Terbit *online* pada laman: https://journal.orange-institute.org/index.php/cister/index

International Journal CISTER

| ISSN (Online) xxxx-xxxx |

Designing a web-based information system at the Sirah Pulau Padang Public Health Center

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ARTICLE INFORMATION

Article History:
Received: 12 January 2022
Final Revision: -
Published *Online*: 01 April 2022

KEYWORDS

System
Information
Public health center
Website

CORRESPONDENCE

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A B S T R A C T

The Community Health Center is one of the health service organizations that always strives to achieve efficiency and effectiveness of services to the community, so it takes a supporting facility for processing website-based information system data that can provide information quickly and accurately, but the Sirah Pulau Padang Public Health Center is in the process of processing information systems that provide accurate information. in Sirah Pulau Padang Health Center, they still use the manual method by using paper as a processing tool so that various problems eventually emerge. Such as the difficulty of controlling user data information, poly data, patient data and patient visit data, inventory of information caused by human error, the process of finding patient data becomes long and less accurate due to the accumulation of paper containing data, and due to the nature of paper that is easily damaged, it is very possible for data loss to occur. The formulation of the problem in this study is the risk of inaccurate data caused by human error in the data recording process, the risk of data loss caused by the nature of paper that is easily damaged, and the slow data search process. This study used qualitative research methods. So the author made a website to support the performance of the Padang Island Sirah Health Center, based on the results of research conducted at the Sirah Pulau Padang Health Center with the title Web-Based Information System Design at the Padang Island Sirah Health Center, it can be concluded that this study succeeded in creating an information system using the website method.

I. Introduction

The Community Health Center is one of the health service organizations that always strives to achieve efficiency and effectiveness of services to the community [1], so that it takes a supporting facility for processing website-based information system data that can present information quickly and accurately, but the Sirah Pulau Padang Health Center in the process of processing the information system at the Sirah Pulau Padang Health Center still uses the manual method by using paper as a means of processing user data, data polyclinic, patient data and patient visit data, so that various problems eventually emerged. Such as the difficulty of controlling user data information, poly data, patient data and patient visit data, inventory of information caused by human error, the process of finding patient data becomes long and less accurate due to the accumulation of paper containing data, and due to the nature of paper that is easily damaged, it is very possible for data loss to occur. The formulation of the problem in this study is the risk of inaccurate data caused by human error in the data recording process, the risk of data loss caused by the nature of paper that is easily damaged, and the slow data search process. The limitation of the problem in this study is that the system created is a web-based information system, the system that is made does not change the existing processes at the Sirah Pulau Padang Health Center, the system created does not handle drug financial problems because the drugs are temporarily available at the Sirah Pulau Padang Health Center. this is only supplied by the government so it is not paid. The purpose of this study is to reduce the risk of inaccurate data caused by human error in the data processing process, reduce the risk of data loss caused by paper data storage media that is easily damaged, and to speed up the process of searching and processing data. The Puskesmas concept itself was applied in Indonesia in 1969. Regarding the implementation of the Puskesmas concept, at the beginning of its establishment, the Government in the Regency paid very little attention to development in the health sector. In line with the implementation of the Puskesmas concept in Indonesia in 1969, Puskesmas began to be built in several areas led by a Regional Doctor (Dokwil) who supervised several sub-districts, while at the district level there was a District Doctor (Dukabu) who supervised the Dokwil [2]. The role of a leader is very large in encouraging employees so that with high awareness they want to work together in an effort to

https://doi.org/10.56481/cister.v1i01.11

achieve organizational goals, in a book entitled Introduction to Health Administration, explaining the various roles of leaders. The task of a leader is basically to make efforts in such a way as to motivate his subordinates to carry out their duties with responsibility [3].

The article as a whole is written in Times New Romans with a size of 10pt, and with a space of 1. Contains the background, rationale, and or urgency of the research. References (relevant literature or research), need to be included in this section, in relation to the justification of the urgency of the research, the emergence of research problems, alternative solutions, and the chosen solution. The way of writing the source in the text needs to clearly indicate the name of the author and the source citation in the form of the year of publication. For example: ..... research results show that more than 70% of students are not able to recognize authentic problems [1].

Problems and objectives, as well as the use of the research are written in a narrative manner in paragraphs, no need to be given a special subtitle. Likewise, operational definitions, if deemed necessary, are also written in a narrative.

II. Method

The research was carried out at Sirah Pulau Padang Health Center, Terate Village, Sirah Pulau Padang District, Ogan Komering Ilir Regency, South Sumatra 30652. This study used qualitative research methods, qualitative research methods are research methods based on postpositivism philosophy, used to examine the condition of objects natural, (as opposed to experimentation) where the researcher is the key instrument, the sampling of data sources is done purposively and snowball [4]. The data collection techniques in this study were 1) Observation, where researchers participated directly in the field to obtain data 2) Interviews, conducted to employees at Sirah Pulau Padang Health Center 3) Documentation.

2.1. On-going System

The current system at the Sirah Pulau Padang Health Center in terms of collecting patient identity card data, patient disease data, patient data and patient visit data is still using the manual method using paper as a data processing tool, so that various problems arise. Such as the difficulty of controlling the supply of information so that the search for data becomes long and less accurate due to the accumulation of paper containing patient identity card data, patient disease data, patient data and patient visit data, and based on the nature of paper that is easily damaged, it is very possible for data loss to occur. Based on the explanation above, a design will be made to create a web-based information system that will also be able to input patient identity card data, patient disease data, patient data and patient visit data. That way data storage is much easier and more efficient.

2.2. System Development Method

The system development method used in the construction of this system is to use php my admin, mysql and notepad. In this web there are several methods for entering patient identity card data, patient disease data, patient data and patient visit data so that data storage and entry becomes easier and more efficient. This data collection model is systematic. Each has its own way of entry, making it much easier and more efficient than using paper. In developing this system, the Waterfall development method is used. Waterfall model is a systematic and sequential information system development model [5].

III. Results and Discussion

3.1. Design

Use Case

Data collection system processing user data, poly data, patient data and patient visit data based on their respective roles/access to patient identity card data and reports, patient illness, patient data, and patient visits. The following is an image of the Use Case Diagram of the Sirah Pulau Padang Health Center which was made by the researcher.

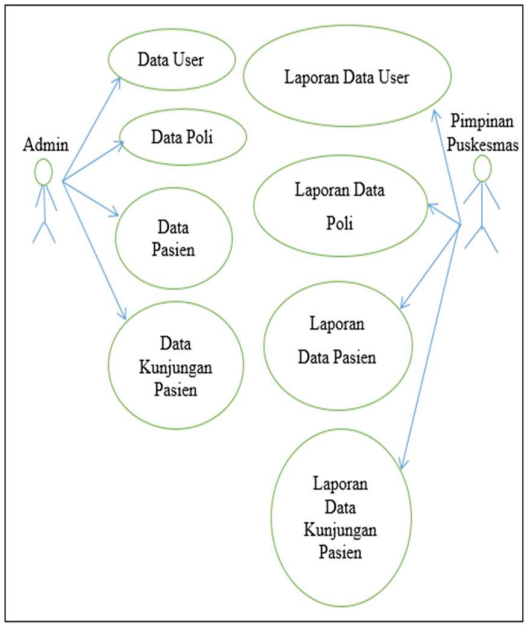

Figure 1. Health center use case diagram

Activity Diagram

To model the behavior of Cases and objects in the system. Activity diagrams, in Indonesian activity diagrams, are diagrams that can model the processes that occur in a system. The process sequence of a system is depicted vertically. Activity diagram is a development of Use Case which has activity flow. The following is a picture of the

https://doi.org/10.56481/cister.v1i01.11
E-ISSN : xxxx-xxxx

Sirah Health Center on Padang Island's Activity Diagram made by the author.

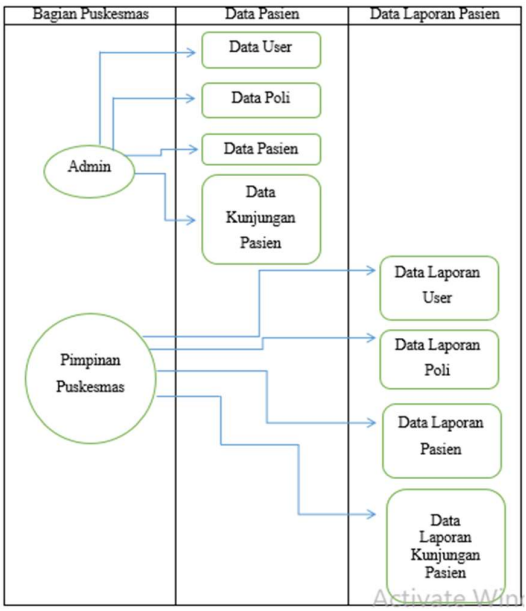

Figure 2. Community Health Center Activity Diagram

Class Diagram

Class diagrams are one of the most useful types of diagrams in UML, because they can clearly map the structure of a particular system by modeling classes, attributes, operations and relationships between objects. The following is an image of a Class Diagram of the Sirah Health Center on the island of Padang made by the author.

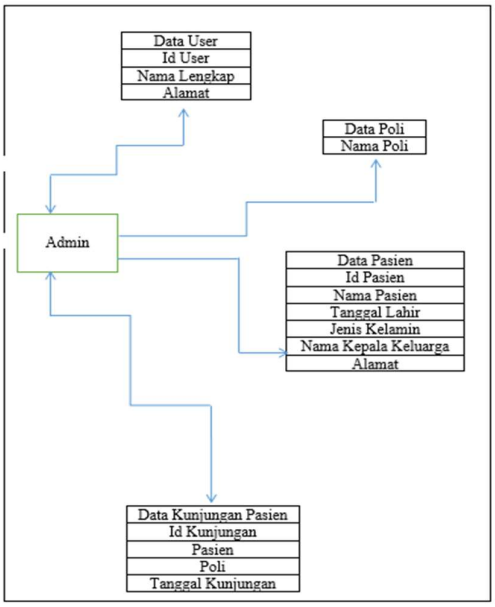

Figure 3. Community Health Center Class Diagram

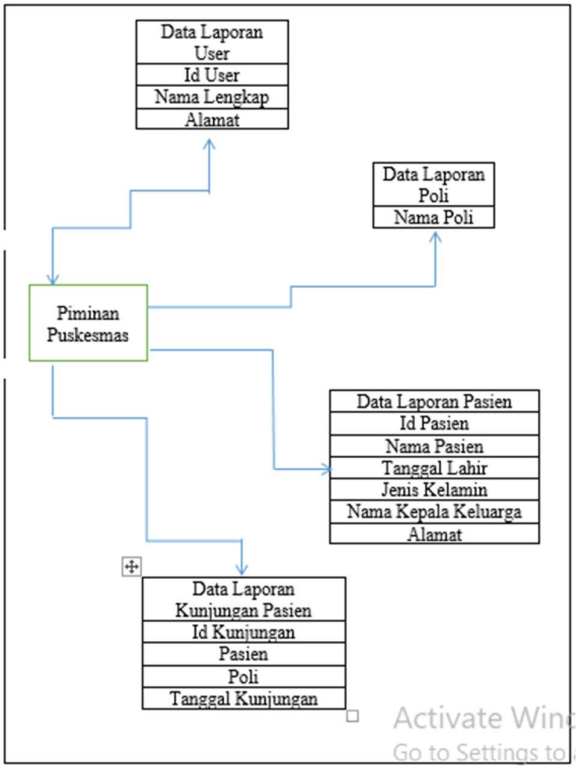

Figure 4. Public Health Center Class Diagram

Coding

Coding is translating the logical requirements of pseudocode (flow diagram) into a programming language, both letters, numbers, and symbols that make up a program. Programs here can also be called applications or software. When doing the coding process we must follow the syntax (programming language rules). Here is the code made by the author:

1) Data Coding Start Page

On the coding start page, the prefix for coding that has been made by the author will be displayed in the following image:

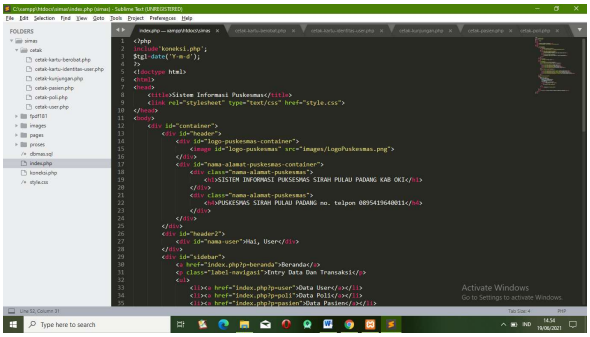

Figure 5. Data Coding Start Page

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E-ISSN : xxxx-xxxx

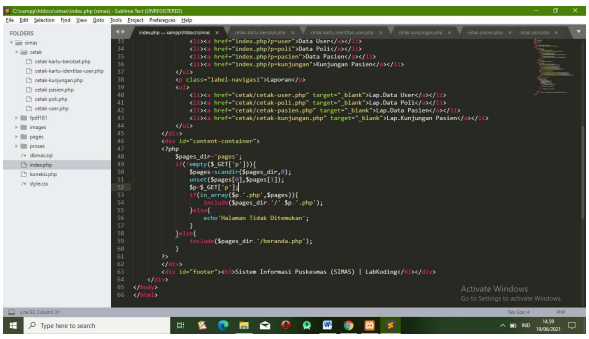

Figure 6. Data Coding Start Page

2) User Data Coding

On the user data page, coding will be displayed by the author and user data that has been coded and created by the author in the image below:

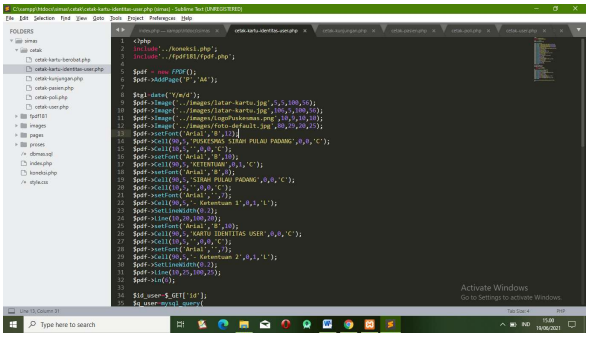

Figure 7. User Data Pages

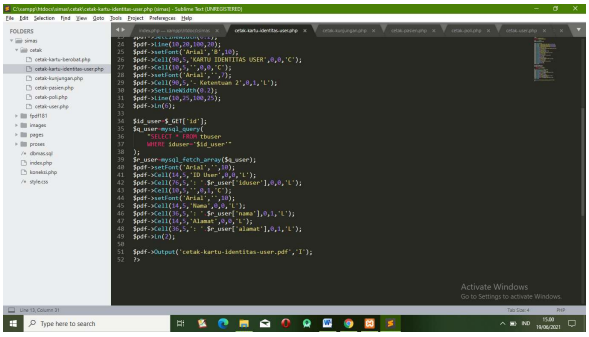

Figure 8. User Data Pages

3) Coding Data Poli

On the poly data page, the coding will be displayed by the author and the poly data that has been coded and created by the author in the image below:

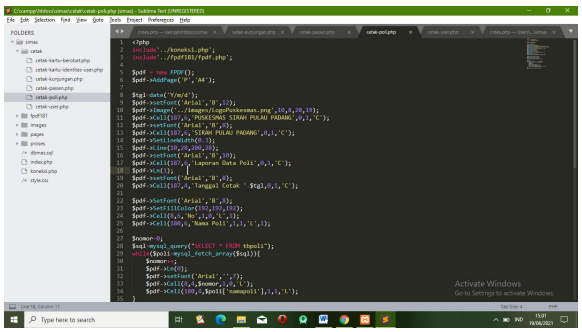

Figure 9. Poly Data Pages

4) Patient Data Coding

On the patient data page, coding will be displayed by the author and patient data that has been coded and created by the author in the image below:

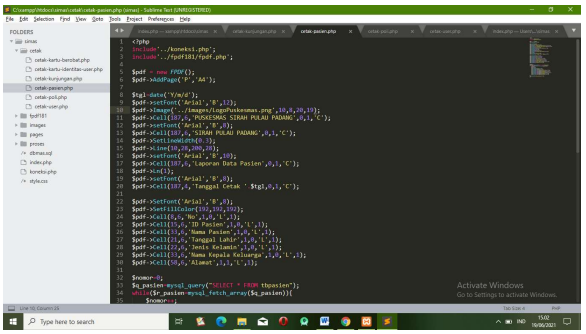

Figure 10. Patient Data Pages

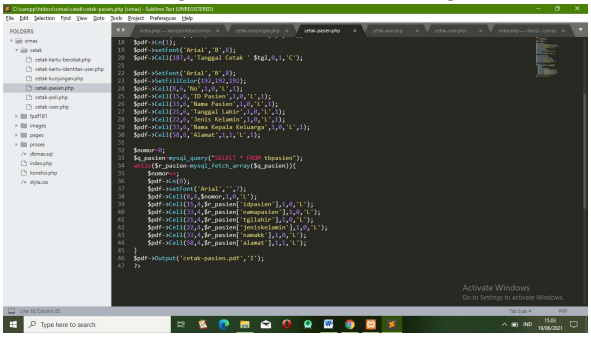

Figure 11. Patient Data Pages

5. Coding of Patient Visit Data

On the patient visit data page, coding will be displayed by the author and patient visit data that has been coded and created by the author in the image below:

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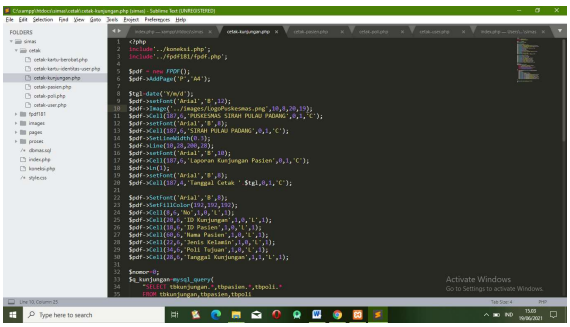

Figure 12. Patient Visit Data Pages

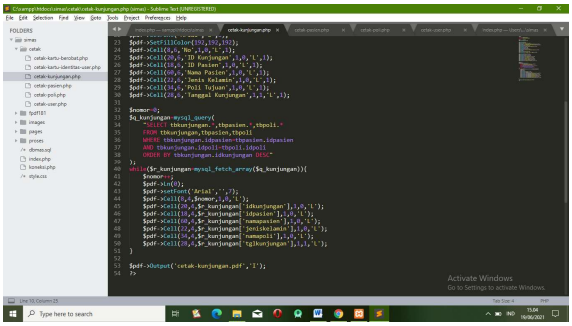

Figure 13. Patient Visit Data Pages

Testing

In general, testing is a process designed to identify discrepancies between the results of an information system and the expected results. The following is the Testing that will be carried out on the Web created by the author:

1) Homepage

On the home page containing the words WELCOME TO PUSKESMAS INFORMATION SYSTEMS, here is the web page created by the author, which can be seen in the image below:

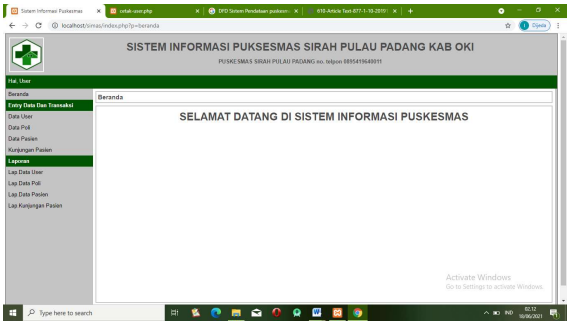

Figure 14. Web Home

2) User Data Page

On the data page the user can directly enter the user id data, full name and address which can be directly stored and automatically stored in the user data report so that it can be printed, here is the user data page created by the author can be seen in the image below:

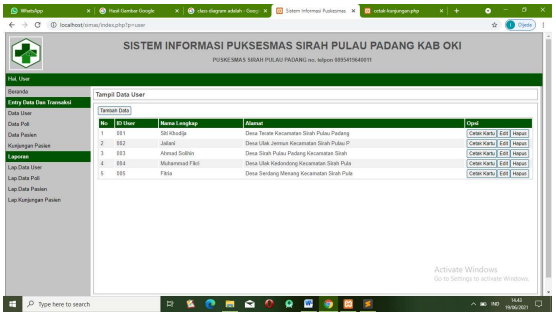

Figure 15. User Data

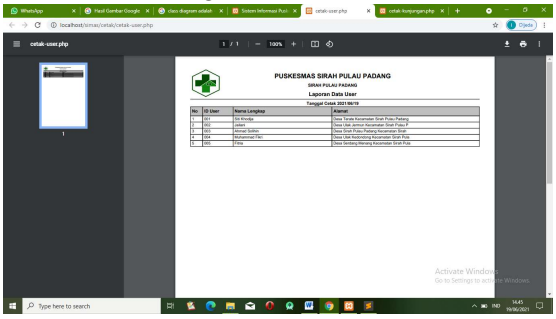

Figure 16. User Data Report

3) Poli Data Page

On the poly data page, you can directly enter poly data which can be directly saved and automatically stored in the poly data report so that it can be printed, here is the poly data page created by the author, which can be seen in the image below:

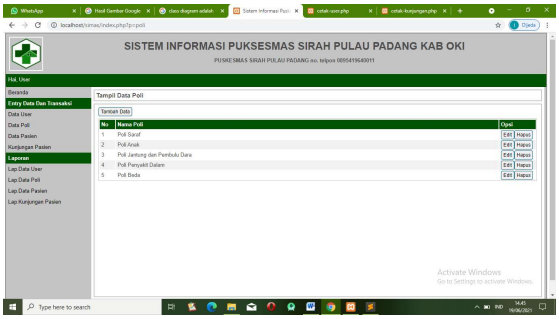

Figure 17. Data Poli

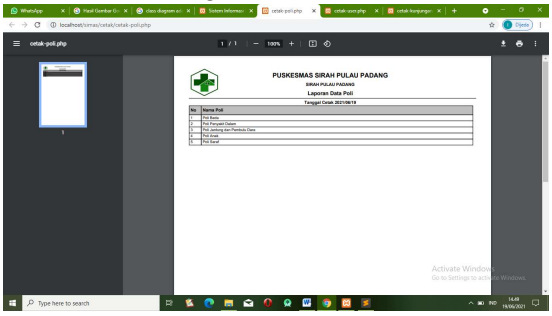

Figure 18. Poli Data Report

https://doi.org/10.56481/cister.v1i01.11

E-ISSN : xxxx-xxxx

4) Patient Data Page

On the patient data page, you can directly enter patient data, namely patient id, patient name, date of birth, gender, name of the head of the family and address which can be directly saved and automatically stored in the patient data report so that it can be printed, here is the patient data page created by the author can be seen in the image below:

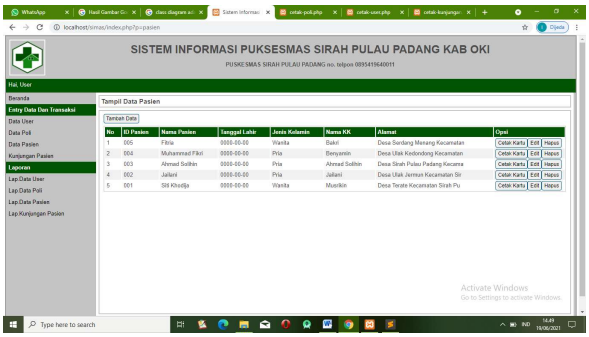

Figure 19. Patient Data

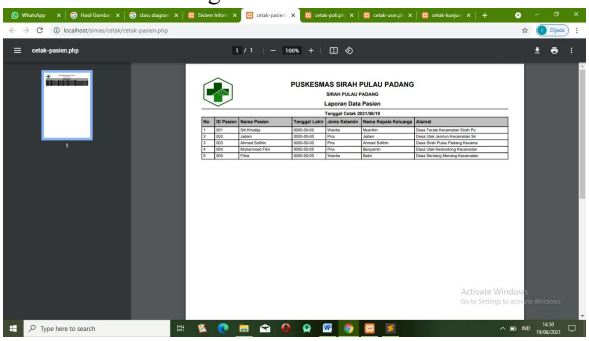

Figure 20. Patient Data Report

5) Patient Visit Data Page

On the patient visit data page, you can directly enter data, namely visit id, patient id, patient name, gender, date of birth, destination poly, visit date which can be directly stored and automatically stored in the patient visit data report so that it can be printed, here is the page Visit data made by the author can be seen in the image below:

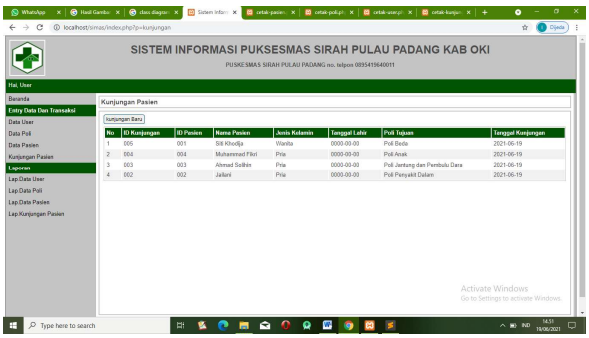

Figure 21. Patient Visit Data

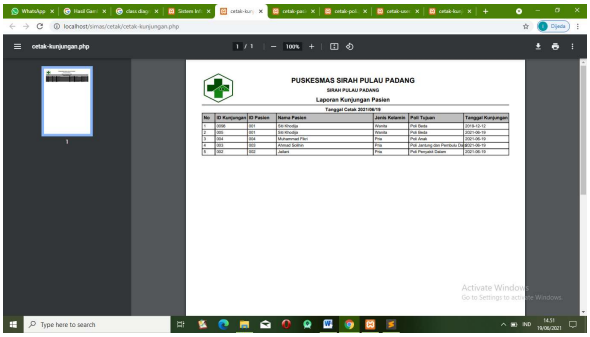

Figure 22. Patient Visit Data Report

IV. Conclusion

Based on the results of the research conducted at the Sirah Pulau Padang Health Center with the title Web-Based Information System Design at the Sirah Pulau Padang Health Center, it can be concluded that this research succeeded in creating an information system using the website method. Executed for 1 month for the fulfillment of all the needs and requirements of the system to be built, conclusions can be drawn:

1. The application is designed using the PHP programming language and MySQL database.

2. The existence of a Data Collection System for User Data, Poly Data, Patient Data and Patient Visit Data can facilitate the creation and storage where the system can work quickly and reduce the risk of errors and data loss.

3. With this data collection system, apart from being able to solve existing problems, it can also make data computerized.

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https://doi.org/10.56481/cister.v1i01.11