

## WEB-BASED LIVESTOCK FEED INVENTORY APPLICATION (CASE STUDY: KELOMPOK TANI KARYA BERSAMA)

Rio Septian Hardinata<sup>1\*</sup>, Rian Farta Wijaya<sup>2</sup>, Dara Tika Pratiwi<sup>3</sup>  
Universitas Pembangunan Panca Budi

---

**Keywords:**

CSS, Design Thinking, HTML, Inventory, Information, JavaScript, Kelompok Tani Karya Bersama, Feed, PHP,

**Correspondence Address:**

rioseptian@dosen.pancabudi.ac.id

**Abstract:** *Inventory refers to the concept of storage, often associated with a warehouse. Feed refers to an intake or consumption. All living beings consume food or vitamins to maintain their strength and health, including livestock. Everything we obtain in this world is driven by information. Similarly, information about livestock feed is crucial for the growth and development of the animals. This is equally important for the owners and staff managing the Livestock Feed Inventory in Kelompok Tani Karya Bersama. To facilitate the staff and feed owners, a practical solution is needed, such as the development of a "Web-Based Livestock Feed Inventory Information System" for Kelompok Tani Karya Bersama using the Design Thinking method. This system enables access via the internet anytime and anywhere. The web application was developed using HTML, PHP, JavaScript, and CSS programming languages. The final result of this research is a web application containing comprehensive information about Kelompok Tani Karya Bersama.*

---

### INTRODUCTION

Today, the term "inventory" is no longer unfamiliar, especially for businesspeople in the livestock sector. For a businessperson, stocking items needed for sales is a common practice. For example, in the case of livestock feed, it is essential to ensure an adequate supply. Before delving further into the discussion, the writer would like to clarify the meaning of feed so readers can understand the purpose of this writing. According to the writer, feed refers to an intake or consumption provided to livestock, which includes food and vitamins essential for their growth. The availability of proper feed is crucial for the healthy development of livestock. To ensure optimal growth, attention must be paid to the quality and type of food and vitamins consumed. Every livestock entrepreneur prioritizes the quality and type of feed consumed by their animals.

In North Sumatra, livestock farming is still a prominent sector, including raising chickens, goats, cattle, sheep, buffaloes, and more. The information shared by the writer stems from thorough research and knowledge. Information is vital in all aspects of life. Without it, living beings would not be aware of advancements in civilization. In this era of technological development, the concept of an information system is no longer

foreign. Information systems play a critical role in enabling individuals to understand current conditions effectively.

According to Jonny Seah (2020), an information system is an integration of various information technology components that collaborate to produce useful information and facilitate communication within an organization or group. Sukoco (2019) defines design thinking as an approach centered on the end-users. This approach combines three elements—business (viability), people (desirability), and technology (feasibility)—to generate ideas effectively. According to I Gede Iwan Sudipa (2023), an inventory information system is a tool used to monitor and control stock, ensuring the company maintains sufficient supplies to meet field demands. Angelina (2019) states that feed is any substance consumed by livestock that does not harm their health. The term "feed" generally refers to animal consumption that meets quantitative, qualitative, and nutritional balance requirements.

Sebok (2018) defines a website as a collection of interconnected pages containing various items such as documents and images stored on a web server. A farmer group, according to definition, is an association formed based on shared interests, social and economic conditions, resources, commodities, and familiarity to enhance and develop the activities of its members. Rahardja et al. (2019) define a database as a collection of data that is mechanically organized, well-defined, and controlled. Databases function to classify and simplify information, prevent data duplication and inconsistency, and facilitate processes such as storage, access, updates, and deletion.

According to Novi Fuji Astuti (2022), MySQL functions to create and manage information within a database using SQL programming language. Saputra (2019) explains that HTML is a programming language used to structure and describe web pages, allowing them to be displayed on web browsers. Saputra (2018) defines a Data Flow Diagram (DFD) as a graphical representation of data flow within a system or entity. A DFD illustrates how data is processed from input to output, serving as a visual technique for understanding data transformation.

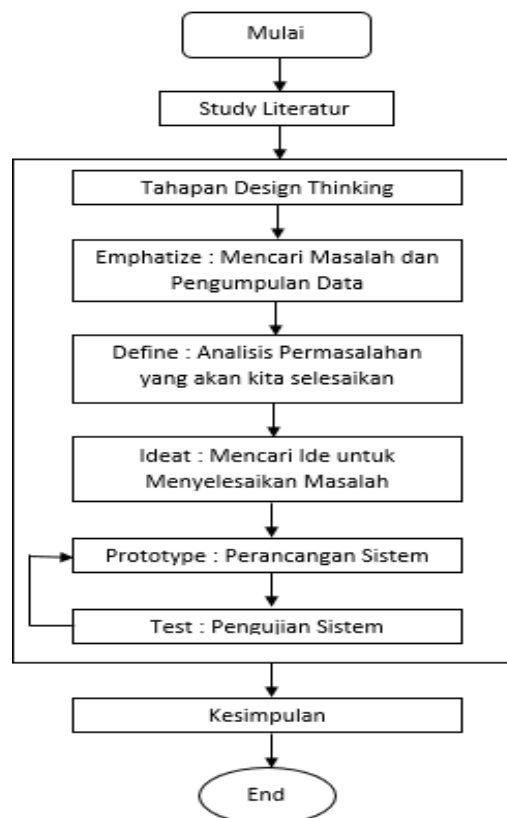
According to Sukamto and Shalahuddin (cited in Muhdar, Muksin, Mudar, 2019), an Entity-Relationship Diagram (ERD) is one of the earliest tools used in relational database design. The symbols in an ERD are referred to as components. Aprillia (2020) describes UI (User Interface) design as the visual representation of a product that

connects the system and the user. User interfaces are designed to be aesthetically pleasing, taking into account elements such as color selection, typography, layout, and images. The author concludes that UI refers to the visual appearance of a product seen by the user.

Adani (2020) describes User Experience (UX) design as everything that occurs during the use of a product by its users. The appearance of a product is aimed at creating a visually attractive experience that aligns with the users' values and expectations. In summary, UX design ensures that a product resonates with users and meets their needs effectively.

## RESEARCH METHODS

The stages of this research are structured based on the five steps of the Design Thinking methodology, namely:



Picture.1 Research Stages Using the Design Thinking Method

In the first stage, Empathize, interviews and direct observations were conducted with staff members of Kelompok Tani Karya Bersama to understand the existing issues within the group. The interviews, which lasted several minutes, revealed various

challenges faced by the group. The main issues identified were:

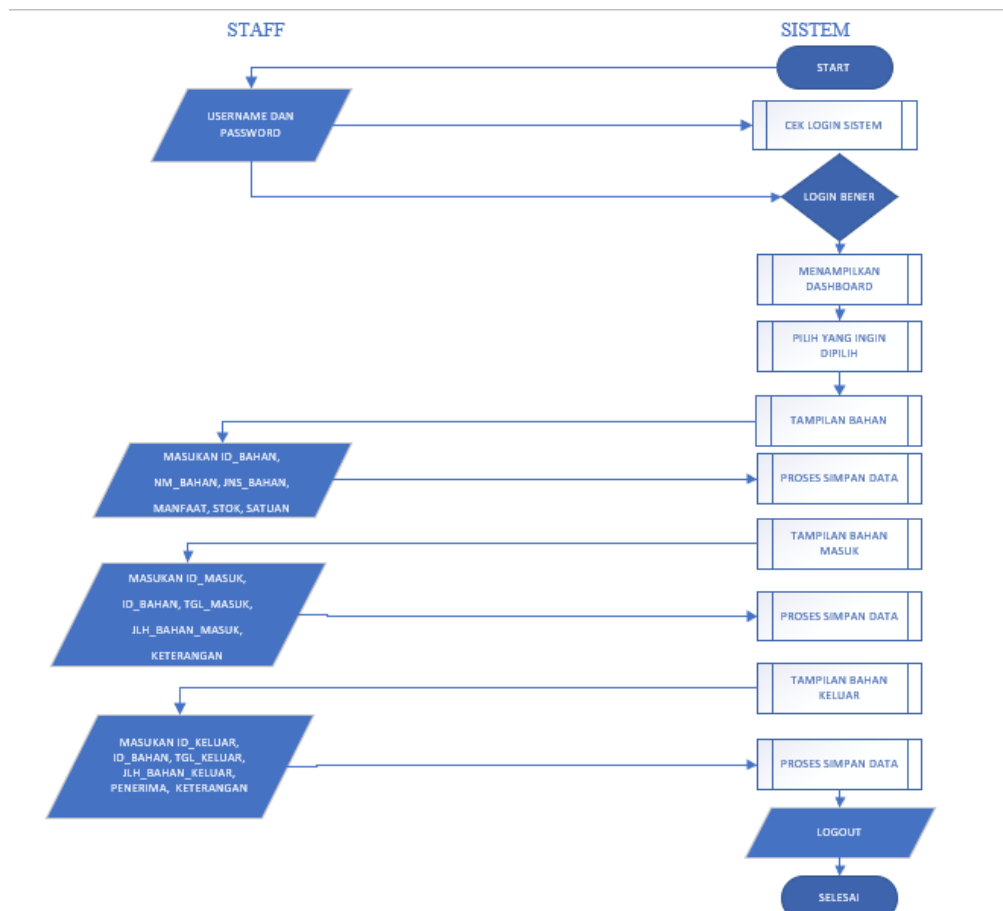
The absence of a system containing information about livestock feed inventory in Kelompok Tani Karya Bersama.

Livestock feed inventory records were still managed manually in notebooks.

In the second stage, Define, the core problem was determined to be the lack of an information system for livestock feed inventory. Based on the interviews, it was found that the manual recording of livestock feed materials often led to errors in data management within the group.

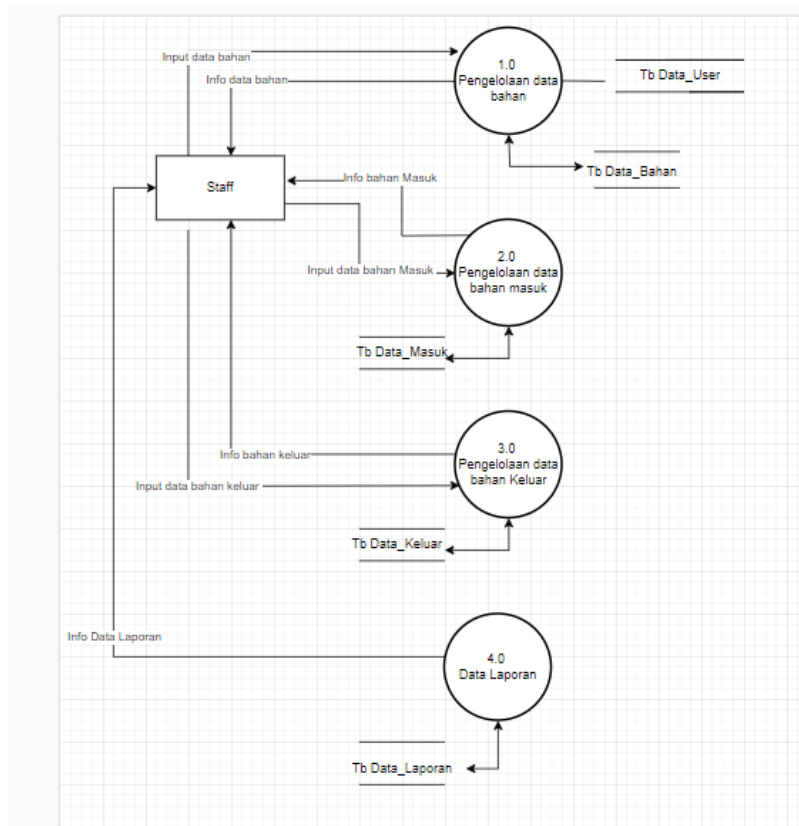
The next stage, Ideate, involved generating ideas to address the core problem. One of the main solutions proposed was the development of a Web-Based Livestock Feed Inventory Application. This system would provide comprehensive information on livestock feed inventory at Kelompok Tani Karya Bersama, simplifying the recording process for staff and reducing the risk of errors in managing feed inventory data.

Proposed System Analysis:



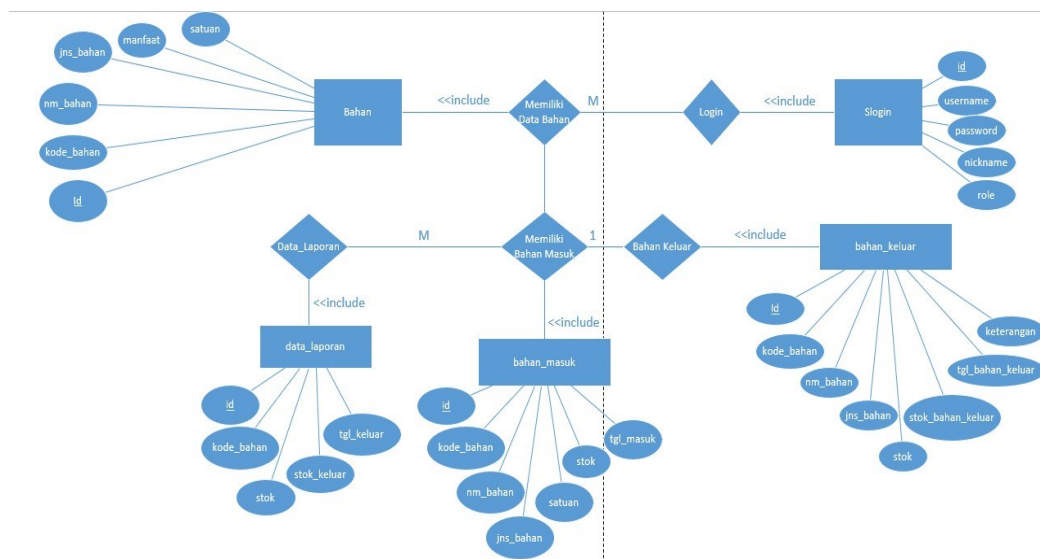
Picture. 2 Flowchart

Data flow diagram (DFD)



Picture 3. Data Flow Diagram level 0

ERD (Entity Relationship Diagram)



Picture 4 ERD Sistem

## RESULTS AND DISCUSSION

### Minimum Hardware and Software Specifications Requirements

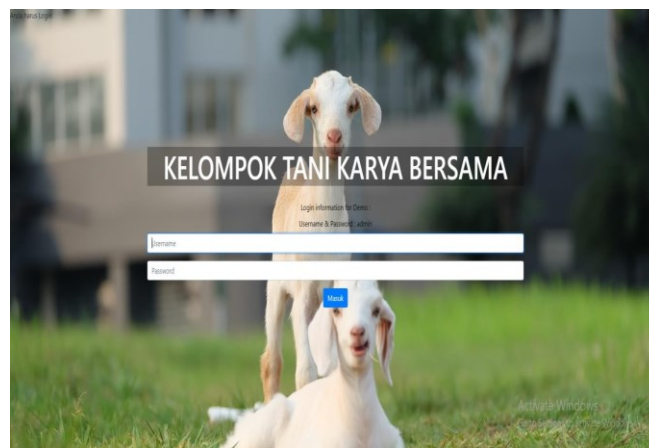
For the development of this application, certain specifications are required for the computer to ensure the system operates efficiently. These system requirements can be divided into two categories as follows:

Tabel 1. Spesifikasi Hardware

| NO | COMPONENT NAME | SPECIFICATION  |
|----|----------------|--|
| 1. | ACER           | Intel (R) Celeron (R) N4020 CPU @ 1.10 GHz (c2CPUs), ~1.1GHz |
| 2. | Memory         | RAM 4GB  |
| 3. | SSD            | 256 GB   |
| 4. | Monitor        | 1921080 pixel 5  |

Tabel 4.2 Spesifikasi Software

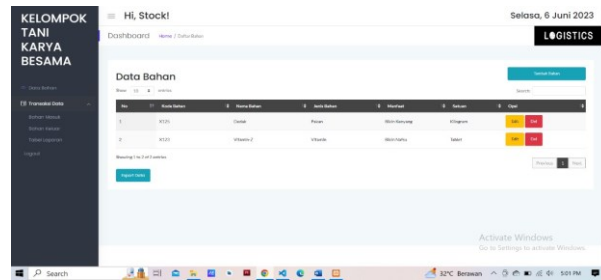
| NO | COMPONENT NAME | SPECIFICATION        |
|----|----------------|----------------------|
| 1. | Sistem Operasi | Microsoft Windows 10 |
| 2. | XAMPP          | V3. 2. 3             |
| 3. | Text Editor    | Visual Studio Code   |



Picture 5. Page Login

The staff will input their username and password. If the entered username or password is incorrect, the system will return to the initial screen, prompting the user to re-enter or reset the username and password. However, if the username and password are correct, the staff will gain access to the system, which includes features such as material data, incoming material data, outgoing material data, report tables, and a logout option.

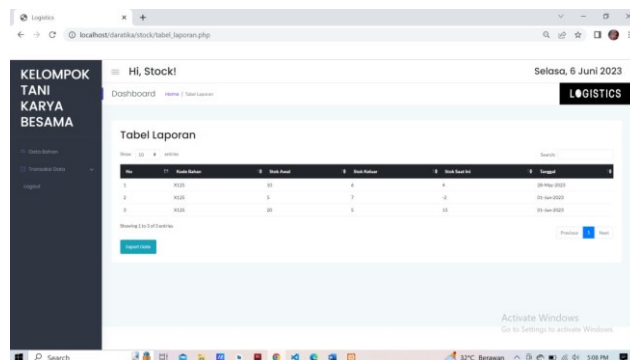
Proceedings The 2nd Annual Dharmawangsa International Conference:  
“Digital Technology And Environmental Awareness In Promoting Sustainable Behavior  
In Society 5.0”



Picture 6. Data Bahan

On the Material Data page, this section displays the results of the inputs made in the Input Material Data section. The Material Data page includes columns for No, Material Code, Material Name, Material Type, Benefits, Unit, and Options. The Options feature allows staff to edit or delete material data as needed.

Additionally, the Material Data page displays the current day, date, month, and year. It also includes an option to export the data to a PDF format. If the first page becomes fully populated, there is a "Next Slide" option to navigate to subsequent pages.



Picture 7. Laporan

The Report Table page displays the results of the inputted data from incoming and outgoing materials. This page includes columns for No, Material Code, Initial Stock, Outgoing Stock, Current Stock, and Date.

Additionally, the Report Table page shows the day, date, month, and year. It also provides an option to export the data into a PDF format. If the first page becomes fully populated, there is a "Next Slide" option to navigate to the subsequent pages.

## CONCLUSION

The web-based livestock feed inventory application developed for Kelompok Tani Karya Bersama has proven to be a transformative tool for the group, addressing key challenges and introducing a modern, efficient approach to inventory management.

By automating processes, providing real-time data access, and enhancing collaboration, the application has significantly improved the group's operational efficiency and resource management practices. While challenges such as internet dependency and the need for user training remain, these are not insurmountable and can be addressed through targeted enhancements in future iterations of the system. The scalability and flexibility of the application ensure that it can continue to meet the group's evolving needs, making it a sustainable solution for long-term use. This project also highlights the potential for digital solutions to transform traditional practices in the agricultural sector, providing a model that can be replicated by other farmer groups. By promoting the adoption of technology and demonstrating its benefits, the project contributes to the broader goal of modernizing agriculture and supporting sustainable farming practices. In conclusion, the web-based livestock feed inventory application represents a significant step forward for Kelompok Tani Karya Bersama, providing a foundation for continued growth and success. With ongoing support and development, the application has the potential to become an indispensable tool for agricultural groups, enhancing their productivity, efficiency, and sustainability.

## REFERENCE

- Adani. (2020). Perbandingan Proses Perancangan Ui/Ux Secara Teori Dan Praktik Saat Internship Di Eyesimple Creative Studio. *jurnal DKV Andiwara*.
- Ahmad. (2018). Repository STEI. *Penelitian*.
- Andrionof. (2021). RANCANG BANGUN SISTEM INFORMASI POINT OF SALE DENGAN FRAMEWORK CODEIGNITER PADA CV POWERSHOP. *Jurnal Comasie*.
- Angelina, P. (2019). Perancangan Alat Bantu Distribusi Pakan Satwa Di Kebun Binatang Bandung. *e-Proceeding of Art & Design*, 2765.
- Anjelita & Rosiska, n. (2019). RANCANG BANGUN SISTEM INFORMASI POINT OF SALE DENGAN FRAMEWORK CODEIGNITER PADA CV POWERSHOP. *Jurnal Comasie*.
- Aprillia. (2020). Perbandingan Proses Perancangan UI/UX Secara Teori dan Praktik Saat Internship di Eyesimple Creative Studio. *Jurnal DKV Adiwarna*.
- Ayu, F. (2019). Bab II Landasan Teori. *Journal of Chemical Information and Modeling*.



- Deacon. (2020). Perbandingan Proses Perancangan Ui/Ux Secara Teori Dan Praktik Saat Internship Di Eyesimple Creative Studio. *Jurnal DKV Andiwarna*.
- Elisa, W. &. (2019). Sistem Informasi Inventori Barang dengan Meerode Oriented Di PT.LivazaTeknologi Indonesia Jakarta. *jurnal Prosisko*.
- Erawati. (2019). Perancangan Sistem Informasi Penjualan Dengan Pendekatan Metode Waterfall. *Jurnal Media Informatika Budidarma*.
- fitri, a. (2019). Bab II Landasan Teori. *Journal of Chemical Information and Modeling*.
- Gunawan, H. (2022, 10 21). Ketahui fungsi dan jenis flowchart bagi bisnis anda.
- I Gede Iwan Sudipa, S. M. (2023). *Penerapan Sistem Informasi Di Berbagai Bidang*. Jl. kenali Jaya No 166 Kota Jambi: SONPEDIA PUBLISING INDONESIA.