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Design and Construction of a Website-Based Posyandu Service System in Sukaraja Village

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Abstract

Posyandu services at the auxiliary health center are a place to carry out health service activities. The auxiliary health center (pustu) still carries out posyandu service activities for the community. Posyandu services are located in Sukaraja Village, South Prabumulih. Currently, health services in Sukaraja Village are still providing services manually and do not have a website. The purpose of this study is to build a website so that officers and the community can more easily record identity data. Based on the results of the study, the researcher tried to build a web-based service system using a qualitative descriptive method by collecting data in the form of observations, interviews, literature studies and developed using the Rapid Application Development (RAD) method. System design tools use Use Case, Activity Diagram and Class Diagram.

Keywords: *Community, Posyandu Services, Web-Based, RAD Method*

1. Introduction

Information technology is a science that includes communication technology to process and store data that sends information via fast communication channels [1]. Health services at integrated health posts (Posyandu) play a crucial role in providing basic healthcare to the community, including the elderly. Healthcare for the elderly is a crucial aspect in efforts to improve the quality of a healthy life. As a first-level health facility, Posyandu plays a strategic role in providing healthcare services to the elderly, particularly in terms of routine check-ups, health monitoring, and providing information on healthy lifestyles. However, in practice, Posyandu services in Sukaraja Village still face various challenges, such as ineffective manual data recording, long queues, and a lack of an information system that supports fast and accurate service delivery. With technological advancements, an integrated, digital-based Posyandu service system is needed to improve efficiency and accuracy in recording and monitoring the health of the elderly. With this Posyandu service system design, it is hoped that administrative processes, patient data collection for the elderly, toddlers, and pregnant women, and recording the health histories of pregnant women, toddlers, and the elderly can be carried out more quickly, accurately, and easily accessed by healthcare workers and related parties.

2. Theoretical Review

2.1. Understanding Design and Construction

According to [4], "Design is the activity of translating analysis results into a software package, then creating the system or improving an existing one." According to [3], "Design is the process required to create or create a new system to facilitate researchers in addressing problems encountered in the research object".

2.2. Understanding Systems

According to [5], "A system is two or more components that are interconnected and interact to form a unified group that achieves a common goal."According to [4], "A system is a collection of elements that interact to achieve a specific goal".

2.3. Definition of Service

According to [6], "Service is an activity carried out through a relationship between a recipient and a service provider using equipment in the form of an organization or corporate institution". According to [7] , "Service is an activity carried out through a relationship between a recipient and a service provider using equipment in the form of an organization or government institution".

2.4. Understanding Posyandu

According to [8], "Posyandu is a form of integrated health services implemented within a community health center's work area."

2.5. Definition of Subdistrict Understanding Codeigniter

According to [9], "Codeigniter is a PHP application development framework based on a structured architecture. Codeigniter aims to provide the necessary tools, such as helpers and libraries, to implement common tasks. This makes project development easier and faster, eliminating the need to rewrite projects from scratch." According to [10], "Codeigniter (CI) is an open-source web application framework used to build dynamic PHP applications."village is the working area of a village head (lurah), a regional apparatus of a district or city with civil servant status."

3. Research Methods

According to [11] , "A research method is a scientific way to obtain data for a specific purpose and use". The method used in this research is a qualitative descriptive method. Qualitative descriptive methods are research or problem-solving methods conducted by analyzing, describing, and summarizing various situational conditions and various data collected through interviews and observations regarding the problem being studied. In qualitative descriptive research, the data collected are words and images, not numbers. This is because the various data collected may be key to what will or has been studied.

3.1. Data Collection Methods

Data collection techniques were used to obtain the information needed to achieve the research objectives. The data collected by the author in this study used the following methods:

1. Interviews; Data collection was conducted through direct interviews with health service providers in Sukaraja Village.
2. Observation; Data collection was conducted through direct observation of health service activities (midwives) in Sukaraja Village.
3. Literature Review; The research method involved collecting data and information from various sources, such as notebooks or archives containing various theoretical studies needed by the researcher.

3.2. System Development Methods

3.2.1 Requirements Planning

This stage marks the beginning of system application development, identifying problems and collecting data from the designer to identify the final objectives of the system being designed.

3.2.2 System Design

At this stage, the designer begins designing the system (prototype) and then tests it. If the plan does not meet requirements, it can be refined or repaired. This stage includes software specifications, including system organization, data structures, and other details.

3.2.3 Development

At this stage, the system design is developed and applied from beta to final. At this stage, the system is designed according to requirements.

3.2.4 Implementation

This stage implements the system programming method, as required by the system requirements. This final method is the final, executable implementation.

4. Proposed Use Case Diagram

The proposed system analysis explains the analysis of the integrated health service post (Posyandu) data processing procedures at the Sukaraja sub-district health center (Pustu). The proposed system analysis at the Sukaraja sub-district health center (Pustu) is as follows:

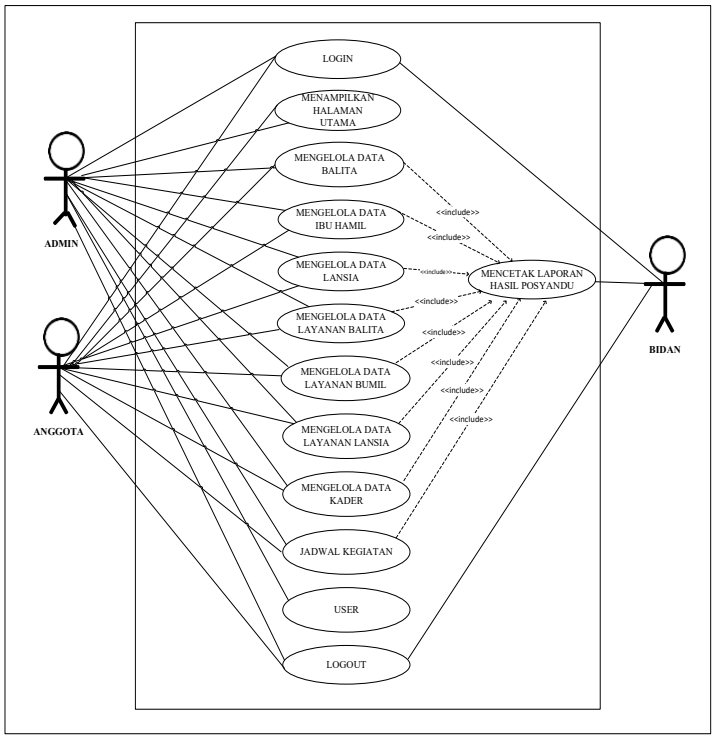

Fig. 1: Proposed Use case Diagram

5. Interface Implementation

At the interface implementation stage, the researcher created the website display as follows:

5.1. Home Page Display

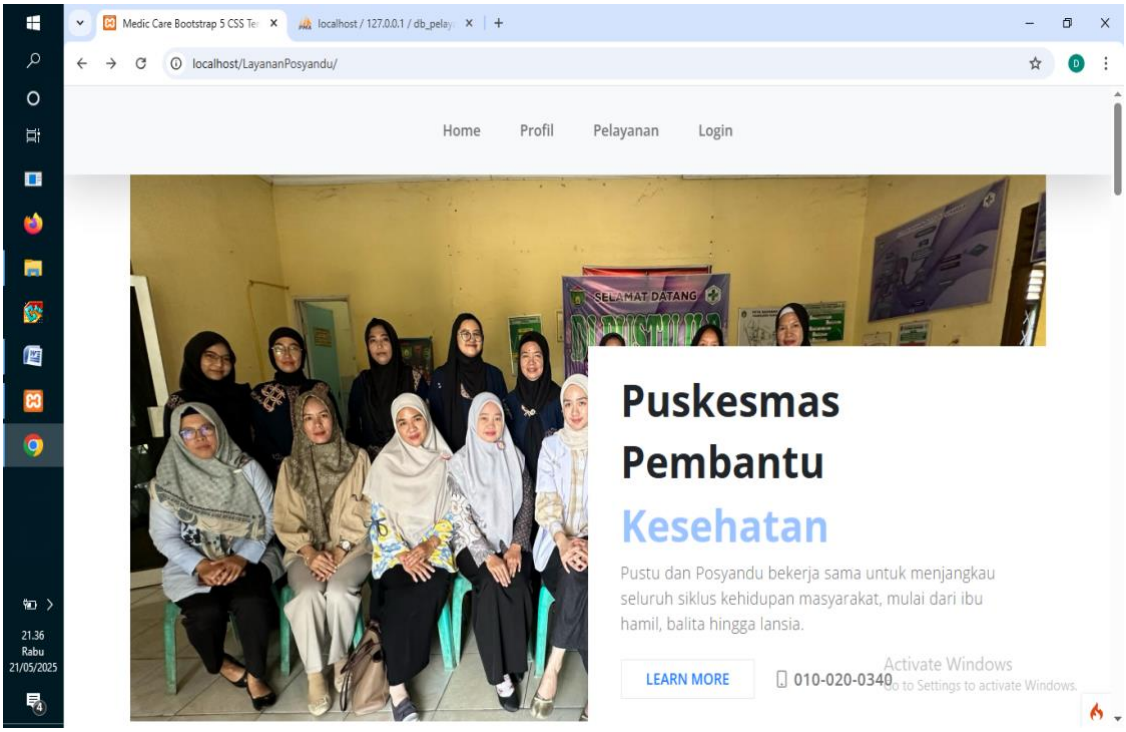

Fig. 2: Home Page Display

The image above shows the homepage displaying brief information about integrated health posts.

5.2. Profile Page View

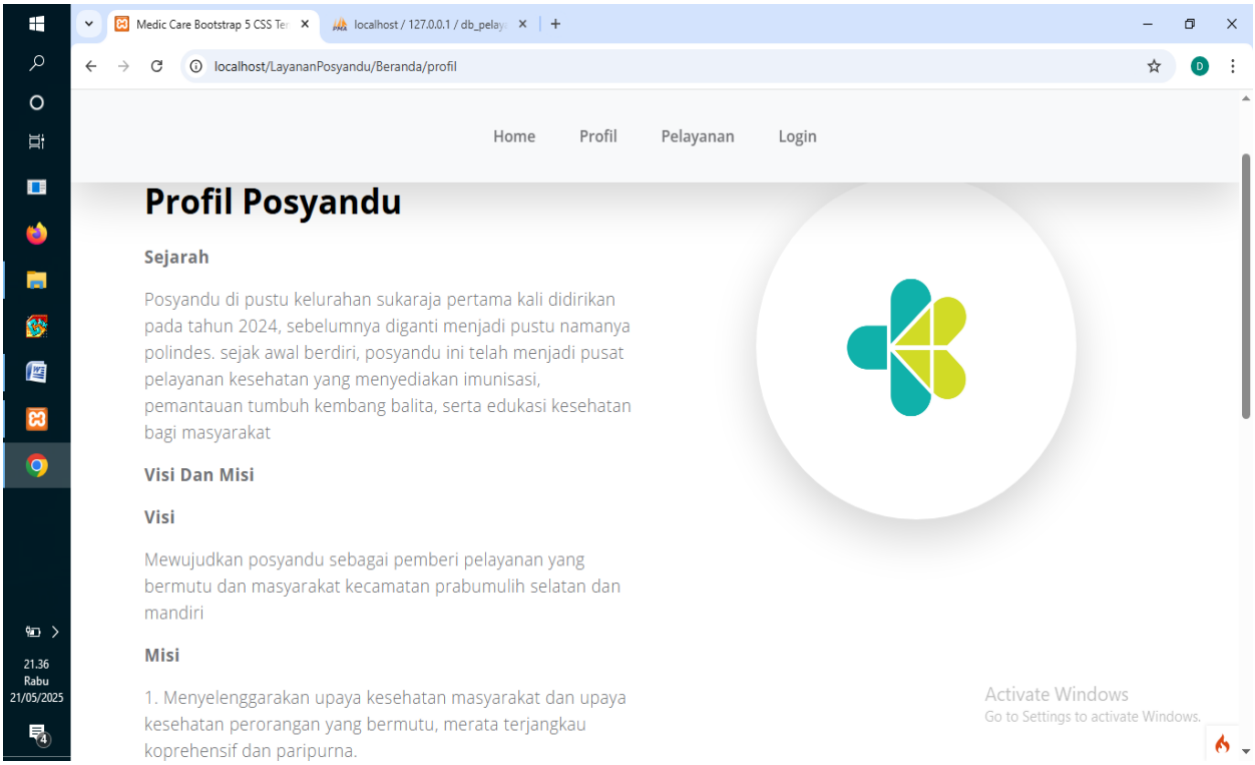

Fig. 3: Profile Page View

The image above shows a display of the profile page which contains information about the history of the health center, its vision and mission which are explained in full.

5.3. Service Page Display

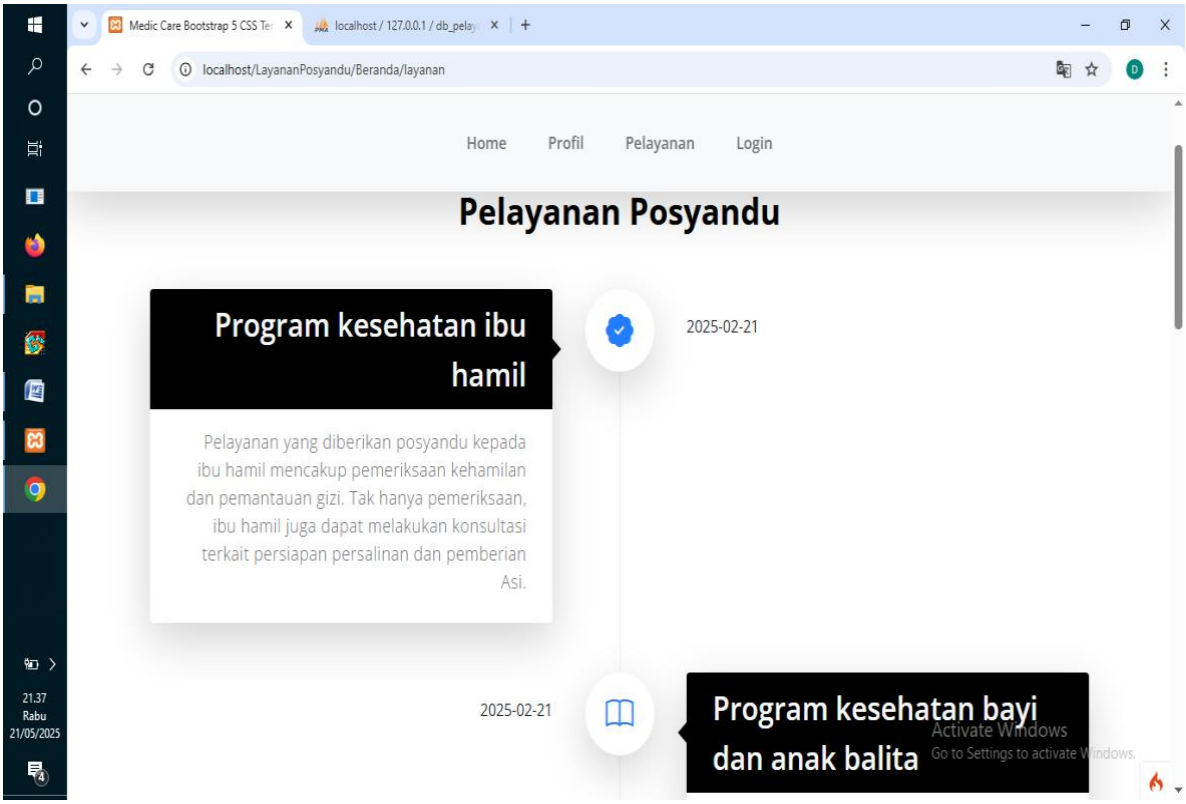

Fig. 4: Service Page Display

The image above shows a display of the service page containing information about health services for pregnant women, toddlers, the elderly, immunizations, and family planning (KB).

5.4. Login Page Display

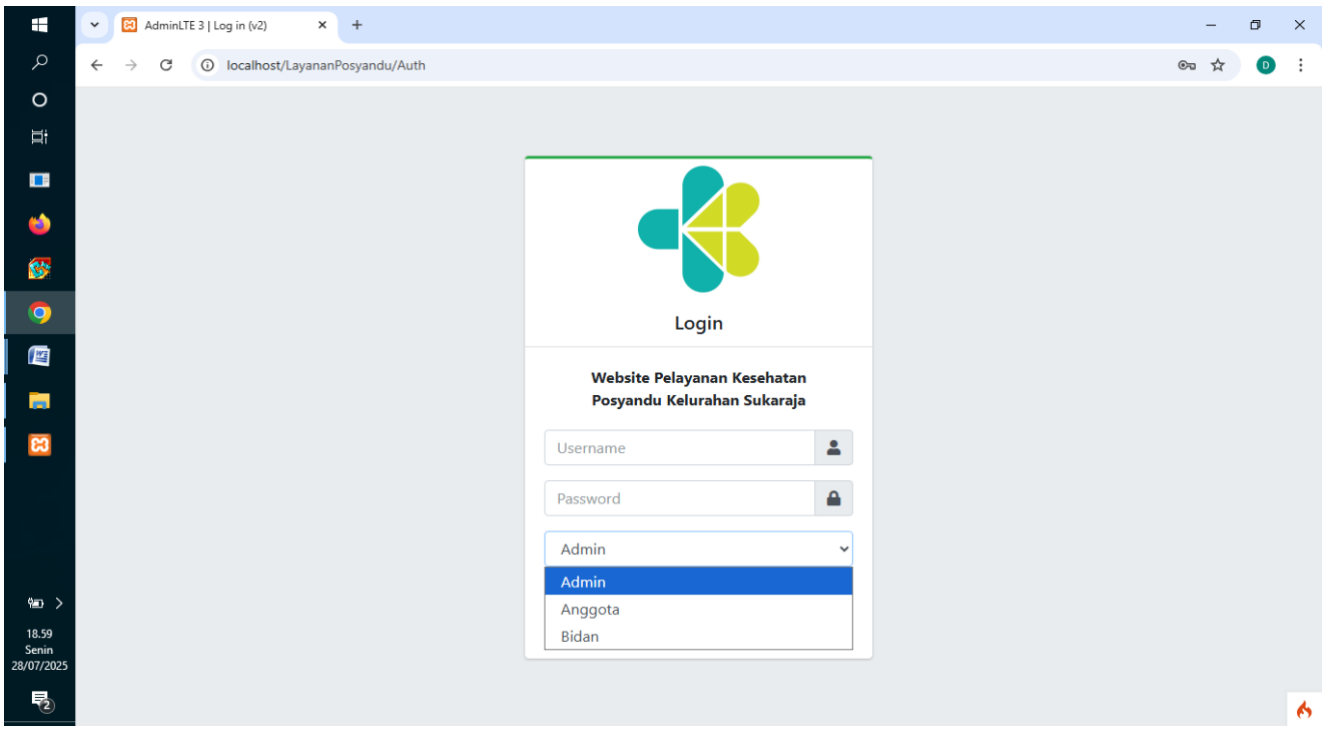

Fig. 5: Login page Display

In the image above is the login page display which will later function for the admin and midwife of the health center to enter and use the system, the admin and midwife of the health center must log in first by filling in the username and password, then the admin can access everything in the system, such as edit, add, delete while the midwife can only access reports from the system.

5.5. Administrator Page View

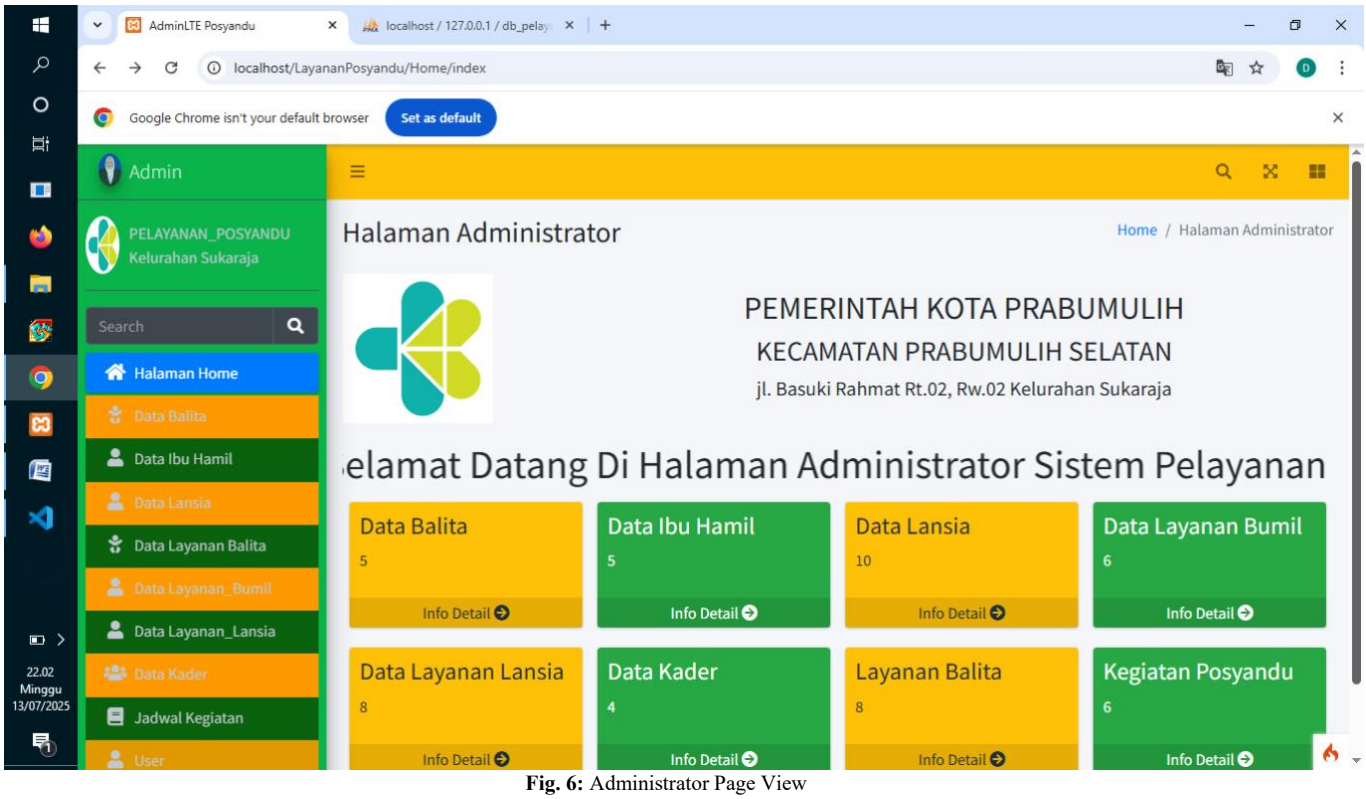

Fig. 6: Administrator Page View

The display above is the administrator page, all menus on the administrator page, the admin can click on the menu via the home page.

5.6. Toddler Data Page View

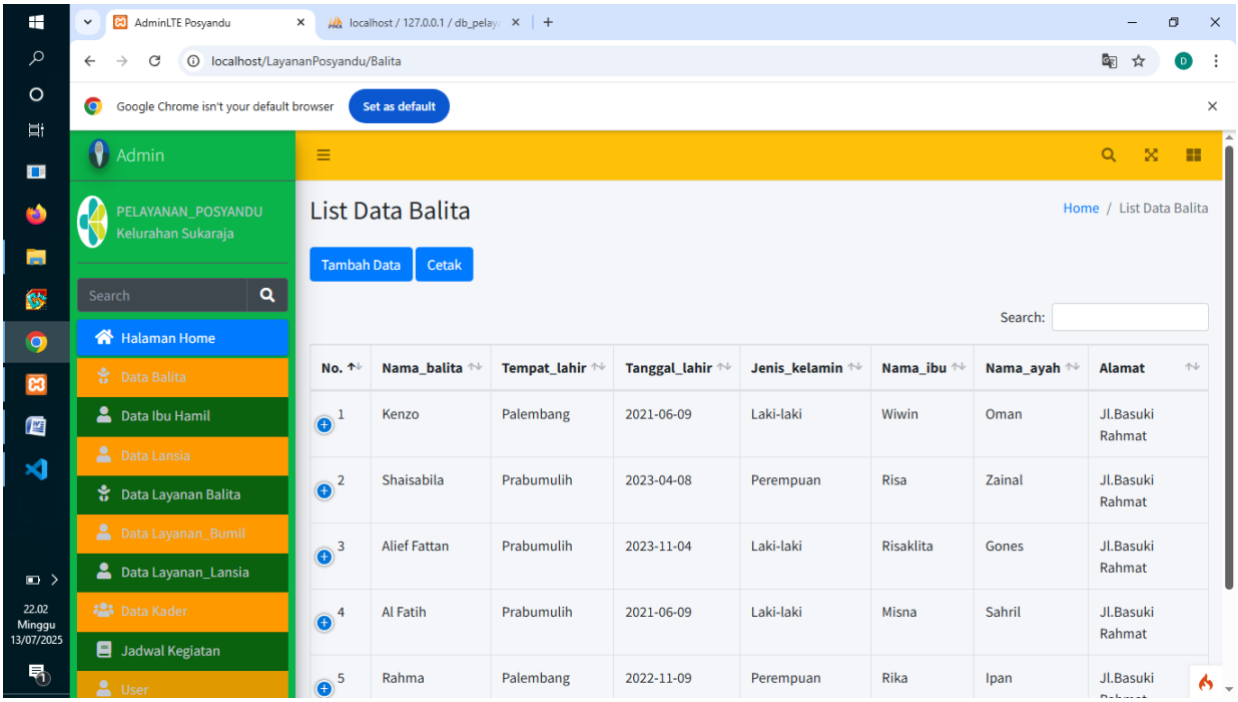

Fig. 7: Toddler Data Page View

The image above shows the toddler page, where the admin can add, edit, and delete data. Once data has been added, editing and deletion can be performed. If no further editing or deletion is required, the data will be printed as a file.

5.7. Pregnant Women Data Page View

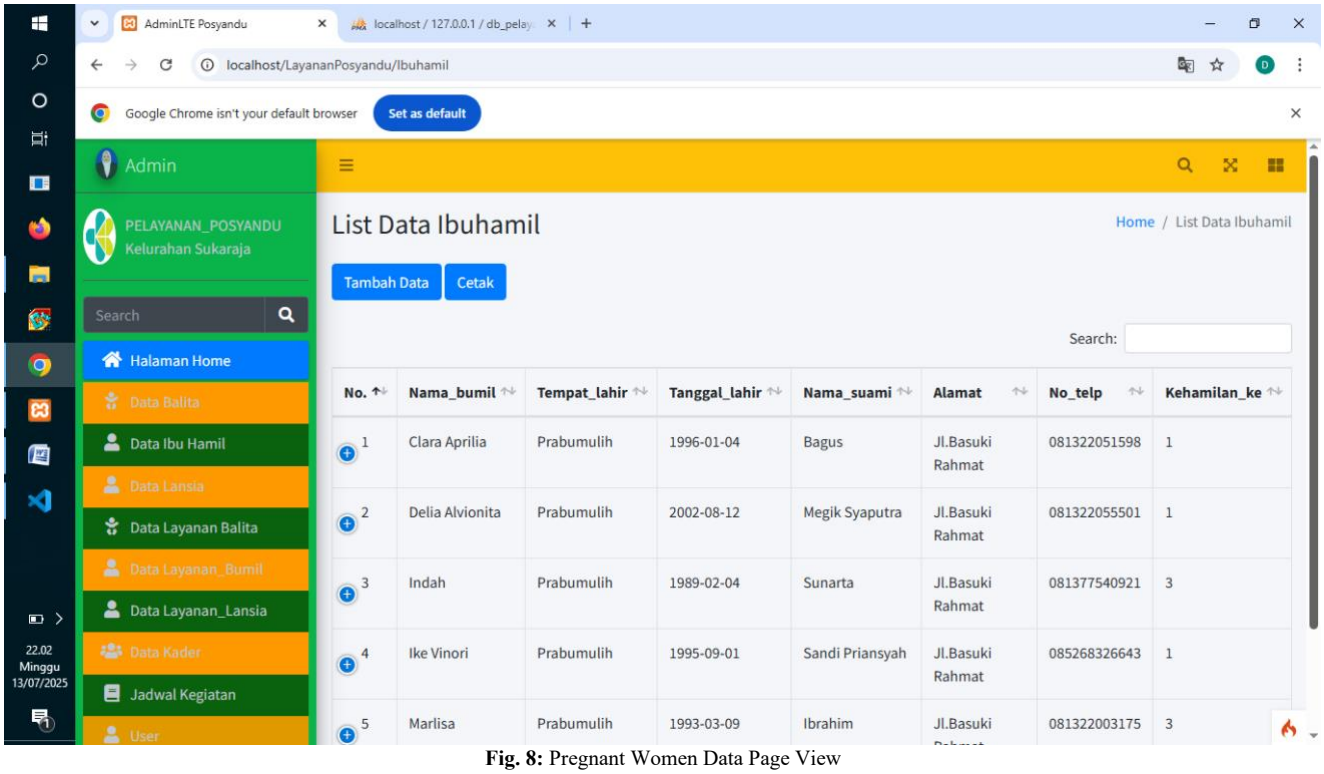

Fig. 8: Pregnant Women Data Page View

The image above shows the pregnant women's page. Admins can add, edit, and delete data. Once data has been added, editing and deletion can be performed. If no further editing or deletion is required, the data will be printed as a file.

5.8. Elderly Data Page View

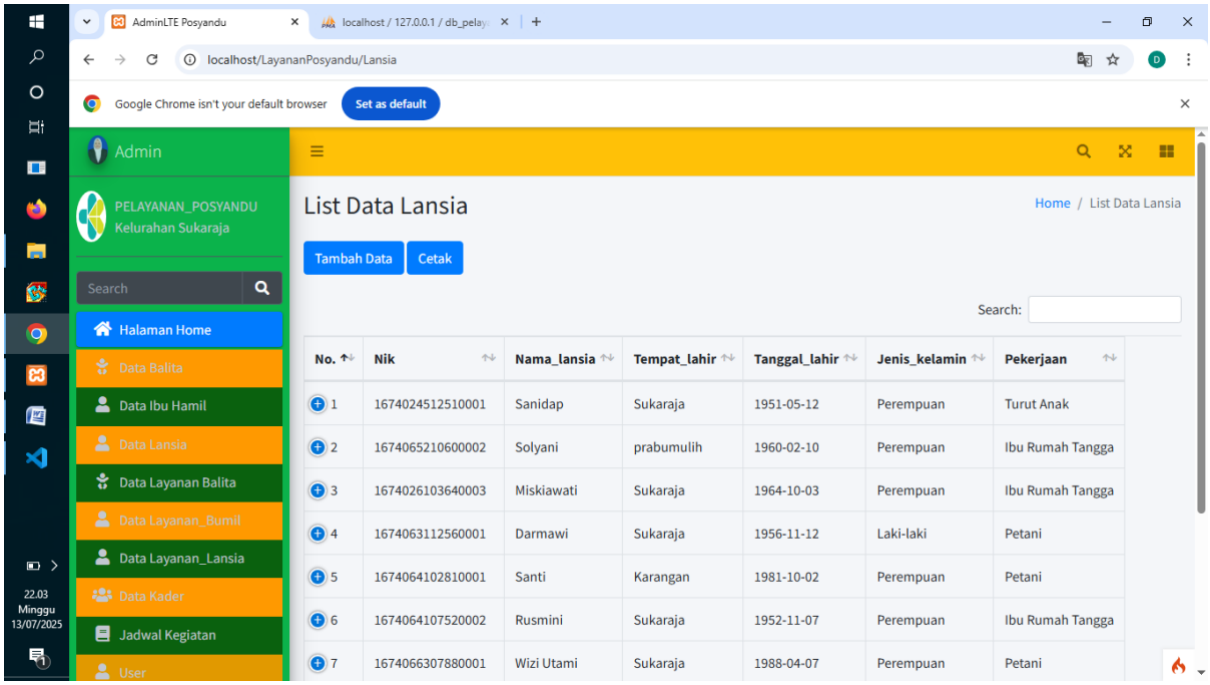

Fig. 9: Elderly Data Page View

The image above shows the elderly page, where the admin can add, edit, and delete data. Once data has been added, editing and deletion can be performed. If no further editing or deletion is required, the data will be printed as a file.

5.9. Toddler Service Data Page View

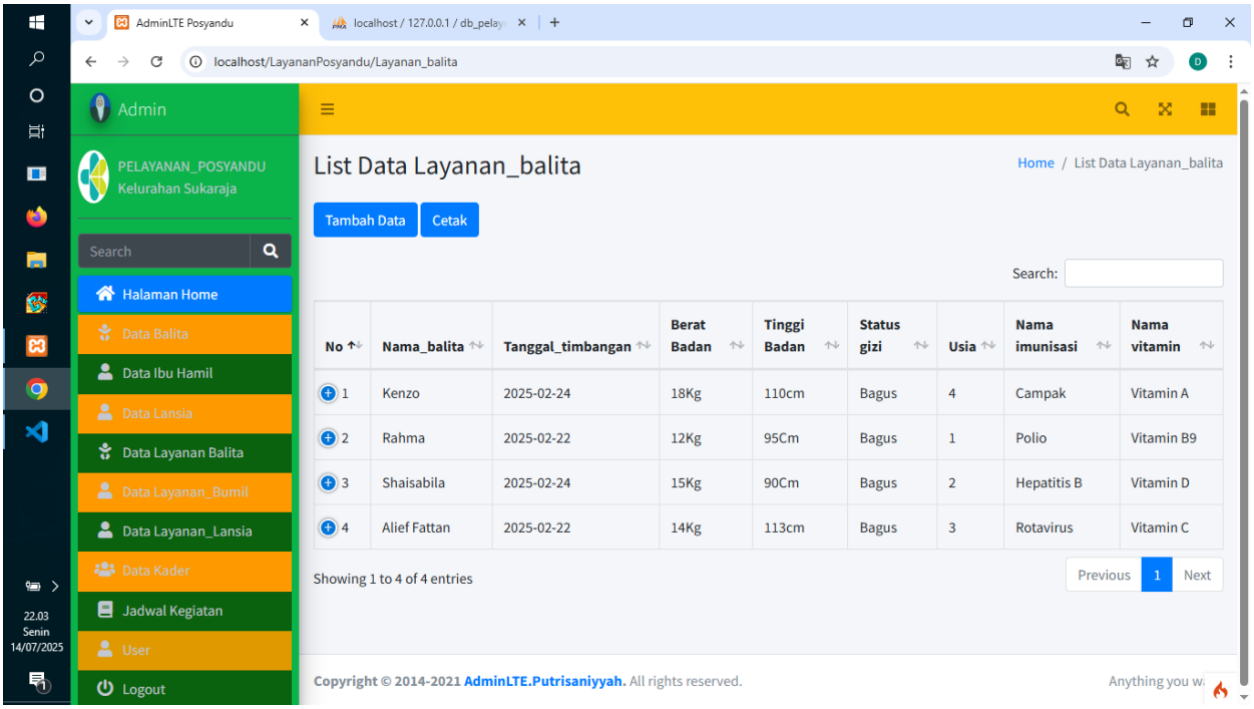

Fig. 10: Toddler Service Data Page View

The image above shows the toddler service page, where the admin can add, edit, and delete data. Once data has been added, editing and deletion can be performed. If no further editing or deletion is required, the data will be printed as a file.

5.10. Pregnant Women's Service Data Page View

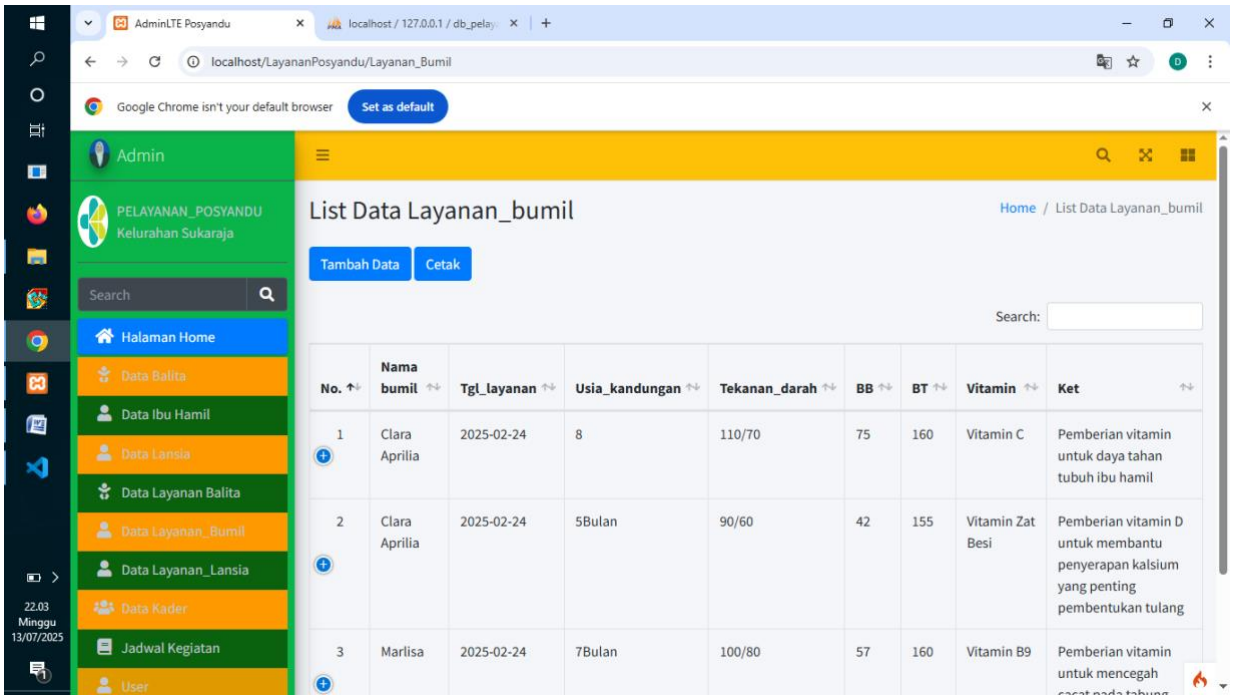

Fig. 11: Pregnant Women's Service Data Page View

The image above shows the pregnant woman service page, where the admin can add, edit, and delete data. Once data has been added, editing and deletion can be performed. If no further editing or deletion is required, the data will be printed as a file.

5.11. Elderly Services Data Page View

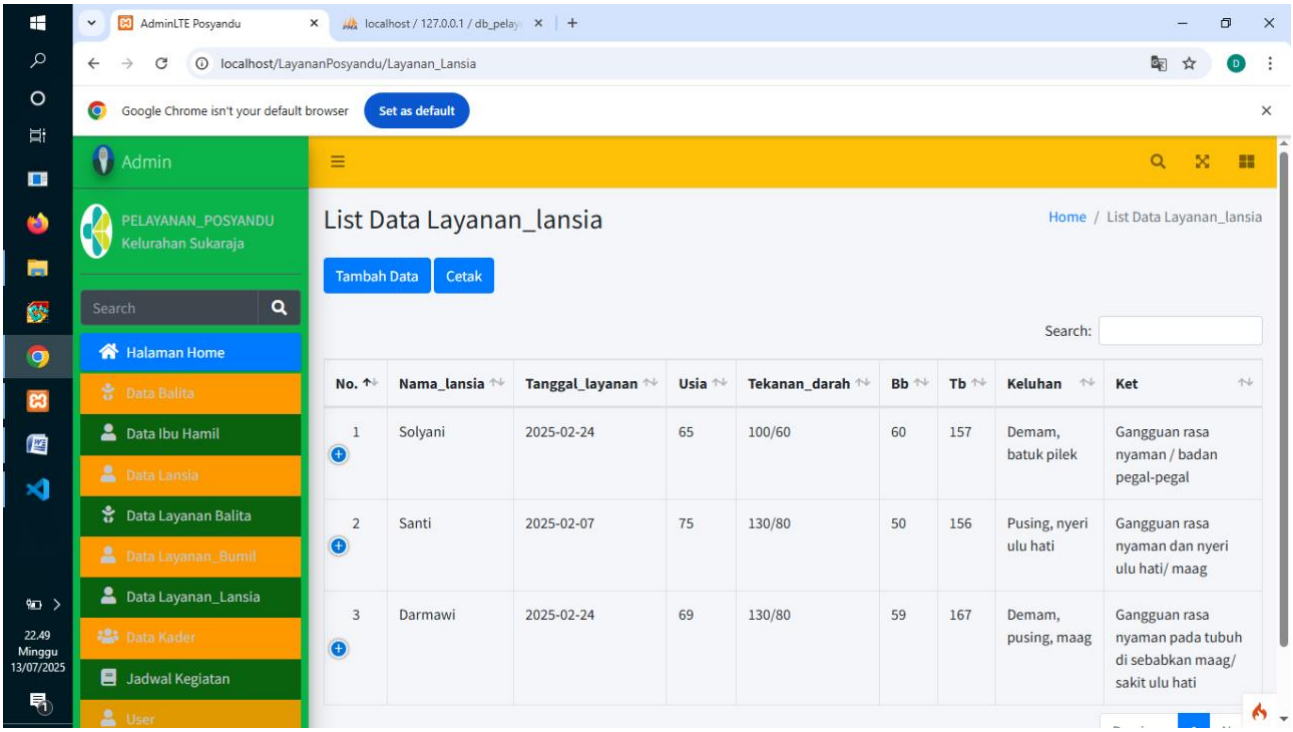

Fig. 12: Elderly Services Data Page View

The image above shows the elderly services page, where the admin can add, edit, and delete data. Once data has been added, editing and deletion can be performed. If no further editing or deletion is required, the data will be printed as a file.

5.12. Cadre Data Page Display

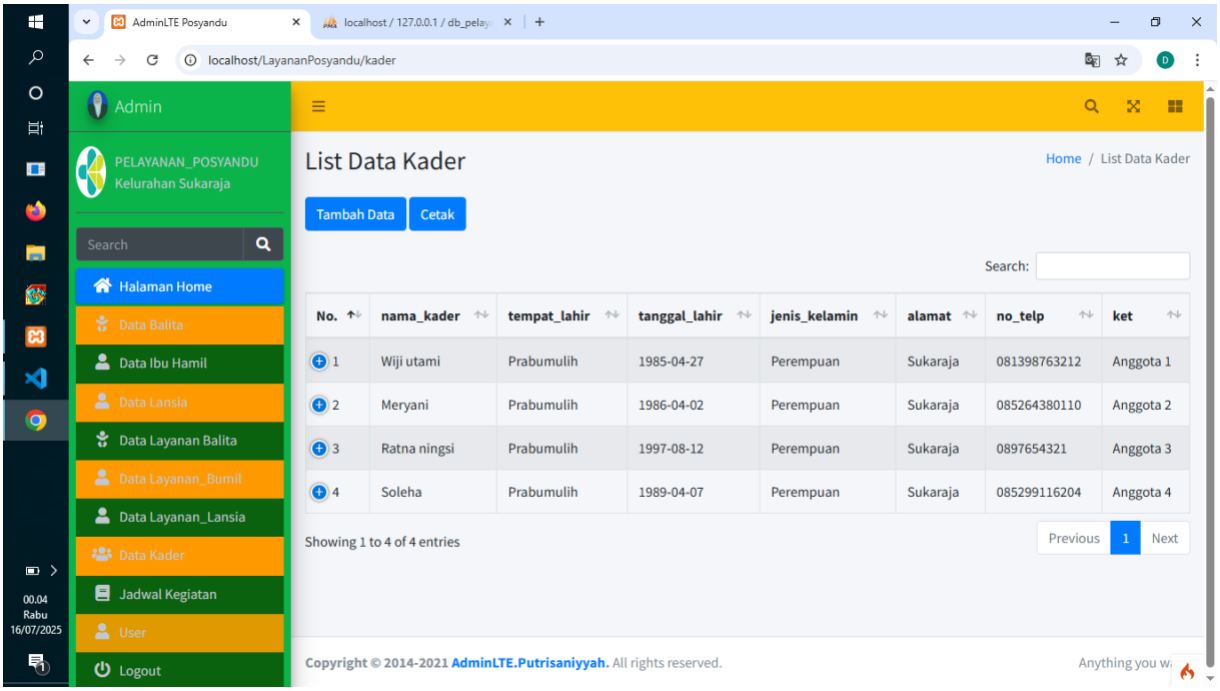

Fig. 13: Cadre Data Page Display

The image above shows the cadre page, where the admin can add, edit, and delete data. Once data has been added, editing and deletion can be performed. If no further editing or deletion is required, the data will be printed as a file.

5.13. Activity Schedule Data Page Display

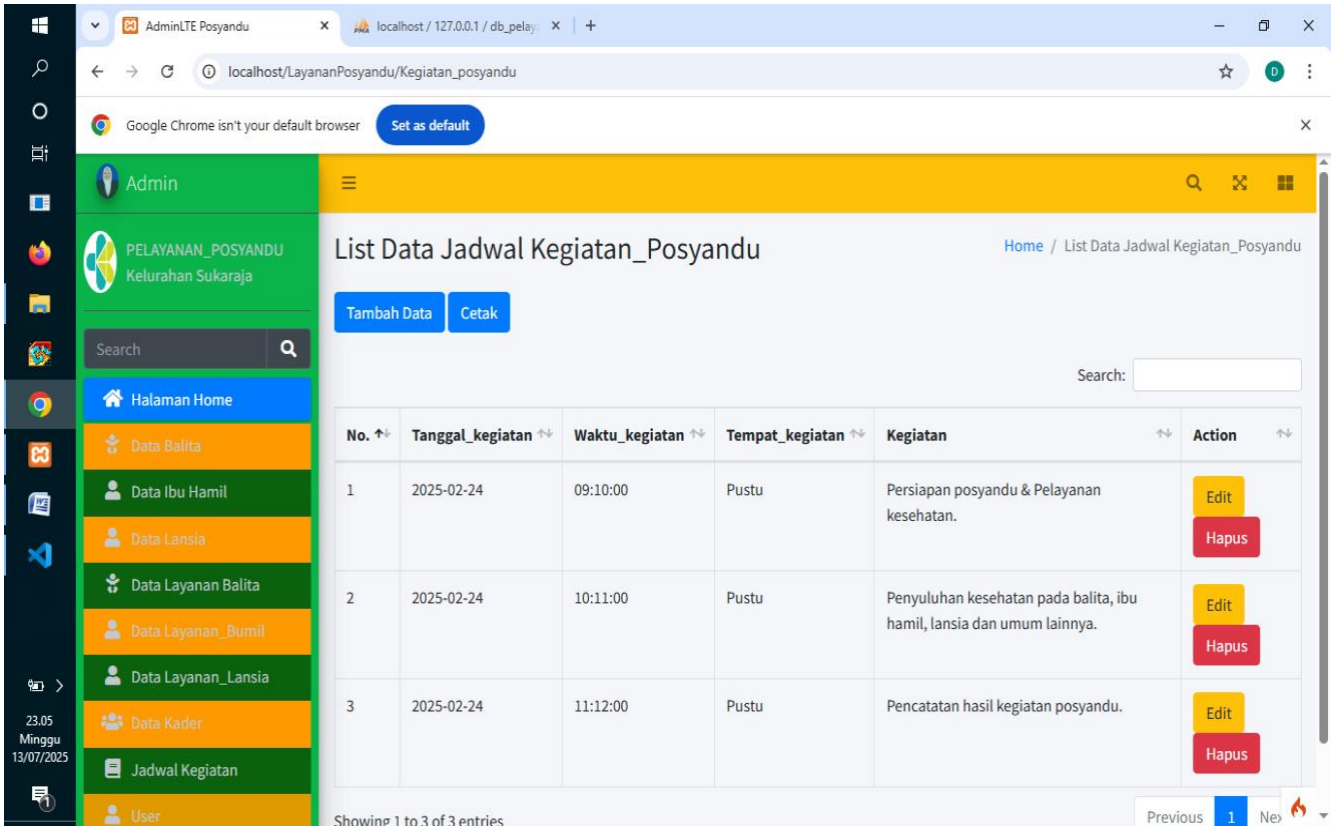

Fig. 14: Activity Schedule Data Page Display

The image above shows the activity schedule page, where the admin can add, edit, and delete data. Once data has been added, editing and deletion can be performed. If no further editing or deletion is required, the data will be printed as a file.

5.14. Test Results Conclusion

Based on the results of previous tests conducted by researchers, it can be concluded that the website for integrated health service posts (Posyandu) at the sub-health center (Pustu) in Sukaraja sub-district that was designed and created can run and function well.

6. Conclusion

Based on the research conducted, several conclusions can be drawn:

1. The previous integrated health post (Posyandu) service system was still carried out manually, such as recording and storing data in ledgers.
2. The website-based Posyandu service system that was designed and built has successfully simplified the process of recording and managing Posyandu service data in Sukaraja Village compared to previous manual methods.
3. System trials showed that users (cadres and health post staff) found the system helpful, both in terms of user-friendliness and speed of information access.

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