

Prototype and Application Implementation of Domestic and Foreign Labor Distribution

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ABSTRACT

In today's globalized world, many people are looking for domestic and international work for various reasons, such as higher salaries and better work experience. This application will assist job seekers in finding suitable job vacancies. With their skills and interests, as well as helping companies find candidates that suit their needs, information on job vacancies in the country and abroad. In the initial phase of developing this application, an application prototype will be created that includes the main features of this application. These features include information on job vacancies in the country and abroad, a job search system based on skills and interests, and a system design method using UML (Unified Modeling Language) design. This modeling is a system implementation of how to put a strategy into an image (visual) in the form of a diagram. This model facilitates the making of an application program or implementation and can be used in the long term, not only at this time but continuously and continuously. Because application programs are used for a long time, it is necessary to have a good and precise analysis of planning, design, and modeling, such as flow for application programs. In this study, using the UML method, submitting online job applications, as well as a notification.

INTRODUCTION

In the current era of globalization, many people seek work abroad for various reasons, such as higher salaries, better work experience, or opportunities to learn a new language and culture. However, many people within the country still need help finding jobs that match their skills and interests. Therefore, an application is needed to help provide information about domestic and international job vacancies to increase community job opportunities (Council, 2004).

After the prototype has been completed, several users will implement and test this application to determine its performance and reliability in daily use. This application is expected to help increase job opportunities for the community domestically and abroad.

LITERATURE REVIEW

In order to help overcome the above problems, an application was designed to help provide information on job vacancies in the country and abroad (Ratnawati, 2016). This application will assist job seekers in finding job vacancies that match their skills and interests, as well as assisting companies in finding candidates that suit their needs (Sunardi Oetama, 2019).

In the initial phase of developing this application, an application prototype will be made that includes the main features of this application (Yi et al., 2015) (Muhmin, 2018). These features include information on job vacancies in the country and abroad, a job search system based on skills and interests, submitting online job applications, and a notification system for users about job vacancies that match their criteria.

METHOD

Modeling Method

The research used in this study is the research and development model (RnD) with the waterfall method. The waterfall model is often called a linear sequential model or a classic life cycle. The waterfall model provides a sequential software life-flow approach from the analysis, design, coding, testing, and support stages. Here is a picture of the waterfall model:



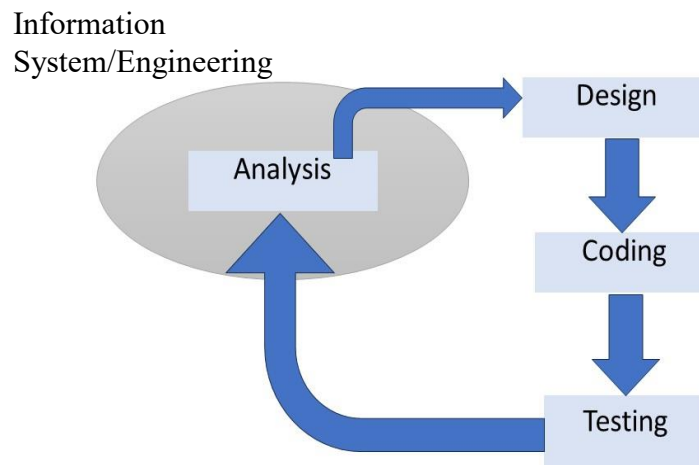


Figure 1. Waterfall Model illustration

Waterfall Model illustration:

- The initial stage is planning, which involves studies on user requirements, technical and technological feasibility studies, and scheduling an information system or software project.
- The second stage is the system analysis to be created, where we try to identify various problems that arise and design the system to be created.
- The third stage is the design which tries to find solutions to the problems obtained from the analysis stage.
- The fourth stage is implementing system planning into real situations or coding.
- The fifth stage is testing, which aims to determine whether the system or software created follows user requirements and to eliminate or minimize program defects so that the developed system will help users when they carry out their activities.
- The sixth or final stage is the maintenance of the system used, where the process of operating the system begins and, if necessary, makes minor improvements to make it easier for users.

System design is an activity of developing procedures and processes running to produce something new or improve an existing system to increase work effectiveness. The design of the proposed system model from this application will be outlined in the form of the Unified Modeling Language (UML).

Unified Modeling Language (UML), according to (Fowler, 2005), is a graphical notation family supported by a single meta-model, which helps the description and design of software systems, especially systems built using object-oriented programming. UML emerged because of the need for visual modeling to specify, describe, build, and document software systems. The following is a use case diagram for this research.

Software Requirements Analysis

Gathering requirements is carried out intensively to specify software requirements so the user can understand what is needed. Software requirements specifications at this stage need to be documented.

Design

Software design is a multi-step process that focuses on the design of software programs, including data structures, software architectures, interface representations, and coding procedures. This stage translates software requirements from the needs analysis stage to a design representation so that it can be implemented into a program at a later stage. The software design produced at this stage also needs to be documented.

Generating Program Code

The design must be translated into a software program. This stage result is a computer program according to the design made at the design stage.

Testing

Testing focuses on the software from a logical and functional perspective and ensures that all parts have been tested. It is done to minimize errors and ensure the resulting output is as desired.

Support or Maintenance

It is possible for a software trap to change when it is sent to the user. Changes can occur because of errors that appear and are not detected in the new environment. The support or maintenance phase can repeat the development process, starting from specification analysis for existing software changes but not for new software changes.

System Design Method

The system Design Method Model uses UML (Unified Modeling Language) Design. This modeling is a system implementation of putting a design into an image (visual) as a diagram to facilitate making an application program or implementation. It can be used in the long term, not only at this time but continuously and continuously. Because application programs are used for a long time, it is necessary to have a good and clear planning, design and modeling analysis, such as flow for application programs; in this study using the UML method while the design is as follows.

Use Case Diagram

It describes the Interaction between Actors and the System. The first step of the system describes the actors in the system itself, which is illustrated in the following design.

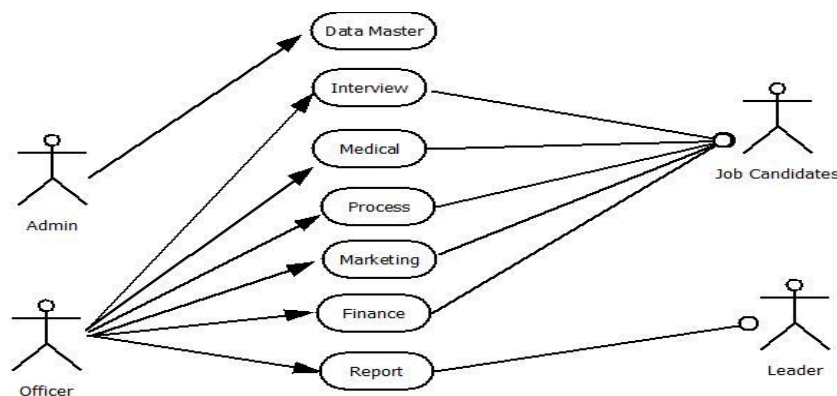


Figure 2. Use Case Diagram

Activity Diagram

It is a Process Model that occurs in the system, just like a sequence of system processes run in a system. The process description is as follows.

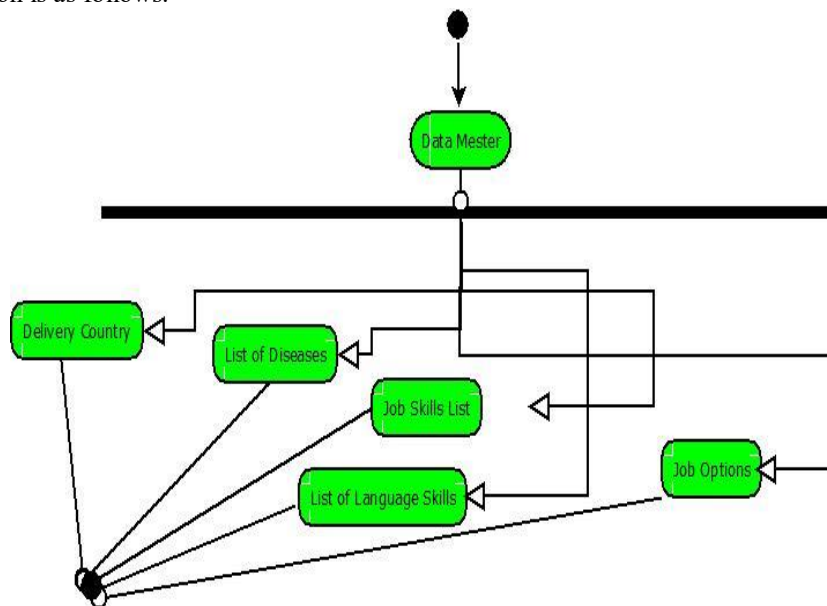


Figure 3. Activity Diagram Admin

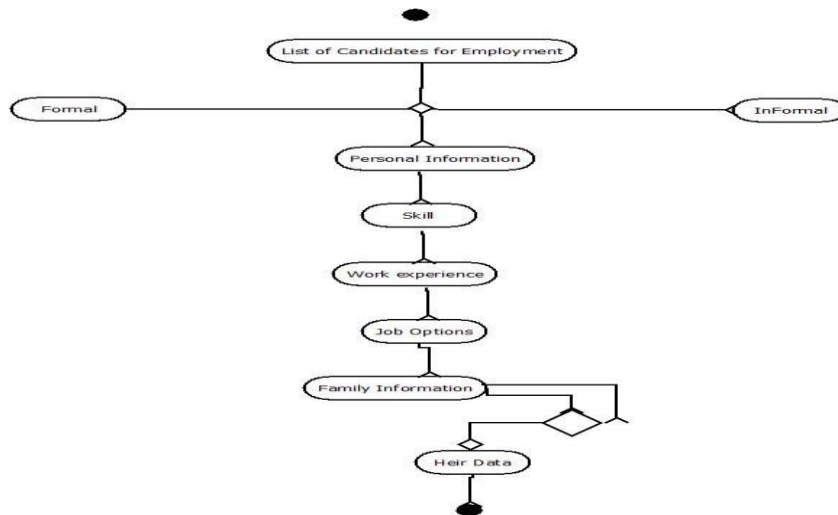


Figure 4. Activity Diagram Interview

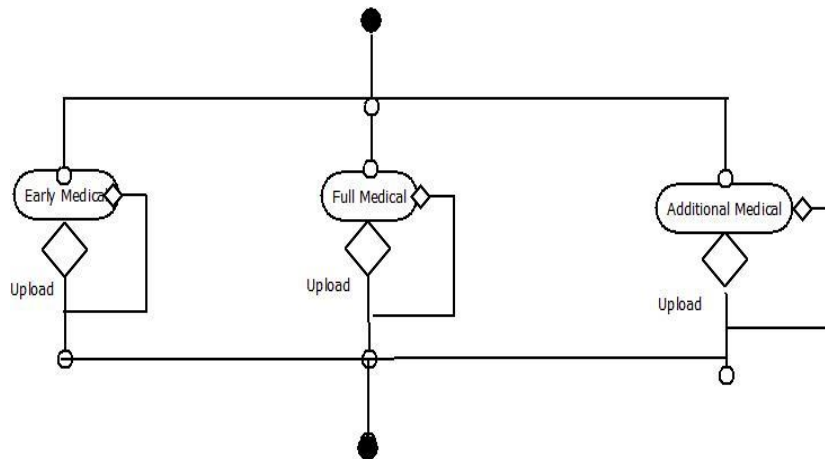


Figure 5. Activity Diagram Medical

Sequence Diagram

This diagram explains object interactions based on time sequence and stages in the application, as illustrated below.

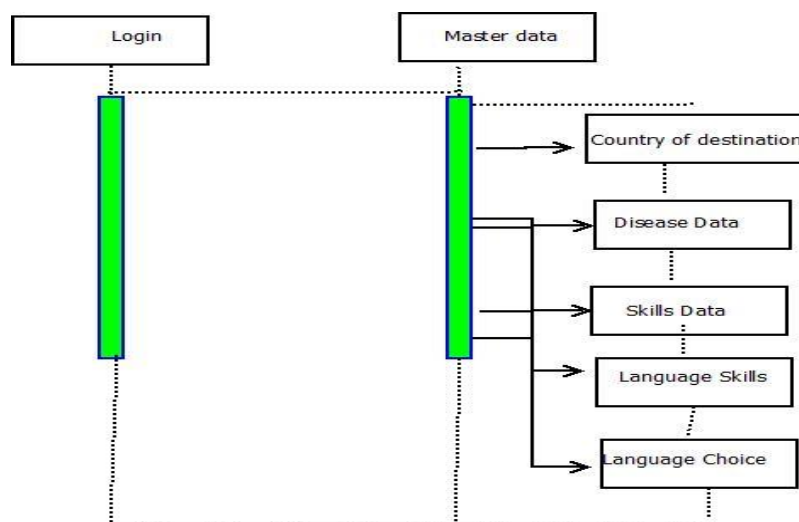


Figure 6. Sequence Diagram Admin

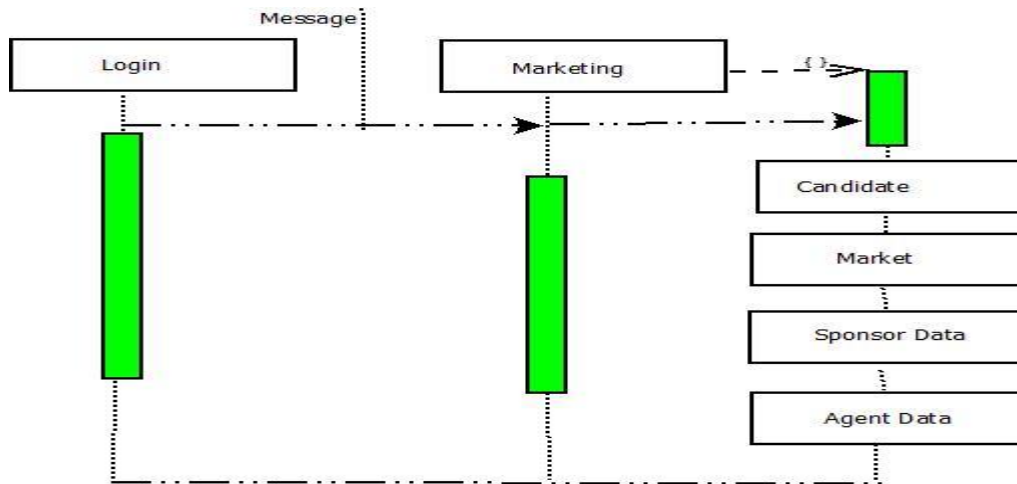


Figure 7. Sequence Diagram Marketing

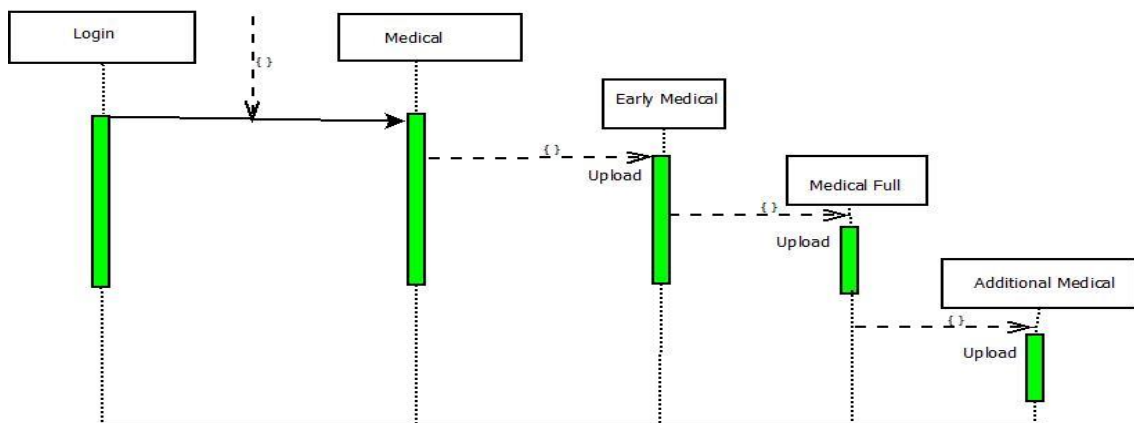


Figure 8. Sequence Diagram Medic

RESULTS AND DISCUSSION

The discussion results carried out after the completion of the application implementation can be seen as follows.
Login

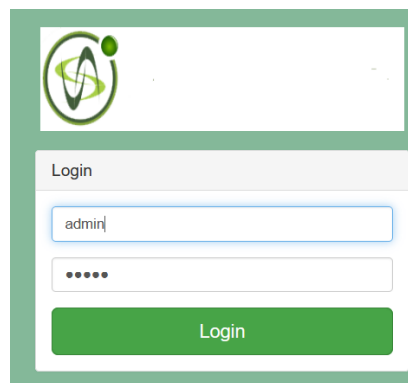


Figure 9. Login Menu

Figure 9 is the display the login menu to enter the workforce system application system by the appointed system admin.

Master Data

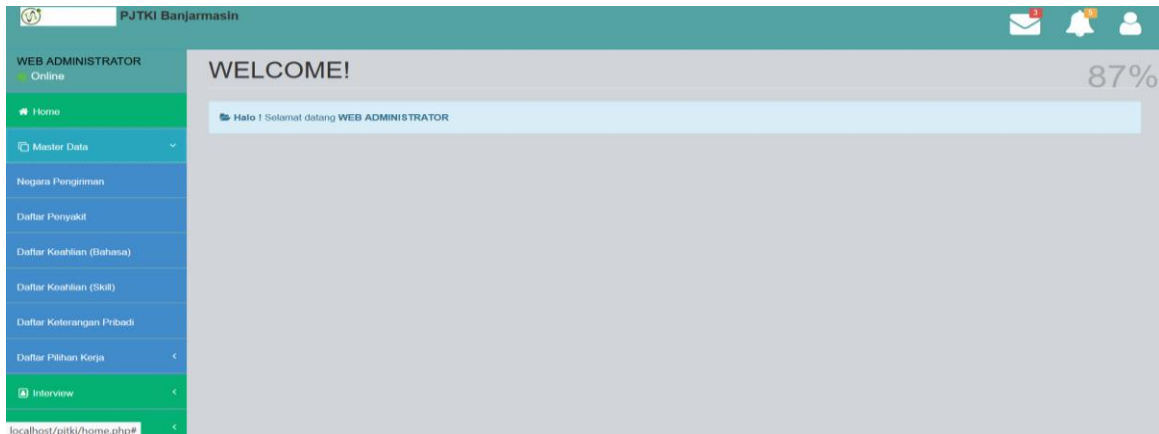


Figure 10. Master Menu
Figure 10 is the main menu display of the system for accessing workforce data

Indonesian Labor Service Company Biodata

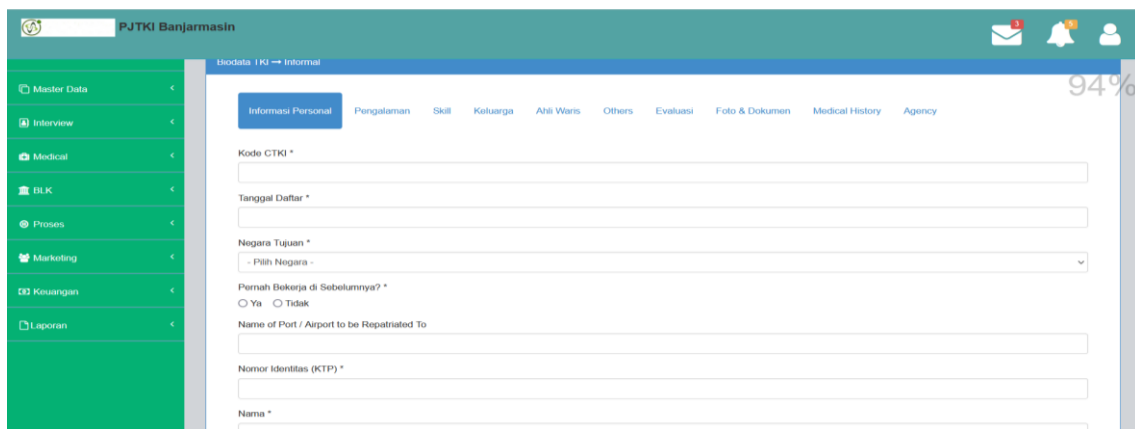


Figure 11. Indonesian Labor Service Company Biodata

Process

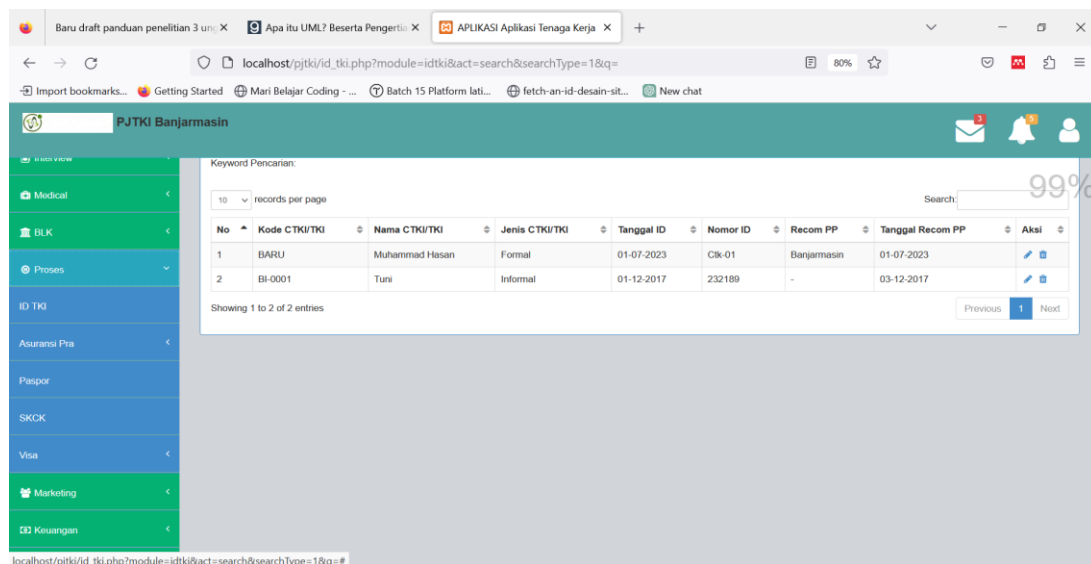


Figure 12. Process Menu

Marketing

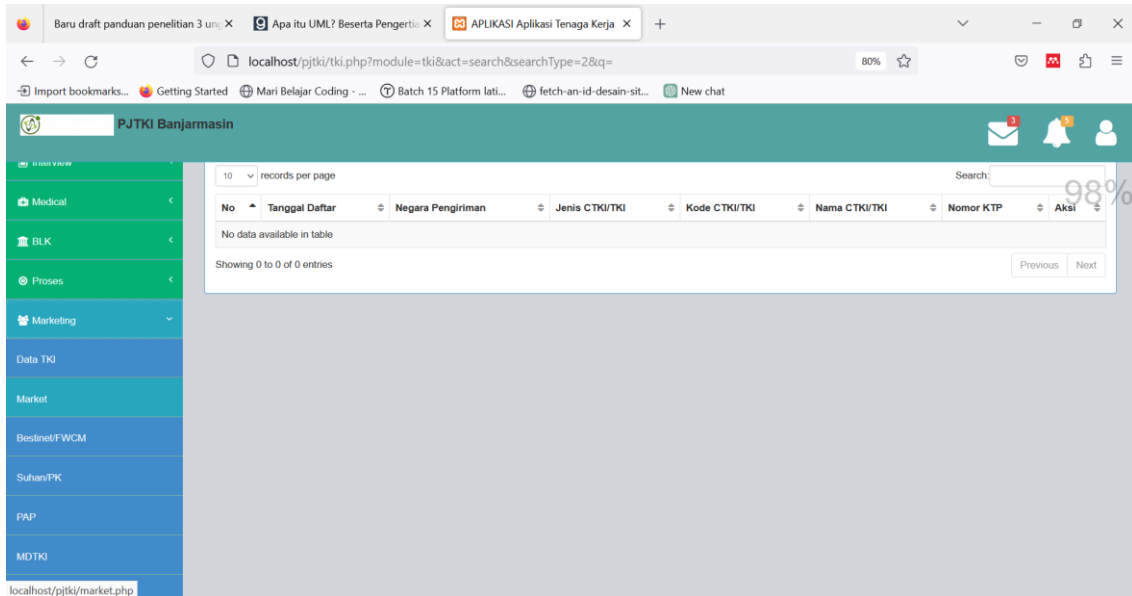


Figure 13. Marketing Menu

CONCLUSION

The conclusion is that good data management can produce accurate and precise information for the data report process, and completeness of information requires good and correct direction. To have the right data, a reasonable and appropriate application is needed.

REFERENCES

- Adane, F., Alamneh, Y. M., & Desta, M. (2022). Computer vision syndrome and predictors among computer users in Ethiopia: a systematic review and meta-analysis. *Tropical Medicine and Health*, 50(1). <https://doi.org/10.1186/S41182-022-00418-3>
- Bao, Y., Lin, P., Li, Y., Qi, Y., Wang, Z., Du, W., & Fan, Q. (2021). Parallel structure from motion for sparse point cloud generation in large-scale scenes. *Sensors*, 21(11). <https://doi.org/10.3390/S21113939>
- Bashir, S. M. A., Wang, Y., Khan, M., & Niu, Y. (2021). A comprehensive review of deep learningbased single image super-resolution. *PeerJ Computer Science*, 7, 1–56. <https://doi.org/10.7717/PEERJ-CS.621>
- Council, N. R. (2004). *Monitoring International Labor Standards: International Perspectives: Summary of Regional Forums*.
- Feri Efendi, T. (2017). PENGEMBANGAN WEBSITE SMK NEGERI 3 SUKOHARJO. In *Seminar Nasional Sistem Informatika*.
- Irawan, Y. (2015). ANALISA DAN PERANCANGAN OTOMATISASI SURAT PENGANTAR RT BERBASIS SMS GATEWAY SEBAGAI PENERAPAN KONSEP PAPERLESS OFFICE. *Simetris : Jurnal Teknik Mesin, Elektro Dan Ilmu Komputer*, 6(1), 175. <https://doi.org/10.24176/simet.v6i1.253>
- Kamila, V. Z., & Subastian, E. (2020). ANALISIS DAN PERANCANGAN SISTEM EVALUASI PELATIHAN TENAGA KEPENDIDIKAN. *Sebatik*, 24(2). <https://doi.org/10.46984/sebatik.v24i2.1125>
- Maraghi, V. O., & Faez, K. (2021). Scaling Human-Object Interaction Recognition in the Video through Zero-Shot Learning. *Computational Intelligence and Neuroscience*, 2021. <https://doi.org/10.1155/2021/9922697>
- Muhmin, A. H. (2018). Pentingnya Pengembangan Soft Skills Mahasiswa di Perguruan Tinggi Forum Ilmiah. In *esaunggul.ac.id* (Vol. 15).
- Prihantara, A., & Aziz, A. (2018). Sistem Informasi Pengurusan Surat Pengantar Berbasis Framework Codeigniter Guna Meningkatkan Kualitas Pelayanan kepada Masyarakat. *Jurnal Informatika: Jurnal Pengembangan IT*, 3(3), 346–353. <https://doi.org/10.30591/jpit.v3i3.1015>
- Ratnawati, D. (2016). HUBUNGAN PRESTASI BELAJAR, PERSEPSI DUNIA KERJA, DAN JIWA KEWIRAUSAHAAN DENGAN KESIAPAN KERJA MAHASISWA PTM RELATIONSHIP ACHIEVEMENT, THE PERCEPTION OF THE WORLD OF WORK, AND SOUL OF WORK READINESS ENTREPRENEURSHIP WITH MECHANICAL ENGINEERING EDUCATION STUDENTS. *Dianna Ratnawati 12 | VANOS Journal Of Mechanical Engineering Education*, 1(1).

-
- Sholeh, muhammad, Aji, W. L., Riady, Y., & Qasthari, B. L. (2022). Pengelolaan Pemesanan Menu Makanan Menggunakan Framework Flask Python. *JATISI (Jurnal Teknik Informatika Dan Sistem Informasi)*, 9(2), 916–929. <https://doi.org/10.35957/JATISI.V9I2.1459>
- Sunardi Oetama, R. (2019). Prediksi Prospek Harga Saham Perusahaan Perbankan Menggunakan Regresi Linear (Studi Kasus Bank BCA Tahun 2015-2017). *JSI: Jurnal Sistem Informasi (E-Journal)*, 11(1).
- Tesfaye, A. H., Alemayehu, M., Abere, G., & Mekonnen, T. H. (2022). Prevalence and Associated Factors of Computer Vision Syndrome Among Academic Staff in the University of Gondar, Northwest Ethiopia: An Institution-Based Cross-Sectional Study. *Environmental Health Insights*, 16. <https://doi.org/10.1177/11786302221111865>
- Yi, S., Hao, Z., Qin, Z., hot, Q. L.-2015 T. I. workshop on, & 2015, undefined. (2015). Fog computing: Platform and applications. *Ieeexplore.Ieee.Org*. <https://doi.org/10.1109/HotWeb.2015.22>