students' career maturity indicates the need for more directed and systematic career guidance services [4], [5]. Providing an adequate career guidance information system is an urgent need, particularly for platforms oriented toward the career development of the younger generation [6]. Currently, Growth Hub's services still use social media and various digital platforms separately, which potentially causes obstacles in managing participant data, monitoring career progress, and facilitating interaction between students and industry partners [7], [8], [9].

Previous studies have shown that implementing web-based guidance information systems can improve ease of access, communication effectiveness, and integrated data recording without time and place limitations [10], [11]. A well-designed information system can also support data management and the provision of relevant information for users [12], [13]. Based on the above description, this study aims to analyze and design a career guidance service information system that fits the operational needs of Growth Hub. The proposed information system is expected to optimize career guidance services, improve user data management, and strengthen connectivity between students and the world of work in the future.

II. Research Method

A. Data Collection Method

Data were collected to understand the operational conditions of Growth Hub and the information system requirements. The data collection methods used include:

a. Interview
Conducted online with a Growth Hub supervisor to obtain information on workflows, problems encountered, and functional system requirements.

b. Observation
Conducted by observing the platforms and services used by Growth Hub, such as social media, Google Workspace, and the online community (Discord), to understand the running business processes.

c. Documentation Study
Conducted by reviewing supporting documents, such as the company profile, internal reports, and relevant presentation materials, as material for analysis.

d. Literature Study
Conducted by reviewing journals, books, and scientific sources related to information systems, requirements analysis, and system development methods to strengthen the theoretical foundation of the research.

B. System Development Method

The system development method used in this study is Rapid Application Development (RAD). RAD was chosen because it enables fast, iterative system development that involves users at every stage [14], [15]. The method is considered suitable for Growth Hub, which requires a functional information system solution in a relatively short time that matches user needs.

C. Research Stages

The research stages are structured following the Rapid Application Development (RAD) methodology. The research was carried out through the following stages:

a. Data Collection
This stage covers observation, interviews, and literature review.

b. Requirements Analysis
At this stage, the running system is analyzed to identify weaknesses using the PIECES approach, while

ITDM: Information Technology Development and Management
Volume 2, (2) 2026, pp. 101-110
E-ISSN: XXXX-XXXX
©2025. The Author(s). This is an open access article under cc-by-sa

also formulating the functional requirements and workflow of the proposed system.

c. System Design
System design is carried out through Unified Modeling Language (UML) modeling, covering Use Case, Activity, Sequence, and Class Diagrams, as the basis for producing a functional system prototype.

d. Report Writing
The final stage of the research is compiling the results of the system analysis and design into a report presented in the format of a scientific article.

III. Results and Discussion

A. Requirements Planning Phase

1) Analysis of the Running System

The flowchart in Fig. 1 shows that the system currently running at Growth Hub is still manual and separated across various online platforms. The workflow can be described as follows.

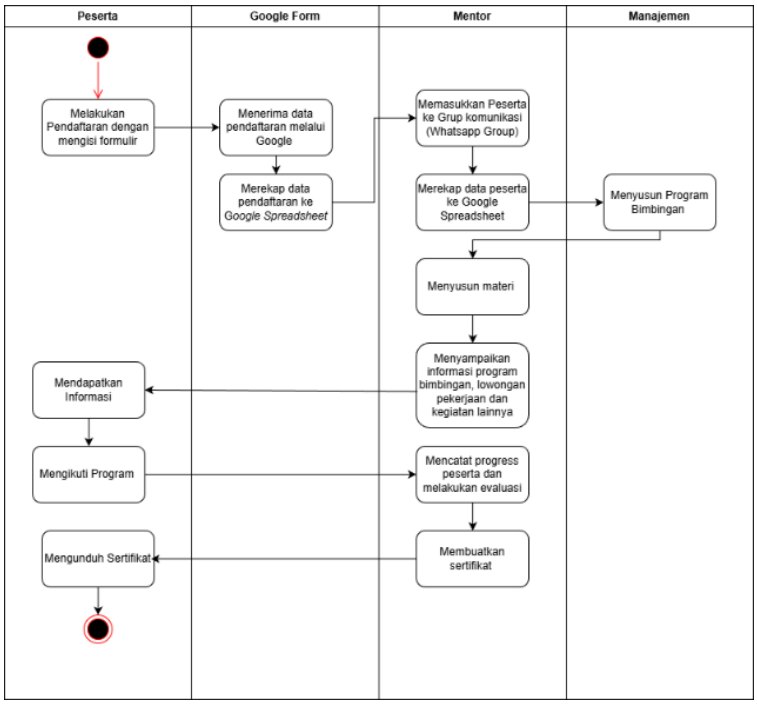


Fig. 1. Analysis of the running system.

2) Problem Identification

Based on the analysis of the running system, the problems at GrowthHub were identified using the PIECES framework (Performance, Information, Economy, Control, Efficiency, Service), as explained in TABLE I.

TABLE I

ANALYSIS OF PIECES

Category	Problem	Explanation
Performance	The running system is slow and suboptimal	Registration, guidance, and reporting are carried out manually and separately across various platforms, which slows down work processes and coordination.

ITDM: Information Technology Development and Management
Volume 2, (2) 2026, pp. 101-110
E-ISSN: XXXX-XXXX
©2025. The Author(s). This is an open access article under cc-by-sa

Category	Problem	Explanation
Information	Participant and guidance result data are not documented centrally	Participant information is scattered across Google Forms, communication groups, and separate documents, making it difficult to access and prone to data loss.
Economy	Requires more time and effort in data management	Manual processes force staff to repeat data entry and verification, wasting time and human resources.
Control	No clear data access control and authorization	Participant data is stored on various general platforms (spreadsheets, WA/Telegram/Discord), making it prone to unauthorized access or data loss.
Efficiency	Recording, monitoring, and reporting processes are inefficient	The absence of an integrated system means monitoring and evaluation activities take a long time and are prone to inaccuracy.
Service	Guidance services are less responsive and inconsistent	Mentor–participant communication depends on chat platforms that are not documented, so services are hard to trace back and less professional.

3) Analysis of the Proposed System

The flowchart in Fig. 2 depicts the proposed web-based GrowthHub system integrated with a centralized database, so that it can be used by admins, mentors, and participants alike.

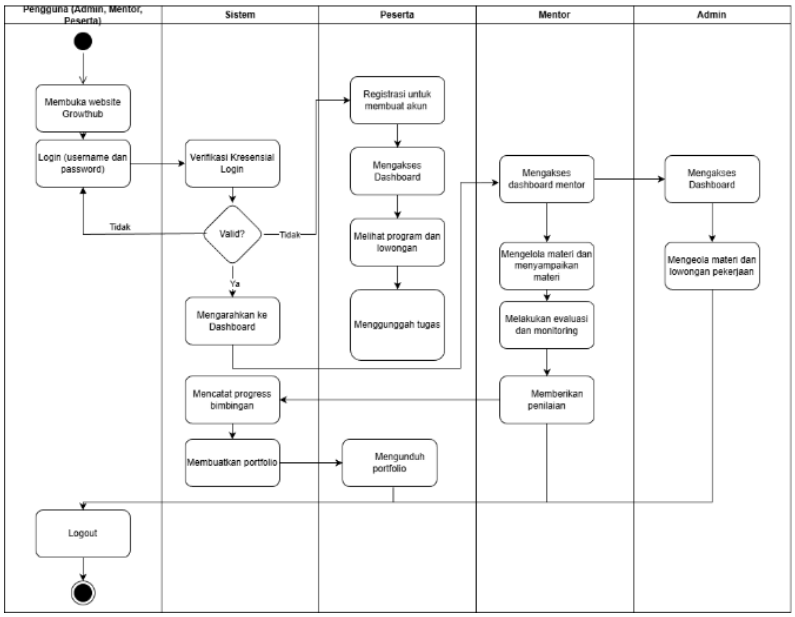


Fig. 2. Analysis of the proposed system.

B. Workshop Design Phase

1) Use Case Diagram

In the GrowthHub information system, there are three main actors: Participant, Mentor, and Admin.

a. Actor Identification

TABLE II

ACTOR IDENTIFICATION

Actor	Description

ITDM: Information Technology Development and Management
Volume 2, (2) 2026, pp. 101-110
E-ISSN: XXXX-XXXX
©2025. The Author(s). This is an open access article under cc-by-sa

Actor	Description
Participant	Participants have access to the Registration and Login features, viewing the Dashboard, filling in and updating their profile, joining guidance programs, accessing materials, monitoring career progress, and downloading portfolios. Students or users who register, access guidance programs, and monitor career progress through the system.
Mentor	Mentors have access to Login, managing guided participant data, giving evaluations, uploading materials, and monitoring participant progress.
Admin	Admins have full access to the system, including managing participant registration, setting up mentor accounts, monitoring all programs, managing job vacancies, and generating student career reports.

b. Use Case Identification

TABLE III

USE CASE IDENTIFICATION OF THE PROPOSED GROWTHHUB SYSTEM

No.	Use Case	Description	Actor
1	Registration	New participants register to obtain an account in the system.	Participant
2	Login	Users enter credentials (username and password) to access the system.	Participant, Mentor, Admin
3	Manage Profile	Participants fill in or update the personal information required by the system.	Participant
4	Manage Programs	Admins add, edit, or delete guidance programs and manage activity schedules.	Admin
5	Manage Participant Data	Admins and Mentors can view and update the data of participants taking part in guidance.	Admin, Mentor
6	Manage Materials	Mentors upload guidance materials, assignments, or programs that participants can access.	Mentor
7	Evaluation and Monitoring	Mentors give assessments and progress notes for participants and monitor their career progress.	Mentor
8	Undergo Program	Participants can follow programs with materials arranged by admins and mentors.	Participant
9	Download Portfolio	Participants can download career portfolios or guidance result reports in digital format (PDF).	Participant
10	Manage Job Vacancies	Admins manage job vacancy information and share it through the system.	Admin
11	Log Out	Users exit the system to end the access session.	Participant, Mentor, Admin

c. Use Case Diagram Modeling

Fig. 3 shows the Use Case Diagram of the system to be built.

ITDM: Information Technology Development and Management
Volume 2, (2) 2026, pp. 101-110
E-ISSN: XXXX-XXXX
©2025. The Author(s). This is an open access article under cc-by-sa

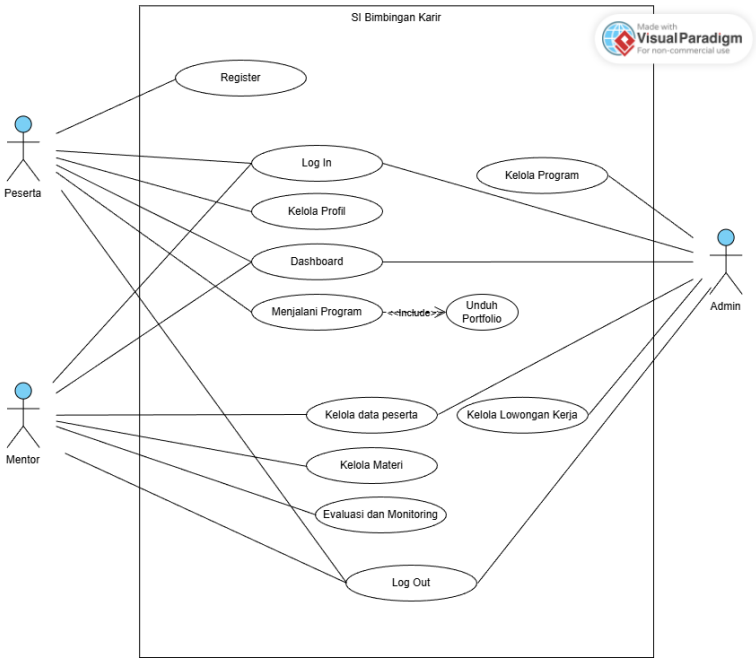


Fig. 3. Use Case Diagram.

2) Activity Diagram

Activity diagrams are used to describe the sequence of activities carried out by the system and the order in which each activity is executed. Fig. 4 shows one activity diagram representing the process of evaluating and monitoring participant progress in the program, in which the acting actor is the mentor.

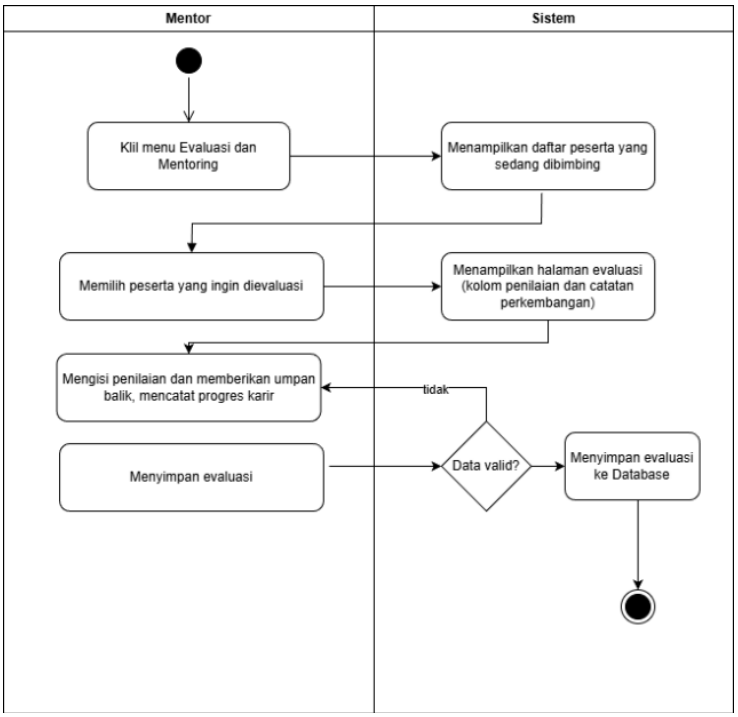


Fig. 4. Activity Diagram.

ITDM: Information Technology Development and Management
Volume 2, (2) 2026, pp. 101-110
E-ISSN: XXXX-XXXX
©2025. The Author(s). This is an open access article under cc-by-sa

3) Sequence Diagram

A sequence diagram shows the messages exchanged between objects for a particular use case over time. Fig. 5 shows one sequence diagram for the evaluation and monitoring activity.

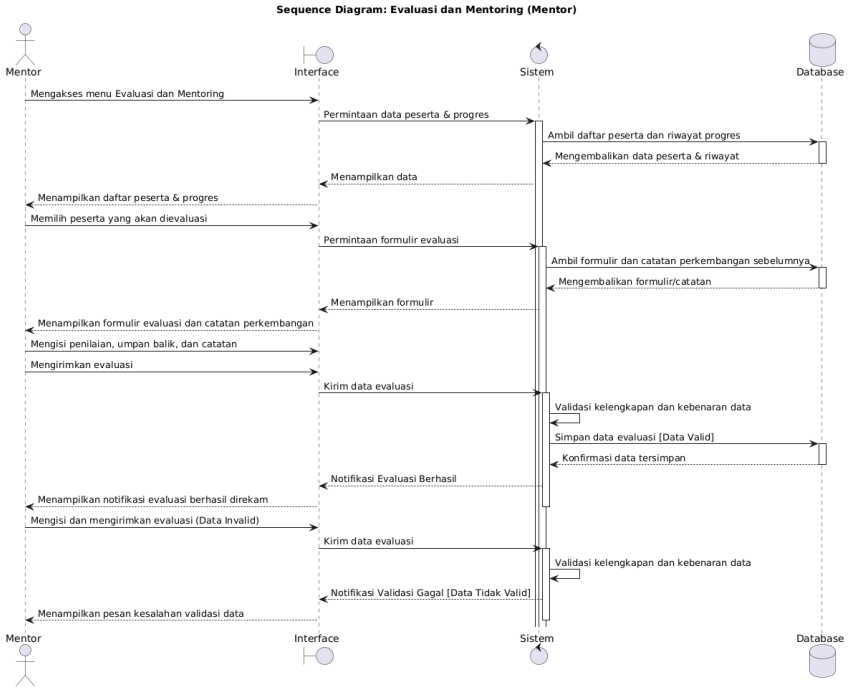


Fig. 5. Sequence Diagram.

The sequence diagram above depicts the interaction among the Mentor, the System, and the Database in the participant evaluation and monitoring process. The process begins when the Mentor accesses the Evaluation and Monitoring menu. The system requests participant data and progress history from the database, then displays them to the Mentor.

4) Class Diagram

The class diagram serves as a static structural overview of the system to be built, describing classes, attributes, methods, and their relationships, as shown in Fig. 6.

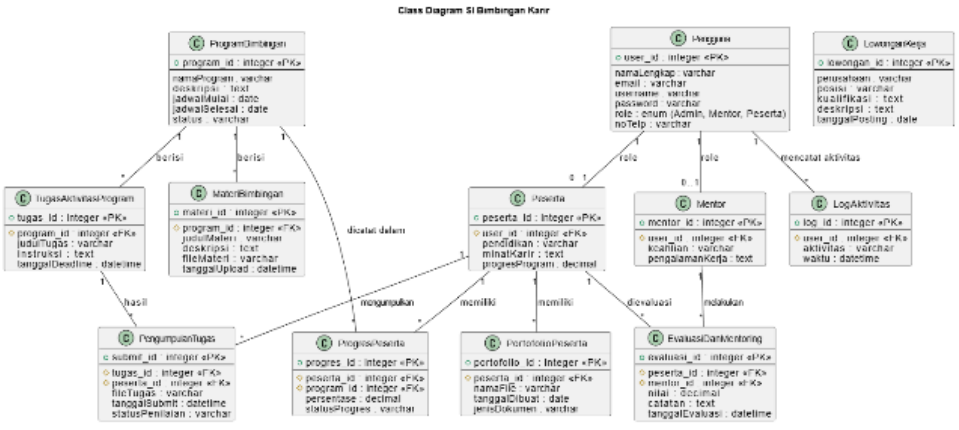


Fig. 6. Class Diagram.

ITDM: Information Technology Development and Management
Volume 2, (2) 2026, pp. 101-110
E-ISSN: XXXX-XXXX
©2025. The Author(s). This is an open access article under cc-by-sa

5) Interface Design

The interface design focuses on usability and user experience, applying a dominant blue and yellow color palette, supported by a clear and easy-to-understand navigation structure. Several of the interfaces built are presented below. The page in Fig. 7 is used by Mentors to add, edit, and delete guidance materials. The page provides a file upload form, a description field, and a list of available materials. This feature makes it easier for mentors to provide the learning content participants need and ensures that materials remain relevant and accessible.

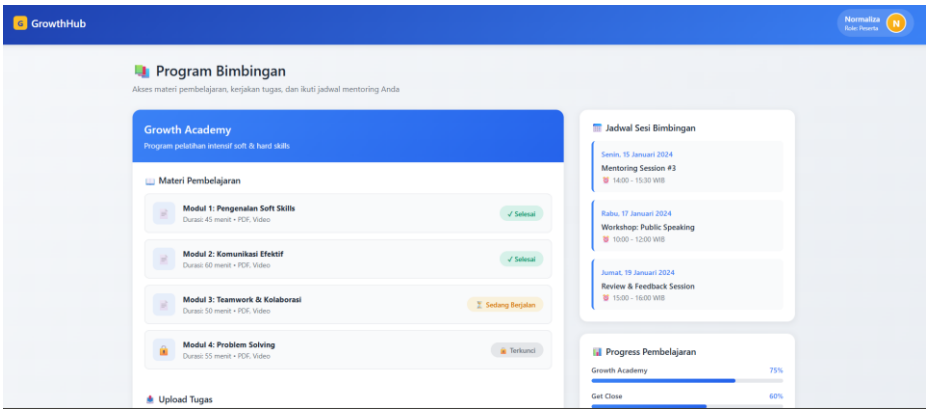


Fig. 7. Interface of the Guidance Program page.

The Evaluation and Monitoring page allows Mentors to give assessments and record participant progress. This page displays the list of guided participants along with their progress. Mentors can enter grades, provide evaluation notes, and review participants' progress history from previous sessions. This feature helps mentors ensure that every participant receives optimal guidance.

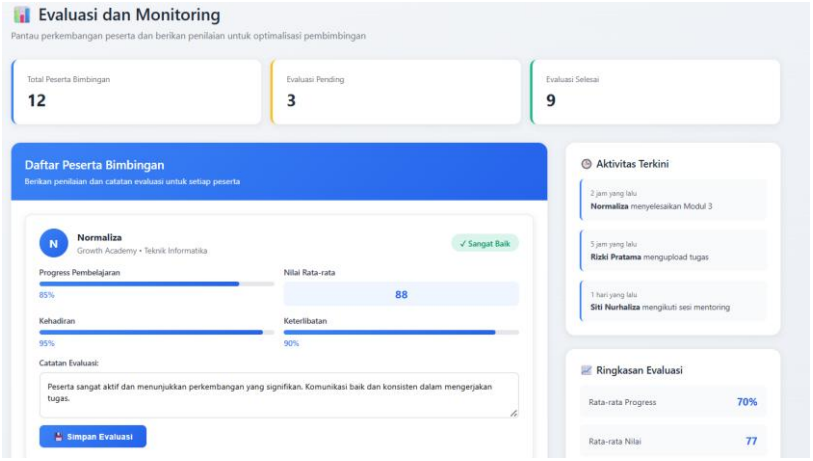


Fig. 8. Interface of the Evaluation and Monitoring page.

The Manage Job Vacancies page displays a list of job vacancies that can be added, updated, or deleted by Admins.

ITDM: Information Technology Development and Management
Volume 2, (2) 2026, pp. 101-110
E-ISSN: XXXX-XXXX
©2025. The Author(s). This is an open access article under cc-by-sa

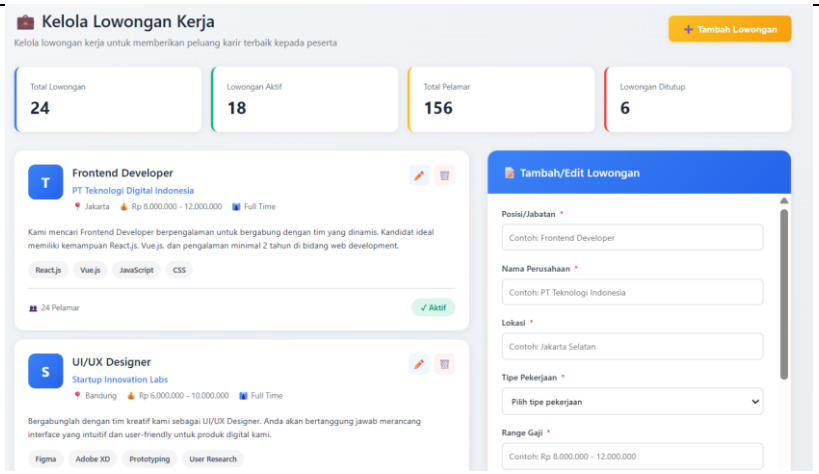


Fig. 9. Interface of the Manage Job Vacancies page.

This page provides a form for entering vacancy information such as position, qualifications, and job description. Admins can manage vacancy content so that participants always receive up-to-date career opportunity information.

IV. Conclusion

This Field Work Course (KKL) research was limited to the system analysis and design stages; therefore, further research and development are recommended to continue with the implementation, integration, and comprehensive testing of the proposed system. The next stage should involve the development of a fully functional application based on the system design specifications, including the implementation of the user interface, business logic, and database architecture. Furthermore, database integration should be conducted to ensure data consistency, accuracy, security, and efficient information management across the system components.

Comprehensive testing should also be performed, covering functional testing, usability evaluation, performance testing, and user acceptance testing (UAT) involving relevant stakeholders and prospective end users. These activities are essential to identify potential technical issues, evaluate system reliability, and ensure that all developed features meet the identified user requirements. In addition, feedback from users should be systematically collected and incorporated into iterative system improvements. Ultimately, completing these subsequent stages is expected to transform the proposed system design into a reliable, effective, and user-oriented application that can be deployed and utilized in actual operational environments.

Declaration

AI Statement

The authors declare that generative AI tools were used solely to assist with language editing and grammatical improvement. All research ideas, analyses, interpretations, and conclusions are the authors' own. The authors take full responsibility for the content of this manuscript.

Author contribution

Normaliza Firdia: Original Draft, Writing,
Yuni Sugiarti: Supervision
Dewi Octafiani: Reviewing

ITDM: Information Technology Development and Management
Volume 2, (2) 2026, pp. 101-110
E-ISSN: XXXX-XXXX
©2025. The Author(s). This is an open access article under cc-by-sa

Funding statement
This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Conflict of interest
The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Additional information

No additional information is available.

REFERENCES

[1] A. Sah, S. D. Saraswati, N. Heriyani, and M. Badaruddin, "Pengembangan sistem pengeloaan bimbingan belajar menggunakan pendekatan rapid application development," J. Comput. Inform. Res., vol. 4, no. 1, pp. 271-283, 2024.

[2] D. Y. Ramadhany, "Implementasi metode rapid application development (RAD) dalam perancangan sistem informasi bimbingan konseling di SMKN 1 Sijunjung," PhD Thesis, Universitas Putra Indonesia "YPTK" Padang, 2022. Accessed: Aug. 15, 2025. [Online]. Available: http://repository.upiyptk.ac.id/id/eprint/12009

[3] E. Sofiati, "Implementasi metode rapid application development (RAD) dalam perancangan sistem informasi bimbingan konseling di SMKN 1 Sijunjung," JIKO J. Inform. Dan Komput., vol. 8, no. 2, pp. 437-448, 2024.

[4] S. Attika, R. M. Putra, and A. Hamdan, "Profil kematangan karier mahasiswa dan implikasinya terhadap layanan bimbingan dan konseling," TANJAK J. Educ. Teach., vol. 5, no. 2, pp. 90-99, 2024.

[5] A. Ismail and K. H. Musliadi, "Analisis kebutuhan dan perancangan sistem informasi administrasi kependudukan untuk meningkatkan efisiensi layanan di Kelurahan Paropo," J. Digit. Ecosyst. Nat. Sustain., vol. 3, no. 2, pp. 58-63, 2023.

[6] A. S. Fitri, D. A. Yasmine, G. Alfiansa, and R. R. Shafira, "Perancangan sistem bimbingan belajar 'Tutorin' berbasis aplikasi mobile," J. Widya, vol. 5, no. 1, pp. 440-467, 2024.

[7] A. Jatmiko, E. D. Florentina, and R. N. Safitri, "Digitalisasi layanan bimbingan karier: Metode design thinking dalam penyusunan learning management system Ruang Karier," Hisbah J. Bimbing. Konseling Dan Dakwah Islam, vol. 20, no. 2, pp. 149-170, 2023.

[8] P. H. Putra and M. S. Novelan, "Perancangan aplikasi sistem informasi bimbingan konseling pada sekolah menengah kejuruan," J. Teknovasi, vol. 7, no. 1, pp. 1-7, 2020.

[9] S. Widiyanti, R. A. Aziz, and D. R. Yustanti, "Analisis perancangan sistem penggajian tentor bimbel menggunakan metode rapid application development," IDEALIS Indones. J. Inf. Syst., vol. 7, no. 1, pp. 108-117, 2024.

[10] D. Dharmawangsa and K. Siahaan, "Analisis dan perancangan sistem informasi layanan bimbingan konseling pada SMPN 17 Kabupaten Tebo," J. Manaj. Sist. Inf., vol. 6, no. 1, Art. no. 1, Mar. 2021, doi: https://doi.org/10.33998/jurnalmanajemensisteminformasi.2021.6.1.1009.

[11] A. Yudahana, I. Riadi, and A. Elvina, "Perancangan sistem informasi pendaftaran peserta didik baru (PPDB) berbasis web menggunakan metode rapid application development (RAD)," Rabit J. Teknol. Dan Sist. Inf. Univrab, vol. 8, no. 1, pp. 47-58, 2023.

©2025. The Author(s). This is an open access article under cc-by-sa

[12] M. Hikmatyar and Y. Sumaryana, "Pengembangan sistem informasi layanan bimbingan akademik mahasiswa," J Inform. Digit Expert, vol. 1, no. 1, 2019, Accessed: May 02, 2025. [Online]. Available: https://scholar.archive.org/work/ve4csy7bf5baxnqzkmwmwuhezq/access/wayback/https://e-journal.unper.ac.id/index.php/informatics/article/download/286/214

[13] J. Parhusip, A. Saputra, C. Handika, and I. P. Parhusip, "Pengembangan aplikasi bimbingan konseling pada SMK Negeri 1 Muara Teweh menggunakan metode rapid application development (RAD)," J. Teknol. Inf. J. Keilmuan Dan Apl. Bid. Tek. Inform., vol. 16, no. 1, pp. 61-72, 2022.

[14] S. Aswati, M. S. Ramadhan, A. U. Firmansyah, and K. Anwar, "Studi analisis model rapid application development dalam pengembangan sistem informasi," MATRIK J. Manaj. Tek. Inform. Dan Rekayasa Komput., vol. 16, no. 2, pp. 20-27, 2017.

[15] A. Lathifah and Y. Sugiarti, "Analisis dan perancangan sistem informasi perpustakaan madrasah berbasis web dengan metode rapid application development," Appl. Inf. Syst. Manag. AISM, vol. 5, no. 1, Art. no. 1, Apr. 2022, doi: https://doi.org/10.15408/aism.v5i1.23984.