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Integrated Licensing Application Online Service at the Industry and Trade Service Kupang City

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Abstract

A clean and transparent system of governance remains a major challenge in the modern era, particularly in public service sectors such as licensing processes. In many regions, integrated online licensing services have been adopted to improve efficiency and transparency. However, the Department of Industry and Trade (Disperindag) of Kupang City still relies heavily on manual procedures for most licensing services, leading to wasted time, effort, and resources. This study aims to develop an integrated online licensing system for Disperindag Kupang to enable the public to submit licensing applications without having to visit the office in person. The system is expected to reduce queues, save time and energy, and enhance resource efficiency within the office. The research applies the waterfall model as the software development methodology, encompassing the stages of requirement analysis, system design, implementation, testing, and maintenance. The results of the study show that the developed online licensing service system significantly improves the efficiency and transparency of the licensing administration process at Disperindag Kupang. The implementation of this system has had a positive impact on both the public and the institution, particularly in terms of easier access, faster service, and reduced administrative workload.

Keywords: *Licensing, Online Services, Submission.*

1. Introduction

A clean and transparent system of government and public services is a challenge that must be faced by all government institutions in this modern era. Along with the development of information technology, many government agencies are striving to increase efficiency and transparency in the administrative process, including in licensing management. In some regions, an integrated online licensing service system has been used, bringing convenience to the community and business actors. However, in Kupang City and several other areas, the Kupang City Department of Industry and Trade (Disperindag) still relies on manual processes for most licensing services. From data obtained from the Kupang City Industry and Trade Office (Disperindag) from 2019 to November 2024, approximately 15,347 permits were registered for Business Certificates and 1,542 for fuel request permits for business actors.

This condition is caused by a number of factors, including the limitation of technological infrastructure, lack of resources for the development and maintenance of online systems, and challenges in socialization and training to the community. Some of the licensing applications served by the Kupang City Industry and Trade Office include business licensing and recommendations for refueling oil for business actors. The licensing process that takes place is where people who want to take care of permits still have to come to the official office, even that does not guarantee that the permit can be issued on the same day. There is a waste of time and effort, as well as inefficiency in the use of resources. This has the potential to hinder economic growth, especially for small business actors who rely heavily on the ease of obtaining permits.

With the demand to improve public services, switching to a digital system is a very relevant solution for the Disperindag. Digitizing the licensing application process will not only speed up administration, but also reduce long queues in offices, provide easy access for business actors, and create more transparent services. So to realize this change, a system that combines online and manual submissions is needed to ensure that all people, including those who are not yet familiar with technology, can still access licensing services.

A study analyzed the Si Cantik web-based licensing system at DPMPTSP Karimun Regency and found that the presence of brokers in licensing management could be minimized if the community managed their permits independently [1]. Another research developed a website-based business licensing monitoring system using the PIECES method to assist in data input and license monitoring, replacing the previous form-based manual system [2]. Meanwhile, another study evaluated the effectiveness of the Sipinter application in Situbondo Regency, identifying user difficulties—especially among older age groups—due to lack of technological mastery and frequent application errors [3].

Based on this background, this research focuses on the development of an integrated online licensing application service at the Kupang City Industry and Trade Office based on a website so that it can be accessed anywhere as long as it is still connected to the internet network.

2. Methodology

In this study, the system development method chosen was the waterfall method. The waterfall cycle is run sequentially, from the first step to the last step. Each completed step must be reviewed, sometimes with an expert user, especially in the requirements specification and system design steps to ensure that the steps have been done correctly and as expected. If not, then the step needs to be repeated again or return to the previous step.

The review in question is a test that is quality control, while the test in the fifth step is quality assurance. Quality control is carried out by the team's internal personnel to build quality, while quality assurance is carried out by people outside the team to test the quality of the system. All steps in the cycle must be documented. Good documentation will facilitate maintenance and improve the functioning of the system. Tahapan metode pengembangan sistem waterfall yaitu Requirement, design, implementation, testing, and maintenance

3. Result and Discussion

3.1. Use case diagram

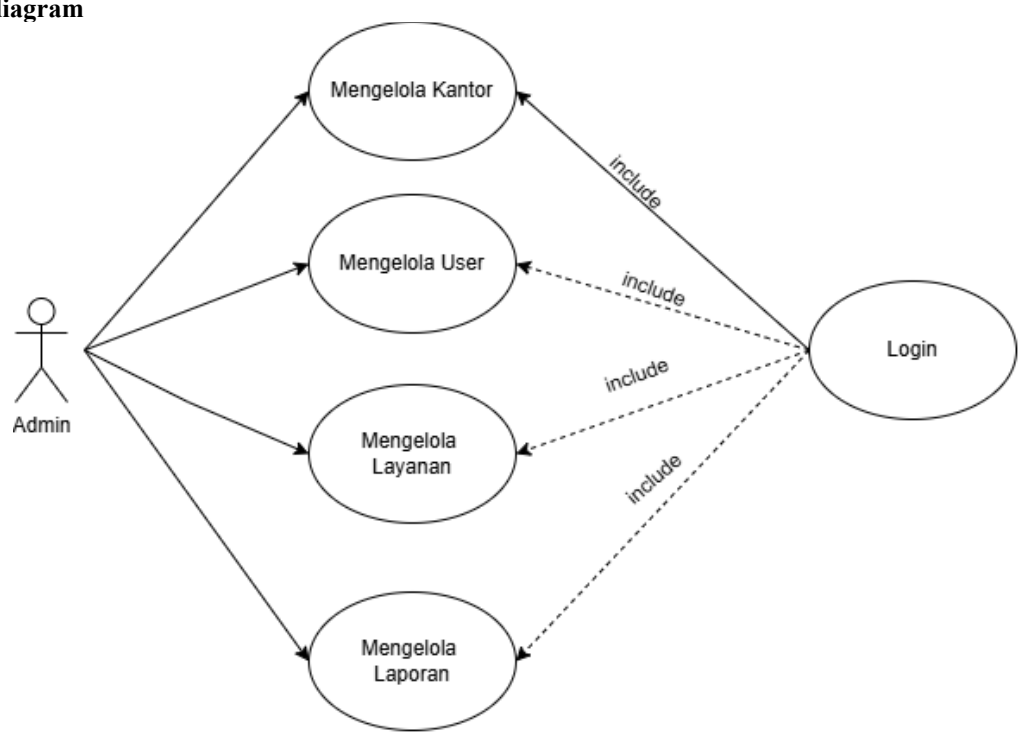

Fig. 1: Admin use case diagram

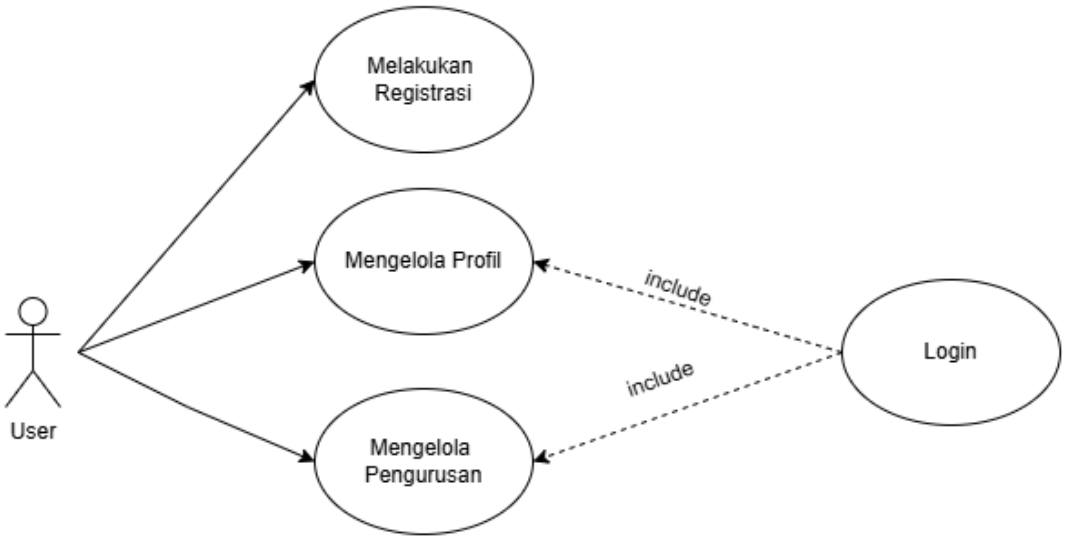

Fig. 2: User use case diagram

3.2. Class diagram

A class describes the state (attribute/property) of a system, while also offering a service to manipulate that state (method/function). Diagram class consists of 4 classes consisting of admin data, sku data, user data, bbm data, boss data, bbm data.

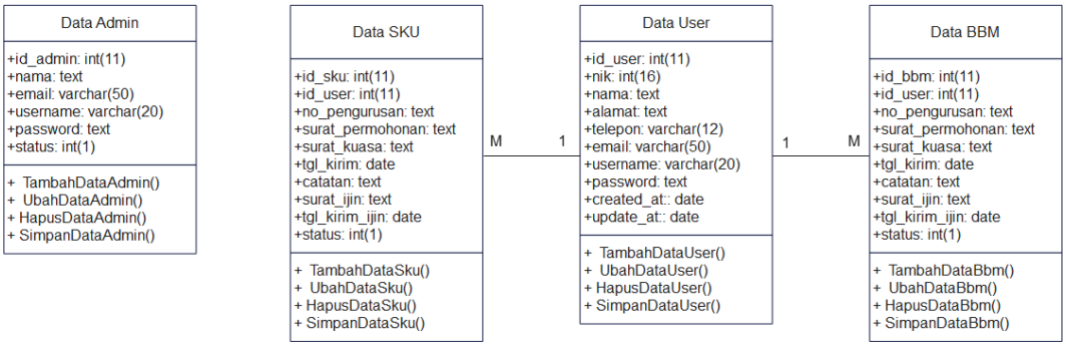

Fig. 3: Entity relation diagram

3.3. System Implementation

The implementation of the system displays the results of the design that has been implemented in a system. This website is focused on assisting in the process of managing and reporting financial data to assist the treasurer in managing and reporting the finances of the Imanuel Lalao church more quickly, precisely, accurately and transparently to the congregation leader, council and congregation.

1. Main page view
   The Home Page view is the page that will appear first when the user opens the app. The view from the home page can be seen in fig 4.

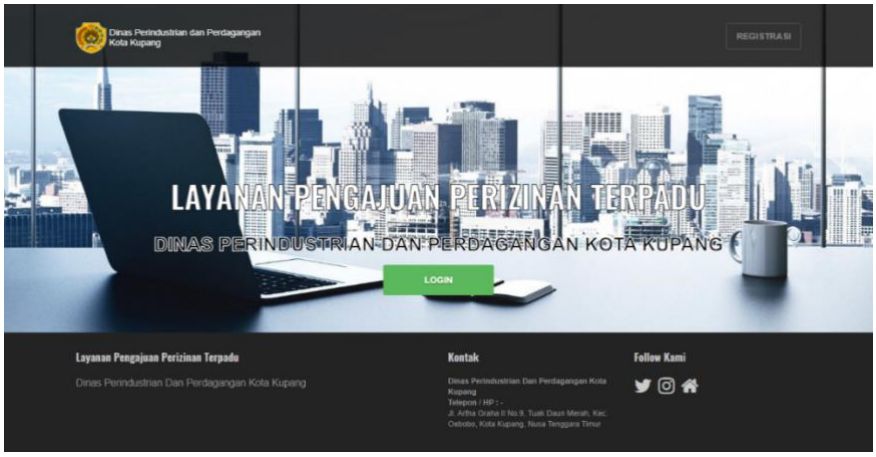

Fig 4: Main page view

2. User login form page view
   The user's login page is used by the user to log in to the system. On the login form, the user must enter the username, which is in the form of a nik and password. On the login page, there is also a registration option. This page can be seen in fig 5.

Fig 5: Treasurer login form page view

3. Home page view
The user's home page is the page that appears after the user logs in to the system. This page displays the name of the user you used to sign up. The home user page can be seen in fig 6.

Fig 6 Home page view

4. User Management Page
The user management page is a page where users can choose which permission applications they want to take care of. The user management page can be seen in fig 7.

Fig 7: User Management Page

5. Business Certificate Application Page
The business certificate management page is a page where users input the data needed to manage the business certificate. The page for submitting a business certificate can be seen in fig 8.

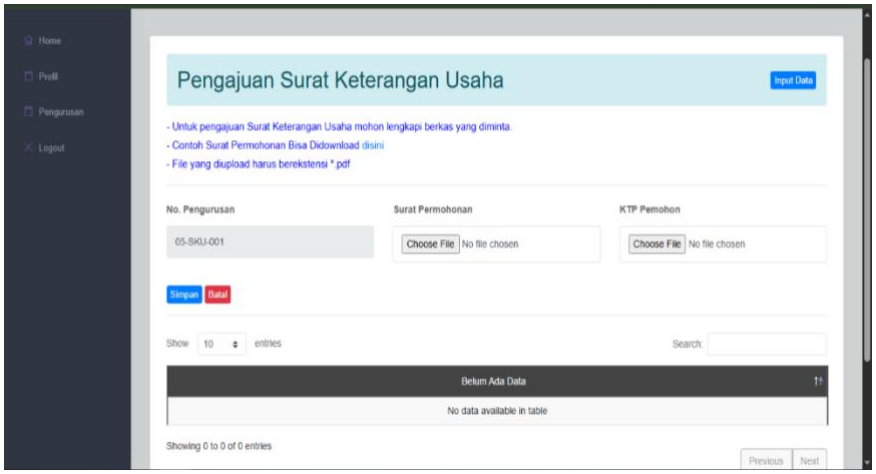

Fig. 8: A Letter of Intent to Apply for a Certificate of Employment

6. Fuel Request Submission Page
The fuel request submission page is a page where the user inputs the data needed to take care of the business certificate. The fuel request submission page can be seen in fig 9.

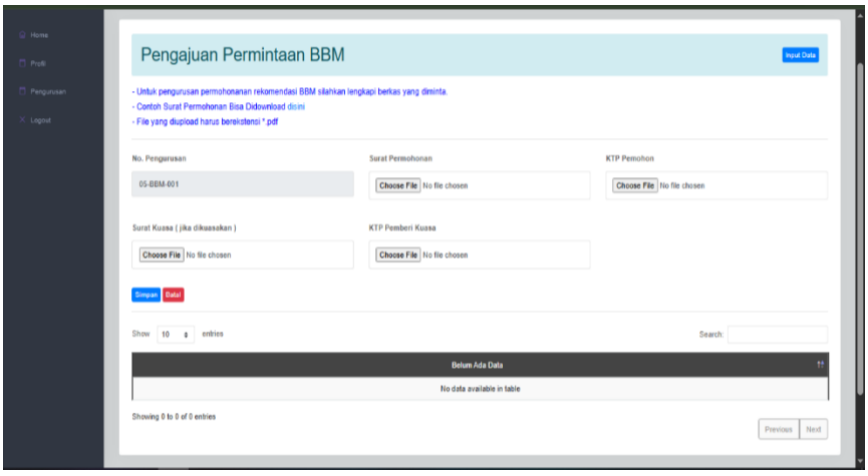

Fig 9: Fuel Request Submission Page

7. Admin login page
The admin login page is the page that the admin uses to log in to the admin page. The admin login page can be seen in fig 10.

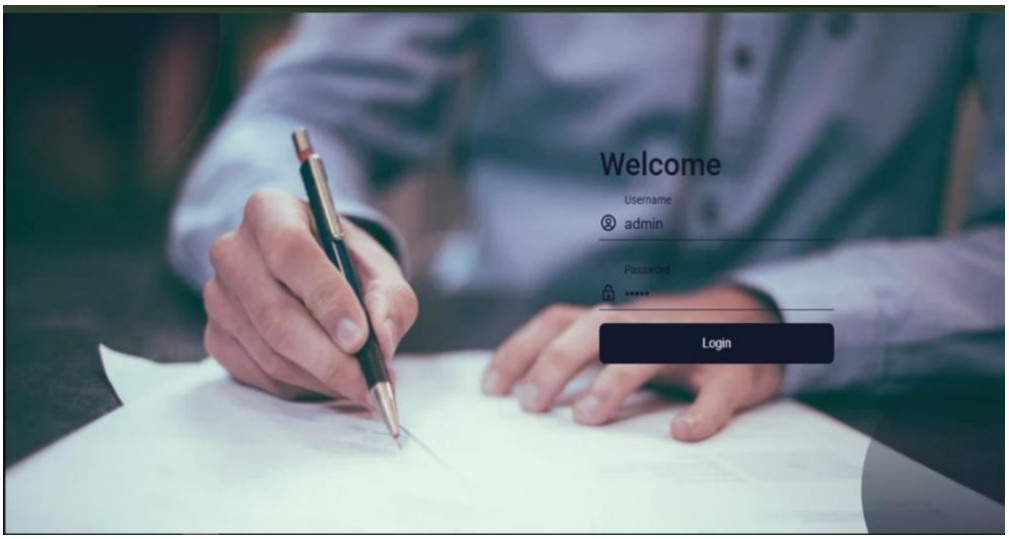

Fig 10: Admin login page

8. Admin homepage
The admin's main page is the page that appears after the admin logs into the system. The main user page can be seen in fig 11.

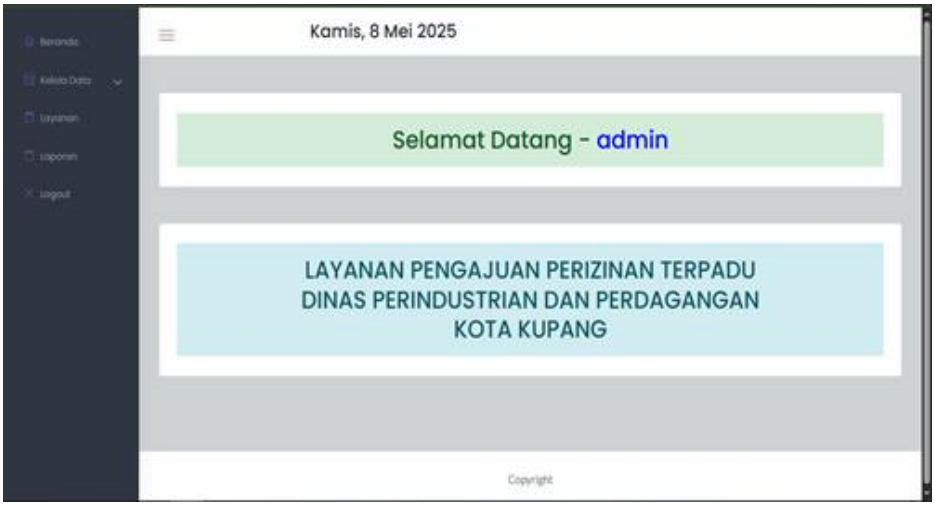

Fig 11: Admin main page view

9. Admin services page
The admin service page is the page that the admin uses to view applications for business certificate management and fuel recommendation requests. The admin services page can be seen in fig 12.

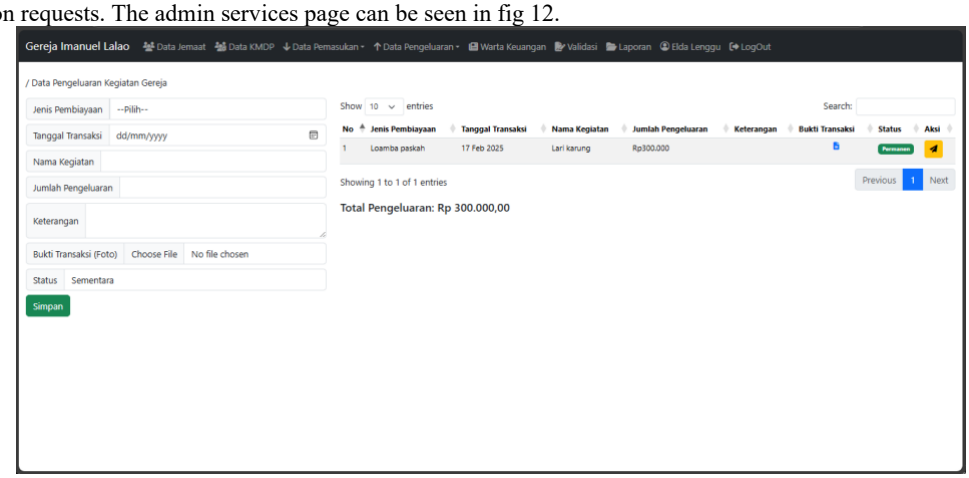

Fig 12: Admin services page

10. Admin SKU submission page
The admin sku submission page is the page that the admin uses to manage the submission of business certificates from users. Admins can change the status of SKU management so that users can find out the status of the SKU management process. The SKU application page can be seen in fig 13.

Fig 13: Admin SKU submission page view

11. Admin BBM Recommendations Management Page
    The admin recommendation management page is the page that the admin uses to manage the submission of BBM recommendation letters from users. Admins can change the status of the management of the BBM recommendation letter so that users can find out the status of the management process. The admin fuel recommendation management page can be seen in fig 14.

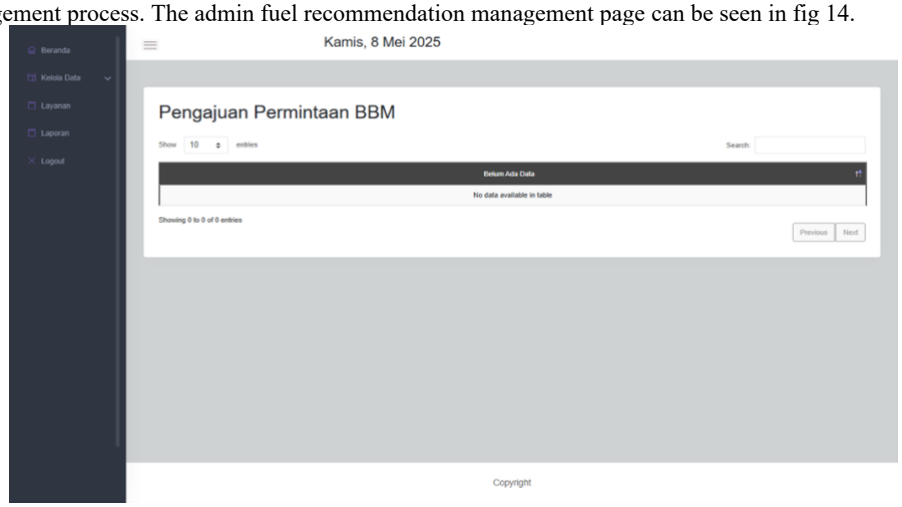

Fig 14: Admin BBM Recommendation Management Page

4. Conclusion

The results of the study show that the integrated online service system for applying for permits at the Kupang City Department of Industry and Trade has succeeded in improving the efficiency, transparency, and speed of the licensing process. This system solves the problems of previous manual services by providing online permit application features, data approval, application status tracking, and automatic printing of permits. With this system, the licensing process becomes easier, saves time, and supports modern and responsive public services.

Acknowledgement

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