

Original Article

Model Design and Build Web-Based Package Forwarding PT. Tiki Jalur Nugraha Ekakurir

Adam Muzhaffar¹, Ifan Prihandi²

^{1,2} Information System & University of Mercu Buana, Kembangan Jakarta barat Indonesia

Received Date: 25 December 2019

Revised Date: 23 January 2020

Accepted Date: 05 January 2020

Abstract – Currently, technological developments have led to far more global things, such as the use of the web at a company. Transportation companies are one of them, shipping goods from urban to rural areas, from Sabang to Merauke. The company certainly requires a management information system both in the management of data, information or company profiles, to display costs and order goods delivery services that all activities can be carried out using web pages. Therefore the need for a web profile or management at this time is very urgent for the company's progress. For that reason, it is necessary to design an information system for shipping services that are only done using web-based or. So that it can accommodate the need for the demand for freight services, which is increasing every time. In this case, information system analysis and design will be carried out. The research methodology uses an object-oriented methodology for the analysis and design stages, and the tools/tools used are using the Unified Modeling Language (UML) Diagram. This research is expected to provide convenience in the process of sending e-commerce goods abroad by merely ordering through a system.

Keywords – Design, shipping, unified modelling language (UML).

I. INTRODUCTION

Information technology is needed in all fields to support business processes in the company. The technology that is highly developed nowadays is computer technology, where computers can help work become easier, practical and fast. Computers can be connected to the internet and can access the information needed. For now, without the support of information technology, a company might be impossible to develop [1]

Transportation companies are one of them, shipping goods from urban to rural areas, from Sabang to Merauke. The company certainly requires a management information system both in managing data, information or company profiles, to display costs and order goods shipping services that all of its activities can be carried out using web pages.

The benefits of shipping services are enormous, of course, making it easier for everyone to send goods faster and easier. This is related to people who have shops in e-

commerce. Most of the orders that come to our store in e-commerce make the shop owner must send the ordered items as fast as possible through the shipping service available in e-commerce. In some e-commerce services do not provide shipping abroad.

Difficulties in sending goods abroad due to the limitations of existing features in e-commerce so that sellers who want to send the ordered products must ask for information about other shipping services, making it difficult for sellers to send the ordered items to the buyer.

From the background, the following problems are obtained:

- How is the process of sending goods overseas?
- What is the design of the shipping application that can tell the progress of shipping goods to customers?
- Design a Web-based application

The discussion of the raised topic has the following limitation on problems

- In designing this website, the authors used mock-up apps and Visio.
- As an implementation of the website program, authors use the methods of TAM.
- This application discusses how customers use the website from the login until the completion of payment.

The research aims to

- To find out the process of shipping goods.
- To make the design of applications that can facilitate customers in shipping goods.
- To create an application design that can notify the progress of delivery of products to the customer

II. STUDY LITERATURE

A. System Design

System Design is a depiction, planning and manufacturing of several separate elements into a unified whole and functioning.[2]



B. Application

Application is the application, use or addition and is a software that functions to perform various forms of work or specific tasks such as the application, use and acquisition of data[3]

C. Forwarding

The term 'freight forwarder' comes from the English 'Freight Forwarder' and the International Freight Forwarder Association (FITC) defines it as follows: Transportation of goods is based on instructions from the customer, and someone takes the products for the benefit of the customer, and he is not a carrier.[4]

D. Delivery

Delivery of goods is the activity of delivering an item or information from a sender to a party sent or received from a different place.[5]

E. PHP

[6] PHP is a server-side scripting language, where data processing is done on the server-side. Simply put, the server will translate the program script, new then the results will be sent to the client who did demand.

F. CSS

[7] CSS is a document that is useful for making arrangements on web page components. The core of this document is to format standard web pages into web forms that have more beautiful and attractive qualities.

G. Mock Up

[8] Mock-up is a three-dimensional form of media that resembles the original form.

This website design mockup is needed to convince you when it comes to creating a custom-designed website. Through mockups, you can see a real visualization of your prospective website so you can give feedback to the designer if the mock-up display is not yet in accordance with the previous request. Therefore, it's no wonder that mockups are an important part of creating a website with custom designs.

III. RESEARCH METHODS

A. Data Collection Techniques

a) Document study

Data collection that is not addressed directly to the subject of research. Document study is a type of data collection that examines a wide range of documents useful for analytical materials.

b) Observation

By means of direct observation over the research object.

c) Data Collection

This data collection is done by direct consultation with the owner of the part where the author is placed.

B. System development Methods

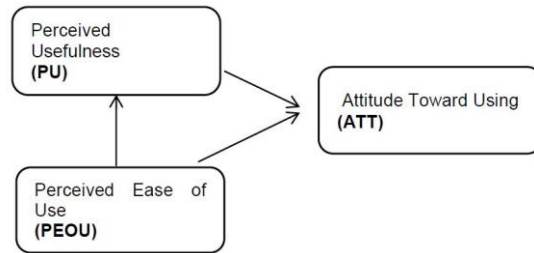


Fig 3.1 TAM Model

The development method used in this study was the Technology Acceptance Method (TAM). This model proposes that when users are offered to use a new system, a number of factors influence their decisions about how and when to use the system.[9]

Technology Acceptance Method consists of:

Perceived Ease Of Use (PEOU) viz the extent to which a person believes that to use technology will facilitate the work.

Perceived Usefulness (PU), that is, the extent to which a person believes that to use technology will improve its performance.

IV. RESULTS AND DISCUSSION

A. Running TAM

	Pertanyaan	Sangat Setuju	Setuju	Tidak Setuju	Sangat Tidak Setuju
Perceived Usefulness	Dengan adanya sistem saya dapat lebih mudah pengiriman barang	5	11	1	
	Dengan adanya sistem ini membuat lebih efektif dan efisien		16	1	
Perceived Easy of Use	Apakah aplikasi mudah di gunakan?		17		
	Apakah aplikasi mudah dimengerti dan di pahami?		10	4	3
Attitude Toward Using System	Struktur menu mudah dipahami	1	16		
	Efektif dan Efisien		11	6	
	Perlu adanya penerapan sistem seperti ini di jasa pengiriman barang?	5	10	2	
	Tampilan aplikasi tidak membosankan	2	8	7	

Fig 4.1 Tam questionnaire

a) Usecase Diagram

Sistem Pengiriman Barang Parcel Forwarding

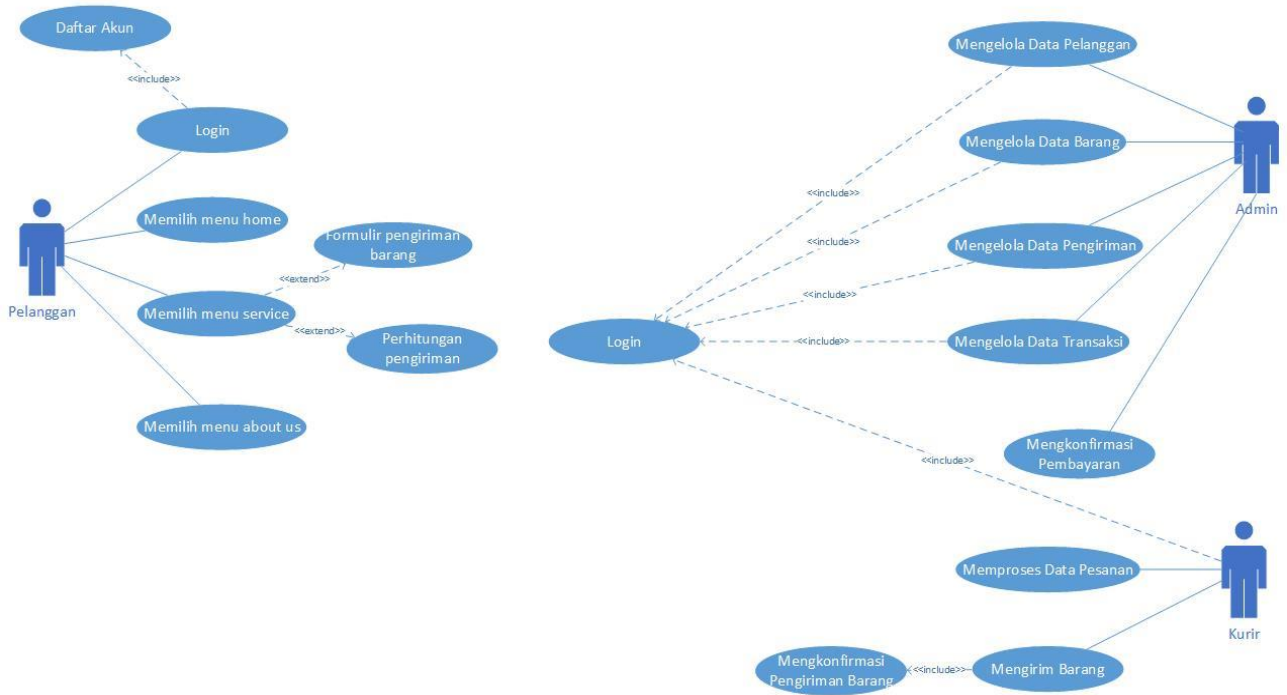


Fig. 4.2 Use Case system

b) Activity Diagram

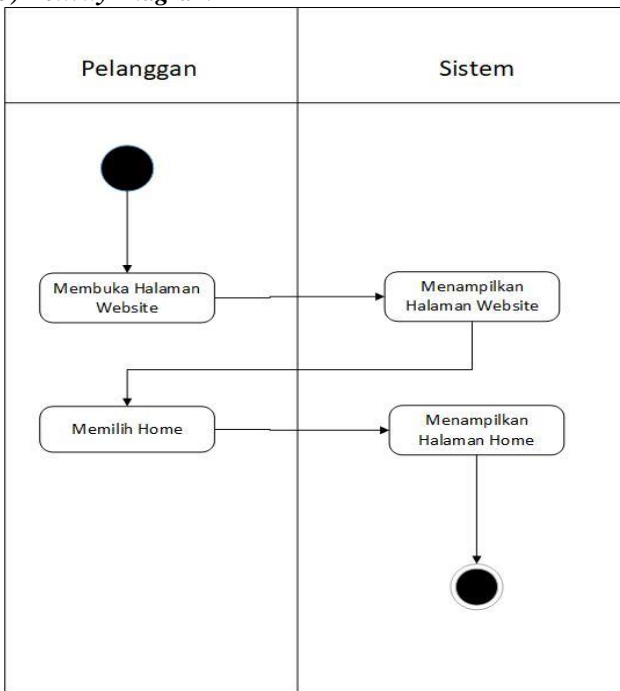


Fig. 4.1 Activity diagram menu

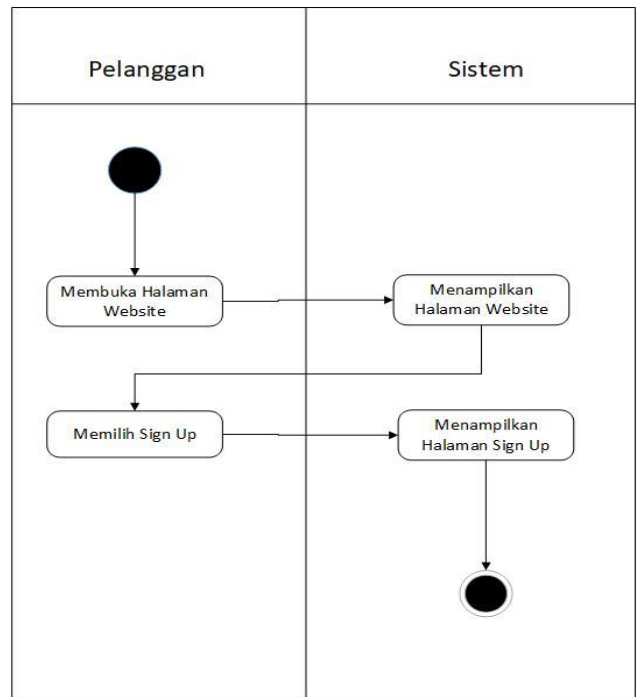


Fig. 4.2 Activity Diagram Login

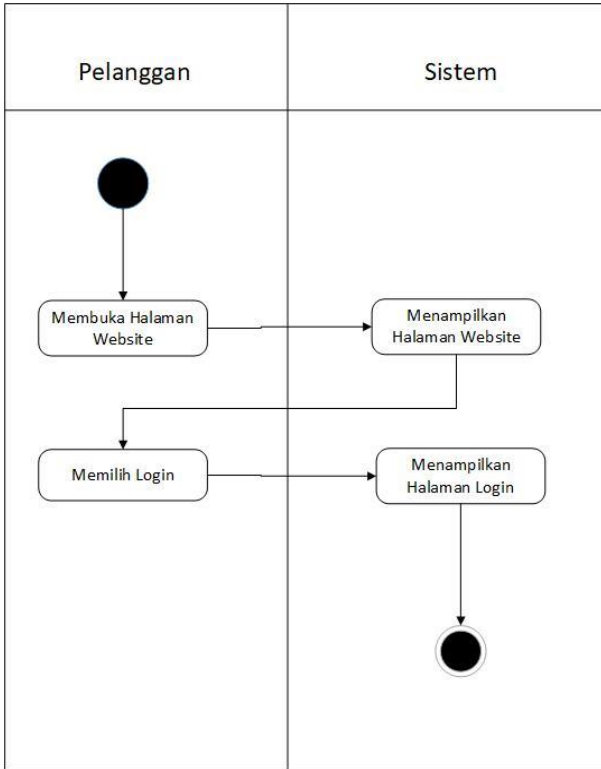


Fig. 4.3 Activity Diagram Daftar Akun

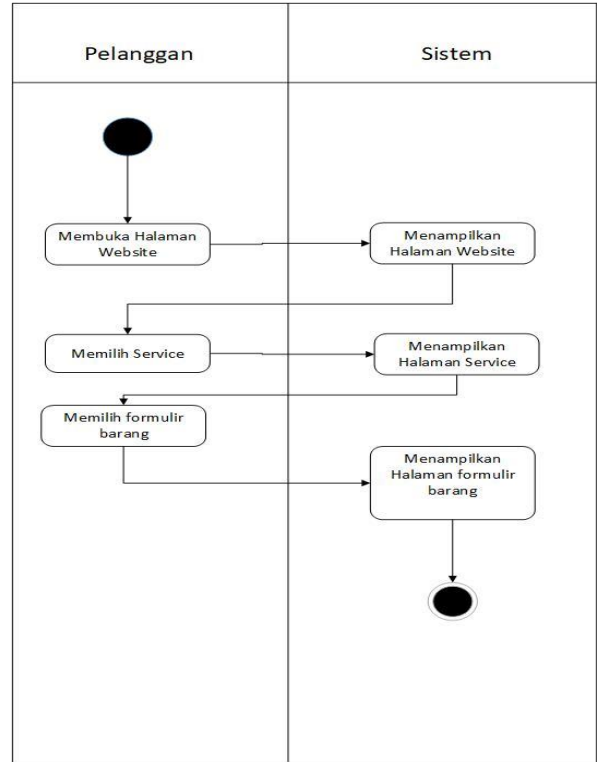


Fig. 4.5 Activity Diagram Formulir Barang

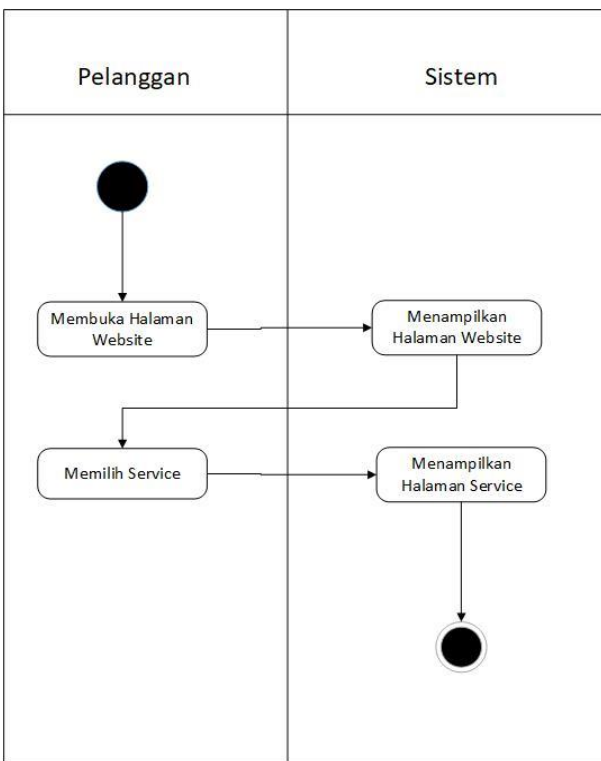


Fig. 4.4 Activity Formulir Barang

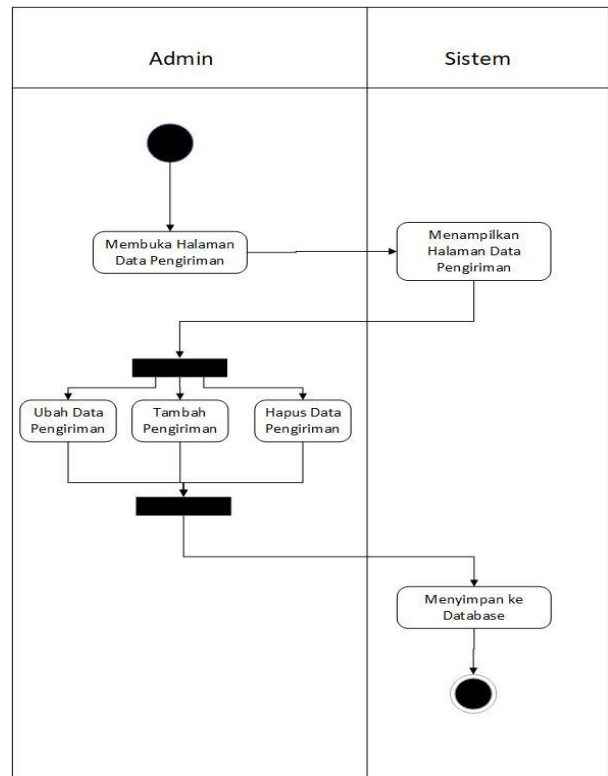


Fig. 4.6 Activity Confirm Barang Admin

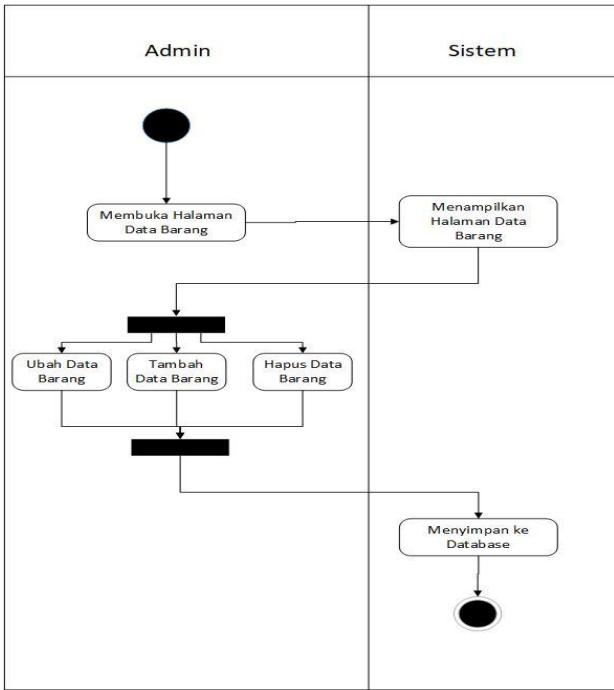


Fig. 4.7 Activity Diagram Barang Admin

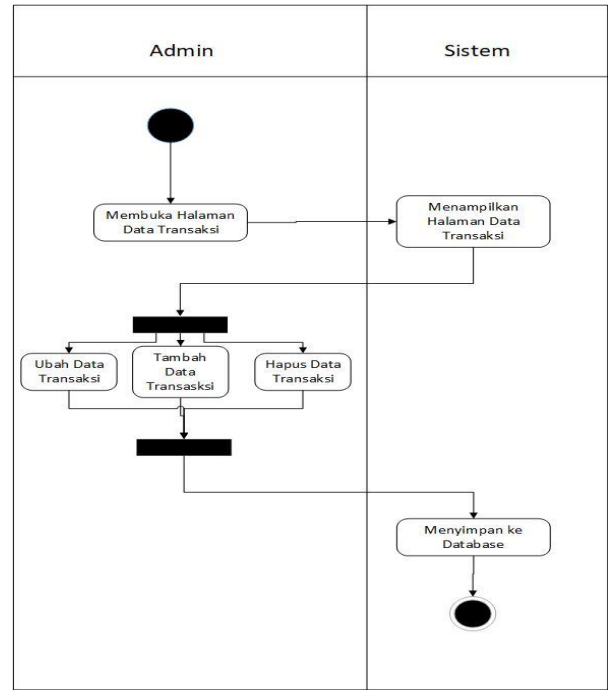


Fig. 4.8 Activity Diagram Admin Transaksi

c) Database designing

[10] Database design is a step in designing a database in accordance with the applications specified in fulfilling user information needs.

In designing the database research, use the diagram class as in the images :

d) Class Diagram

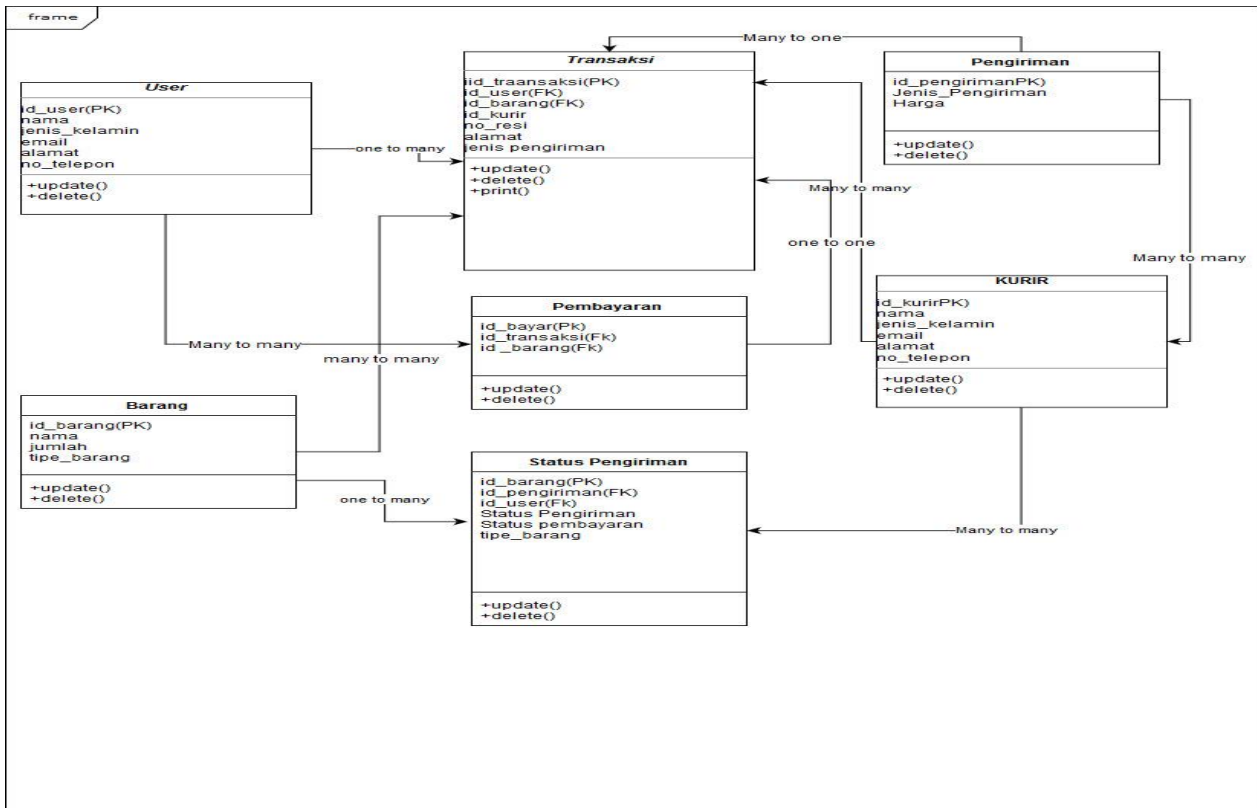


Fig. 4.9 Class Diagram Sistem Proposal

e) Design Output

[11] The design stage in making the program is a very important thing because, in the design, there are elements that represent the content or the contents therein. Architecture in designing a website must have a construction which is good, right data processing and accurate has its own value and has a basis for the development of the next system.

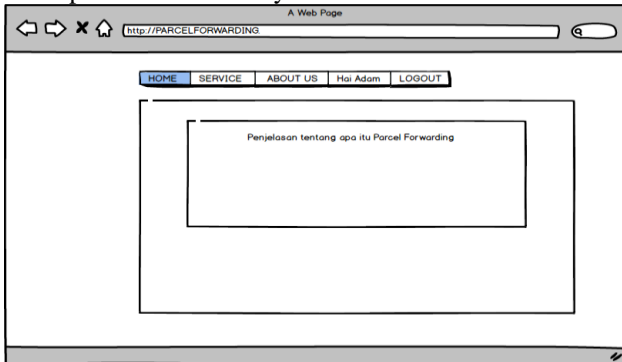


Fig. 4.10 Design Menu

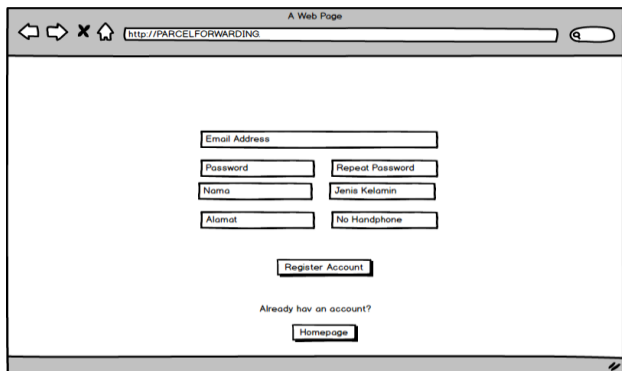


Fig. 4.11 Design Registrasi akun

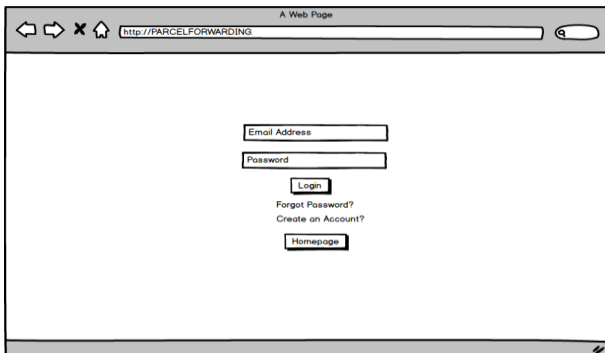


Fig. 4.12 Design login

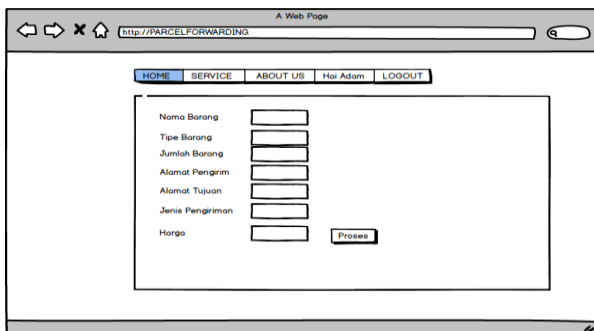


Fig. 4.13 Design Service

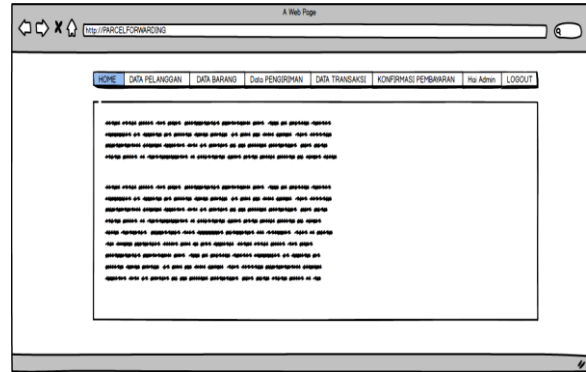


Fig. 4.14 Design Admin

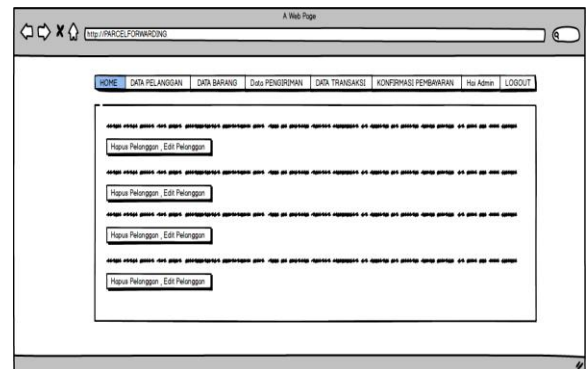


Fig. 4.15 Design Data Pelanggan Admin

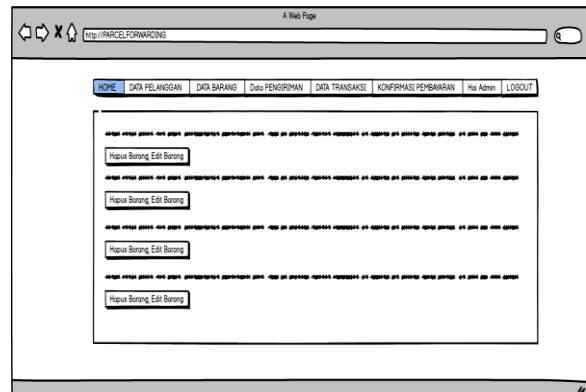


Fig. 4.16 Design Data Barang Admin

B. Implementation System

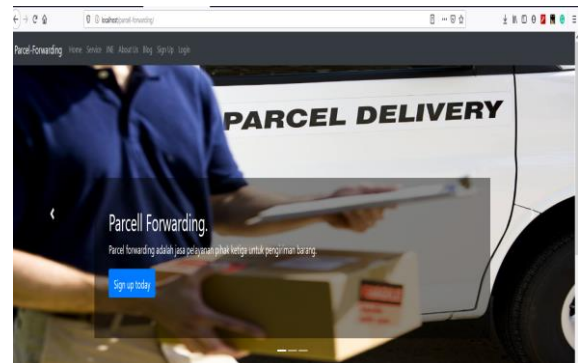


Fig. 4.17 Implementation Menu

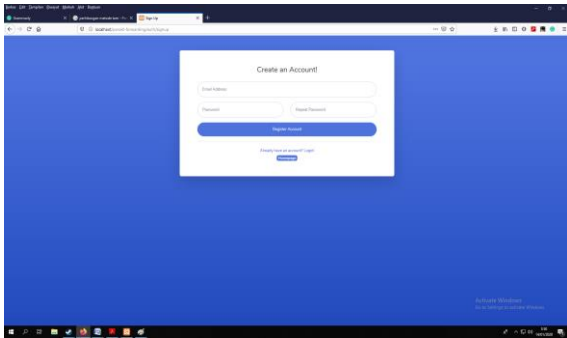


Fig 4.18 Implementation Registration akun

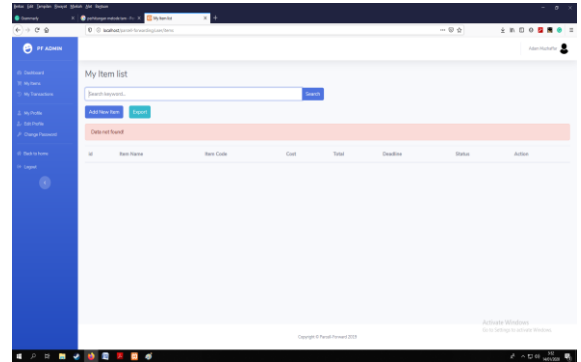


Fig. 4.22 Implementasi Item List User

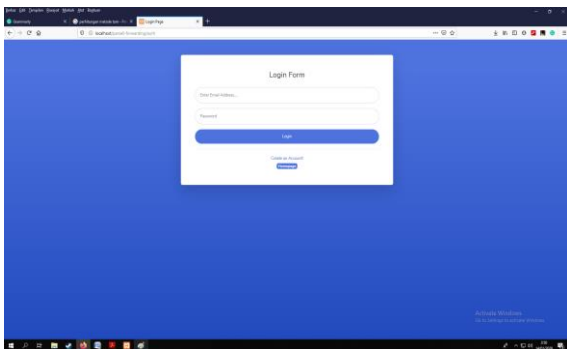


Fig. 4.19 Implementation login

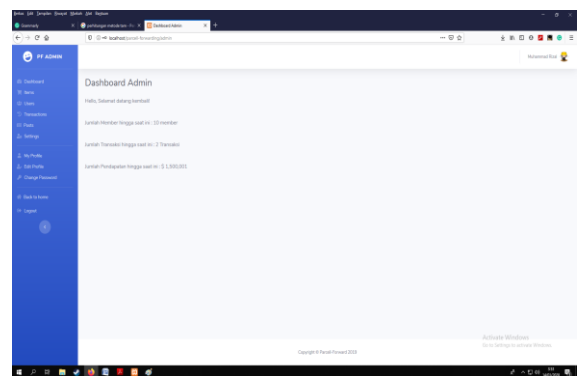


Fig. 4.23 Implementation Dashboard Admin

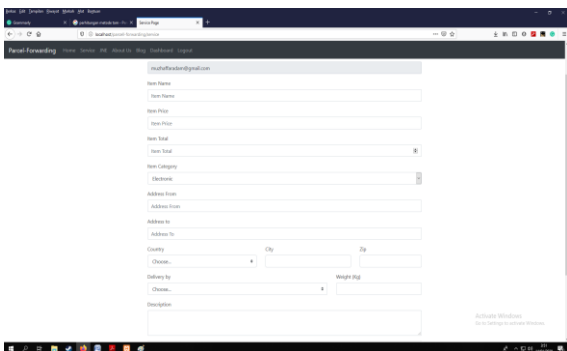


Fig. 4.20 Implementation Service

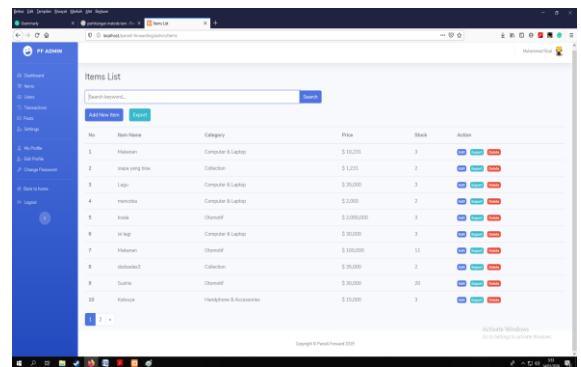


Fig. 4.24 Implementation Item List Admin

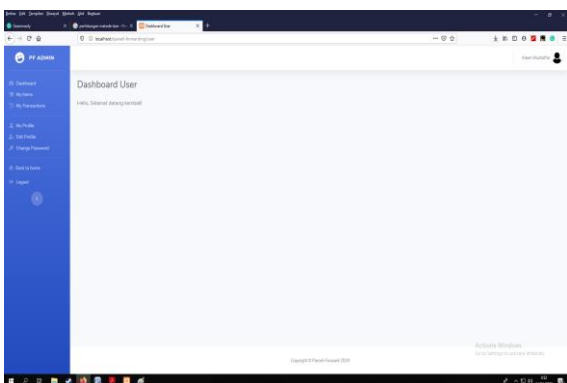


Fig 4.21 Implementation Dashboard User

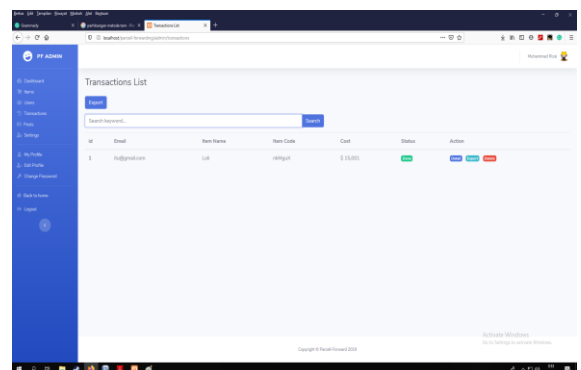


Fig. 4.25 Implementation Transaksi Admin

V. CONCLUSION

Based on the results of the research conducted, it can be concluded that the application of web-based goods shipping can expand the reach of business in this JNE goods shipping service. This has a positive impact on company revenue.

For the development of this application in the future, it is hoped that this can be done via Android or iOS applications. Thus the buyer can efficiently perform these services using a smartphone.

REFERENCES

- [1] M. I. Puspita, I. Ranggadara, and I. Prihandi., Framework Zachman for design information system logistics management., *Int. J. Recent Technol. Eng.*, 8(3) (2019) 4030–4034.
- [2] A. S. Saputra et al., Application of Web-Based Export Delivery System At Pt Tuntex Garment Indonesia Tangerang To Improve Introduction Information is very important to support sustainable development, so there is a reason that information is needed., 4(1) (2018) 88–102.
- [3] N. Iswanti, N. A. Hasibuan, and M. Mesran., Goods Delivery Transportation Application Using Least Cost Method And Modified Distribution On Cv. Nihta Cargo Express., *JURIKOM (Jurnal Ris. Computer)*, 3(6) (2016) 106–110.
- [4] G. Huang, X. Xu, H. Song, and H. Lim., Analysis on the Development of International Freight Forwarding Company - Taking Changbao International Freight Forwarding (Shanghai) Co ., Ltd as an Example 2 . *Research on International Freight Forwarding Theory.*, 1(1) (2019) 1–10.
- [5] K. Yuliana, S. Saryani, and N. Azizah., Web-Based Shipping Recapitulation Design., *J. Sisfotek Glob.*, 9(1) (2019).
- [6] A. Firman, H. F. Wowor, X. Najoan, J. Teknik, E. Faculty, and T. Unsrat., Web-Based Online Library Information System., *E-Journal Tek. Electro And Computers.*, 5 (2) (2016) 29–36.
- [7] [7] Y. A. Binarso, E. A. Sarwoko, and N. Bahtiar., Development of a Web-Based Alumni Information System at the Informatics Engineering Study Program, Diponegoro University., *J. Informatics Technol.*, 1(1) (2012) 72–84.
- [8] N. Nurlaila and G. Hamdu., *Developing Mock-Up Media.*, (2016) 85–93.
- [9] M. I. Fitrianda, University of Jember Digital Digital Repository Repository University of Jember Digital Digital Repository University of Jember University. (2013).
- [10] Ita rosita wati., *library database analysis and design (case study at smk panggali nusantara Palembang).* (2013).
- [11] S. Rahayu and R. Y. Aditya., *Design of an Information System for Layout of Public Health Centers in the Special Capital Region of Jakarta.*, (2012) 132–136.