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By Irma Rohmatika

Restaurant Tax Calculation Application and Service Fees for Tax Reporting
(Study At One of The Restaurants in Cimahi)

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Abstract

The Restaurant levy is a government or city-managed levy that can augment the local revenue of Cimahi City. Certain restaurants frequently impose an additional service fee. One of the restaurants in Cimahi still uses a semi-computerized or semi-EDP (Electrical Data Processing) system, which results in inefficient calculation of the Restaurant Tax and Service Fee and slow reporting to the Local Government. Descriptive research is a method that focuses on providing a detailed and systematic analysis of specific phenomena or qualities. The system development methodology employed is object-oriented analysis and design (OOAD). The Nikmat Sunda Restaurant program, accessed through the web, can carry out automated calculations and act as a data resource to enhance time efficiency. Hence, the Restaurant Tax and Service Fee calculation can serve as a foundation for generating Restaurant Tax reports.

***Keywords :** Application, Tax Reports, OOAD, UML, XAMPP, PHP, Laravel*

INTRODUCTION

Technology is constantly progressing and achieving significant breakthroughs as time goes on. Technology is essential in enhancing the overall quality of human life in contemporary civilization. Medical technology extends human lifespan and improves overall health, information technology enhances communication and information accessibility, and energy technology promotes efficient and eco-friendly energy utilization. Computerized accounting and taxes use computer technology to optimize and simplify accounting and taxation procedures. Computerized accounting entails the utilization of software like MYOB to document financial transactions, produce financial reports, and merge financial data with other systems such as banking and inventory management. Conversely, computerized taxation refers to using tax software, such as e-filing and e-billing, allowing taxpayers to file their taxes and make online tax payments.

The Restaurant levy is a government or city-managed levy that can augment the local revenue of Cimahi City. Undoubtedly, a significant portion of Cimahi City is renowned for its natural and gastronomic tourism, which directly affects the revenue of food and beverage establishments, among other sectors. The restaurant tax is levied at a predetermined rate established by the local government. This rate is then multiplied by the total revenue collected or anticipated to be received by the restaurant. Typically, the tax rate for restaurants is 10%. (Rahmiyatun et al., 2021)

Some restaurants often charge a service fee. The highest fee charged is 10%, while some establishments opt for a 5% service fee. Typically, the service fee is invoiced before the Restaurant Tax. This means that the overall invoice will first include the service fee, followed by the calculation of the tax, providing a clear breakdown of the payment structure.

The restaurant now runs with a semi-computerized or semi-EDP (Electrical Data

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Processing) system, which results in a relatively inefficient calculation of the Restaurant Tax and Service Fee. This process can take up to one week. Consequently, the restaurant's process of submitting the SPTPD (Local et al.) to the Local Government could be more active. Furthermore, the obligation to report or pay the Restaurant Tax for the specified time must be fulfilled within 15 days following the conclusion of the tax period. Hence, creating a more methodical and automated program or system is imperative to assist staff in precisely computing the Restaurant Tax and Service Fee.

Object-oriented analysis and design is a cognitive approach to problem-solving that utilizes models derived from real-world concepts. The process of creating objects involves the integration of data structures and behavioral patterns to form a cohesive entity. OOAD, or Object-Oriented Analysis and Design, is a novel problem-solving approach that involves constructing models that accurately represent real-world concepts. The fundamental basis of this technique is rooted in objects, which integrate data structures and behaviors into a unified entity. (Syahnaz, 2021)

UML (Unit Model Language) Modeling

UML, short for "Unified Model Language," is a technique used for visually representing the design space or understanding of object-based systems. UML is a standardized language used for visualizing, designing, and documenting systems and software. Presently, UML has attained the status of a universally accepted language for representing software designs in written form. The reference is from a study conducted by (Agustina, 2021)

XAMPP Software

XAMPP is a software package that includes Apache, offering numerous benefits such as user-friendliness, cost-availability, and compatibility with Windows and Linux operating systems. It also supports MySQL, Apache web server, and PHP database server with a single installation. (Arfan & Kusuma. W, 2020)

PHP Programming Language

PHP is a server-side programming language that is executed on a server. Subsequently, the processing outcomes are transmitted to the client's web browser. A programming language specifically tailored for developing dynamic webpages. PHP programming can create dynamic web pages that display information based on recent requests, such as a guest list. (Randy Saputra et al., 2023)

Laravel Framework

Laravel is a PHP framework developed based on the Model View Controller (MVC) architecture and distributed under the MIT license. Laravel is a PHP-based web development framework that follows the MVP (Model-View-Presenter) architecture. It aims to enhance software quality by decreasing the costs associated with initial creation and maintenance. Additionally, Laravel improves the overall experience of working with applications by offering an expressive, straightforward, and efficient syntax in terms of time. (Helmi & Anniswati, 2019)

Restaurant Tax

The "Invite Restaurants" tax is a government or city-managed levy that can boost Cimahi City's local revenue. The majority of the Cimahi City region is characterized by its natural tourist attractions and renowned culinary scene, which

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significantly contribute to the revenue generated from food, beverages, and other related industries. The restaurant tax is calculated by multiplying the amount received or expected to be received by the restaurant by a specific rate set by the local government. The standard tax rate for restaurants is 10%. (Widiani & Abdullah, 2018)

According to Cimahi City Regional Regulations Number 9 of 2011, specifically Article 12, the tax rate for restaurants is fixed at 10% (ten percent).

Service Costs

Many restaurants frequently impose service fees. The highest fee imposed is 10%. However, some establishments levy a service fee of 5%. Usually, the service fee payment method is charged before the Restaurant Tax. Consequently, the service fee will be included in the overall bill, followed by the tax computation. (Button, 2019; Maramis et al., 2020)

Many restaurants frequently impose service fees. The highest fee imposed is 10%. However, some establishments simply levy a service fee of 5%. Usually, the service fee payment method is charged before the Restaurant Tax. Consequently, the service fee will be included in the overall bill, followed by the tax computation. (Zhuravleva et al., 2019)

METHOD

Descriptive research is a method of investigation that seeks to portray, investigate, and analyze particular phenomena or qualities in a thorough and organized way. This method is employed to examine current circumstances, discern patterns, linkages, or variables involved, and offer a thorough comprehension of the research issue

with meticulous and explicit oversight over restaurant tax calculation and reporting.

This research utilizes on-site research, where researchers visit the research place and gather data using surveys, direct observation, and interviews conducted at the restaurant.

The author selected this type of study to guarantee the precise and organized creation of the final product.

The data collection methodologies for this research are outlined below:

Empirical Investigation

This entails actively engaging in the field to collect data while working on the final project. The techniques utilized are as follows:

Interviews: The researcher personally solicits the required information from the pertinent individuals, such as the financial administrator, aided by accounting personnel.

Observation: This entails performing computations, reporting, and storing documents, specifically in the Restaurant Tax division, for roughly one month throughout the research implementation.

Conducting Library Research

This entails conducting research by consulting books or references, both in physical libraries and online, to gather data that can be used to enhance the development of the application software. (Yuni, 2019)

System Development Methods [1]

The researcher utilized the Object-Oriented Analysis and Design (OOAD) method for system development. [1] Object-oriented analysis and design is a cognitive problem-solving approach involving using models derived from real-world concepts. Object formation involves the integration of data structures and behavioral

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patterns to form a cohesive entity. OOAD, or Object-Oriented Analysis and Design, is a modern approach to problem-solving that involves creating a model based on real-world concepts. The fundamental basis of this approach is objects, which integrate data structures and activities into a unified entity. The citation "Nasikhin et al., 2019" refers to a study conducted by Nasikhin and colleagues in 2019.

In the field of Object-Oriented Analysis and Design (OOAD), objects are viewed as entities with interrelated characteristics and behaviors. UML diagrams, a key component of OOAD, depict these entities. UML, a standardized language, is employed for designing object-oriented systems. These diagrams, including class diagrams, object diagrams, interaction diagrams, and state diagrams, are crucial tools for depicting the organization and actions of software systems.

Object-oriented analysis and Design (OOAD) facilitates the development of modular, readily comprehensible, and easily adaptable systems. The object-oriented approach facilitates modeling systems that closely reflect the real world, with a particular emphasis on items and their interconnections. Software engineers can utilize object-oriented programming to organize related functions into interconnected objects, which enhances the maintainability and reusability of code and simplifies the building of adaptable and expandable systems.

The concept of OOAD involves the examination and creation of a system using an object-oriented methodology, which consists of two main stages: Object-Oriented Analysis (OOA) and Object-Oriented Design (OOD).

OOA is a systematic approach used to analyze the requirements of a system, focusing on understanding the classes and objects within the relevant scope of the system. In contrast, OOD is a methodology that guides the structure of software by manipulating objects within the system or subsystem.
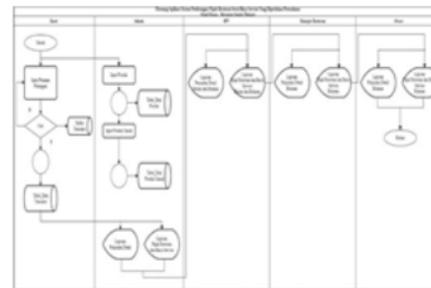
RESULT AND DISCUSSION

Systems Analysis

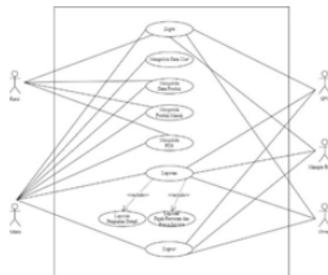### Running System Analysis
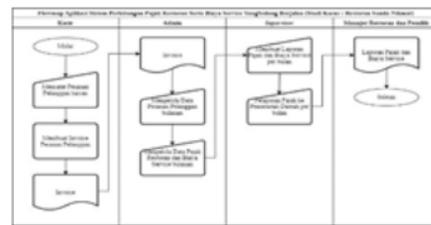
Analysis of the Proposed System

Functional Requirements

No.	Functional Requirements	Description
1.	Login	An initial stage is required to begin the application and restrict access to it.
2.	Managing User Data	Manage user data to log in to the application starting from adding user

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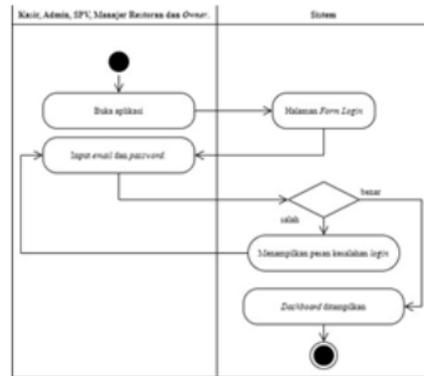|					
		name, user email, user password, name users, view users data, edit users data, and delete user data also search for data			service fee rate, PB1 rate, payment method, and viewing data. Additionally, provide the ability to delete and search for transaction data.
3.	Managing Product Data	As a preliminary step in initiating the application, product data by inputting product name, product stock, product type, and product unit price. Additionally, view, modify, and remove product data, conduct data searches, and restrict application access.	6.	Report Data	Administer transaction lists by inputting transaction date, customer name, table number, product name, quantity, service fee rate, PB1 rate, payment method, and viewing data. Additionally, provide the ability to delete and search for transaction data.
4.	Manage Incoming Product Data	Administered the handling of incoming product information, including adding product name, stock, and type, as well as the ability to view and delete product data. Additionally, it provides a search function for data retrieval.	7.	Logout	The final stage of an application is to terminate the application once it has completed its tasks.
5.	Manage Transaction List or POS	Administer transaction lists by inputting transaction date, customer name, table number, product name, quantity,			

Use Case Diagrams

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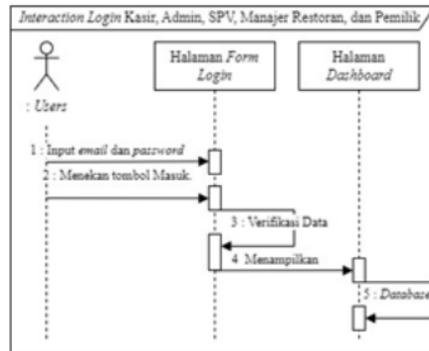
Skenario Diagram

No	1
Name	*Login*
Description	In the form of a login display on the very first page, the goal is as a barrier to access the application.
Actor	Cashier, Admin, SPV, Restaurant Manager and Owner.
Initial Conditions	The initial display is a login display.
Final Condition	Displays the dashboard page.

Description	
Actor Action	**System Reaction**
1. Open App.	2. Displays the login form.
3. Enter e-mail and password.	
4. Enter or press the enter button.	5. Data verification.
	a. If correct, the system will display the page dashboard according to the access rights of each user.
	b. If incorrect, the system will display a login error message.

Activity Diagrams

System planning

Sequence Diagrams

Class Diagrams

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Database

<table>
<tr><td colspan="5" align="center">Tabel : users</td></tr>
<tr><td>No</td><td>Field Name</td><td>Data Type</td><td>Field Size</td><td>Ket</td></tr>
<tr><td>1</td><td>ID_User</td><td>int</td><td>10</td><td>Primary Key</td></tr>
<tr><td>2</td><td>Name_Users</td><td>varchar</td><td>100</td><td>Unique Columns</td></tr>
<tr><td>3</td><td>Email_Users</td><td>varchar</td><td>100</td><td>Unique Columns</td></tr>
<tr><td>4</td><td>Password_Users</td><td>varchar</td><td>100</td><td>Unique Columns</td></tr>
<tr><td>5</td><td>ID_User_Roles</td><td>int</td><td>11</td><td></td></tr>
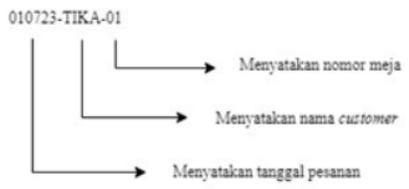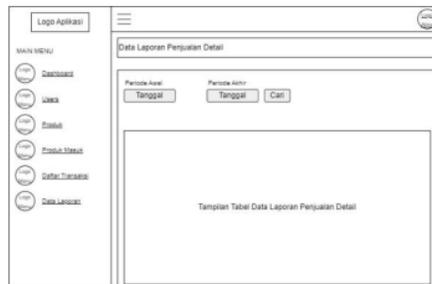<tr><td>6</td><td>created_at</td><td>timestamp</td><td></td><td></td></tr>
<tr><td>7</td><td>updated_at</td><td>timestamp</td><td></td><td></td></tr>
</table>

Coding

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Menyatakan nomor meja

Menyatakan nama *customer*

Menyatakan tanggal pesanan

Menu Structure

Mockup

Dashboard Page Mockup

Transaction List Mockup

POS Mockup

Detailed Sales Report Mockup

Restaurant Tax and Service Fee Report Mockup

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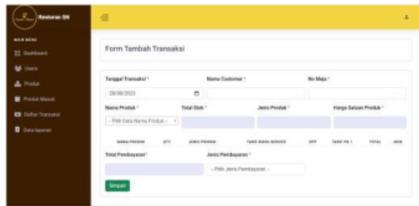## System Implementation
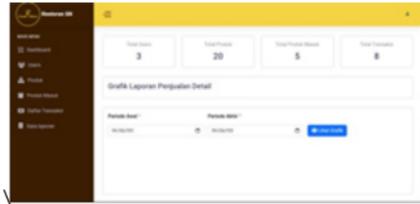
Dashboard Page View
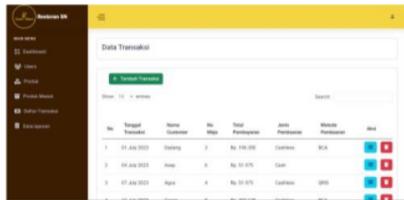
Transaction List Page Display

POS Page View

Detailed Sales Report View

Display of Restaurant Tax Reports and Service Fees

CONCLUSION

The researcher utilized the Object-Oriented Analysis and Design (OOAD) methodology to construct the system. The utilization of Object-Oriented Analysis and Design (OOAD), which entails the application of models grounded in real-world principles, has demonstrated its efficacy as a technique. The research findings unveiled numerous consequential outcomes about the development and design process of the application. Restoran Sunda Nikmat currently utilizes a web-based program that guarantees improved tax calculations and service prices precision. Furthermore, implementing automated tax computation and service fee processes has increased time efficiency, as the online application seamlessly integrates the provided data. Finally, this application functions as vital supplementary data and efficiently reports taxes to the local government. Based on these findings, the author provides recommendations to all employees of Restoran Sunda Nikmat. Consistent maintenance of both software and hardware is essential to guarantee uninterrupted functioning. Furthermore, it is imperative to conduct regular monthly data backups in order to mitigate any unforeseen accidents.

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