DESIGNING THE USER INTERFACE/USER EXPERIENCE (UI/UIX) OF THE DASAWISMA INFORMATION SYSTEM USING THE DESIGN THINKING METHOD (CASE STUDY: BATUNUNGGAL DISTRICT, BANDUNG CITY)

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Abstract: Dasa Wisma is a community group comprising several families within a neighborhood (RT/RW) aimed at enhancing family welfare through various activities, including education, health, and economic empowerment. However, the reporting and data management processes for Dasa Wisma activities in Batununggal District, Bandung City, are currently conducted resulting in prolonged processing times susceptibility to errors. Therefore, this study aims to design a webbased Dasa Wisma Reporting Information System (SIPEDAS) to facilitate and expedite reporting and data management more effectively and efficiently. SIPEDAS was developed using a system design methodology encompassing needs analysis, system design, implementation, and system testing. With SIPEDAS, Dasa Wisma officers can digitally manage member data, activities, and reports. The system also features search and data recapitulation capabilities, which facilitate decision-making for stakeholders at the district level. The results of this study demonstrate that the utilization of a web-based SIPEDAS can enhance the efficiency and accuracy of Dasa Wisma activity reporting, while minimizing errors often encountered in manual systems. Consequently, this system is expected to serve as an innovative solution in Dasa reporting management community Wisma and support empowerment programs at the district level.

Keywords: Information System, Dasa Wisma, Reporting, Webbased, Batununggal District

Introduction

Dasa Wisma is a form of community organization comprising several families within the neighborhood (RT/RW), aimed at enhancing family welfare through various activities, such as economic empowerment, health improvement, and family education. In various regions of Indonesia, including Batununggal District, Bandung City, Dasa Wisma groups play a crucial role in supporting government programs aimed at community empowerment and poverty alleviation.

However, in practice, the reporting of activities and data management of Dasa Wisma are still carried out manually, in the form of written records and physical reports submitted periodically to the district level. This manual process poses several problems, including delays in reporting, errors in data recording, and difficulties in accessing data quickly and accurately. Furthermore, the manual process is time-consuming and prone to data loss, thereby hindering work efficiency and informed decision-making at the district level.

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In the current era of digitalization, information technology plays a pivotal role in enhancing the efficiency and effectiveness of various sectors, including data management of community organizations such as Dasa Wisma. Therefore, an information system is needed to facilitate integrated and real-time reporting and data management processes. The web-based Dasa Wisma Reporting Information System (SIPEDAS) is designed to address these issues, aiming to facilitate the digital reporting of Dasa Wisma activities and provide rapid and accurate data access for all stakeholders.

SIPEDAS is expected to offer various conveniences, such as Dasa Wisma member data management, activity recording, report generation, and automated data recapitulation. With this system, it is expected that transparency in reporting, increased work efficiency, and more optimal support for government programs at the district level can be achieved. This study aims to design and implement a web-based SIPEDAS in Batununggal District, Bandung City, and analyze the benefits derived from the application of this system in Dasa Wisma operational activities.

Literature Review

1. Definition of Design

Design is an activity aimed at creating a new system that can solve problems faced by an organization, derived from the selection of the best system alternatives.

2. System Design

System design is the process of structuring or developing a new information system.

3. Definition of System

A system is a unity consisting of two or more components or subsystems that interact to achieve a goal.

4. Definition of Information

Information is data that has been processed into a more useful and meaningful form for the recipient. The source of information is data. Data is a factual representation describing an event or real entity. Events are occurrences that happen at a specific time.

5. Definition of Information System

An Information System (Al-Bahra, 2005) is a collection of organizational procedures that, when executed, provide information for decision-makers and/or to control the organization.

6. Definition of UML (Unified Modeling Language)

(Prabowo Pudjo Widodo - Herlawati, 2011:6) states that UML is applied for specific purposes, typically including designing software, facilitating communication between software and business processes, detailing systems for analysis and identifying system requirements, and documenting existing systems along with their processes and organizations.

7. Definition of Testing

Testing is the process of examining or evaluating a system or system components manually or automatically to verify whether the system meets the specified requirements or to identify differences between expected and actual results.

8. Definition of Black Box Testing

Black-box testing is a software testing method that tests the functionality of an application against its internal structure or workings.

9. Definition of Procurement

A procurement information system is a series of electronic processes for the procurement of goods and services that occur between sellers and buyers through information technology mediums. Depending on the approach, buyers or sellers can set prices or make offers. When customers make offers, they can qualify the amount of discounts or special offers provided. With procurement information system tools that enable automatic purchasing and outgoing goods, a company hopes to control inventory more effectively, reduce purchasing costs, and improve production cycles. A procurement information system is expected to integrate with future computer trends, namely Supply Chain Management.

In business, the adoption or addition of a procurement information system is usually prepared by the IT department or financial specialists. However, procurement information systems are most successfully implemented by those who understand the procurement process and its intended outcomes. Due to this understanding of the procurement process, involvement in the procurement function is key to identifying and assessing the costs and benefits of using a procurement information system (IAPWG, 2006).

10. Definition of Database

A database is a computerized system whose primary purpose is to maintain processed data or information and make information available when needed. Essentially, a database is a medium for storing data to be accessed easily and quickly.

11. Definition of HTML

Hyper Text Markup Language (HTML) is a markup language used to create a web page and display various information within an internet browser.

12. Definition of PHP

Hypertext Preprocessor (PHP) is a language that can only run on a server and its results can be displayed on a client.

13. Definiton of XAMPP

XAMPP is free software that supports multiple operating systems, a compilation of several programs.

14. Definition of MySQL

MySQL is a software database management system (DBMS) that is multithreaded, multi-user, with approximately 6 million installations worldwide.

Methodology

The process model used in the design of this service management information system is the prototyping process model. With the prototyping method, authors and users can interact throughout the system development process.

A prototype is an implementation of a part of a software product, typically with limited functionality, low reliability, and a basic interface.

1. Requirements Gathering

Customers and developers collaboratively define the format of the entire software, identify all requirements, and outline the system to be created.

2. Prototype Design

Creating a prototype design involves developing a temporary design that focuses on presentation to the customer (e.g., creating input and output formats).

3. System Evaluation

This evaluation is conducted by the customer to determine whether the constructed prototype meets their needs. If it does, step 4 is taken. If not, the prototype is revised by repeating steps 1, 2, and 3.

4. System Coding

In this stage, the agreed-upon prototype is translated into the appropriate programming language.

5. System Testing

Performing tests on the developed software.

There are two types of testing:

a. Black Box Testing

Black-box testing is a test performed by only observing the execution results through test data and examining the functionality of the software.

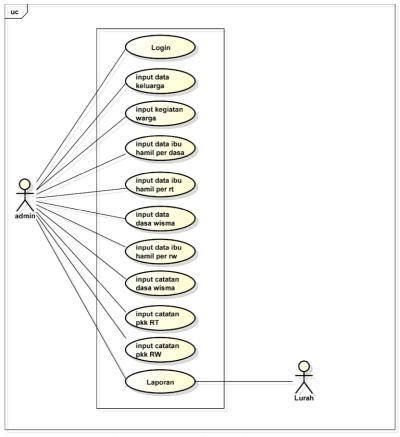
b. White Box Testing

White-box testing is a test based on checking the design details, using the control structure of the program design procedurally to divide the testing into several test cases."

Results & Discussion

1. Functional Design

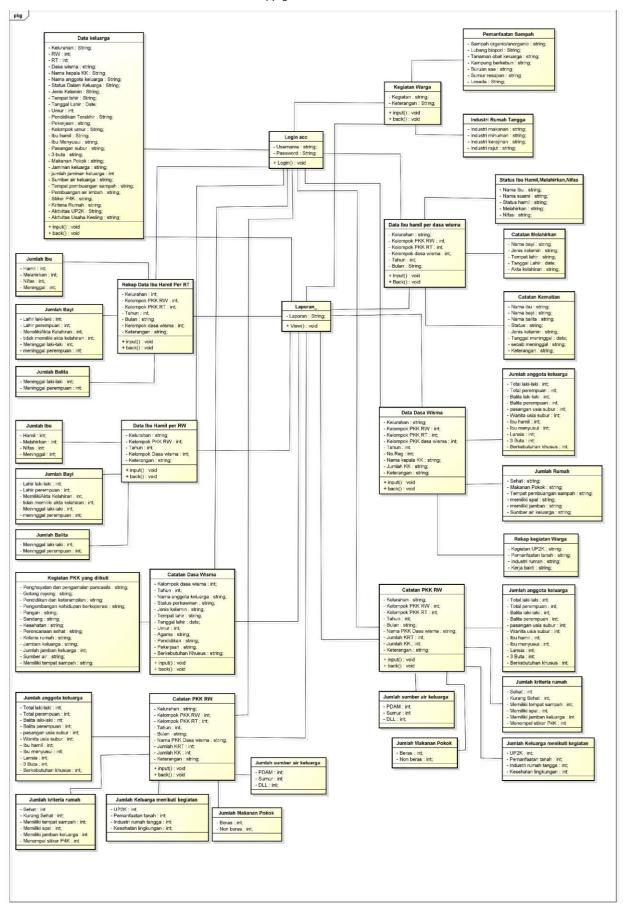
a. Use Case Diagram



Picture 1 Use Case Diagram

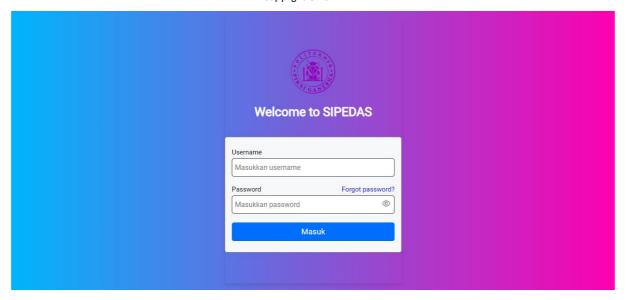
b. Class Diagram

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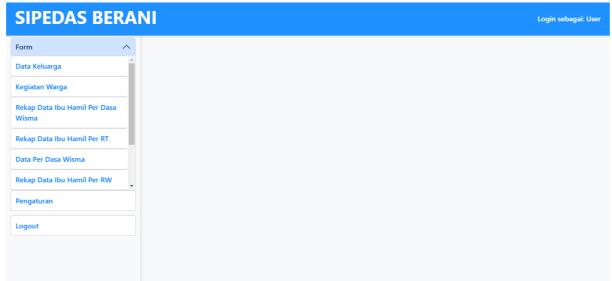


Picture 2 Class Diagram

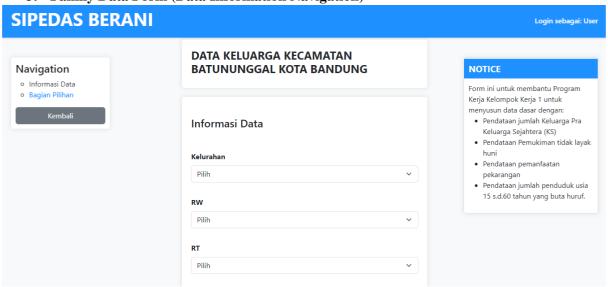
1. Login



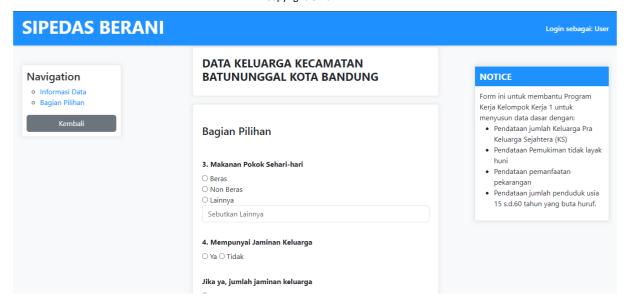
2. Main Menu



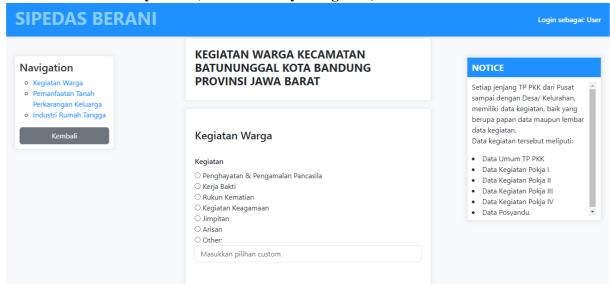
3. Family Data Form (Data Information Navigation)



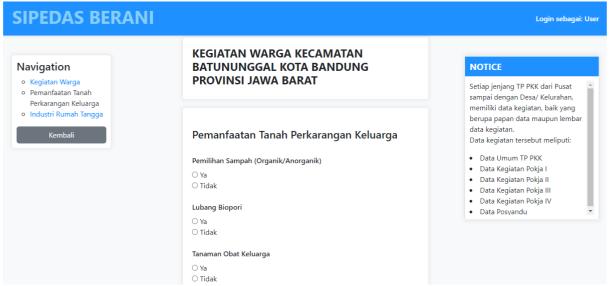
4. Family Data Form (Choice Section Navigation)



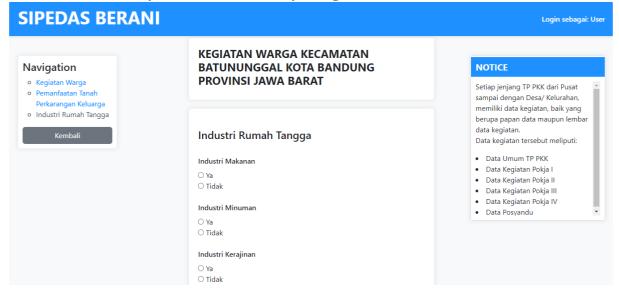
5. Citizen Activity Form (Citizen Activity Navigation)



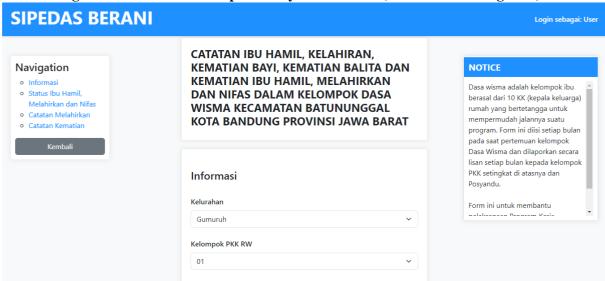
6. Citizen Activity Form (Family Home Garden Utilization Navigation)



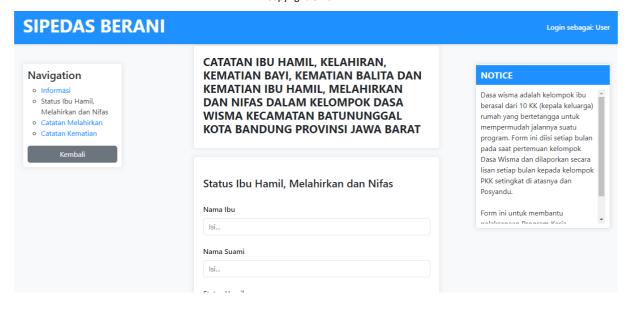
7. Citizen Activity Form (Home Industry Navigation)



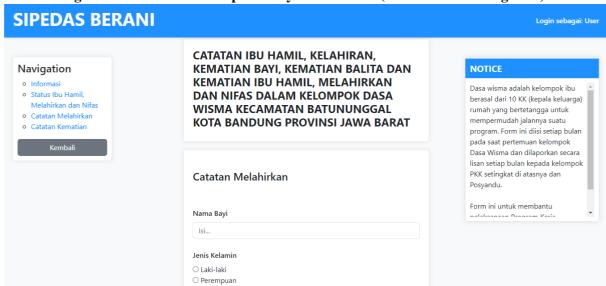
8. Pregnant Women Data Recap Form by Dasa Wisma (Information Navigation)



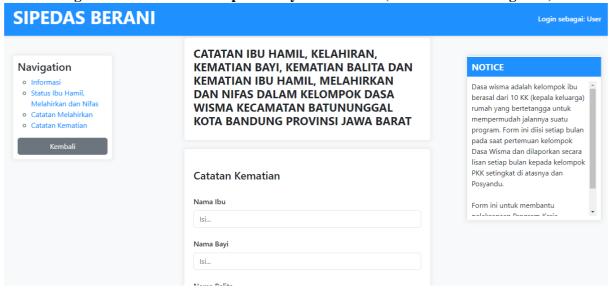
9. Pregnant Women Data Recap Form per Dasa Wisma (Status of Pregnant, Giving Birth and Postpartum Women Navigation)



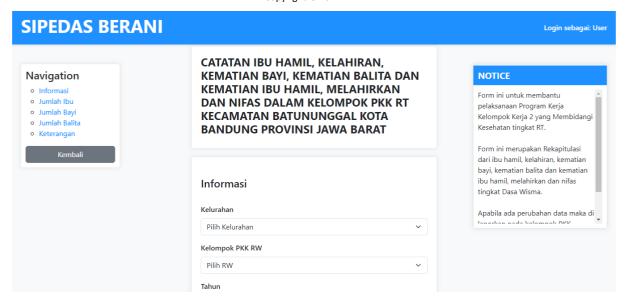
10. Pregnant Women Data Recap form by Dasa Wisma (Birth Record Navigation)



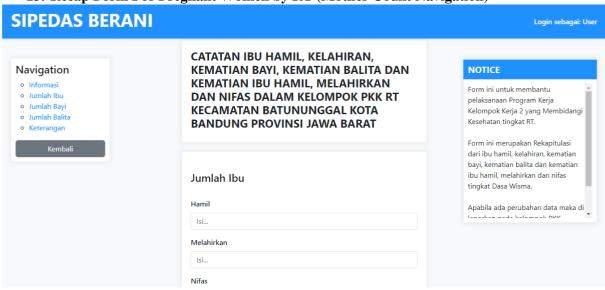
11. Pregnant Women Data Recap Form by Dasa Wisma (Death Record Navigation)



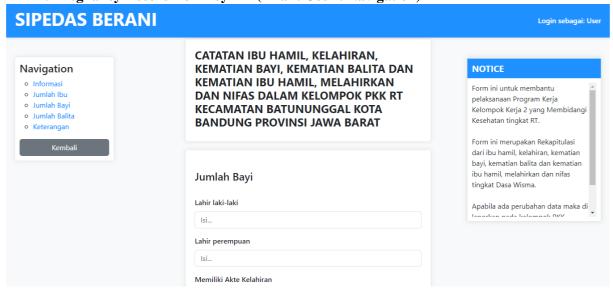
12. Recap Form For Pregnant Women by RT (Information Navigation)



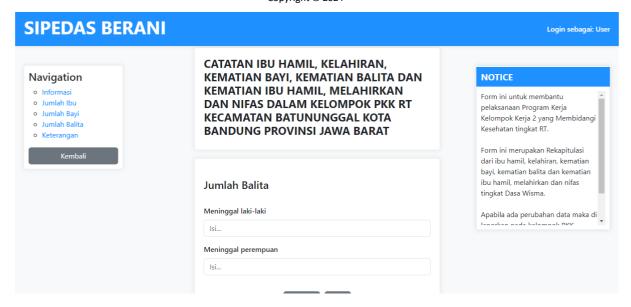
13. Recap Form For Pregnant Women by RT (Mother Count Navigation)



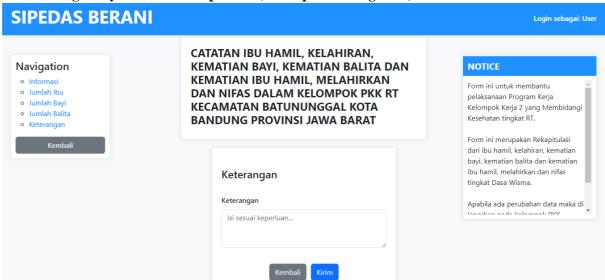
14. Pregnancy Record Form by RT (Infant Count Navigation)



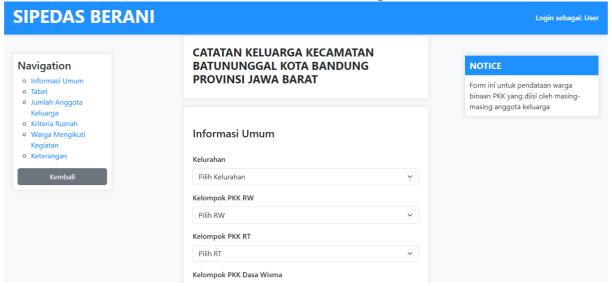
15. Pregnancy Record Form per RT (Toddler Count Navigation)



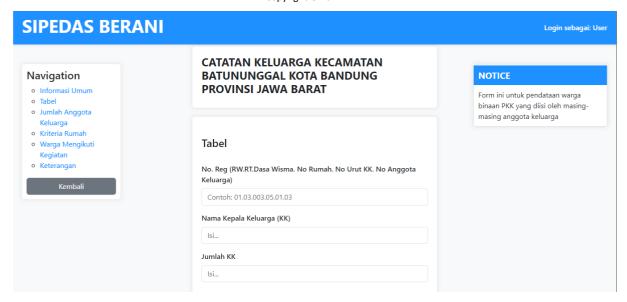
16. Pregnancy Record Form per RT (Description Navigation)



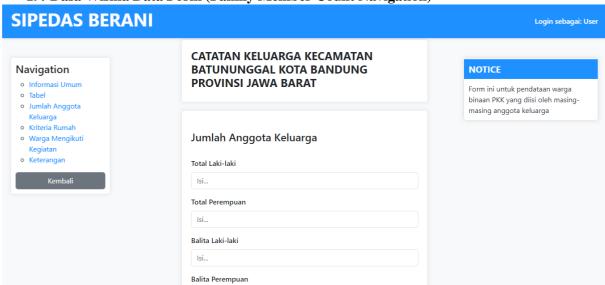
17. Dasa Wisma Data Form (General Information Navigation)



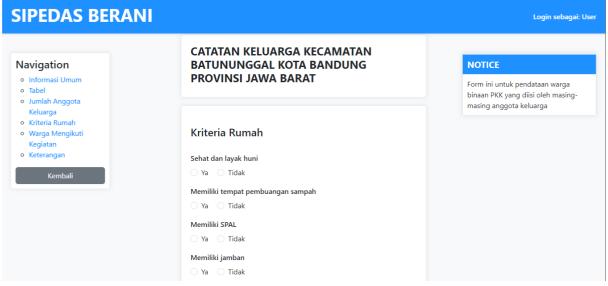
18. Dasa Wisma Data Form (Table Navigation)



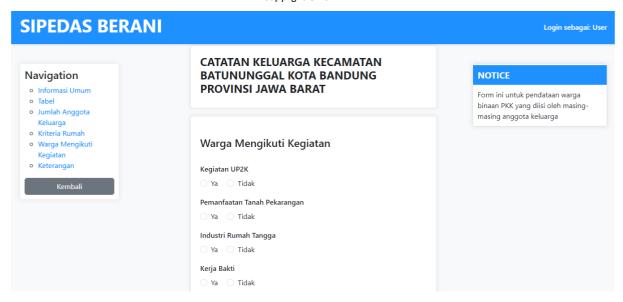
19. Dasa Wisma Data Form (Family Member Count Navigation)



20. Dasa Wisma Data Form (Housing Criteria Navigation)



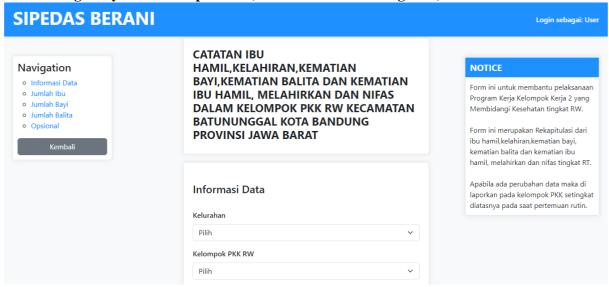
21. Dasa Wisma Data Form (Residents Participating in Activities Navigation)



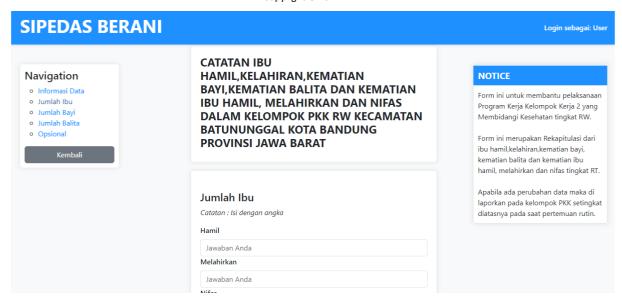
22. Dasa Wisma Data Form (Description Navigation)



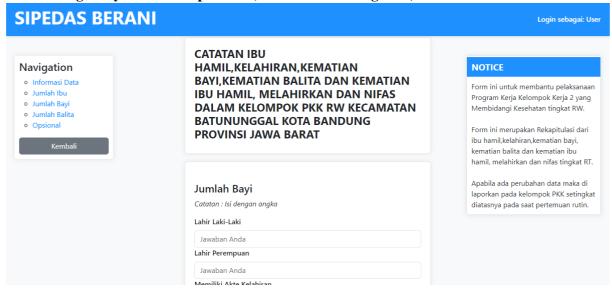
23. Pregnancy Data Form per RW (Data Information Navigation)



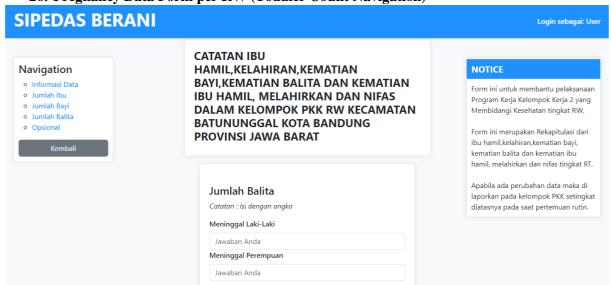
24. Pregnancy Data Form per RW (Mother Count Navigation)



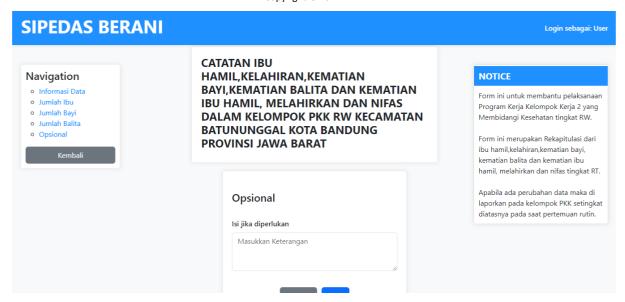
25. Pregnancy Data Form per RW (Infant Count Navigation)



26. Pregnancy Data Form per RW (Toddler Count Navigation)



27. Pregnancy Data Form per RW (Optional Navigation)



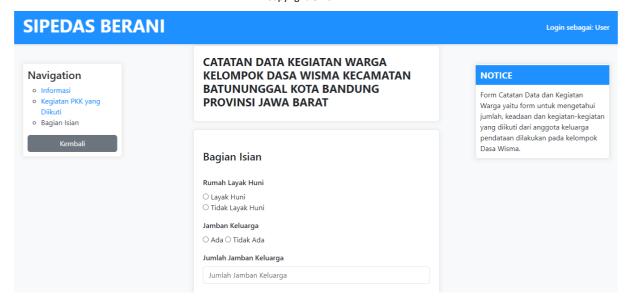
28. Dasa Wisma Record Summary Form (Information Navigation)



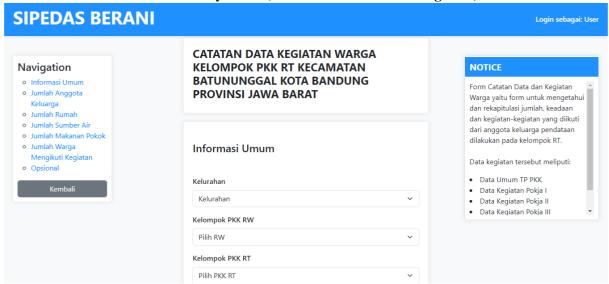
29. Dasa Wisma Record Summary Form (Participating PKK Activities Navigation)



30. Dasa Wisma Record Summary Form (Fill-in Section Navigation)



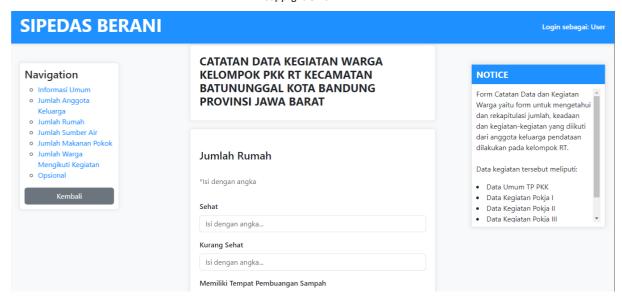
31. PKK RT Record Summary Form (General Information Navigation)



32. PKK RT Record Summary Form (Family Member Count Navigation)



33. PKK RT Record Summary Form (House Count Navigation)



34. PKK RT Record Summary Form (Water Source Count Navigation)



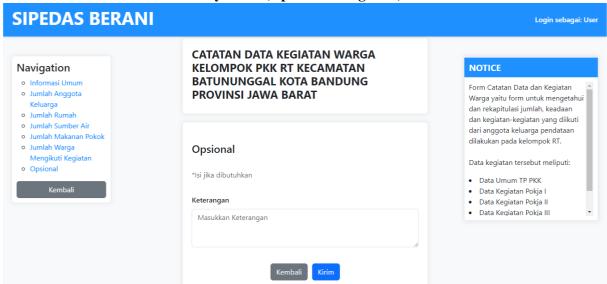
35. PKK RT Record Summary Form (Staple Food Count Navigation)



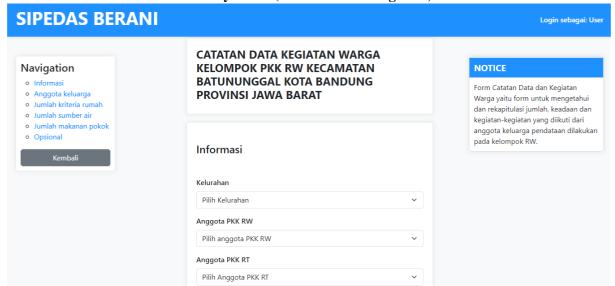
36. PKK RT Record Summary Form (Residents Participating in Activities Navigation)



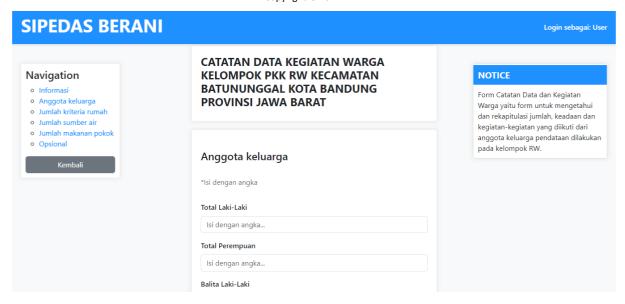
37. PKK RT Record Summary Form (Optional Navigation)



38. PKK RW Record Summary Form (Information Navigation)



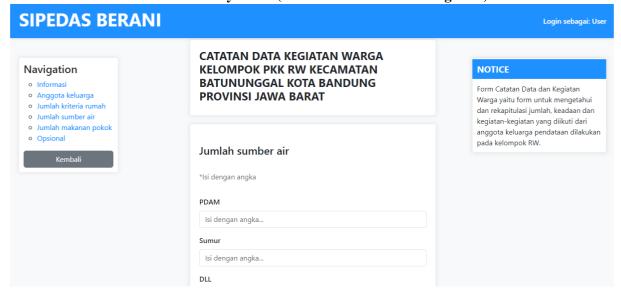
39. PKK RW Record Summary Form (Family Members Navigation)



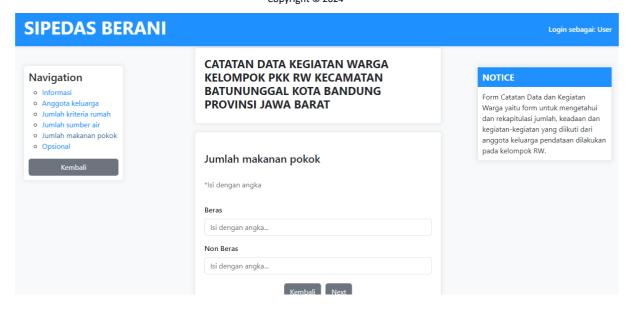
40. PKK RW Record Summary Form (Housing Criteria Navigation)



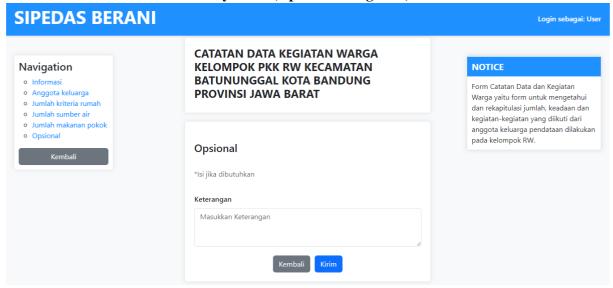
41. PKK RW Record Summary Form (Water Source Count Navigation)



42. PKK RW Record Summary Form (Staple Food Count Navigation)



43. PKK RW Record Summary Form (Optional Navigation)



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