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## DESCRIPTIVE OF QUANTITATIVE DATA | RESEARCH ARTICLE

## Design of an Inclusive Digital Platform for Training and Distribution of Human Resources in Improving Accessibility and Opportunities for Persons with Disabilities

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**Abstract:** This study addresses the challenges faced by individuals with disabilities in accessing employment opportunities in Indonesia, focusing on the creation of a digital platform that enhances their employability. The research was conducted at Sentra Budi Perkasa in Palembang City, a center that already utilizes an online training registration system but struggles with effective distribution of resources to its trainees. The primary objective was to develop a web-based platform that facilitates registration and improves access to job vacancies for persons with disabilities capable of using electronic devices. Through a combination of observations, interviews, and literature reviews, this study explored the needs and barriers encountered by this demographic, particularly those affected by conditions such as amputation, stroke, and congenital disorders. The Rapid Application Development (RAD) methodology was employed, ensuring a swift development process and involving users actively to reduce errors and enhance system relevance. The resulting platform not only simplifies the process of finding training and job opportunities for persons with disabilities but also serves as a model for similar initiatives aiming to integrate disabled individuals into the workforce more effectively. This study contributes to the field by providing a practical solution to a significant societal issue and outlining a framework for future enhancements in digital accessibility for disabled populations.

**Keywords:** Disabled Persons, Job Vacancies, Website Training.

### 1. INTRODUCTION

Etymologically, quadriplegia refers to difficulty in optimizing the function of a body part due to injury, disease, improper growth, or incorrect care, resulting in decreased ability to perform certain body movements. Disability can be defined as a disorder or disability of the muscles, bones, joints, and nervous system caused before, during, or after birth due to disease, virus, or accident. These disorders cause problems with communication, coordination, adaptation, mobility and personal development (Pratiwi & Hartosujono, 2017). A person with a disability (quadriplegia) is someone who has obstacles in the movement of his body, including the structure or function of bones, muscles, and joints, which can interfere with or hinder and prevent the person from carrying out normal activities (Hikmawati & Rusmiyati, 2011). A person with a disability is any individual who has a long-term impairment or limitation in activity and participation such as physical, cognitive, mental, emotional, or sensory. As a result, they may face barriers and difficulties in participating fully and effectively in a society of equal rights. A person with a disability can also be defined as someone who has a physical or mental disorder that interferes with and hinders the performance of normal activities (Setiadi, 2019). Every citizen of the Republic of Indonesia, including those with disabilities, is entitled to the opportunity to obtain decent work (Mustika et al., 2022). Persons with disabilities are given equal employment opportunities and non-discriminatory treatment by Law Number 13 of 2003 concerning Manpower. Persons with disabilities have equal rights to work in the public, private and state-owned sectors, in accordance with Law No. 8/2016 on Persons with Disabilities. However, state-

owned enterprises must employ people with disabilities at least 2% of their total workforce, while private businesses must employ people with disabilities at least 1% of their workforce. Convenient facilities for employees with disabilities must be provided by workplace accommodations. The rules can serve as a guide for state-owned businesses, the private sector, and the government. Government agencies when creating rules that give first priority to fair labor practices within each agency. Which focuses on workers with disabilities

Thanks to disability-embracing policies in the workplace, people with disabilities can regain their social functions and become independent. However, many industries in Indonesia have yet to put this principle into practice. Because they do not know how to map the knowledge and skills acquired by people with disabilities, many industries hesitate to hire workers with disabilities. In addition, industries often see the provision of facilities that assist disabled performance as inefficient (Fatika et al., 2020). Of the eight companies, only one employs individuals with disabilities due to strategic considerations, such as the understanding that these individuals should have equal access to employment to avoid exclusion, and the other seven companies employ people with disabilities due to pragmatic and "unintentional" factors such as labor shortages and "trial and error." (Susilowati, 2014).

Government efforts to improve accessibility and the perception of equal rights in the workplace for people with disabilities do not guarantee the full integration of these individuals into the workforce. Data from the National Labor Force Survey (Sakernas) in August 2017 showed that there were 21.9 million people with disabilities of working age in the country, of which only 10.8 million were employed (Fatika et al., 2020). Based on this background, this research aims to build a digital training platform and web-based job vacancies as a form of service innovation for people with disabilities at Sentra Budi Perkasa Palembang City and provide convenience for people with disabilities in accessing online registration features and can help provide information about training and job vacancies for people with disabilities.

The problem formulation of this research focuses on how to ensure the website is accessible to users with disabilities, excluding those with visual, hearing, and mental impairments. The objective of the research is to facilitate access to the registration feature for people with disabilities who register online and to provide ease in finding training and job opportunities. The scope and limitations of this study include designing an inclusive digital platform for human resources training and distribution, aimed at improving accessibility and opportunities for persons with disabilities through a website-based platform as a form of advocacy for people with disabilities. Additionally, it aims to simplify the search for training and job opportunities for individuals with disabilities. The benefits of this research are threefold: it provides easy access for people with disabilities to find training and job opportunities, offers convenience for individuals with disabilities who use the online registration feature, and serves as a reference for future research related to the development of digital platforms for training and job opportunities that can be further improved.

## 2. LITERATURE REVIEW

The definition of a platform is a digital container that is widely used by humans for various purposes. In simple terms, the definition of a platform is a container used to run a system in accordance with the program plan that has been made. For example, for online learning activities, the platform used is based on digitalization (Eka Yuda Wibawa, 2021).

The phrase "persons with disabilities" refers to any individual who has a limitation or impairment in long-term participation in physical, cognitive, mental, emotional, or sensory activities. Their ability to actively and fully participate in society with equal rights may be hampered by many issues. Any physical or mental condition that interferes with an individual's capacity to perform daily tasks can be classified as a disability (Setiadi, 2019). Disability is a condition known as a developmental disorder that limits a person's ability to perform daily tasks due to abnormalities or damage to their bones and

muscles, which lowers their regular capacity to engage in educational activities.(Somantri in Bilqis, 2014).

According to Law No. 8 of 2016 on people with disabilities, accessibility is the simplicity with which a person can realize equal possibilities in all areas of life. To enable people with disabilities to experience equality and opportunity in all aspects of life and work, accessibility refers to the ease with which they can travel through and utilize environments and buildings while also considering the practicality and smoothness of their interactions (Hadi, 2019). Inclusion is an approach that aims to transform the education system by removing barriers that prevent every student from fully participating in education (Alfikri et al., 2022). Laravel is an MVP-based web development written in PHP designed to improve software quality by reducing initial development costs and maintenance costs, and to improve the experience of working with applications by providing expressive, clear and time-saving syntax.(Hermanto et al., 2019)

PHP, also known as Hypertext Preprocessor, is an interpreter programming language that converts lines of source code into machine code that the computer can understand at the time the code is performed. (Hidayat, 2020). A database is an organized collection of data stored on a computer so that it can be analyzed and information can be retrieved from it using a computer program. A database management system (DBMS) is a program used to organize and run database queries (Andaru, 2020). MySQL is software that is part of the SQL database management system, also known as a multi-threaded, multi-user DBMS. With more than 6 million installations globally (Dhika et al., 2019)

The authors used the Rapid Application Development (RAD) approach for software development. RAD is a linear sequential procedure that prioritizes the development cycle in a short timeframe.(Sari et al., 2022) The Rapid Application Development (RAD) methodology was chosen for its several benefits, including shortened development cycles, improved adaptability, increased user involvement, and decreased likelihood of errors.(Nurman Hidayat & Kusuma Hati, 2021) This method consists of four stages which include Planning, design, coding, and testing. In modeling the system and architecture in this study using the Unified Modeling Language (UML) method. Object-oriented software systems that can be modeled, designed, developed, and documented using the Unified Modeling Language (UML), a visual language (Syafitri, 2016). There are several types of UML that can be used to provide a visual model description in system development, including Use Case Diagrams, Activity Diagrams, and Class Diagrams. Use Case diagrams are graphical representations of system requirements from the user's perspective, highlighting the relationships between system actors and use cases. (Mahdiana, 2011). Activity Diagram is one of the tools to simulate the occurrence of use cases (Mahdiana, 2011). A Class Diagram is a specification that creates an object when used, and is the core of object-oriented development and design. Classes describe the state of a system (attributes/properties) and at the same time provide services (methods/functions) to manipulate this state. Class Diagrams describe the structure and description of classes, packages, and objects and their relationships with each other, such as inclusion, inheritance, and association (Mahdiana, 2011).

### 3. RESEARCH DESIGN AND METHOD

The research object of this research is people with disabilities, especially for people with disabilities who can still use electronic devices such as laptops and smartphones, people with disabilities caused by amputation, stroke, leprosy caused by accidents or can also be caused by congenital disorders, and small people / cretin (Daksa Disability). The data collection method in this research will carry out the stages of observation or observation, interviews, and literature studies. Observation carried out by the author includes direct observation of the work system process at the agency, where the author in detail observes various operational aspects, problems, and obstacles faced by the agency. Through this observation, the author aims to identify and carefully analyze various elements that affect the efficiency and effectiveness of the existing system. The information obtained from this observation is then used

to develop a more appropriate design that suits the specific needs of the agency, with the hope of overcoming existing problems and improving overall system performance. The interview conducted with one of the administrators at the agency, Mr. Mursalin, aimed to collect data and gain a deeper understanding of the needs required in creating a training and job vacancy platform. The interview process was designed to gather comprehensive information about the various aspects that should be considered in designing the platform, including the specific needs of the users and the challenges that may be faced in its implementation. The guiding questions in the interview were as follows:

**Table 1. Interview Question Guidelines**

No.	Interview questions	Topic Question	Informant
1	How is the training registration system at Sentra Budi Perkasa Palembang City?	Registration System	Management staff of Sentra Budi Perkasa Palembang City
2	How is the HR Distribution system at Budi Perkasa Center Palembang City after the trainees have undergone training?	HR Delivery System	Management staff of Sentra Budi Perkasa Palembang City

The author will carefully collect and study various books, academic journals, and articles accessed from the internet and other credible sources, to obtain in-depth and comprehensive references related to the research topic being studied.

The software development method used by the author is using the RAD (Rapid Application Development) method Rapid Application Development (RAD) RAD is a linear sequential procedure that prioritizes the development cycle in a short period of time (Sari et al., 2022) The Rapid Application Development (RAD) approach was chosen because it provides many benefits, including shorter development cycles, increased flexibility, increased user involvement, and reduced risk of errors. (Nurman Hidayat & Kusuma Hati, 2021) This method consists of four stages which include planning, design, coding, and testing. Planning is the first stage in system development where at this stage the author carries out four planning activities. Based on the results of the observation process, interviews, and literature studies conducted, researchers found that Sentra Budi Perkasa in Palembang city already has an online training registration system, but it is still based on Google Form. In addition, the distribution of human resources in training is only given capital funds and equipment according to the training they take. This is an important problem for people with disabilities who want to find job vacancies. The target users of this website are people with disabilities who can still use electronic devices such as laptops and smartphones, people with disabilities caused by amputations, strokes, leprosy caused by accidents or can also be caused by congenital disorders, and small people / cretin (Disability Daksa).

The following is an analysis of system requirements based on the problem identification process and targets users to build an inclusive digital platform for training and distribution of human resources to increase accessibility and opportunities for people with disabilities.

- a. Admin as an admin who can access, manage, and update data
- b. People with disabilities as users who can register for training and search for job vacancies.

The following are the resources requirements in designing a digital inclusion platform for HR training and retraining to improve accessibility and opportunities for people with disabilities:

**Table 2. Resource Requirements**

Operating System	Windows 10 64 bit
Tools & Software	XAMPP 3.3.0 Laravel Framework Composer 2.7.7 Vscode
Human Resources	Risky Sanjaya

At the design stage or design using two types of Unified Modeling Language (UML), namely Use Case Diagrams and Activity Diagrams. The following is a display of the Use Case Diagram in designing an inclusive digital platform for training and channeling human resources in increasing accessibility and opportunities for people with disabilities based on the website.

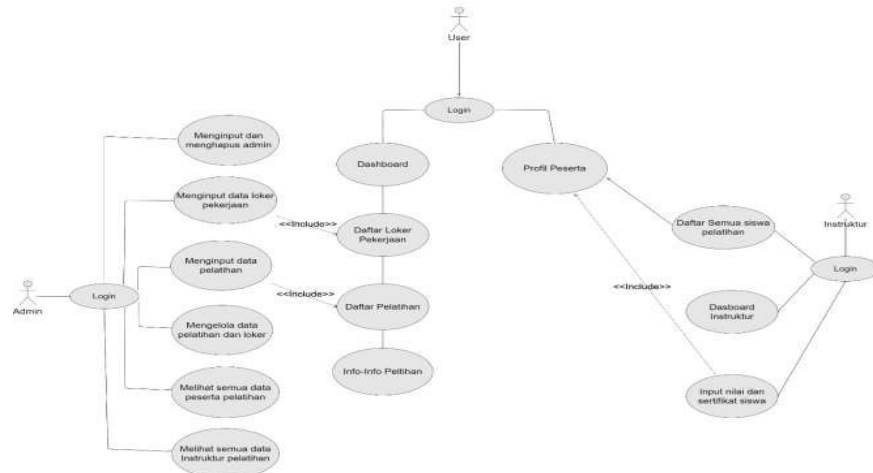


Figure 1. Use Case Diagram

The following is a display of Activity Diagrams in the design of an inclusive digital platform for HR training and counseling in increasing accessibility and opportunities for people with disabilities based on the website.

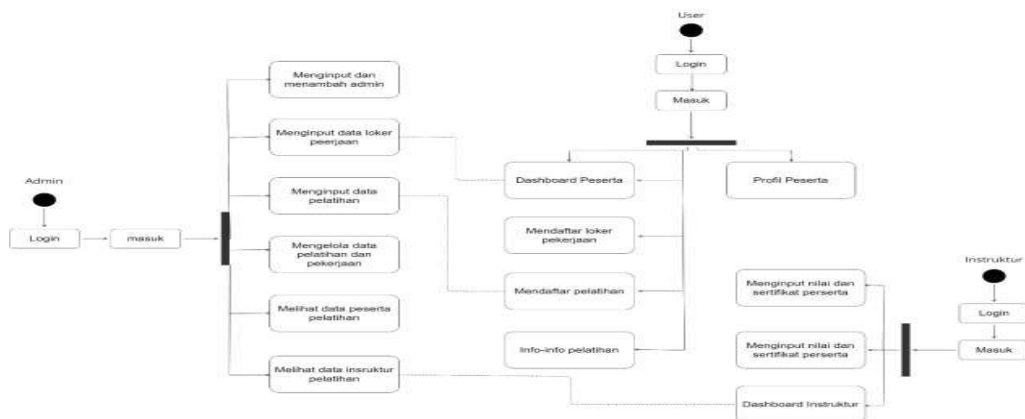
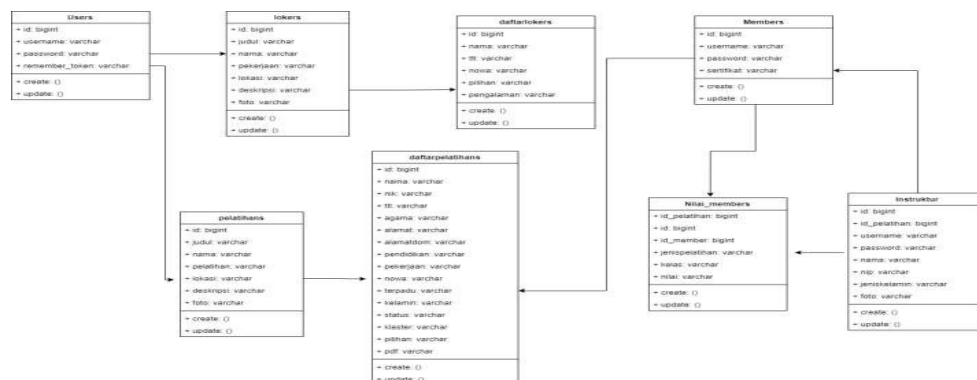


Figure 2. Activity Diagram

The following is a view of the Class Diagram in designing an inclusive digital platform for training and channeling human resources in increasing accessibility and opportunities for people with disabilities based on the website.



### Figure 3. Class Diagram

The following is a display of the results of the design process that has been made to build a website-based digital inclusion platform for HR training and counseling in increasing accessibility and opportunities for people with disabilities. This display is a display of the design for the admin log in page, where later the admin enters the username and password to enter the admin dashboard page.



Figure 4. Design of Manage Admin Page

This display is a view of the design for the admin management page where later the admin can add and delete other admins.

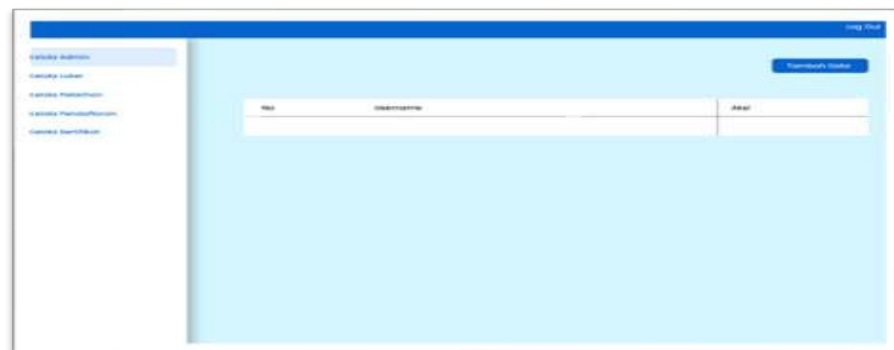
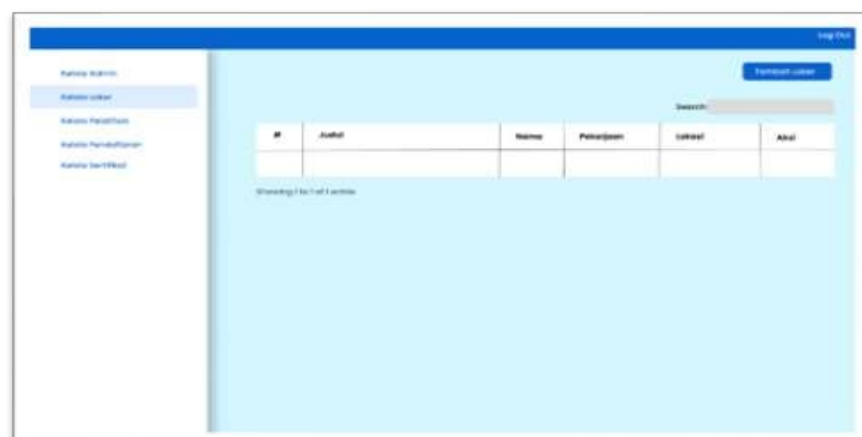


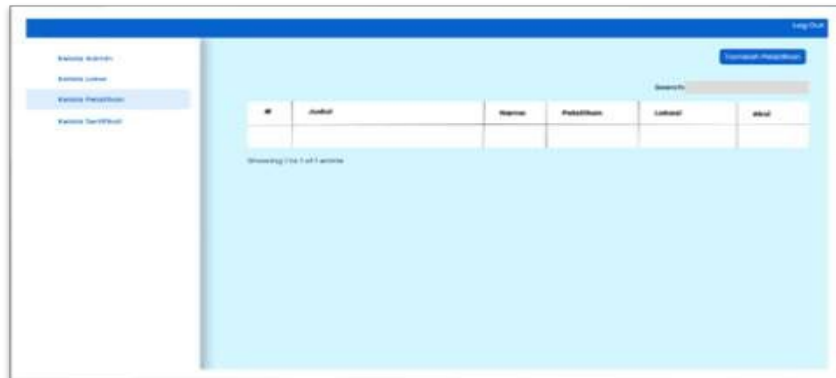
Figure 5. Design of Manage Admin Page

This display is a view of the design for the locker management page where the admin will be able to add, change and delete locker data.



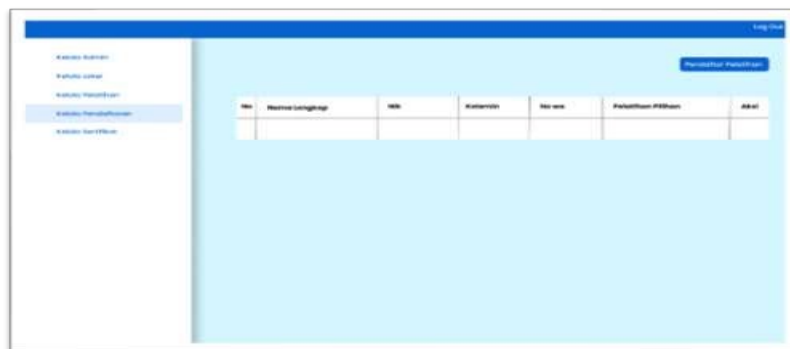
**Figure 6. Design of Locker Management Page**

This display is a view of the training management page design where the admin will be able to add, change and delete training data.



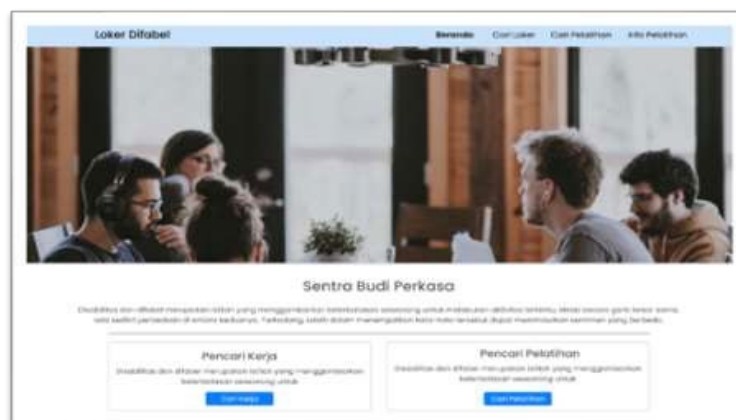
**Figure 7. Design of the Manage Training Page**

This display is a view of the design for the manage registration page where the admin can see data on who has registered for training and registered for work.



**Figure 8. Design of Manage Registration Page**

This display is a view of the user dashboard page design where this display is the initial display when the user opens the website.



**Figure 9. User Dashboard Page Design**

This display is a display of the design of the locker search page where users will later search for job vacancies that will be in the budi perkasa center.

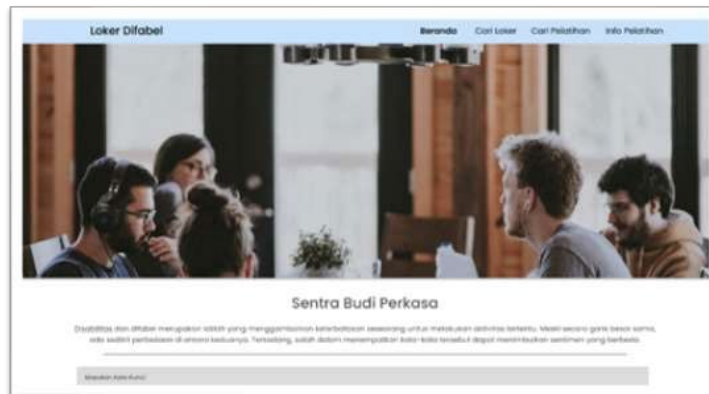


Figure 10. Design of Locker Search Page

This display is a view of the search for training page design where users will later search for the training they are looking for.



Figure 11. Design of the Search Training Page

This display is a view of the training info page design where users can see training info in Sentra Budi Perkasa Palembang City.

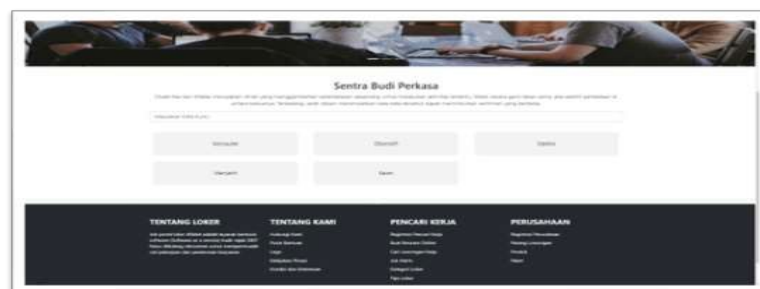


Figure 12. Training Info Page Design

This display is a display of the design of the user profile page which contains the participant's Personal Biodata, training schedule, participant scores and trainer instructors who will teach.

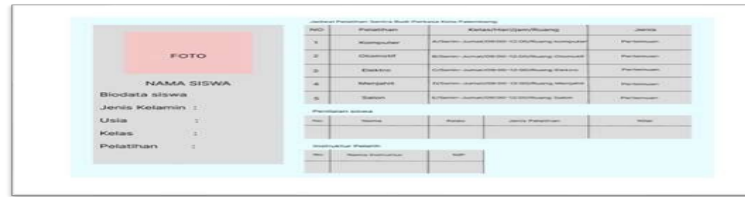


Figure 13. User Profile Page Design

This display is a view of the design of the instructor profile page which contains the instructor's Personal Biodata, training schedule, participants who take part in the training.

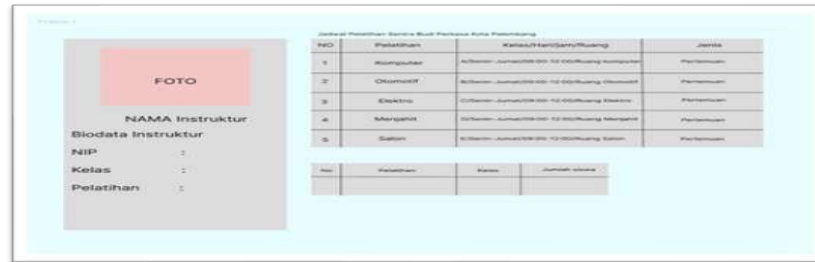


Figure 14. Instructor Profile Design Page

#### 4. RESULT AND DISCUSSION

##### 1. Website Display

The following is a display of the results of the coding process that has been made to build the design of an inclusive digital platform for HR training and counseling in increasing accessibility and opportunities for people with disabilities based on the website.

##### 2. Log in view

Log In is the initial display where admins, participants and instructors can write Username and Password then click the login menu then will be directed to their respective dashboards.

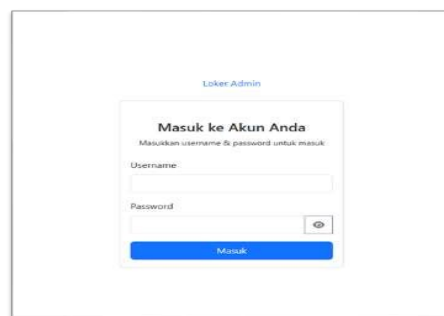


Figure 15. Log In Display

##### 3. Manage Admin View

The Manage Admin page is a view where admins can add or delete other admins. To add a new admin, the admin only needs to press the "Add Admin" feature, then enter username and password as desired. In addition, admins also have the option to delete other admins by using the "Delete" feature.

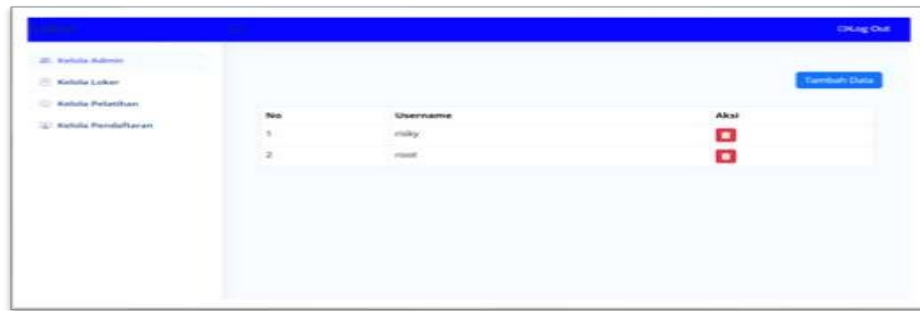


Figure 16. Display Manage Admin

4. *View Manage Lockers*

In the Manage Lockers View, admins have the ability to add, edit, or delete job lockers. To add a locker, admins can click on the "Add Locker" feature and enter the necessary requirements, such as locker name, company name, job position, location, description, and upload a photo. In addition, admins can also edit or delete existing lockers by clicking "Edit" or "Delete."



Figure 17. Display of Manage Lockers

5. *Manage Training View*

In the Manage Training view, admins have the ability to add, edit, or delete trainings. To add a training, admins can click on the "Add training" feature and enter the necessary requirements, such as training title, company name, training name, location, description, and upload a photo. In addition, admins can also edit or delete existing lockers by clicking "Edit" or "Delete."



Figure 18. Display of Manage Training

6. *View Manage Registration*

In the Manage Enrollment View, admins can view a list of individuals who have registered for training or job lockers. Admins also have the ability to view registration details as well as delete training and job locker registration entries as needed.



Figure 19. View of Manage Registration

7. *Trainee View*

In the training participant view, the admin has the ability to view a list of participants who have registered according to the selected training interest. In addition, the admin can also view the complete biodata of each participant to get more detailed information about their profile.



Figure 20. Training Participant Display

8. *Instructor Data Display*

In the instructor data view, the admin can easily view and access complete information about the training instructor.



Figure 21. Instructor data display

9. *User Home View*

In the dashboard view, users are presented with a simple but easy-to-understand main menu. It contains menus for searching jobs and training. When users press "Search for Lockers" or "Search for Training", they will be directed to the appropriate page for the job or training vacancy.

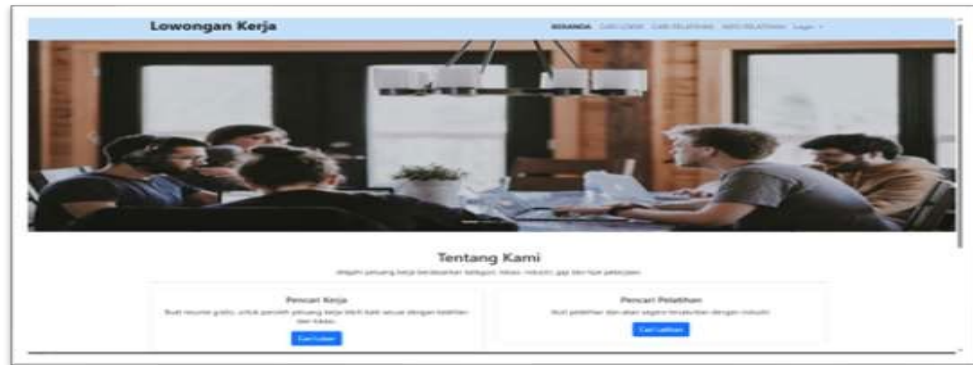


Figure 22. User Home View

### 10. Training Search View

The training search view is a view where users can search for training in Sentra Budi Perkasa, users can search and register for the training they are interested in, when the user has determined the training they are interested in, the user can register for training by clicking register, then the user will be directed to the registration form filling menu.

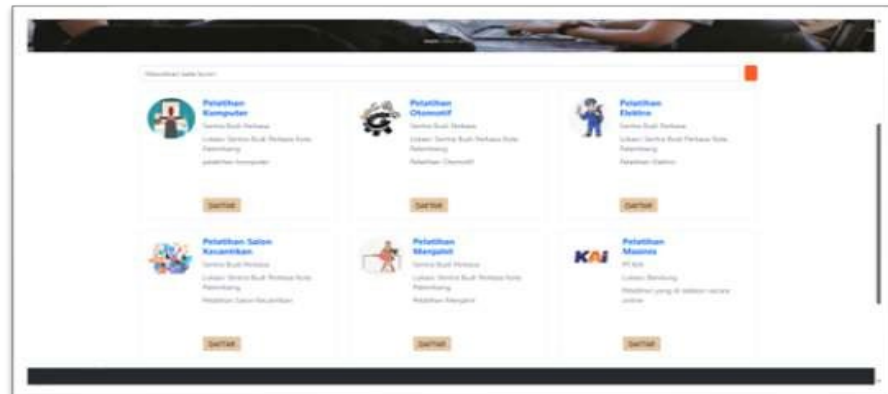


Figure 23. Display of Search Training

### 11. Locker Search View

The "Cari Loker" view is a view where users search for job vacancies in collaboration with Sentra Budi Perkasa. Users can search and register for available vacancies. After selecting the job they wish to apply for, users can register by clicking the "Register" button. Next, the user will be directed to the registration form page to complete the required details.



Figure 24. Display of Search Lockers

### 12. Training Info Display

The training info view is a view where users can search for training info at Sentra Budi Perkasa.



Figure 25. Training Info Display

### 13. User Profile Display

The User Profile view allows users to view personal biodata details, including the training schedule that has been followed along with the instructor's name. In addition, students can also access information regarding the grades obtained and certificates that will be received after completing the training.



Figure 26. User Profile Display

### 14. Instructor Profile View

The Instructor Profile view allows the instructor to view personal details, including the training schedule and the names of the training students who attended the training. In addition, instructors can also view the profile details of students who take part in training and provide grades and certificates to trainees who have attended training.

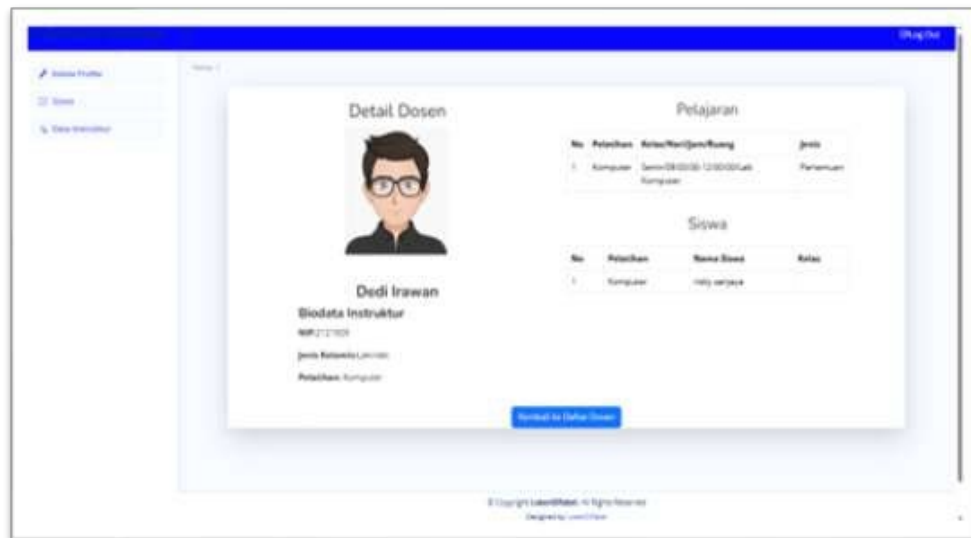


Figure 27. Instructor Profile Display

15. Testing

The testing carried out for testing this digital platform is using blackbox testing. The following is a table of blackbox testing of inclusive digital platforms for training and distribution of human resources in increasing accessibility and opportunities for people with disabilities using an Asus A455L laptop.

Table 3. Black Box Testing

No.	Function	Testing Method	Results Expected	Results Testing
1	Login	Admin opens the website through the login function by entering username and password	The login process is successful when the admin enters the admin dashboard page	Successful
2	Add Admin	Admin adds a new admin through the add admin function	The admin process succeeds when a new admin is added	
3	Delete Admin	Admin deletes another admin using the delete admin function	The admin delete process succeeds when another admin is deleted	
4	Add Locker	Admin adds job lockers using the add locker function	The add locker process succeeds when a new locker is added	
5	Search	Admins and users search for locker and training data that has been added using search function	The search menu successfully displays the search results for lockers and training through the search menu.	
6	Clear Lockers and training	Admin deletes the locker and training data to be deleted using the delete function.	The delete menu successfully deletes the locker and training data deleted through the delete function.	
7	Edit lockers and training	Admin changes locker and training data using the edit function	The edit menu successfully changes the changed locker and training data	
8	Add Training	Admin adds training using the add training function	New training is successfully added when admin uses the add training function	
9	Training and locker applicants	Admin sees who has registered using the registrar function	The registrar menu is successful when the admin can see who has registered	

No.	Function	Testing Method	Results Expected	Results Testing
10	Delete registrant	Admin deletes registrant data that has registered using the delete function	The delete menu succeeds when the deleted registrant data is successfully deleted	
11	Search Lockers	The user switches to the locker page by using the locker search function	The page successfully switches to the locker search page	
12	Search for training	Users switch to the training page by using the search training function	The page successfully switches to the training search page	
13	Register	The user registers for a locker or training and enters the required form using the register function.	The registration process is successful after the user enters the required form.	

## 5. CONCLUSIONS

Based on the results and discussion of the Design of the Inclusion Digital Platform for Training and HR Distribution in Increasing Accessibility and Opportunities for Persons with Disabilities, the researcher concludes that:

- a. With the existence of this digital training platform and job vacancy provider, it can make it easier for people with disabilities, especially the disabled, to find training and get job vacancies.
- b. This research produces a digital platform for web-based training and job vacancies that can be used by people with disabilities, especially the physically disabled.
- c. With this research, it can provide convenience to Sentra Budi Perkasa in receiving trainees and channeling people with disabilities who have done training to work.

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