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## Article 23 Income Tax Calculation System for Expedition Services (Study at one of the National Express Delivery and Logistics Service Companies in Bandung City)

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### ABSTRACT

Correct and accurate tax calculations can make it easier for company owners to know the amount of deductions paid and make the right decisions that company owners will make for the business they are involved in in the future. Moreover, with the correct tax deductions, they can increase state treasury income appropriately to avoid errors or fraud in the reporting. Calculating income tax (PPh), article 23 for expedition services is accompanied by a large amount of goods delivery transaction data based on available delivery services, which causes errors in the calculations due to differences in the delivery services selected. The design of the Income Tax (PPh) Calculation System Article 23 for one of the national express delivery and logistics service companies in Bandung is made on a web basis. The research method used is the descriptive method with data collection techniques in the form of observation, interviews, and literature study, and was designed using the OOAD (Object Oriented Analysis Design) system development method, namely the process of analysis, design, and implementation of the system based on objects. The programming language used is PHP with the PHPMyAdmin database. It is hoped that the design of the PPh 23 tax calculation system will make it easier for companies to input the necessary data, make the calculation process easier because it is done automatically and will be more accurate, and make it easier to print reports if one day they need a report in hard copy form.

*Keywords: System, Income Tax Article 23, Expedition Services*

### INTRODUCTION

Tax is a mandatory contribution imposed on every taxpayer or tax object they own and handed over to the government as a source of state revenue. (Rahmawati, Mialasmaya, et al., 2022; Rahmawati, Yusup, et al., 2022) One source of state revenue, namely income tax, has made the most significant contribution to development in this country, one of which is Income Tax Article 23 (PPh Article 23). (Farida et al., 2022; Septelia et al., 2021)

Income tax article 23 (PPh article 23) is a tax withheld on income received or earned by domestic taxpayers as well as permanent business establishments with any name and in any form originating from capital, rendering services, or carrying out activities other than those which have been withheld by PPh article 21, including dividends, royalties, gifts and awards, rent, income in connection with the use of assets and compensation for certain services. (Alstadsæter et al., 2019; Hasanah et al., 2022)

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With Article 23 PPh deductions, errors often occur in the calculation process, which can result in a shortfall in the amount of tax that should be remitted to the state. This deficiency can result in taxpayer losses due to sanctions from the tax office and the state due to reduced revenues from the tax sector. (Edi Tri Wibowo, 2020; Thanh Tung & Thi Hoang Phung, 2019)

One national express delivery and logistics service company in Bandung needed to calculate and record PPh Article 23 tax data correctly. The agent's office only received an e-mail from the head office regarding calculating the packing list every two weeks as a reference for paying the tax. The agent has borne this, mainly because no exceptional staff/employees can record this data. For example, the data received concerns data summarizing the agent's rights and obligations, where the agent does not process the data and only stores the data in the company's e-mail. Thus, this is what hinders agent offices in recording data and makes it challenging to find the data they want to search for, as well as the accuracy of taxes paid every two weeks and proof of deductions received annually are not necessarily the same because there is no double-checking of each data, so it can errors occur in the calculation process or data input errors based on delivery services, for example. (Edi Tri Wibowo, 2020; Farida et al., 2022)

Seeing these conditions, the author intends to help simplify the process of calculating and recording data related to Income Tax Article 23 on Expedition Services, which aims to reduce errors and increase the effectiveness of company performance in calculating and recording existing tax data. (Kumaratih & Ispriyarso, 2020)

Therefore, the author designed a system for calculating and recording PPh Article 23 tax data for expedition services by creating a system or web-based application program that is easy to access using the PHP programming language, which later, with this system, can produce calculation reports and data recapitulation. (Edi Tri Wibowo, 2020; Li et al., 2021) Both are in a neat format to be sent to the central party from the agent at one of the national express delivery and logistics service companies in Bandung as company archives and documents. Therefore, the author designed the system using a web-based application titled "Income Tax Calculation System Article 23 for Study Expedition Services at One of the National Express Delivery and Logistics Service Companies in Bandung City".

### 3 METHOD

Research methods are part of the research methodology. Research methods<sup>3</sup> can be used to explain, describe, and predict a phenomenon. Research methods are a collection of procedures, schemes, and algorithms used as measuring tools or instruments in research. All methods used during research are called research methods. These methods are designed<sup>1</sup> and must be scientifically accountable and as neutral as possible. These methods include theoretical procedures, experimental studies, numerical schemes, statistical approaches, etc. Research methods help researchers collect data from samples and solve specific problems.

In this research, the author used the Descriptive Method in collecting/searching for sources of information needed for this research. Descriptive methods are divided into 3, namely observational methods, case study methods, and<sup>6</sup> survey methods.

To get good results in this research, the author used<sup>1</sup> the OOAD (Object Oriented Analysis Design) method in designing the system. OOAD is an analysis method that examines requirements from the perspective of classes and objects encountered within the scope of the problem that directs software architecture based on the manipulation of system or subsystem objects. OOAD is a new way of thinking about a problem by using models created according

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to concept around the real world. The basis of this system development method is objects, which are a combination of data structures and behavior in one entity.

OOAD includes analyzing and designing a system with an object approach, namely object-oriented analysis (OOA) and object-oriented design (OOD). OOA is an analysis method that examines the requirements that must be met by a system from the perspective of classes and objects encountered within the company's scope. Meanwhile, OOD is a method for directing software architecture by manipulating system or subsystem objects.

## RESULTS AND DISCUSSION

### System planning

System Design is the stage of defining the needs of the development cycle of a new system or system to be formed. In System Design, the stages carried out include the design of input, output, file structure, and program.

### Sequence Diagrams

A Sequence Diagram explains how an operation is carried out or what message is sent and when it is carried out. This chart is organized by time. The message is depicted as an arrow line from one object to another.

#### 1. Login Sequence Diagram

The image below explains the flow of an action designed in a sequence diagram, namely the action in the form of logging in (the process of accessing the system). This can be seen in the following image:



Figure 1. Login Sequence Diagram

#### 2. Dashboard Sequence Diagram

The image below explains the flow from the login process to opening the dashboard page which displays the main page display containing the data in the dashboard in the form of gross income obtained based on available delivery services and displays the company's vision and mission. It can be seen in the following picture:

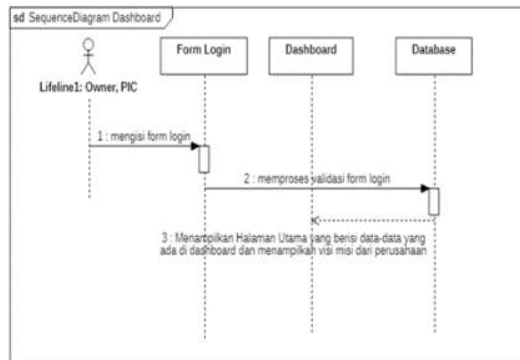


Figure 2. Dashboard Sequence Diagram

### 3. Sequence Diagram Data Category

The image below explains the flow of an action designed in a sequence diagram, namely managing category data, which includes item category data based on category type. It can be seen in the following picture:

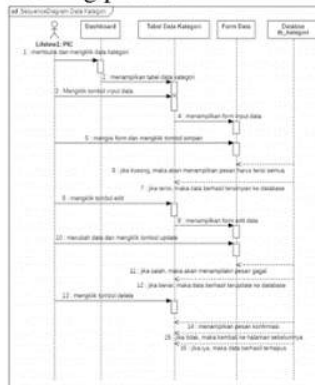


Figure 3. Sequence Diagram for Managing Category Data

### 4. Sequence Diagram Data Category

The image below explains the flow of an action that has been designed in a sequence diagram, namely the action of managing category data, which includes item category data based on category type. It can be seen in the following picture:

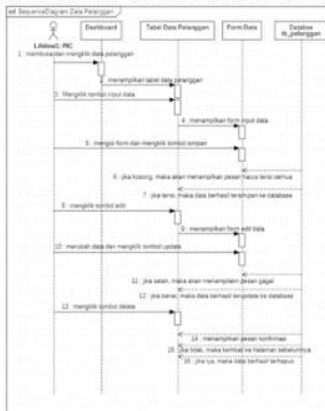


Figure 4. Sequence Diagram for Managing Customer Data

### 5. Sequence Diagram of Item Data

The image below explains the flow of an action that has been designed in a sequence diagram, namely the action of managing goods data, which includes delivery goods data which is integrated with the type/category of goods. It can be seen in the following picture:



Figure 5. Sequence Diagram for Managing Item Data

#### 6. Sequence Diagram of Cost Data

The image below explains the flow of an action that has been designed in a sequence diagram, namely the action of managing cost data, so that the company's existing cost history can be seen. It can be seen in the following picture:

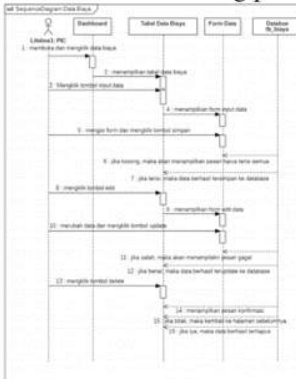


Figure 6. Sequence Diagram for Managing Cost Data

#### 7. Sequence Diagram of Delivery Data

The image below explains the flow of an action that has been designed in a sequence diagram, namely the action of managing delivery data, which includes data on orders for delivery of goods starting from price, admin costs, and insurance. It can be seen in the following picture:

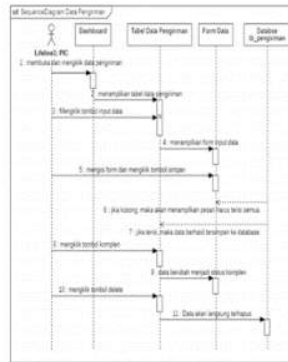


Figure 7. Sequence Diagram for Managing Delivery Data

## 8. Sequence

### Sequence Diagram of Final Tax Report

The image below explains the flow of an action that has been designed in a sequence diagram, namely the action in the form of a final tax report. It can be seen in the following picture:

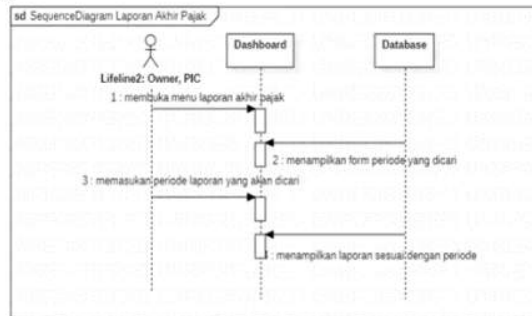


Figure 8. Sequence Diagram of Final Tax Report

## 9. Logout Sequence Diagram

The image below explains the flow of an action that has been designed in a sequence diagram, namely the action in the form of logging out (exiting system services). It can be seen in the following picture:

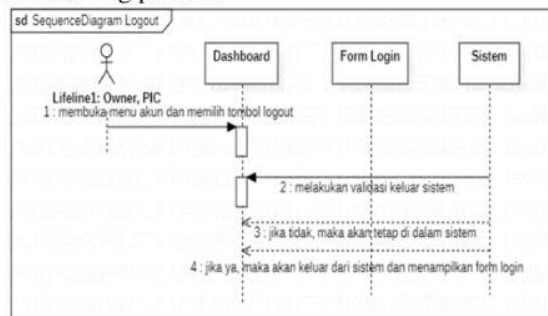


Figure 9. Logout Sequence Diagram

## Page View Implementation

### 1. Login Page Display



Figure 10. Login Page Display

2. Dashboard display



Figure 11. Dashboard display

3. Category Data Display



Figure 12. Category Data Display

4. Customer Data Display



ID Pelanggan	Nama Pelanggan	Alamat Pelanggan	Nomor Telepon	Action
Cu-001	Sani Aprilia	Kp. Cipicung, Babendak, Bandung 40175	0852977755	<a href="#">edit</a> <a href="#">hapus</a>
Cu-002	Alya Romantika	J. Jakarta Utara, Bandung 40131	0814422233	<a href="#">edit</a> <a href="#">hapus</a>
Cu-003	Iskita Mardiyah	J. Kembang Duta, Bandung 40175	087322424	<a href="#">edit</a> <a href="#">hapus</a>
Cu-004	Widha Hafid Khalifah	J. Terusan Bojongsari, Babendak, Bandung 40175	08567794271	<a href="#">edit</a> <a href="#">hapus</a>

Figure 13. Customer Data Views

5. Display of item data

ID Barang	ID Kategori	Nama Barang	Keterangan	Action
Brg-001	Klg-003	Pisang		<a href="#">edit</a> <a href="#">hapus</a>
Brg-002	Klg-003	Cendek	ukuran 300x150	<a href="#">edit</a> <a href="#">hapus</a>
Brg-003	Klg-004	Atas Kaki-kaki		<a href="#">edit</a> <a href="#">hapus</a>
Brg-004	Klg-001	Sembako		<a href="#">edit</a> <a href="#">hapus</a>
Brg-005	Klg-002	Dipate	ukuran 20, bahan katun, warna coklat tua	<a href="#">edit</a> <a href="#">hapus</a>

Figure 14. Item Data Display

6. Cost Data Display

Tanggal	Nama Akun	Monev	Action
2022-08-16	0.000	0.000	<a href="#">edit</a> <a href="#">hapus</a>
2022-08-17	0.000	0.000	<a href="#">edit</a> <a href="#">hapus</a>
2022-08-18	0.000	0.000	<a href="#">edit</a> <a href="#">hapus</a>
2022-08-19	0.000	0.000	<a href="#">edit</a> <a href="#">hapus</a>

Figure 15. Cost Data Display

7. Delivery Data Display

No	ID Pengiriman	Tanggal	Nama Pelanggan	Nama Barang	Tujuan Pengiriman	Kategori	Harga	Berat	Stok
1	PSM-013	2022-08-13	Alya Romantika	Tegalan	Jakarta	Swaring	Rp. 40.000	2	F
2	PSM-018	2022-08-13	Sani Aprilia	High Temp	Bandung	Swaring	Rp. 20.000	3	F
3	PSM-019	2022-08-13	Sani Aprilia	Buah Mangga	Jakarta	Mikawan	Rp. 20.000	1	F

Figure 16. Delivery Data Display

8. Category Data Input Display

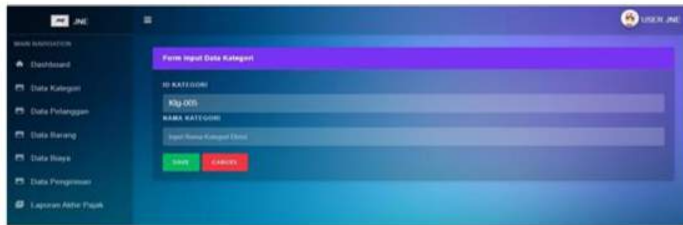


Figure 17. Category Data Input Display

## 9. Customer Data Input Display



Figure 18. Customer Data Input Display

## 10. Item Data Input Display



Figure 19. Item Data Input Display

## 11. Cost Data Input Display

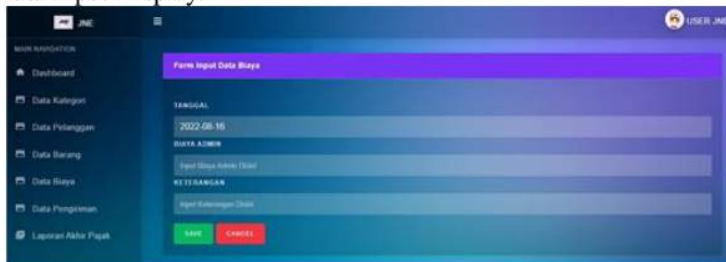


Figure 20. Cost Data Input Display

## 12. Delivery Data Input Display

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Figure 21. Delivery Data Input Display

### 13. Edit Category Data View

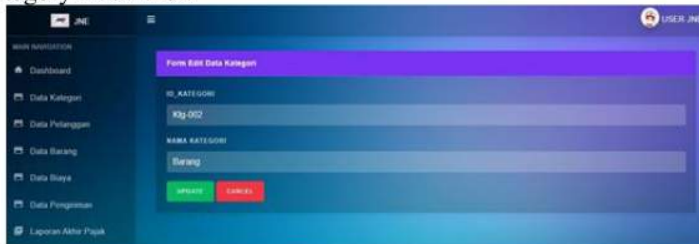


Figure 22. Category Data Edit Display

### 14. Edit Customer Data View



Figure 23. Edit Customer Data Display

### 15. Edit Item Data View



Figure 24. Edit Item Data Display

### 16. Edit Cost Data View

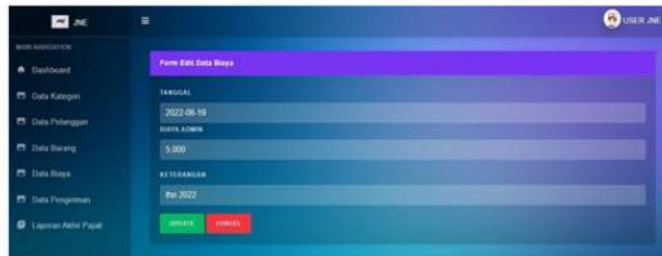


Figure 25. Edit Cost Data Display

### 17. Final Tax Report Display



Figure 26. Views of the Final Tax Report

### 18. Final Tax Report Print View



Figure 27. Printed Views of the Final Tax Report

## CONCLUSION

After analyzing the system currently running at one of the national express delivery and logistics service companies in the city of Bandung regarding the flow of income tax (PPh) article 23 calculations, in this final assignment report, the researcher tries to design a new system using language. PHP programming in calculating PPh article 23 properly and correctly so that the process can be more effective and efficient.

With the system design created, the author hopes that the system can run optimally so that the required PPh 23 tax calculation process is maintained in terms of accuracy in the calculations and in recording data that is easy to find when needed. This system can make it easier for employees to minimize errors in the data input process and calculate PPh 23 accurately. The system that has been created can make it easier for employees or interested parties to search for and find the necessary data, especially related to PPh article 23 data. The PPh 23 tax report data recording can be done quickly and is accompanied by a print process (print) the report so that it can be done quickly. It makes it easier to need a report in hard

copy form so that the performance produced by the company can be more effective and efficient.

### **REFERENCES**

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