Jurnal Mantik, 6 (4) (2023), ISSN 2685-4236 (Online)

Published by:Institute of Computer Science (IOCS)

Jurnal Mantik

Journal homepage: www.iocscience.org/ejournal/index.php/mantik

Design of monitoring information system FTTH (fiber to the home) CV. Fastnet media web-based

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A R T I C L E I N F O

Article history:

Received Dec 12, 2022
Revised Jan 22, 2023
Accepted Feb 28, 2023

Keywords:

Monitoring
System
Bandwidth

ABSTRACT

Developments in making customer-oriented services (customer oriented) are numerous so that they are increasingly spoiling customers. Likewise with the very rapid development of the Start Up world in Indonesia, so that many large companies are interested in developing Start Ups under their supervision, such as CV Fasnet Media collaborating customer oriented and Start Up services. Collaboration is carried out such as in building a system to prevent interruptions in products and subscriptions. In the course of the New interruption and subscription prevention system requires a website to monitor the operation of the system. CV Fasnet Media is still experiencing bandwidth management problems, therefore a special system is needed where workers can more easily manage data -data l to support the administration of activities that are effective, efficient and can provide easily accessible information facilities. In monitoring the website, it is intended for the responsible party (Team Leader) in monitoring activation by technicians who use a disturbance prevention system and new subscriptions. In monitoring the website also displays potential fault points around the area, then can manage data technicians and customers registered in the intrusion prevention system. This monitoring makes it easier for Team Leaders because they can manage technicians and see potential interference points visually provided on the web-based Monitoring System website.

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1. INTRODUCTION

Currently the development of information technology plays a very important role in various aspects of life such as the trade industry, one of which is the Telecommunications Company which is one of the businesses in the global computer network sector and displays various information and data to the public related to the execution of work and supervision of an activity. telecommunications to form a network or physical and non-physical form in the use and utilization of communication media that concerns the interests and conveniences of the community as telecommunications users.

The role of the telecommunications industry in management can be seen in terms of potential, bandwidth requirements, how to regulate and its impact, public facilities that support the economy, income distribution for companies and employees.

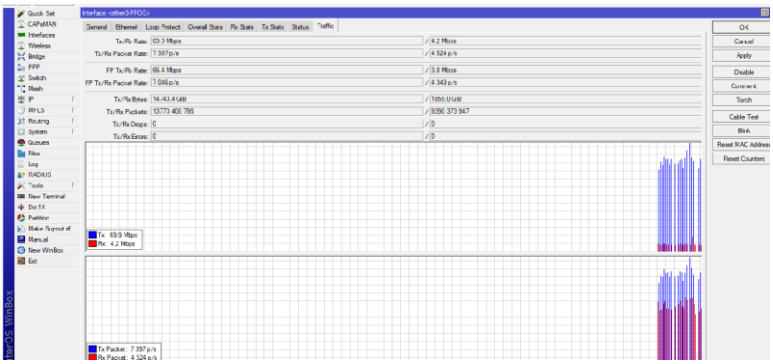

Figure 1. Graph of internet bandwidth CV Fasnet Media

CV Fasnet Media is a paid telecommunication business entity to meet the needs of unlimited internet services. In general, telecommunication activities start from the implementation regulated by the administration and then carried out by the network contractor who is a telecommunications company technician, the administration section works in the office, while the implementation in the field is carried out by the field technical head who supervises technician workers, completing the physical work of a telecommunications network . The transfer of orders is carried out by the field executor. This is related to considering the determination of the amount of costs required, design, and other effects that will occur during the implementation of a telecommunications network. A good implementation schedule will determine the success of a time management and customer satisfaction related to the impact of usage, network security, material availability, public inconvenience related to work, and so on.

When CV Fasnet Media carries out telecommunications, the first step is planning. Some aspects that need to be planned are the budget, work schedule, and management of materials and management of telecommunications equipment, special attention is needed in the management section because CV Fasnet Media often experiences problems in management such as when carrying out new network creation to customers not providing accurate information about delays so that they experience schedule changes that are detrimental to the company.

Currently CV Fasnet Media is still experiencing bandwidth management problems, in terms of operations there is still a discrepancy between technological advances as a sign of changing times which must be continuously followed in order to maintain the existence of a company, therefore a special system is needed where workers can more easily manage data lto support the administration of activities that are effective, efficient and can provide easily accessible information facilities. Based on the existing background, the authors designed a website and thesis with the title “DESIGN OF MONITORING INFORMATION SYSTEM FTTH (FIBER TO THE HOME) CV. FASTNET MEDIA WEB-BASED”.

2. METHODS

The method used to build this software is the waterfall model. This model is an approach to systematic software development with several stages, namely: System engineering, analysis design, coding, testing and maintenance (Fuggetta, 2000). For more details, the stages of the Waterfall Paradigm can be seen in the following figure :

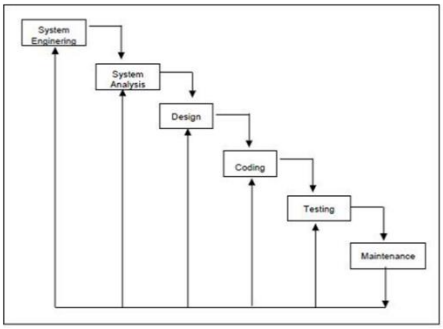

Figure 2. Waterfall Paradigm (Classic Life Cycle)

This method is carried out with a systematic approach, starting from the system requirements stage and then moving on to the analysis, design, coding, testing/verification, and maintenance stages. Step by step that must be completed one by one (cannot jump to the next stage) and run sequentially, therefore it is called a waterfall (Waterfall). Meanwhile, according to Pressman, the steps in the Waterfall Method start from Requirement, Design, Implementation, Verification, and Mintenance.

3. RESULTS AND DISCUSSIONS

3.1 Problem analysis

Analysis of the problems experienced by employees from CV Fasnet Media is that they often experience problems in management, such as when carrying out new network creation to customers who do not provide accurate information about delays so that they experience schedule changes that are detrimental to the company. Currently, small companies are still experiencing problems with management monitoring their customers, in terms of monitoring efficiency there is still a discrepancy between technological advances as a sign of changing times which must be continuously followed in order to maintain the existence of a company, therefore a special system is needed where workers can more easily managing data to support the administration of activities that are effective, efficient and can provide easily accessible information facilities.

3.2 System Analysis to be Developed

The system that will be built in this research is a Bandwidth management system to make it easier for admins to access information about management to be addressed with a web display. The capability of this web-based information system only allows the admin to input data, edit data, delete data and allows for customer feedback responses that report disruptions or new installations, the company. In designing this system, software applications are used, namely the PHP programming language and MySQL database. System access can only be used by users and admins who are registered and have access rights in the application database, then the information system is built in the form of a web application.

3.3 System design

a) Use Case

At this stage, it will be explained about the description of the system to be made, the design of the system is made using UML (Unified Modeling Language) which consists of Use Case Diagrams, Class Diagrams, Sequencea Diagrams, Activity Diagrams, and System Design.

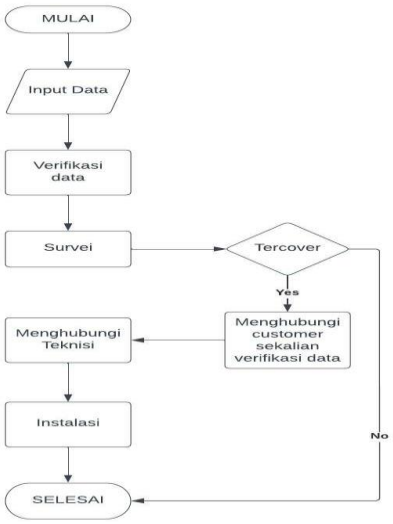

Figure 3. Use Case Diagram

b) Sequence Diagram

1) Login Sequences

In the login sequence diagram, the user is asked to fill in a form in the form of an email and password. After the user fills in the email and password the system will validate the data that has been entered. If the data entered has been registered, then the user can enter the system. However, if the data entered is incorrect or incorrect, the system will be stuck on the login form.

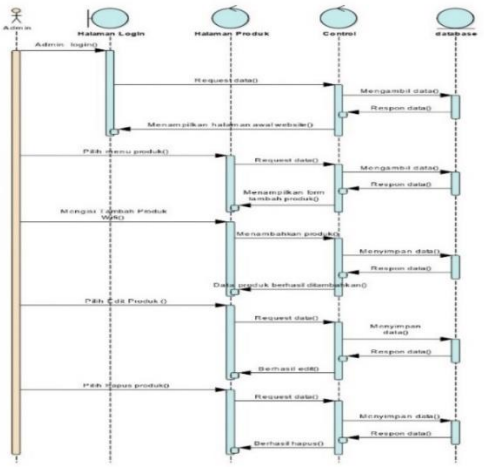

Figure 4. Sequence Diagram Login admin

2) Diagram Sequence Admin

In the user sequence diagram, the user is asked to fill in a form in the form of an email and password. After the user fills in the email and password the system will validate the data that has been entered. If the data entered has been registered, then the user can enter the system. However, if the data entered is incorrect or incorrect, the system will be stuck on the login form. In the user sequence diagram, the user can see the add report menu, edit the report, report details.

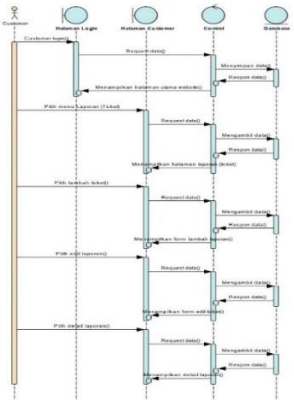

Figure 5. Sequence Diagram User

3) Sequence Diagram Technician

In the technician sequence diagram, the technician enters the main page, then selects the detailed menu. There, technicians can respond to data and see details of incoming data, add confirmation data, data, save work data.

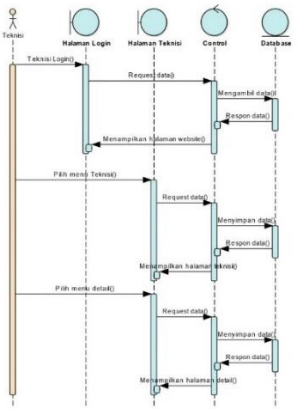

Figure 6. Sequence Diagram Technician

c) Class Diagram

The class diagram is an illustration of several tables in the alumni system which can help in designing a database for an application. The tables in the class diagram have a relationship between one table and another.

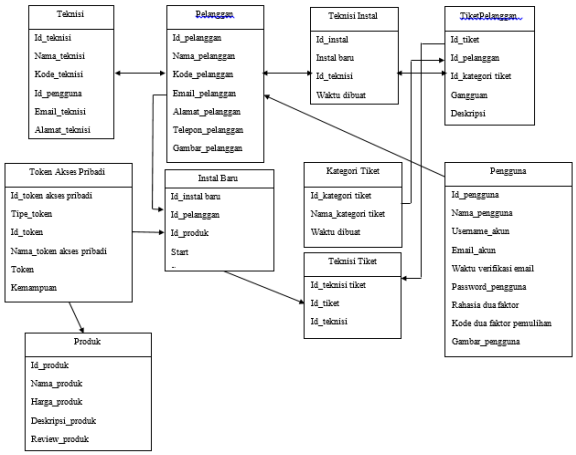

Figure 7. Class Diagram

d) Activity Diagram

1) Activity Diagram Customer Page

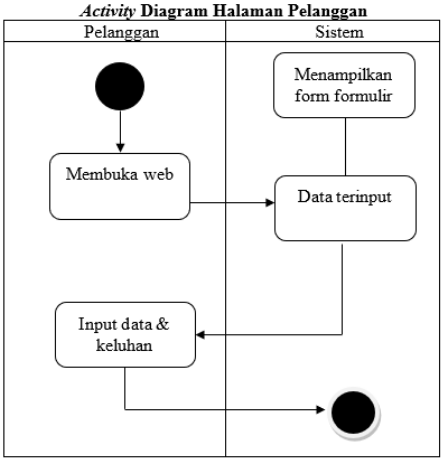

Figure 8. Activity Diagram Customer Page

The diagram above explains the flow of the Customer page Activity Diagram. Where when the customer opens the web, the system will display a form for the customer to fill in the data and complaints then the customer submits the complaint that has been previously inputted and the system will save the customer complaint data to the database.

2) Activity Diagram Admin Login Page

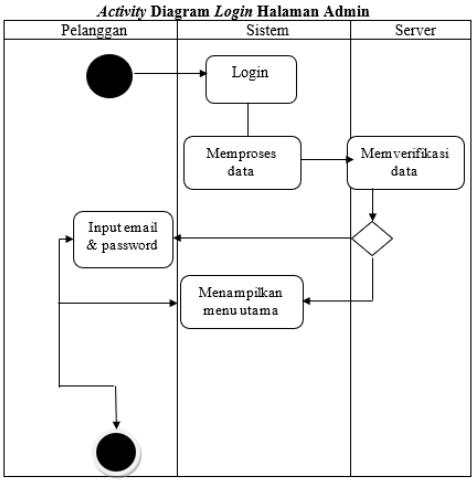

Figure 9. Activity Diagram Admin login Page

The diagram above explains the Activity Diagram Login flow on the admin page, namely the admin logs in by entering a username and password. After the username and password are input, the system will process the data which will then be forwarded to the server. Then the server will verify the data, if it is correct then the system will display the main menu and if the data entered is incorrect then it will return to normal by re-entering the correct username and password.

3) Activity Diagram Admin Page

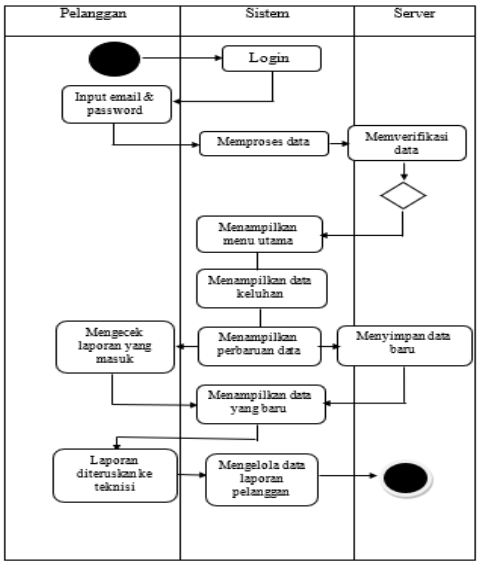

Figure 10. Activity Diagram Admin Page

The diagram above explains the flow of the Activity Diagram on the admin page, that is, after the admin logs in and enters the web page, the admin can check the incoming reporting data. Then the system will display incoming customer reports. The admin can forward the report to the technician for processing and completion. After the process is complete, customer reports can be managed, updated, edited or deleted.

4) Activity Diagram Product Data Processing

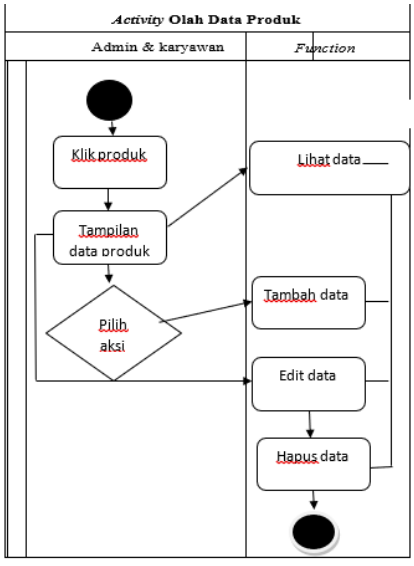

Figure 11. Activity Diagram Product Data Processing

In this diagram, it describes the flow of product data processing activities carried out by the admin and employees

e) System Design

1) Login Page

On the login menu, later it will be used for users to access this system.

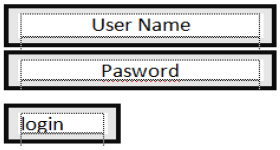

Figure 12. Login Page Design

2) Admin Dashboard Page Design
On the Admin Dashboard page, there is a Home menu, Customers, Technicians, Bandwidth, Products, Submissions, Settings.

Figure 13. Admin Dashboard Page Design

3) Customer Menu Page
On the customer menu page, contains customer table data that can be managed by the admin.

Figure 14. Customer Menu Page Design

4) Technician Menu Page
On the technician menu page, it contains table data for customers who will subscribe to the wifi service, containing new customer installation news and reports from the admin.

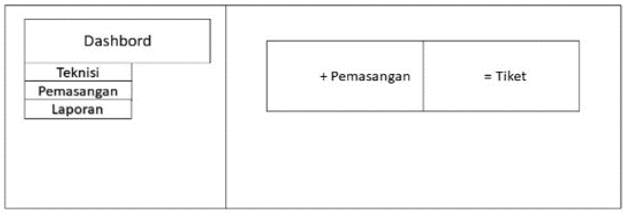

Figure 15. Technician Menu Page Design

3.4 System implementation

System implementation is one of the stages in designing a software. This software is built using the PHP programming language which is used to create a website-based system while the database will use MySQL. Software requirements needed to support the creation of this system and website are XAMPP, Sublime Text Editor, and a browser as a medium to display directly the results of making this information system.

a. Login Page

This page functions for users who want to access the system by entering the e-mail and password that was created. If the e-mail and password match, they will be redirected to the dashboard page and if incorrect, they will remain on the login page.

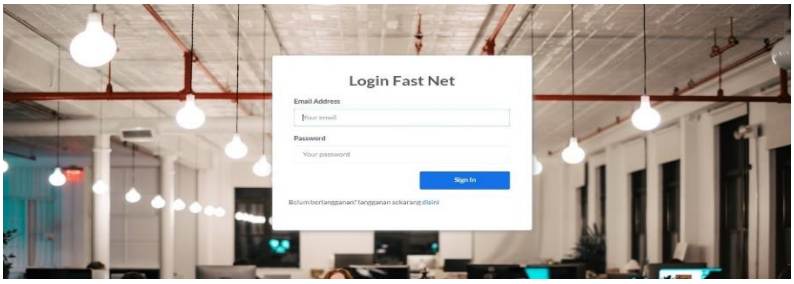

Figure 16. Login Page

b. Admin Dashboard Page

The dashboard page is the admin homepage which has information on several features that only admins can do. The details can be seen in the image. On the Admin Dashboard page, there are dashboard menus, product menus, user section data menus, technician/employee data.

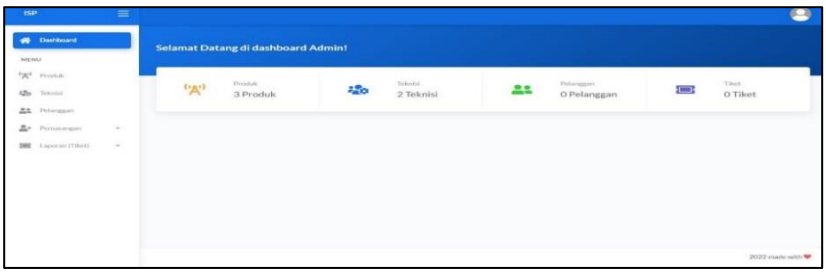

Figure 17. Admin Dashboard Page

c. Product Menu Page

On this page the admin can perform product data processing such as adding product data, editing product data, deleting data and conducting data searches.

Figure 18. Product Menu Page

d. Customer Menu Page

On this page the admin can perform product data processing such as adding product data, editing product data, deleting data and conducting data searches.

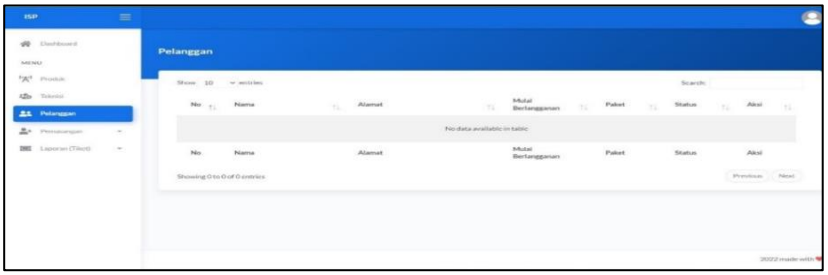

Figure 19. Customer Menu Page

e. Display page of the Technician Menu in the Admin Dashboard
On this page the admin can perform section data processing such as adding section data, editing section data, deleting data and conducting data searches.

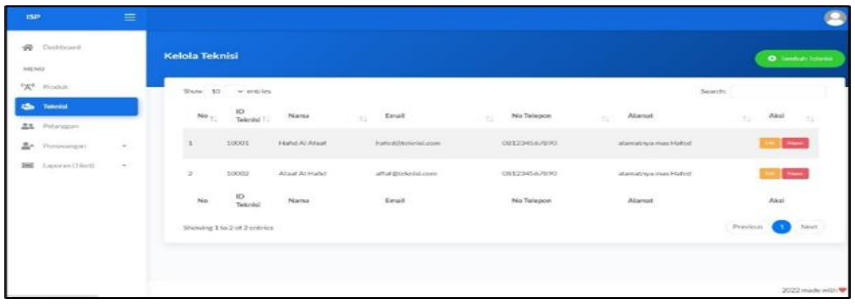

Figure 20. Technician Data Section Page

f. User Menu page
On this page the user can edit his own data if it is not quite right, such as adding data, editing data, deleting data and searching customer profile data and making reports or complaints.

Figure 21. User Menu Page

g. Technician Menu Page
On this page, technicians can manage profile data.

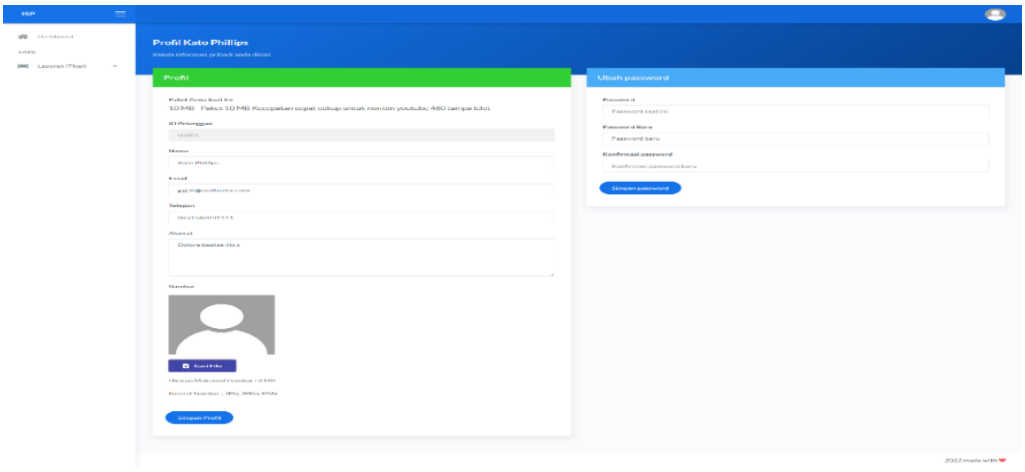

Figure 22. Technician Menu Page

h. Technician Activity Page
On this page the technician can manage the activities of the technician receiving tickets from the admin to do the work then the technician verifies with the user whether it is appropriate.

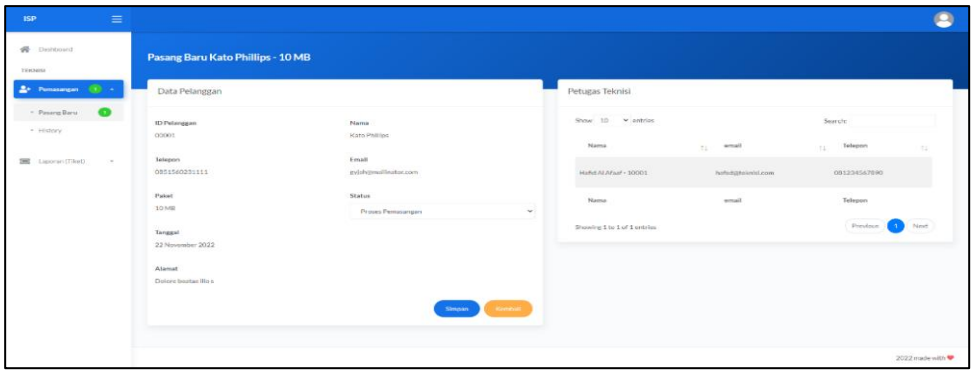

Figure 23. Technician Activity Page

i. Ticket menu page New customer who wants to subscribe

On this page the technician receives a job ticket containing customer data that registers then the technician in the field verifies whether the name and address match the ticket that came out of the system.

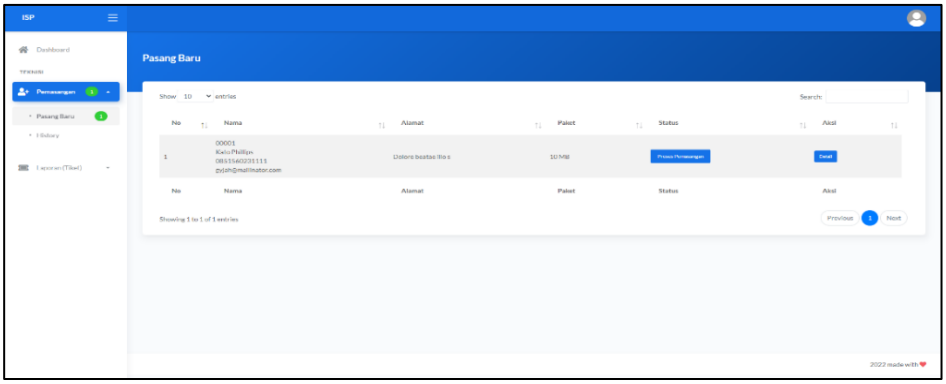

Figure 23. Technician Menu Page

4. CONCLUSION

Based on the research results, the authors can conclude that a web-based system can facilitate monitoring of FTTH (fiber the point home) customers cv fasnet media.A broadband internet service provider company. This information system can carry out subscription registration which can be directly confirmed directly by the system admin and the technical section can carry out technical verification of new customers who want to subscribe. As well as this system can monitor the number of incoming customers per day and month and monitor the amount of work done by employees. This system can also display internet service subscription information to the provider.

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