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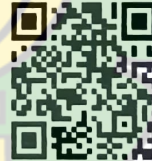
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Muhammad Yusuf Mapeasse

Design and Development of Ayam Ekor Lidi Information System Cutbitfarmekorlidi.com

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ARTICLE INFO	ABSTRACT
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Keywords: <i>Ayam Ekor Lidi,</i> <i>Web-based</i> <i>Information System,</i> <i>Ornamental Chicken</i> <i>Conservation,</i> <i>ASP.NET Core MVC</i>	<p>This study develops the web-based information system Cutbitfarmekorlidi.com to support education, conservation, and marketing of Ayam Ekor Lidi. The system is designed using the Research and Development (R&D) method with the Waterfall model, encompassing requirement analysis, design, implementation, testing, deployment, and maintenance. Key features include chicken data management, product catalogs, educational content, video galleries, and ordering via WhatsApp, facilitating access to information and interaction with breeders and users. Testing using Black Box Testing, User Acceptance Testing (UAT), and System Usability Scale (SUS) evaluation indicates that all modules function properly, are free from critical errors, and provide a responsive and user-friendly interface. The SUS evaluation involving 25 respondents produced an average score of 82.6, categorized as excellent and acceptable usability. The system was developed using ASP.NET Core MVC with C#, resulting in a secure, structured, adaptive platform that supports the sustainable conservation and digital marketing of Ayam Ekor Lidi.</p>
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Introduction

Ornamental chicken farming is a subsector of animal husbandry that holds high aesthetic, economic, and cultural value. Ornamental chickens are often raised not only as livestock for consumption but also as art commodities and investments that provide economic benefits to their owners. Although studies on ornamental chickens such as the Bangkok chicken are relatively abundant, research specifically focusing on Ayam Ekor Lidi remains very limited. Ayam Ekor Lidi are known for their unique physical characteristics and high aesthetic value, giving them significant potential as a high-value sub-commodity in local markets and among ornamental bird collectors [1],[3].

Ornamental chickens, including Ayam Ekor Lidi, require systematic management of reproduction, nutrition, and productivity to ensure sustainable development, thereby supporting the growth of viable ornamental chicken populations both economically and productively [2]. Moreover, the reproductive quality of male chickens significantly affects breeding success, making proper nutrition and reproductive management crucial for maintaining sustainable populations of Ayam Ekor Lidi [3].

The development of information and communication technology, particularly web-based platforms, has become a strategic medium for disseminating information, education, and product marketing across various sectors, including animal husbandry. Websites allow users to quickly and easily access technical information regarding the characteristics, care, and management of ornamental chickens from different locations [4],[6]. Additionally, business websites have been proven to facilitate broader online promotion and transactions, offering efficiency in data management, product marketing, and interaction between breeders and consumers [7],[9]. However, most studies on web-based information systems in animal husbandry still focus on general data management or promotion without integrating specialized education, local breed conservation, and interactive marketing into a single unified platform.

To address this issue, this study designs and develops an integrated web-based information system, Cutbitfarmekorlidi.com, using the Research and Development (R&D) approach with the Waterfall model. The system is developed to support education, conservation, and marketing of Ayam Ekor Lidi sustainably through the integration of information management, educational content, and transactions within a secure, structured, adaptive, and user-oriented platform.

Materials and Methods

A. Literatur Review

Based on a synthesis of 17 selected articles, this literature is classified into three main dimensions relevant to the development of information systems for ornamental chicken farming businesses. The following table summarizes the main contributions of each study as a basis for further discussion in the subsequent sub-sections, as presented in Table 1: Matrix of the Synthesized Selected Literature.

Table 1. Selected Literature Synthesis Matrix

No	Kategori	Referensi	Tahun
1	Ayam Hias	Ode, S., Indriani, A., & Apriyono, T. Analisis efektivitas dan efisiensi penggunaan faktor produksi modal pada usaha peternakan ayam Bangkok di Kota Timika. <i>HUMANITIS: Jurnal Humaniora, Sosial dan Bisnis</i> , 2(9), 1231–1238	2024
2	Ayam Hias	Setiawan, B., Romadhan, A. I., Widagdo, G., & Nurkholik, R. Pelatihan operasional mesin penetas telur kapasitas 50 butir telur secara otomatis pada peternak ayam hias Bangkok ekor lidi di Desa Lebak Wangi, Sepatan, Tangerang. <i>Prosiding/Artikel Pengabdian kepada Masyarakat, Universitas Muhammadiyah Jakarta</i>	2022
3	Ayam Hias	Putra, T. W., Suharyati, S., Siswanto, S., & Hartono, M. Pengaruh penambahan vitamin C dan E dalam pengencer sitrat kuning telur terhadap kualitas semen cair ayam Bangkok. <i>Jurnal Riset dan Inovasi Peternakan</i> , 7(4), 523–534	2023
4	Website	Daniel, R., & Iskandar, A. R. Perancangan aplikasi jual-beli hasil peternakan berbasis web. <i>Akademi Teknik Telkom Jakarta</i>	2020
5	Website	Firmansyah, M. D., & Herman. Perancangan web e-commerce berbasis website pada Toko Ida Shoes. <i>Program Studi Sistem Informasi, Fakultas Ilmu Komputer, Universitas Internasional Batam, Batam</i>	2023
6	Website	Nasution, A. B. Sistem informasi peternakan sebagai pengembangan media promosi pada Arjuna Farm berbasis web. <i>Program Studi Sistem Informasi, Universitas Islam Negeri Sumatera Utara, Medan</i>	2024
7	Website	Siregar, V. M. M. Perancangan website sebagai media promosi dan penjualan produk. <i>Politeknik Bisnis Indonesia, Pematangsiantar</i>	2018
8	Website	Santoso, G. M., & Sitanggang, I. A. Perancangan website e-commerce INEED.ID. <i>Program Studi D4 E-Commerce Logistics, Politeknik Pos Indonesia, Bandung</i>	2022
9	Website	Batubara, F. A. Perancangan website pada PT. Ratu Enim Palembang. <i>Jurusan Teknik Elektro, Politeknik Negeri Medan</i>	2012
10	R&D	Afriani, L., Mutmainnah, M., & Sunarni, S. Understanding the design of research and development methods in the field of education. <i>Sekolah Tinggi Ilmu Hukum Awang Long, Samarinda; Sekolah Tinggi Agama Islam Al-Muntahy, Sampang; Universitas Negeri Malang, Malang, Indonesia</i>	2023
11	R&D	Halimatussa'diah, H., Julizal, J., & Irawan, A. Metode Research and Development (R&D) pelayanan pengantar masyarakat untuk masyarakat menggunakan R&D. <i>Universitas Indraprasta PGRI Jakarta</i>	2024
12	Waterfall	Rizaldi, F., Tshivana, J., Siregar, K. A. H., Anggraini, N., & Saputri, R. Model Waterfall dalam pengembangan perangkat lunak: Tinjauan literatur tentang efektivitas dan keterbatasannya. <i>Fakultas Teknik, Universitas Pelita Bangsa</i>	2025
13	Waterfall	Haryati, T., Kusuma, D. H., & Ferliyanti, H. Penerapan metode Waterfall sebagai pengembangan perangkat lunak sistem informasi penjualan PT. Arta Putra Nugraha Karawang. <i>Universitas Bina Sarana Informatika</i>	2021
14	Black Box	Hidayat, A., Andhika, A., Prasetyo, A., & Saputra, E. Pengujian website dengan metode Black Box berbasis Data Flow Testing. <i>Jurnal Kreativitas Mahasiswa Informatika</i> , 2(1), 152–155	2021
15	Black Box	Sitio, S. L. M., Tanu, D. Y., Solihin, S., Saifudin, A., & Desyani, T. Pengujian Blackbox pada website Open Jurnal Universitas Pamulang menggunakan teknik Cause–Effect Relationship Testing. <i>Jurnal Informatika Universitas Pamulang</i> , 8(1), 102–106	2023

16	UAT	Rizal, M. H., Wulandari P. B., A. I., Indah, N. C., & Salsabila, A. B. Evaluasi pengujian penerimaan pengguna (User Acceptance Testing) pada sistem informasi akademik Universitas Teknologi AKBA Makassar. <i>Inventor</i> , 3(2)	2025
17	UAT	Wijayanti, R. J., et al. Evaluasi sistem informasi distribusi es kristal berbasis web menggunakan System Usability Scale (SUS) dan User Acceptance Testing (UAT). <i>JSAI: Journal Scientific and Applied Informatics</i> , 9(1), 98–104	2026

1. Ayam Ekor Lidi

Ornamental chickens are a type of chicken with aesthetic and economic value, making them potential livestock for farming. The presence of ornamental chickens as a livestock commodity requires proper management to ensure the business runs effectively and efficiently, particularly in the utilization of production factors such as capital [1]. Ayam Ekor Lidi is known for its unique physical characteristics and artistic value, making it popular among breeders and ornamental chicken enthusiasts. In practice, the productivity of Ayam Ekor Lidi can be improved through supporting technologies, such as the use of automatic egg incubators, which can increase hatching success rates and support the development of ornamental chicken populations [2].

Besides physical and technological aspects, the biological aspects of ornamental chickens, particularly reproductive capacity, are crucial in the breeding process. The reproductive quality of roosters, including semen quality, significantly influences breeding success and the sustainability of ornamental chicken production, making nutrition and reproductive management essential in the development of Ayam Ekor Lidi [3].

2. Website

A website is a software application used to display information originating from a web server. Browsers have been developed with graphical user interfaces (GUI), making it easier for users to access information through activities such as pointing and clicking to navigate interactively between documents [4]. The first website was developed by Tim Berners-Lee in 1989 as a method to link one document to another via the internet. Website development continued with the introduction of the Web 1.0 concept in 2000, which encouraged widespread use of websites by companies as a medium to support business development and information delivery [5].

Nowadays, information technology has become an essential need in various aspects of life. Websites play a crucial role as a medium to introduce products or services and enable people to access information without physically visiting the business location. Therefore, websites serve as an effective promotional tool, particularly for Micro, Small, and Medium Enterprises (MSMEs) in supporting business sustainability [6]. As the demand for information increases, websites are also utilized as a medium for promotion and product sales. Utilizing websites allows businesses to deliver product information more broadly and efficiently, thereby enhancing competitiveness and sales potential. This demonstrates that websites have a strategic role in supporting business activities for both small and medium enterprises [7]. In addition to serving as a promotional medium, websites have evolved into platforms for transactions through the application of e-commerce concepts. E-commerce systems provide users with fast, detailed, and unrestricted access to product information, while facilitating transactions between sellers and buyers, offering benefits to both parties [8]. A website can be defined as a collection of interconnected pages used to display various types of information, including text, images, animations, or audio, which may be static or dynamic. Each page within a website is linked through hyperlinks and hypertext, forming an integrated information system [9].

3. Black Box Testing

The Black Box Testing method is a software testing approach that focuses on evaluating the system's functionality by observing the correspondence between the provided inputs and the resulting outputs, without considering the internal structure or application code. This method is used to ensure that each system function operates according to the defined requirements and specifications [14].

Black Box Testing places the tester in the perspective of the user, meaning the testing is conducted based on system usage scenarios. One technique commonly applied in Black Box Testing is State Transition Testing, which aims to verify the accuracy of system state changes based on user actions and specific conditions [14]. By employing Black Box Testing, developers can identify functional errors, enhance system performance, and ensure that the application runs optimally before being widely used by end-users [15].

4. User Acceptance Testing (UAT)

User Acceptance Testing (UAT) is a testing phase conducted to ensure that the developed information system meets the needs and expectations of the end-users before full system implementation [16]. This testing involves direct

participation from users to evaluate the system's functionality, ease of use, and performance based on real usage scenarios, allowing the assessment of the system's acceptance level by users [16].

UAT serves as the final validation process to determine whether all system features operate properly and effectively support users' operational activities [17]. The results of UAT are used as a basis for decision-making regarding the system's suitability for use, as well as for evaluation to guide further system improvements or development [17].

5. System Usability Scale (SUS) Evaluation

The System Usability Scale (SUS) is a standardized usability evaluation method used to measure the level of usability and user satisfaction of a system through a simple and reliable questionnaire approach. SUS was developed by John Brooke in 1986 and has been widely applied in evaluating various information systems, websites, and software applications due to its effectiveness in assessing user experience and system usability. This method uses a questionnaire consisting of ten statements with a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree" to evaluate aspects such as ease of use, interface consistency, learnability, and user confidence when interacting with the system [18].

System Usability Scale (SUS) testing is conducted from the user's perspective after users directly interact with the system through predefined usage scenarios. The SUS method aims to measure how easy the system is to understand, operate, and learn by users without requiring complex technical evaluation procedures. The final SUS score is calculated using a standardized formula that produces a value ranging from 0 to 100, where higher scores indicate better usability and higher user acceptance levels. By applying SUS evaluation, developers can identify usability strengths and weaknesses, improve user experience, and ensure that the developed application provides effective, efficient, and satisfactory interaction for end-users. The SUS score was calculated using the standard SUS formula by converting respondent answers into a score range of 0–100 [18].

B. Research Methodology

The research method used in this study is Research and Development (R&D). The R&D method plays a crucial role in producing innovative, effective, and practical products through structured and systematic stages, starting from needs analysis, prototype development, validation testing, to product implementation [10]. This approach was chosen because the study not only aims to analyze problems but also to produce a product that can be directly applied. Research and Development (R&D) is a research method aimed at developing and testing the validity and effectiveness of a product before it is widely implemented in the community [11]. In this study, the R&D method was used to develop a web-based information system that supports education, management, and sales of Ayam Ekor Lidi through the platform Cutbitfarmekorlidi.com. The development process begins with a needs analysis, particularly focusing on breeders and enthusiasts of Ayam Ekor Lidi, followed by system design, testing, and evaluation to ensure that the resulting product is useful and can be sustainably developed.

1. System Development Model

The Waterfall method is a software development model that is linear and systematic, where each development stage is carried out sequentially and must be completed before proceeding to the next stage [12]. This model remains relevant for system development with clear, well-defined, and relatively stable requirements, as well as those that require structured and comprehensive documentation [12]. The system development stages in this study follow the Waterfall model, including requirements analysis, system design, implementation, testing, deployment, and maintenance. This approach allows the development process to be conducted in a controlled and directed manner, ensuring that each stage can be thoroughly analyzed and evaluated before moving on to the next [13].

The Waterfall model was chosen because it provides a clear and systematic workflow, facilitating planning and management for system developers. Furthermore, the Waterfall method is part of the Software Development Life Cycle (SDLC) model, which is simple and easy to understand, making it suitable for the development of a web-based information system with a predefined scope [13]. The Waterfall system development model used in this study is illustrated in Figure 1.

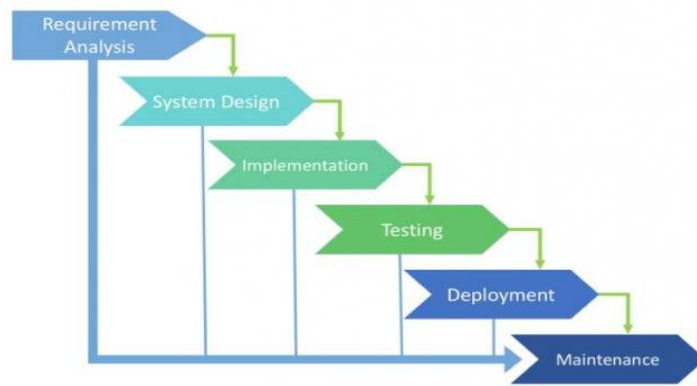


Figure 1 Waterfall Model

2. System Development Stages

The development of the Cutbitfarmekorlidi.com information system follows a structured approach, divided into six main stages to ensure the system meets user needs and functions effectively. Each stage has a specific purpose and outcome:

a. Requirement Analysis

The requirement analysis stage begins with observation and literature review to identify problems and user needs in managing Ayam Ekor Lidi information. This analysis covers functional requirements, such as chicken data management, provision of educational information, and sales features, as well as non-functional requirements, such as system usability and accessibility. The results of this stage form the basis for system design.

b. System Design

Based on the requirement analysis, the system is designed, including process flow diagrams, database structure, and user interface design. The design aims to provide a comprehensive overview of how the system works and to ensure ease of use for users, specifically breeders and enthusiasts of Ayam Ekor Lidi.

c. Implementation

The implementation stage involves transforming the system design into a web-based information system. This includes coding and building the Cutbitfarmekorlidi.com website according to the approved design. Key features, such as chicken data management, presentation of educational content, and the sales system, are implemented to operate in line with user requirements.

d. Testing

After implementation, testing is conducted to ensure that all system functions run according to user needs and specified requirements. Two testing methods are used:

1. Blackbox Testing, which evaluates features from the user perspective without considering the internal code structure. This method ensures that each system feature functions according to specifications.
2. User Acceptance Testing (UAT), which involves prospective users or stakeholders to assess usability, interface design, and overall satisfaction with the system.
3. System Usability Scale (SUS) Evaluation, which is conducted to measure the usability level and user satisfaction quantitatively through a standardized questionnaire consisting of ten statements using a five-point Likert scale.

The SUS evaluation involved 25 respondents to assess aspects such as ease of use, learnability, interface consistency, and user confidence when interacting with the system.

e. Deployment

The deployment stage involves implementing the system in the operational environment. At this stage, the Cutbitfarmekorlidi.com website is published and made accessible to users. Deployment enables the public to access information, educational resources, and engage in online sales and purchases of Ayam Ekor Lidi.

f. Maintenance

The maintenance stage occurs after the system has been deployed. Its purpose is to ensure the system continues to perform optimally and to correct any errors found during use. Additionally, this stage allows for the development of additional features according to future user needs.

4. Research Framework

The research framework illustrates the logical flow of the entire research process, starting from problem identification, literature review, requirement analysis, system design, implementation, to system testing and evaluation. This research flow is visualized in a research framework diagram, as shown in Figure 2.

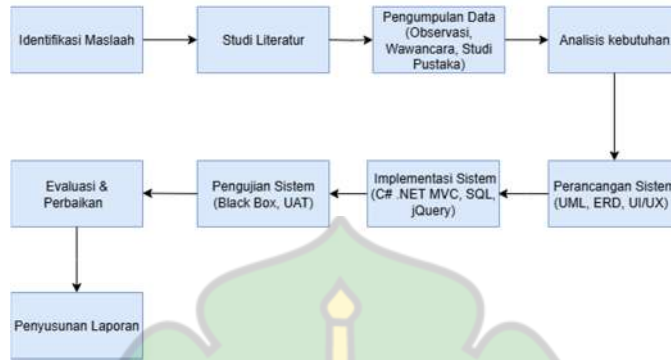


Figure 2 Research Framework

4. System Flowchart

The system flowchart visually depicts the operational process of Cutbitfarmekorlidi.com, from user and admin interactions to the management of Ayam Ekor Lidi data. This diagram illustrates the main steps, including admin login, product catalog browsing, accessing educational materials, ordering via WhatsApp, and data and content management by the admin through CRUD features and the dashboard. The system flowchart can be seen in Figure 3.

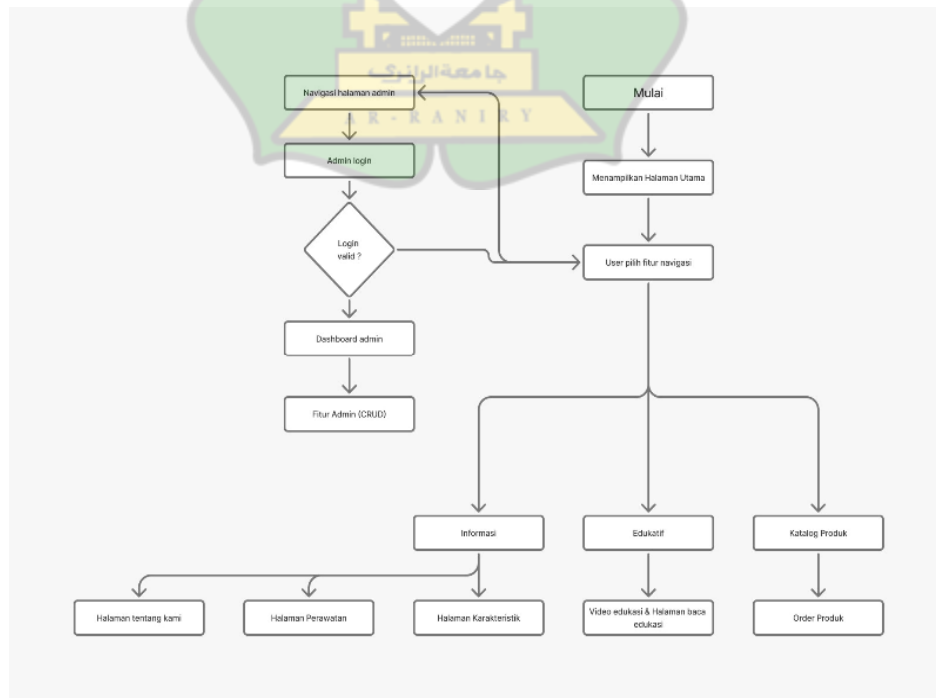


Figure 3 System Flowchart

5. Data Collection Techniques

The research data consist of primary data and secondary data:

- Primary data were obtained through observation and interviews. Observations were conducted to understand the needs of breeders and potential users regarding the management of information, education, and the sales process of Ayam Ekor Lidi, as well as to examine the real conditions in the field. Interviews were conducted with breeders and stakeholders involved in platform management, aiming to gather information on system requirements, challenges, and features expected by users.
- Secondary data were collected through a literature review by examining relevant scientific references, such as journals, books, and online sources related to web-based information systems, ornamental chicken farming, and the development and management of digital platforms. These secondary data served as the theoretical foundation for system analysis and development.

Results

A. System Testing Results

The testing of the Cutbitfarmekorlidi.com system was conducted to ensure that all features and functions operate according to user needs and specified requirements. The evaluation process utilized three testing methods: Blackbox Testing, User Acceptance Testing (UAT), and System Usability Scale (SUS) evaluation. Blackbox Testing was applied to verify system functionality from the user's perspective without considering the internal code structure, while UAT was conducted to assess user acceptance, interface quality, and system performance based on real usage scenarios. In addition, SUS evaluation was employed to measure the usability level and user satisfaction quantitatively through a standardized questionnaire involving 25 respondents. The results of Blackbox Testing, UAT, and SUS evaluation are presented in Table 2, Table 3, and Table 4 respectively.

Table 2. Blackbox Testing Results

No	Module / Page	Feature Name	Functional Description	Testing Method	Result
1	Authentication	Admin Login	Admin login using username and password with hashed password	Blackbox Testing	Success
2	Dashboard	Admin Panel	Displays a summary of system data (number of products, articles, etc.)	Blackbox Testing	Success
3	Product Management	Product CRUD	Add, edit, and delete chicken/product data	Blackbox Testing	Success
4	Product Catalog	View Catalog	Displays a list of chickens in a neat and informative grid	Blackbox Testing	Success
5	Education Page	Read Materials	Displays educational articles related to the characteristics and care of Ayam Ekor Lidi	Blackbox Testing	Success
6	Video Gallery	Manage & Play Videos	Add and play educational videos	Blackbox Testing	Success
7	Ordering	Order via WhatsApp	"Buy" button directs to admin's WhatsApp with an automatic message	Blackbox Testing	Success
8	Profile, Info & Navigation	Static Pages	Displays About Us, Characteristics, Care, and other pages	Blackbox Testing	Success

Table 3. User Acceptance Testing (UAT) Results.

No	Testing Aspect	Assessment Description	User Response	Status
1	Admin Login Ease	Login process is easy and secure	Accepted	Success
2	Dashboard Display	Information is easy to understand and informative	Accepted	Success
3	Product	CRUD process is	Accepted	Success

	Management	easy for admin to use		
4	Product Catalog Access	Catalog is easy to access and informative	Accepted	Success
5	Educational Content	Educational materials are easy to understand	Accepted	Success
6	Educational Videos	Videos can be played properly	Accepted	Success
7	WhatsApp Ordering	Ordering process is simple and fast	Accepted	Success
8	Website Navigation	Navigation is easy and consistent	Accepted	Success

Table 4. System Usability Scale (SUS) Evaluation Results

No	SUS Evaluation Aspect	Mean Score
1	The system is easy to use	4.3
2	The system features are well integrated	4.1
3	The website navigation is clear and understandable	4.0
4	The system is easy to learn	4.2
5	The interface design is consistent	4.3
6	The educational content is easy to access	4.4
7	The ordering process via WhatsApp is simple	4.5
8	The system responds properly during use	3.9
9	Users feel confident when using the system	4.2
10	Overall, users are satisfied with the system	4.4

Table 5. SUS Score Interpretation

Evaluation Component	Result
Number of Respondents	25 Respondents
Average SUS Score	82.6
Grade Scale	B
Usability Category	Excellent
Acceptability Range	Acceptable
Adjective Rating	Good

Based on the results presented in Table 2, Table 3, Table 4, and Table 5, the Cutbitfarmekorlidi.com information system successfully met both functional and usability requirements. The Blackbox Testing results confirmed that all main modules and features operated properly without functional errors, including authentication, dashboard, product management, educational content, video gallery, and WhatsApp ordering features. Furthermore, the User Acceptance Testing (UAT) results indicated that users accepted the system and considered the interface clear, informative, and easy to use during operational activities.

The SUS evaluation involving 25 respondents produced an average score of 82.6, categorized as “Excellent” with an acceptable usability level. The highest score was obtained in the WhatsApp ordering feature and accessibility of educational content, demonstrating that users considered the system practical and effective for accessing information and conducting transactions. Meanwhile, the responsiveness aspect received a slightly lower score, indicating that several users experienced minor delays during system interaction. However, the overall evaluation results demonstrate that the developed system provides a positive user experience and effectively supports education, conservation, and marketing activities for Ayam Ekor Lidi through a web-based platform.

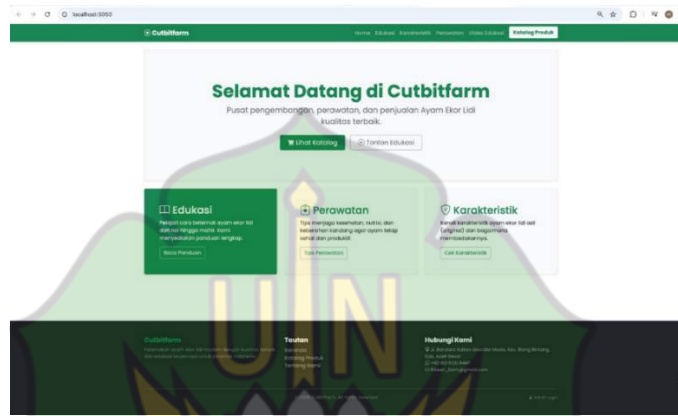


Figure 4. Main Page of Cutbitfarmekorlidi.com

In Figure 4, the main page of Cutbitfarmekorlidi.com displays a welcoming interface featuring the platform’s title and a brief description of its purpose for the development, care, and sale of Ayam Ekor Lidi. There are two primary buttons, “View Catalog” and “Watch Education”, which allow users to quickly access key features. The page design is clean, responsive, and user-friendly, providing a comfortable navigation experience. At the bottom of the main page, there are three information panels: Education, Care, and Characteristics. Each panel includes a brief description and a button directing users to read more. The navigation menu at the top provides access to various main pages, such as Home, Education, Characteristics, Care, Educational Videos, and Product Catalog, all organized neatly and easily accessible. The page footer displays contact information and important links in a structured manner.

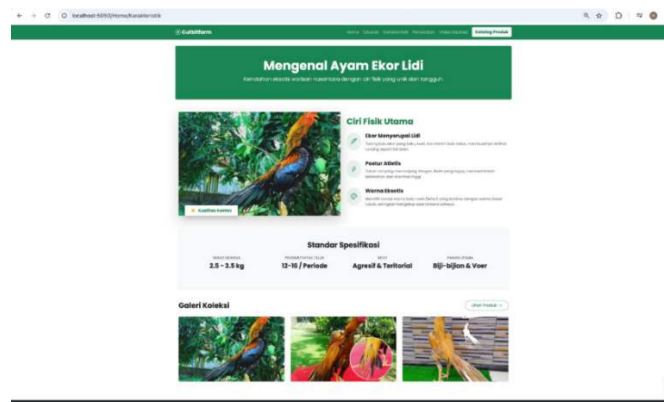


Figure 5. Ayam Ekor Lidi Characteristics Page

In Figure 5, the Ayam Ekor Lidi Characteristics page presents information about the beauty and uniqueness of this exotic chicken. The top of the page features a clear title and a brief description highlighting the distinctive traits of Ayam Ekor Lidi as part of Indonesia's cultural heritage. On the left side, there is an image of the chicken showing detailed colors and posture, providing an engaging visual reference for users. To the right of the image, key physical traits are listed, such as the broom-like tail, athletic posture, and exotic coloration, which contribute to the chicken's appeal. The page also displays concise and easy-to-understand information on weight standards, egg productivity, behavior, and primary feed. At the bottom, a gallery of chicken photos is presented in a card format, offering additional visual references for visitors. The page design is responsive and informative, enhancing user comfort and understanding of the characteristics of Ayam Ekor Lidi.

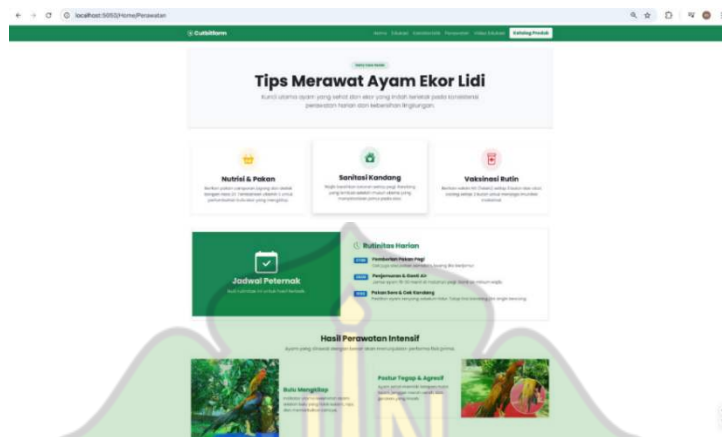


Figure 6. Ayam Ekor Lidi Care Tips Page

In Figure 6, the Care Tips page provides a comprehensive guide for maintaining the health and productivity of Ayam Ekor Lidi. The page is designed with a clean and structured layout, making it easy for users to access important information regarding feed nutrition, coop sanitation, vaccination, and daily routines. Each care aspect is presented systematically in clear bullet points, accompanied by supporting icons to enhance understanding. Feed nutrition is discussed as the foundation of chicken health, while coop sanitation emphasizes the importance of a clean environment to keep chickens healthy and disease-free. Vaccination and daily routines are also detailed to support the productivity and resilience of the chickens. The page's responsive design ensures comfortable access across various devices, allowing users to follow the guidelines easily at any time.

Discussion

The development of the Cutbitfarmekorlidi.com information system demonstrates the effective use of information technology to support education, conservation, and marketing of local ornamental chickens, particularly Ayam Ekor Lidi. Ayam Ekor Lidi has significant aesthetic, economic, and cultural value, making proper farm management, including efficient use of capital, essential to improving productivity and the sustainability of poultry farming [1]. Productivity of ornamental chickens can be enhanced through supporting technologies, such as automatic egg incubators, which help increase hatching success and support population development [2]. In addition, the reproductive quality of male chickens, including semen quality maintained through proper nutrition, plays a key role in successful breeding and population preservation [3].

The use of websites as an information platform allows farmers and the public to access data, educational content, and transactions quickly, accurately, and easily [4][6]. Cutbitfarmekorlidi.com features product catalogs, educational content, video galleries, and ordering via WhatsApp, providing an interactive experience and facilitating transactions [7][8][9]. This use of a website aligns with trends in business digitalization and marketing, supporting the sustainable development of local ornamental chickens [5][6].

System testing was conducted through Black Box Testing, User Acceptance Testing (UAT), and System Usability Scale (SUS) evaluation. Black Box Testing evaluates system functionality from the user's perspective without considering internal code, including State Transition Testing techniques to verify the accuracy of system state changes [14][15]. Test results indicated that all main modules, including admin authentication, dashboard, CRUD

product management, catalogs, educational pages, video galleries, and WhatsApp ordering, functioned properly without critical errors [14][15]. UAT involved users evaluating ease of use, interface design, and overall satisfaction with the system. UAT results showed that the system is user-friendly, informative, and supports both educational and transactional processes [16][17].

In addition, SUS evaluation involving 25 respondents produced an average usability score of 82.6, categorized as “Excellent” and included within the acceptable usability range. The highest evaluation scores were obtained in the WhatsApp ordering feature and accessibility of educational content, indicating that users considered the system practical, easy to learn, and efficient for accessing information and conducting transactions. These findings indicate that the developed system provides a positive user experience and aligns with previous studies stating that SUS is an effective method for measuring usability and user satisfaction in web-based information systems [18].

From a methodological perspective, the system was developed using a Research and Development (R&D) approach to produce an innovative and practical digital product [10][11]. The Waterfall model was applied as a linear and systematic development framework, covering requirements analysis, system design, implementation, testing, deployment, and maintenance [12][13]. This approach ensures that each development stage is controlled, structured, and minimizes critical errors, enabling the system to operate according to user needs.

Cutbitfarmekorlidi.com is novel because it integrates information management, educational content, conservation, and transaction features into a single web-based platform, unlike previous studies that focused on only one aspect [4][6][7]. This platform enhances visibility and accessibility of information for farmers and ornamental chicken enthusiasts, facilitates education on chicken characteristics and care, and provides an efficient digital marketing channel [2][3][6]. However, this study has limitations, as system evaluation was conducted internally with a limited number of users. Future research is expected to involve more users and public implementation to assess system performance, scalability, and long-term impact on education, conservation, and marketing of local ornamental chickens [17][18].

Overall, the development of the Cutbitfarmekorlidi.com information system successfully meets technical objectives, supports education and conservation, and provides a practical digital marketing platform for Ayam Ekor Lidi. The integration of multiple functions into a single web-based platform demonstrates a practical and sustainable solution for the preservation of local ornamental chickens [1][2][6].

Conclusion

Based on the development and testing results of the Cutbitfarmekorlidi.com information system, it can be concluded that the system effectively supports the education, conservation, and marketing of Ayam Ekor Lidi. The utilization of information technology through a web-based platform enables users to access information, educational content, and conduct transactions quickly, accurately, and easily [1][2][6]. The system successfully integrates various functions, including chicken data management (CRUD), product catalogs, educational pages, video galleries, and ordering via WhatsApp, thereby enhancing user efficiency and convenience [7][8][9].

Testing using Black Box Testing, User Acceptance Testing (UAT), and System Usability Scale (SUS) evaluation showed that all modules functioned according to specifications, were free from critical errors, and featured a responsive and user-friendly interface [14][15][16][17]. The SUS evaluation involving 25 respondents produced an average score of 82.6, categorized as “Excellent” and within the acceptable usability range, indicating that users were satisfied with the system’s usability, accessibility, and overall performance [18]. These results confirm that the Research and Development (R&D) approach and Waterfall model used were effective in producing an information system that is structured, controlled, and meets user needs [10][11][12][13].

Beyond technical aspects, the system also supports the preservation of local ornamental chickens by providing educational content about the characteristics and care of Ayam Ekor Lidi, while enhancing visibility and accessibility of information for farmers and enthusiasts [2][3][6]. In addition, the integration of educational features and digital transactions within a single platform provides practical benefits for users and improves the efficiency of information dissemination and product marketing.

Although the current evaluation was limited to internal testing with a limited number of respondents, Cutbitfarmekorlidi.com shows strong potential as a practical, secure, and sustainable digital platform for managing information, education, and marketing of Ayam Ekor Lidi [1][6][17]. Future research is expected to involve broader public implementation and larger-scale usability evaluation to assess long-term system performance and scalability [18]. Overall, this study demonstrates that integrating information management, education, conservation, and transactions within a single web platform provides a practical and sustainable solution for the development and preservation of local ornamental chickens, while also serving as a foundation for further system development with a broader user base [1][2][6][7].

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References

- [1] Zerich[1] S. Ode, A. Indriani, dan T. Apriyono, "Analisis efektivitas dan efisiensi penggunaan faktor produksi modal pada usaha peternakan ayam Bangkok di Kota Timika," *HUMANITIS: Jurnal Humaniora, Sosial dan Bisnis*, vol. 2, no. 9, hlm. 1231–1238, 2024.
- [2] B. Setiawan, A. I. Romadhan, G. Widagdo, dan R. Nurkholik, "Pelatihan operasional mesin penetas telur kapasitas 50 butir telur secara otomatis pada peternak ayam hias Bangkok ekor lidi di Desa Lebak Wangi, Sepatan, Tangerang," *Prosiding/Artikel Pengabdian kepada Masyarakat, Universitas Muhammadiyah Jakarta*, 2022.
- [3] T. W. Putra, S. Suharyati, S. Siswanto, dan M. Hartono, "Pengaruh penambahan vitamin C dan E dalam pengencer sitrat kuning telur terhadap kualitas semen cair ayam Bangkok," *Jurnal Riset dan Inovasi Peternakan*, vol. 7, no. 4, hlm. 523–534, 2023.
- [4] R. Daniel dan A. R. Iskandar, "Perancangan aplikasi jual-beli hasil peternakan berbasis web," *Akademi Teknik Telkom Jakarta*, 2020.
- [5] M. D. Firmansyah dan Herman, "Perancangan web e-commerce berbasis website pada Toko Ida Shoes," *Program Studi Sistem Informasi, Fakultas Ilmu Komputer, Universitas Internasional Batam, Batam*, 2023.
- [6] A. B. Nasution, "Sistem informasi peternakan sebagai pengembangan media promosi pada Arjuna Farm berbasis web," *Program Studi Sistem Informasi, Universitas Islam Negeri Sumatera Utara, Medan*, 2024.
- [7] V. M. M. Siregar, "Perancangan website sebagai media promosi dan penjualan produk," *Politeknik Bisnis Indonesia, Pematangsiantar*, 2018.
- [8] G. M. Santoso dan I. A. Sitanggang, "Perancangan website e-commerce INEED.ID," *Program Studi D4 E-Commerce Logistics, Politeknik Pos Indonesia, Bandung*, 2022.
- [9] F. A. Batubara, "Perancangan website pada PT. Ratu Enim Palembang," *Jurusan Teknik Elektro, Politeknik Negeri Medan*, 2012.
- [10] L. Afriani, M. Mutmainnah, dan S. Sunarni, "Understanding the design of research and development methods in the field of education," *Sekolah Tinggi Ilmu Hukum Awang Long, Samarinda; Sekolah Tinggi Agama Islam Al-Muntahy, Sampang; Universitas Negeri Malang, Malang, Indonesia*, 2023.
- [11] H. Halimatussa'diah, J. Julizal, dan A. Irawan, "Metode Research and Development (R&D) pelayanan pengantar masyarakat untuk masyarakat menggunakan R&D," *Universitas Indraprasta PGRI Jakarta*, 2024.
- [12] F. Rizaldi, J. Tshivana, K. A. H. Siregar, N. Anggraini, dan R. Saputri, "Model Waterfall dalam pengembangan perangkat lunak: Tinjauan literatur tentang efektivitas dan keterbatasannya," *Fakultas Teknik, Universitas Pelita Bangsa*, 2025.
- [13] T. Haryati, D. H. Kusuma, dan H. Ferliyanti, "Penerapan metode Waterfall sebagai pengembangan perangkat lunak sistem informasi penjualan PT. Arta Putra Nugraha Karawang," *Universitas Bina Sarana Informatika*, 2021.
- [14] A. Hidayat, A. Andhika, A. Prasetyo, dan E. Saputra, "Pengujian website dengan metode Black Box berbasis Data Flow Testing," *Jurnal Kreativitas Mahasiswa Informatika*, vol. 2, no. 1, hlm. 152–155, 2021.
- [15] S. L. M. Sitio, D. Y. Tanu, S. Solihin, A. Saifudin, dan T. Desyani, "Pengujian Blackbox pada website Open Jurnal Universitas Pamulang menggunakan teknik Cause–Effect Relationship Testing," *Jurnal Informatika Universitas Pamulang*, vol. 8, no. 1, hlm. 102–106, 2023.
- [16] M. H. Rizal, A. I. Wulandari Putri Bahmin, N. C. Indah, dan A. B. Salsabila, "Evaluasi pengujian penerimaan pengguna (User Acceptance Testing) pada sistem informasi akademik Universitas Teknologi AKBA Makassar," *Inventor*, vol. 3, no. 2, 2025.
- [17] R. J. Wijayanti et al., "Evaluasi sistem informasi distribusi es kristal berbasis web menggunakan System Usability Scale (SUS) dan User Acceptance Testing (UAT)," *JSAI: Journal Scientific and Applied Informatics*, vol. 9, no. 1, hlm. 98–104, 2026.
- [18] M. L. Nuriman dan N. Mayesti, "Evaluasi ketergunaan website Perpustakaan Universitas Indonesia menggunakan System Usability Scale," *BACA: Jurnal Dokumentasi dan Informasi*, vol. 41, no. 2, 2020, doi: 10.14203/j.baca.v41i2.622.

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