

#### KERJA PRAKTIK - EF234603

## Design and Implementation on a Website for Managing Inventory within PT. Pertamina Gas

PT. Pertamina Gas

Jl. Medan Merdeka Tim. No.11-13, RT.6/RW.1, Gambir, Kecamatan Gambir, Kota Jakarta Pusat, Daerah Khusus Ibukota Jakarta 10110

Periode: 8 Juli 2024 - 8 Oktober 2024

#### Oleh:

I Putu Arya Prawira Wiwekananda

5025211065

Pembimbing Departemen
Dr. Anny Yuniarti, S.Kom., M.Comp.Sc.
Pembimbing Lapangan
Fonny Prasmono Adi

DEPARTEMEN TEKNIK INFORMATIKA Fakultas Teknologi Elektro dan Informatika Cerdas Institut Teknologi Sepuluh Nopember Surabaya 2024



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## LEMBAR PENGESAHAN KERJA PRAKTIK

# Design and Implementation on a Website for Managing Inventory within PT. Pertamina Gas

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# Design and Implementation on a Website for Managing Inventory within PT. Pertamina Gas

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#### **ABSTRACT**

PT Pertamina Gas is a company engaged in the midstream and downstream sectors of the Indonesian gas industry. Owned by PT Perusahaan Gas Negara Tbk. (PGN) and PT Pertamina (Persero). Pertamina Gas is part of the Gas sub-holding in Indonesia, which plays a role in gas trading, transportation, processing, distribution, and other businesses related to natural gas and its derivative products.

This website is made using framework and it has a few features, such as inputting products into the Website Database, see where the products is, and who is responsible for the condition of the product, etc. I am tasked to design the interface of the product and implement it, using tools such as Figma to design the interface, and implement it in the Laravel website using tailwind.css.

Key Words: Figma, Laravel, Website, Tailwind.css

#### **FOREWORD**

The author would like to express his gratitude to God Almighty for His blessings and grace so that he can complete one of the author's obligations as a student of the ITS Informatics Engineering Department, namely the Internship entitled: Design and Implementation on a Website for Managing Inventory within PT. Pertamina Gas.

The author realizes that there are still many shortcomings both in carrying out the internship and compiling this internship report book. However, the author hopes that this report book will increase the reader's insight and be a source of reference.

Through this report book, the author would also like to express his gratitude to the people who have helped compile the internship report both directly and indirectly, including:

- 1. The author's parents
- 2. Mrs. DR. Anny Yuniarti, S.Kom., M.Comp.Sc. as the practical work supervisor.
- 3. Mr. Fonny Prasmono Adi. as the field supervisor during the internship.
- 4. The author's friends and girlfriend were always encouraged when the author was carrying out the internship.

Surabaya, December 12<sup>th</sup>, 2024 I Putu Arya Prawira Wiwekananda

## CHAPTER 1 INTRODUCTION

## 1.1 Background

Currently companies around the world are making websites for a lot of things, such as services to help others in need, for easier work inside the company itself and more. Now companies such as PT Pertamina Gas is making a website that can be useful for the workers to use and take advantage of this website to improve the companies' output. Because websites are not only used to view certain information and data, but to edit and create data either from scratch or any other way.

PT. Pertamina Gas makes a lot of websites and mobile apps that can be used by the public and employees that want to be used for its work purposes. Currently the company need a website to store its Inventory, and that's what my task is for this project, to make a website where the IT Products and very valuable products that is from the IT Division is stored.

This Website can be accessed by a few people and curtain people can used all of its feature in this website, such as the VP and Managers can see and edit most of the things is this website, and there is 2 employee that can edit and attach data into the website, and there is me that design the interface so the user can use it without any problem.

### 1.2 Objective

Help PT. Pertamina Gas to finish this project and make it useful for the employees and other users than want to use the website for good use.

#### 1.3 Benefit

The Benefit that can be obtain from this project is make the employee and other user see and edit products that is on the website, so they can manage the IT products and resources easier and faster.

#### 1.4 Formulation of Problem

Formulation of problem from this Practical Work are as follows:

- 1. How can the usability of this website be enhanced to better serve its intended users?
- 2. In what ways can the website's usability be improved?

#### 1.5 Time and Location of Practical Work

The Location of the Practical Work is at the Head Office of the company, and it's been done by *Work from Office*, and it's started from July 8<sup>th</sup>, 2024, up until October 8<sup>th</sup>, 2024.

#### 1.6 Practical Work Methodology

The methodology for creating practical workbooks includes:

#### 1.6.1 Formulation of the Problem

To determine the requirements for this website, I participated in a meeting with the manager, Mr. Mulyadi, as well as Mr. Michael and Mr. Aqdam, at the Head Office of PT. Pertamina Gas. During this meeting, we discussed the planning and design considerations for the website. Specifically, we deliberated on the most appropriate platform to utilize for designing the website prior to its implementation. The manager assigned me responsibility for the frontend development of the website, while Mr. Aqdam was designated to oversee the back-end development.

## 1.6.2 Literature Study

After gaining a comprehensive understanding of the website's functionality and operational requirements, I am now able to propose ideas for optimizing the design to enhance its performance and usability. The design process will utilize a tool called "Figma," which will serve as the platform for creating the website's design from scratch.

### 1.6.3 System Analysis and Design

After the review of the ideas that have been discussed beforehand, the website design idea is accepted and can know arrange the system architecture. The Website architecture is built by Mr. Michael and database is built by Mr. Aqdam.

#### 1.6.4 System Implementation

System Implementation is particularly important for this website. So, in this step the system implementation will be made first, after that I will continue to implement the frontend.

### 1.6.5 Testing and Evaluation

After the website is done, it needs some testing and evaluation to test the website so we will know if it is properly built or if it has problems with it. If not, it needs some fix and some meeting to ask whether there is more feature that can be added to this website or not.

#### 1.6.6 Conclusion and Suggestions

The testing and evaluation are complete, and it is not finished but because my time of practical work is done, the project will be continued by handing the project development to the employee of PT. Pertamina Gas

## 1.7 Report Systematics

#### 1.7.1 Chapter 1 Introduction

This chapter is filled with the background, objective, benefit, formulation of problem, time and location of practical work and the practical work methodology.

#### 1.7.2 Chapter II Company Profile

This chapter is filled with PT. Pertamina Gas profile and the company location.

## 1.7.3 Chapter III Literature Review

This chapter is dedicated to the type of technology that will be used to make this website to finish the project of the practical work.

## 1.7.4 Chapter IV Design Planning

This chapter is filled with progress of designing the base of the website before implementing it with VS Code.

#### 1.7.5 Chapter V Design Implementation

This chapter is filled with all the information about implementing and a few steps regarding it.

## 1.7.6 Chapter IV Conclusion and Suggestions

This chapter is filled with testing and evaluation from the website that has been made during my practical week.

## CHAPTER II COMPANY PROFILE

#### 2.1 Profile

PT Pertamina Gas is a company engaged in the midstream and downstream sectors of the Indonesian gas industry. Owned by PT Perusahaan Gas Negara Tbk. (PGN) and PT Pertamina (Persero). Pertamina Gas is part of the Gas sub-holding in Indonesia, which plays a role in gas trading, transportation, processing, distribution, and other businesses related to natural gas and its derivative products.

#### 2.2 Location

Jl. Medan Merdeka Tim. No.11-13, RT.6/RW.1, Gambir, Kecamatan Gambir, Kota Jakarta Pusat, Daerah Khusus Ibukota Jakarta 10110

#### 2.3 Corporate Governance

Good Corporate Governance (GCG) at PT Pertamina Gas is defined as a mindset and work pattern across all levels of the company, to create an efficient and effective work system, in managing resources and businesses and increasing management responsibility to shareholders and other stakeholders.

#### 2.4 Company Structure

The Company Structure that is in PT. Pertamina Gas on my division that is called HCBS that has 3 sub division which are:

- 1. HC (Human Capital), is the division where the employee recruits and trains other trainee or even higher ups, they set events, meetings.
- 2. GS (General Support) is the division where the employee helps the addition of products that the company use and also involves in some projects that the ICT have.
- 3. ICT (Information, Communication and Technology) is the division where the IT employee makes and develops apps and website that can be used by the public or just to make an app for internal uses.

The objectives of implementing GCG at PT Pertamina Gas are:

- 1. Maximizing the company's value by increasing the application of the principles of transparency, independence, accountability, responsibility, and fairness in implementing company activities.
- 2. The implementation of professional and independent company management.
- 3. The creation of decision-making by all company organs based on high moral values and compliance with applicable laws and regulations.

- 4. The implementation of corporate social responsibility towards stakeholders.
- 5. Improving a conducive national investment climate, especially in the energy and petrochemical sectors.

## CHAPTER III LITERATURE REVIEW

## 3.1 Web Programming

In the ever-evolving digital landscape, web programming plays a pivotal role in shaping our online experiences. This topic explores the significance of web programming in the context of the digital age, emphasizing its multifaceted contributions to modern society. Web programming encompasses a wide array of technologies and languages such as HTML, CSS, JavaScript, and server-side scripting languages like PHP and Python.(Abdurakhimovich, 2023)

#### 3.2 VS Code

Visual Studio Code is a lightweight but powerful source code editor which runs on your desktop and is available for Windows, macOS and Linux. It comes with built-in support for JavaScript, TypeScript and Node.js and has a rich ecosystem of extensions for other languages (such as C++, C#, Java, Python, PHP, Go) and runtimes (such as .NET and Unity).(Microsoft, 2020) VS Code's features, like IntelliSense (smart code completion), debugging tools, and integrated Git support, make it a popular choice among developers looking for an efficient and configurable coding environment.

#### **3.3 PHP**

A framework defined as a structure that supports the development of dynamic websites, web applications, and services. Framework code and design are often reusable to assist customization, resource service, and API-related tasks. This study discussed current practice to help a developer understand PHP frameworks adoption for web application development. (Haris & Hasim, 2019)

#### **3.4 CSS**

Cascading Style Sheets (CSS) is a W3C specification for a style sheet language used for describing the presentation of a document written in a markup language, more precisely, for styling Web documents. However, in the last few years, the landscape for CSS development has changed dramatically with the appearance of several languages and tools aiming to help developers build clean, modular and performance-aware CSS.(Queirós, 2018)

### 3.5 Figma

Figma is one of the design tools that is usually used to create the appearance of mobile, desktop, website applications and others. Figma can be used on windows, linux or mac operating systems by connecting to the internet. Generally, Figma is widely used by someone who works in the field of UI/UX, web design and other similar fields. (Suparman et al., 2023)

## CHAPTER IV DESIGN PLANNING

## 4.1 System Design

In this chapter it will explain the steps I take when I design the website using Figma. Before creating it, I have a meeting with the employees and the manager on what the website should look like. And it has been decided that the design will look like any other website that the company has.

#### 4.2 Website Design

## 4.2.1 Design

The Design of "Inventory Management System" is made to make the work of the user/employee easier. There is a current web application that they are currently using, but to speed up the process of applying product contracts into the company's database, there should be a new web that primarily focused on that specific task. The design of the website will be in the pictures below.

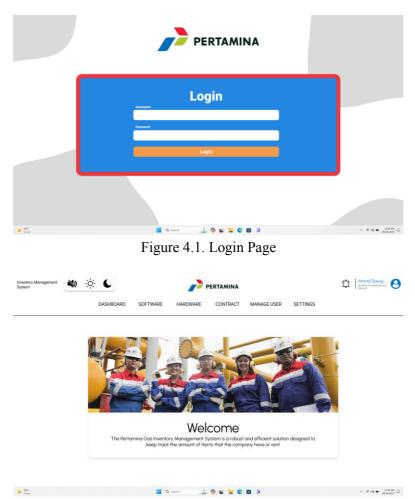


Figure 4.2. Home Page

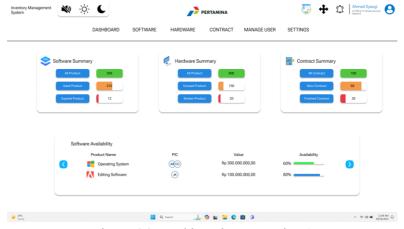


Figure 4.3. Dashboard Page Design 1



Figure 4.4. Dashboard Page Design 2



Figure 4.6. Hardware List Page

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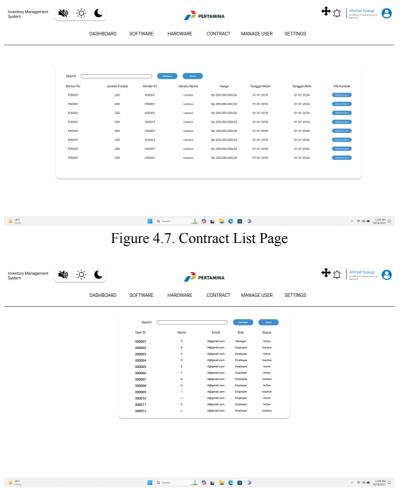


Figure 4.8. Manage User Page

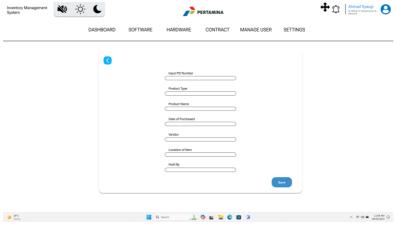


Figure 4.9. Software Form (Bought) Page

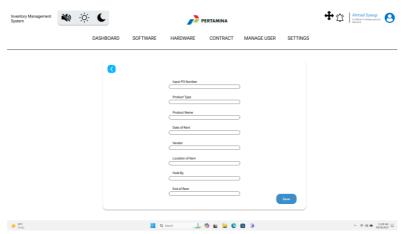


Figure 4.10. Software Form (Rent) Page

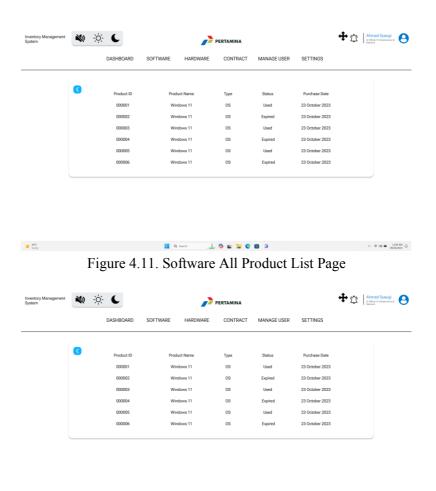


Figure 4.12. Software Used Product List Page

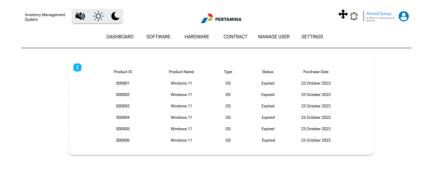


Figure 4.13. Software Expired Product List Page

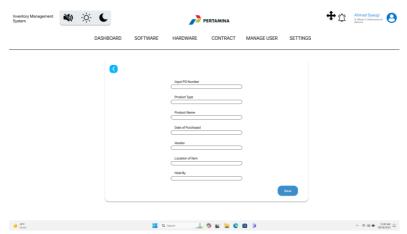


Figure 4.14. Hardware Form (Bought) Page



Figure 4.15. Hardware Form (Rent) Page

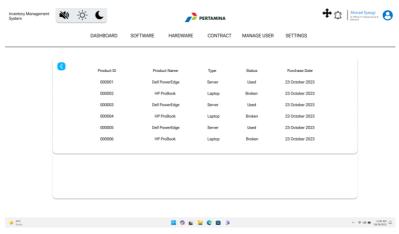


Figure 4.16. Hardware All Product List Page

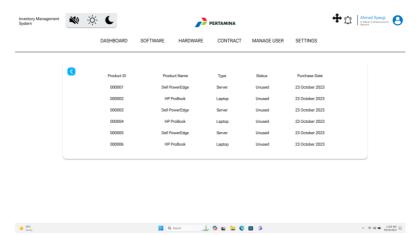


Figure 4.17. Hardware Unused Product List Page

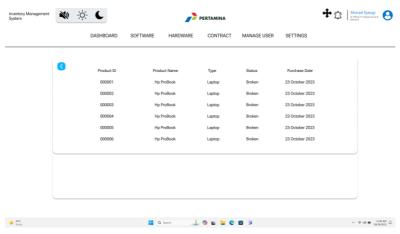


Figure 4.18. Hardware Broken Product List Page

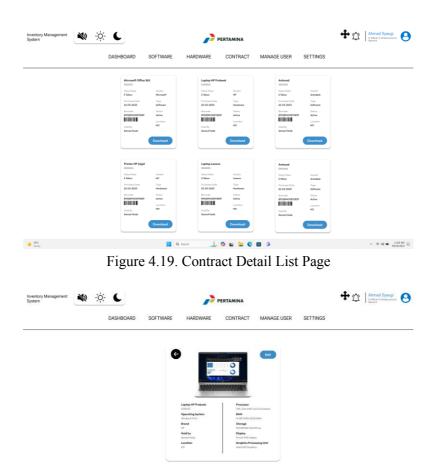


Figure 4.20. Contract Product Detail Page

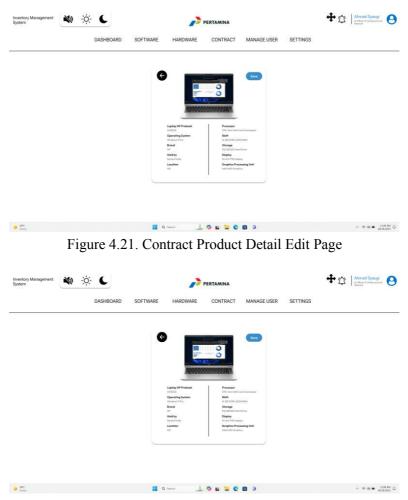


Figure 4.22. Contract Download Page

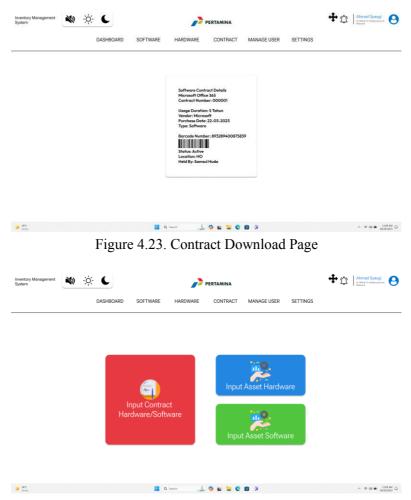


Figure 4.24. Form Contract Page

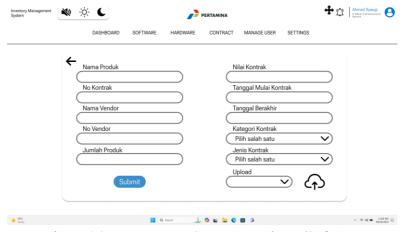


Figure 4.25. Form Input Contract Hardware/Software

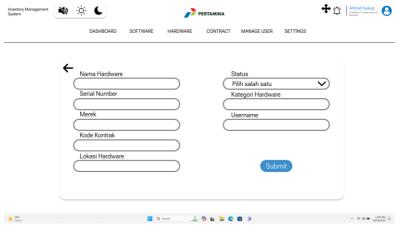


Figure 4.26. Form Input Asset Hardware Page

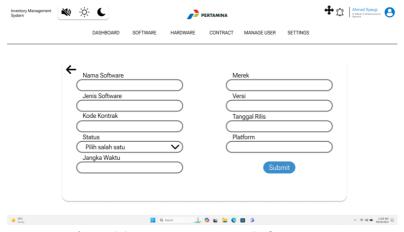


Figure 4.27. Form Input Asset Software Page

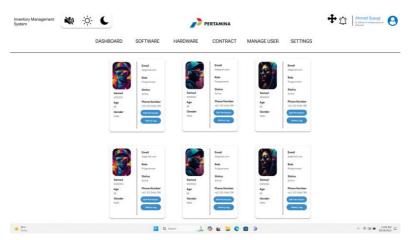


Figure 4.28. Manage User Detail List Page

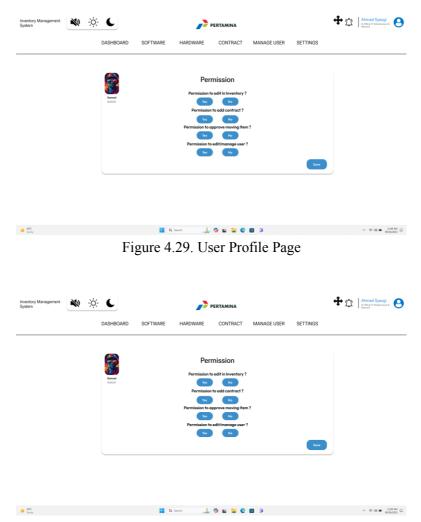


Figure 4.30. User Profile Edit Permission

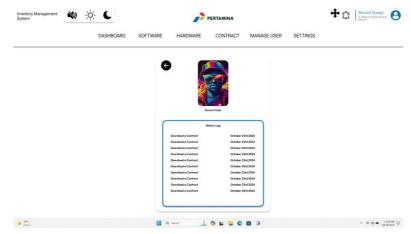


Figure 4.31. User Profile History Log

# CHAPTER V DESIGN IMPLEMENTATION

This Chapter primarily explains how I implement the design that I create using Figma into Laravel. And on how the design will benefit the user that will use the website daily.

### 5.1 Implementation

#### 5.1.1 Dashboard page



Figure 5.1. Dashboard

This is the dashboard for the **Inventory Management System** built for Pertamina Gas. At the top, there's a navigation bar with links to different sections like Dashboard, Software, Hardware, Contracts, Reports, and Settings, along with my profile details on the right. The page highlights key summaries—Software Summary, Hardware Summary, and Contract Summary—with filter buttons for categories like "All Product," "Unused Product," and "Expired Product," making it easy to manage and track the

status of each. Below that, I've included interactive pie charts for "Contracts in Pertamina Gas," "Software Contracts," and "Hardware Contracts," which visually display data such as product distribution and contract values. Each chart has filter options, like "Filter" and "Year," to refine the data view. The footer includes the copyright notice to complete the branding. This dashboard is designed to help manage contracts and assets efficiently, with a user-friendly and data-driven interface.

### 5.1.2 Software page



Figure 5.2. Software

This is the **Software Summary** page of the Inventory Management System. On the left, there's a sidebar that includes filter buttons for categories like "All Product," "Unused Product," "Bought Hardware," and "Rent Hardware," allowing for quick navigation and filtering of data. The main section displays a detailed table titled "Daftar Semua Software" (List of All Software). The table includes columns such as **Nama Software** (Software Name), Tipe (Type), Jumlah Waktu (Duration),

Status, Merek (Brand), Tanggal Aktif (Activation Date), and PIC (Person in Charge). Each row represents a software item with relevant details like type (e.g., subscription or lifetime), status (active or inactive), and assigned personnel. There's also an "Add" option at the end of each row for further actions. The layout ensures organized tracking and management of software, with all essential details accessible at a glance. The footer includes the copyright notice for branding.

### 5.1.3 Hardware Page



Figure 5.3. Hardware

This is the **Hardware Summary** page of the Inventory Management System. On the left sidebar, there are filter buttons for categories like "All Hardware," "Unused Hardware," "Bought Hardware," and "Rent Hardware." These filters make it easier to view specific hardware categories.

# **5.1.4 Contract Page**



Figure 5.4. Contract

This is the Contract Summary page of the Inventory Management System. The point of this page is to show the all the contracts that is in the company that includes the Hardware and Software contracts.

# 5.1.5 Approval Page



Figure 5.5. Approval

The Approval page is the ability of the higher ups to approve contracts or assets that has been inputted by the employee that is in charge of the contracts.

## 5.1.6 Report Page

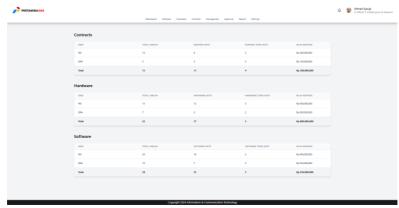


Figure 5.6. Report

The Report page is to see the current value of the software and hardware contracts.

## 5.1.7 Contract add new page



Figure 5.7. Contract add new

Contract add new page is the page to choose if you want to add a new contract or add assets based on the contract that has been added.

# 5.1.8 Contract input hardware-software

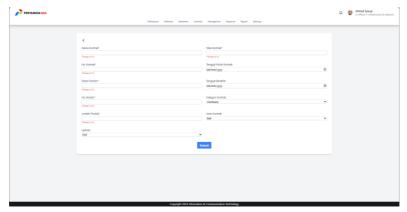


Figure 5.8. Contract input hardware-software

Contract input hardware-software is where you put the detail information about the product from the contract.

## 5.1.9 Contract asset hardware

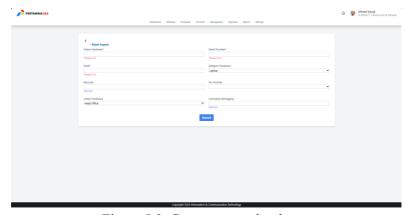


Figure 5.9. Contract asset hardware

Contract asset hardware is where after inserting the contract, you have to input the asset manually and by choosing the contract no based on the asset that is in the contract.

#### 5.1.10 Contract asset software

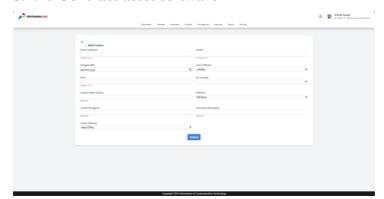


Figure 5.10. Contract asset software

Contract asset software is the same use case as asset hardware but to insert the software asset based on the contract.

# **5.1.11** Contract asset hardware (batch import)



Figure 5.11. Contract asset hardware (batch import)

The Contract asset hardware (batch import) is to add more information to the hardware product that will be inputted to the IMS web app.

## **5.1.12** Contract asset software (batch import)

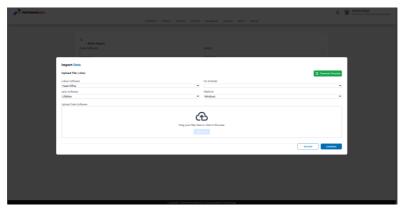


Figure 5.12. Contract asset software (batch import)

The Contract asset software (batch import) is the same as The Contract asset hardware (batch import) but to insert the software with more detail.

## CHAPTER VI TESTING AND EVALUATION

This chapter explains the testing of every feature that is on the website that is called "Inventory Management System" and on how the feature will be used so it will maximize the potential that this website has

## **6.1 Testing Purposes**

This Testing is carried out on the Database that is owned by PT. Pertamina Gas to test the capability of the website and help the user to work more effectively.

#### 6.2 Test Criteria

The evaluation for attainment of testing objectives can be displayed by some of the expected results are as follows:

- a. The ability to make the appearance of the website.
- b. The ability to input data into the website.
- c. The ability to upload files onto the website.
- d. The ability of the website to filter data.
- e. The ability of the website to input new contract or asset
- f. Can be used to many user

#### 6.3 Test Scenario

The test scenario is done by playing the role of a user who will run the features. The steps for each functionality requirement are as follows:

- 1. User can input data that they have into the website
- 2. User can check the data that they have inputted
- 3. User can easily maneuver the website as if they already know how to use it
- 4. User can see the contract that have/have not been approved by the upper management
- 5. User can see the contract value of the contract that is on the website

#### **6.4 Test Evaluation**

The result of testing that is carried out on the "Inventory Management System" website. Table 6.1 below this will explain the result of the testing of using the website that has been created.

Table 6.1 Test Evaluation Result

Test Criteria	Test Results
The ability to make the appearance	Succeeded
of the website.	
The ability to input data into the	Succeeded
website.	
The ability to upload files onto the	Succeeded
website.	

The ability of the website to filter data.	Succeeded
The ability of the website to input	Succeeded
new contract or asset	
Can be used to many user	

# CHAPTER VII CONCLUSION AND SUGGESTION

#### 7.1 Conclusion

The conclusion that can be taken from making this website on the Practical Work in PT. Pertamina Gas are as follows:

- a. The Website Design is built until the demand is required.
- b. With the existence of this website, PT Pertamina Gas can use the website to insert and update the current contracts of products so that they can make their work easier to manage.

## 7.2 Suggestion

My Suggestion for the design elements inside the "Inventory Management System" website are as follows:

- a. On a few pages that are on the website should be easier to understand so the user can know what this does and what it will do.
- b. Do some suggestions from other users that are tasked to use this website to you would know what the user wants and make their experience better.

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