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# Application Design for Complaints and Repairs to the Web Based Information Technology Department

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**Abstract**

PT. Inhil Sarimas Kelapa (PT. ISK) is a company engaged in the coconut processing industry, and the company is located in Sungai Gantang Village, Kempas District, Indragiri Hilir Regency, Riau. The company has 28 departments with various main tasks to support the company's activities in achieving the goals set. All departments use IT equipment such as software and hardware, so there is often damage to equipment that requires repairs from the IT department. Currently to make a complaint and repair problems at PT. Inhil Sarimas Kelapa still uses the manual system by filling out forms on paper, and the form is delivered to the IT department for processing. The complaint process is very ineffective and inefficient because it takes a long time. As a solution to these problems, a web-based complaint and repair complaint application is designed to make it easier for employees to do their jobs. Software that is used to create complaints applications includes Xampp, Notepad ++, Hypertext Processor and MySql. The results to be achieved are to facilitate and assist employees in reporting complaints and provide alternative solutions to the problems encountered.

## 1. Introduction

PT. Inhil Sarimas Kelapa (PT. ISK) is one of the companies engaged in the integrated coconut processing industry which is able to produce various kinds of products that are very useful for humans, both for food, agriculture, industry and so on. PT. Inhil Sarimas Kelapa (PT. ISK) was established in 2001 and is located in Sungai Gantang Village, Kempas District, Indragiri Hilir Regency, Riau Province. According to information provided by the company through its General Manager, Setiawan Heru, this coconut processing factory currently employs approximately 3500 people, of which 85% are residents of Indragiri Hilir. Thus the size of the company PT. Inhil Sarimas Kelapa, so many people are involved in it, currently PT. Inhil Sarimas Kelapa has approximately 28 departments, for example Human Resource Department

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(HRD), Production Department, Quality Department (Laboratory), Clinic Department, Utility Department, Commercial Department, IT Department, Accounting Department, Finance etc. And each department of the office building is separate even though it is in the same area. At PT. Inhil Sarimas Kelapa there is one department, namely the Department of Information and Technology (IT) which is tasked with handling services related to complaints, requests and use of IT equipment. In receiving complaints of problems and improvements to the IT department at PT. Inhil Sarimas Kelapa currently still uses the company's internal telephone, chat application and email. This method is not very effective because IT personnel are often outside the office working on problems and repairs in other departments, and the cellular network is also sometimes not good so that messages sent are received late by IT personnel. And for proof of the complaint document still using a manual form that is still on a sheet of paper, the form is made by the relevant department and signed by the head of the department, then delivered to the IT department, the head of the IT department will sign if he approves the complaint or request submitted. This is what causes companies, especially the IT department, to have a system or application program to help ensure the smooth operation of the company at PT. Inhil Sarimas Kelapa in achieving the predetermined target. With a web-based problem complaint and repair application system, work effectiveness and time efficiency makes it easier for other departments. The problem that will be formulated in this research is how to build a problem complaint system and improvement in the IT department at PT. Web-based Inhil Sarimas Kelapa. This system is limited to only handling complaints of problems and repairs related to IT such as software and hardware within the internal scope of PT. Inhil Sarimas Kelapa. In this application, access rights are owned by the administration department, Head of IT and IT staff, and activities are carried out online by logging into the system. The aim of the research is to build a website-based problem complaint application in order to facilitate problem complaints from other departments to the IT department at PT. Inhil Sarimas Kelapa.

## 2. Research Methods

### 2.1. Object of Research

Complaint about problems and improvements are activities in facilitating employees to make complaints that they face in daily work activities within the company, especially in the IT sphere. Complaints about problems and work orders are written documents regarding reports of internal problems within the company to the assigned implementer, namely the IT department. The IT department receives and processes problem complaints and repairs every day, with the current manual system being ineffective and inefficient. This research designs and builds a website-based problem complaint application at PT. Kelapa Sarimas.

### 2.2. Research Sites

PT. Inhil Sarimas Kelapa is one of the companies under the Sarimas Group. The company is located on the mainland of Sumatra, namely Sungai Gantang Village, Kec. Kempas, Kab. Indragiri Hilir, Riau. The company has 28 departments and employs 3500 people of which 85% are local residents.

### 2.3. Data Types and Sources

The type of data used in this study is qualitative data because the author does not process the numbers into the form of testing. Qualitative data is data from verbal word explanations that cannot be analyzed in the form of numbers or numbers. Data based on how to obtain it is divided into two, namely primary data and secondary data. In this study the authors use both. Primary data collection is done directly with IT technicians and administration Department at PT. Inhil Sarimas Kelapa went through the interview process. Secondary data obtained from documents in the IT department at PT. Inhil Sarimas Kelapa.

### 2.4. Data Analysis Technique

The method used in software development is SDLC (System Development Life Cycle) by applying the waterfall model. The waterfall method is a method in software development where the process must be carried out sequentially starting from the concept planning stage, modeling (design), implementation, testing and maintenance.

## 3. Results and Discussion

### 3.1. Running System Analysis

After analyzing the problem complaint system/work order at PT. Inhil Sarimas Kelapa, several problems were found :

a. Difficult to get information about IT problems.
b. With the increasing number of users in PT. Inhil Sarimas Kelapa it becomes difficult for the IT department to meet their needs without an application that provides all information from users from the department who experience obstacles in their work due to the use of computer equipment experiencing problems, because so far they only use communication using telephone extensions.

### 3.2. New System Proposal

#### 3.2.1. Input Design

a. User Data

Input Name : User data
Function : To find out the identity of the user who running the app
Source : User
Media : Document
Duplicate : 1 Sheet
Frequency : Every time a user uses the app
Description : Contains data about users who use application

b. Work Order Data

Input Name : Saved Work Order Data
Function : To Add IT Work Order
Source : Department
Media : Document
Duplicate : 1 Sheet
Frequency : Every time there is an additional Work Order
Description : Contains Work Order Data

#### 3.2.2. Process Design

The proposed work order process at PT. Inhil Sarimas Kelapa can be described as follows:

a. Data entry process
b. Report Generation

Reporting is made by the admin to be known by the leadership. The reports proposed are information and communication reports that have been carried out so far.

#### 3.2.3. Output Design

a. Work Order Report

Output Name : Work Order Report
Function : To find out the work order data entered in the system
Source: user
Media : Document
Duplicate: 1 Sheet
Frequency: Every time there is a work order
Description: As a work order data report for superiors.

b. Damage Data

Input Name: Damage Data
Function: Knowing the reported damage
Source: Department

Media : Document
Duplicate: 1 Sheet
Frequency: Every time there is a complaint of damage
Description: Contains complaints about damage.

c. Repair Data
Input Name: Repair Data
Function: Knowing the completed repair
Source: Technician
Media : Document
Duplicate: 1 Sheet
Frequency : Every repair is complete
Description: Contains the repairs that have been completed.

3.2.4. Proposed Data Dictionary

The data dictionary is the explanation of the data in the database. The data dictionary used in the proposed system design is as follows :

1. Input Data Dictionary

a. Officer Data
Current name : User Data
Data form : Document
Data flow : Admin – Process – Head of IT
Explanation : Data containing login and password information
Period : Every time there is additional user data
ISI = Id_user + name + password + level

b. Work Order Data
Current name : DataWork Order
Data form: Document
Data flow : User – Process – Head of IT
Explanation: Data containing Work Order data
Period: Every time there is an additional work order
CONTENTS = WoID+wono+ department+location+date+phone_cctv+ internet_email+login_sofi+sofi_access+ login_pisi + pisi_access + damage type + status.

2. Output Data Dictionary

a. Work Order Report Data
Current name : Work Order Report Data
Data form : Document
Data flow : User – Work Order Report – Head of IT
Explanation : Data containing work orders stored.
Period : Every time there is a work order delivery
CONTENTS=WoID+wono+department +location+date+phone_cctv+internet_emai l+login_sofi+sofi_access+login_pisi+pisi_ access+others+parts+ technician + status

b. Damage Report Data
Current name: Damage Report Data
Data form: Document
Data flow : Technician – Crash report – Head of IT
Explanation: Data containing damage
Period: Every technician updates the status of the complaint
CONTENTS : WoID + reported_date + damage type + Department.

c. Repair Report Data
Current name: Repair Report Data
Data form: Document
Data flow : Technician – Repair report – Boss
Explanation: Data containing improvements
Period: Every technician updates the status of the complaint
CONTENTS : WoID + repair_date + department + technician +
action + status.

3. File Design

File design used to store the data needed to present information on the proposed system.

a. File Name : Work Order Details
Media : Harddisk
Contents: Work Order Data
Primary Key : nik
Record Length : 2+30+100+100+255+255+255+255+255+ 255+255+255+255+255=2782 Bytes
Number of Records : 2782*1*7*30 = 584,220 Records.

Table 1. WO Table

| Field Name | Type | Size | Description |
|---|---|---|---|
| WoID | Int | 2 | WO ID |

| | | | |
|---|---|---|---|
| Wono | Varchar | 30 | WO NO |
| department | Varchar | 100 | Department |
| Location | Varchar | 100 | Location |
| Date | Date | - | Complain date |
| telephome_cctv | Varchar | 255 | CCTV Phone crash |
| Internet_email | Varchar | 255 | Email internet crash |
| login_sofi | Varchar | 255 | User sofi |
| sofi_akses | Varchar | 255 | Access sofi |
| Login_pisi | Varchar | 255 | User pisi |
| Pisi_akses | Varchar | 255 | Accsess pisi |
| Others | Varchar | 255 | Other crash |
| Part | Varchar | 255 | Action |
| Technitian | Varchar | 255 | WO Signature |
| Status | Varchar | 255 | WO status |

b. File Name : User Data
Media : Harddisk
Contents : User data
Primary Key : id_user (NIK)
Record Length : 16+25+40+15 = 96 Bytes
Number of Records : 96*1*7*30 = 20,160 Records.

Table 2. User Data

| Field Name | Type | Size | Description |
|---|---|---|---|
| Id_user | Varchar | 16 | ID User |
| Passwd | Varchar | 25 | Password |
| Nama | Varchar | 40 | Username |
| Level | Varchar | 15 | Access authority |

c. File Name : Crash Report
Media : Harddisk
Contents: Damage report
Primary key : WoID
Record Length : 2+255+255 = 512 Bytes
Number of Records : 512*1*7*30 = 107,520 Records

Table 3. Crash Report

| Field Name | Type | Size | Description |
|---|---|---|---|
| WoID | int | 2 | ID complaint/WO |
| Date reported | Date | - | Date of complaint |
| Type of crash | Varchar | 255 | Deparment complaint |
| Department | Varchar | 255 | Location of crush |

d. File Name : Repair report
Media : Harddisk
Contents: Repair report
Primary key : WoID
Record Length : 2+100+255+255+255 = 867 Bytes
Number of Records : 867*1*7*30 = 182,070 Records

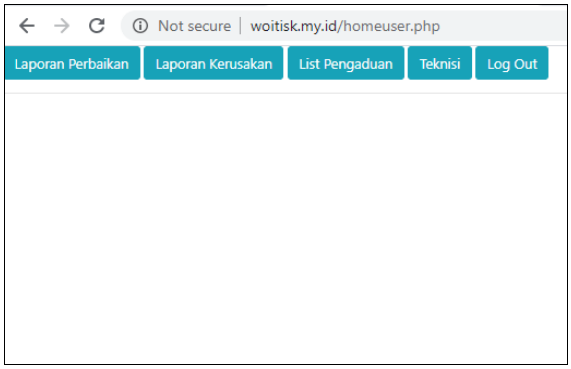
Table 4. Repair report

| Field Name | Type | Size | Description |
|---|---|---|---|
| WoID | Int | 2 | Complain ID/WO |
| Date_Repair | Date | - | Date Repair |
| Department | Varchar | 100 | Department complaint |
| Technician | Varchar | 255 | Crush location |
| Action | Varchar | 255 | Solution |
| Status | Varchar | 255 | Complain status |

4. Appearance Design

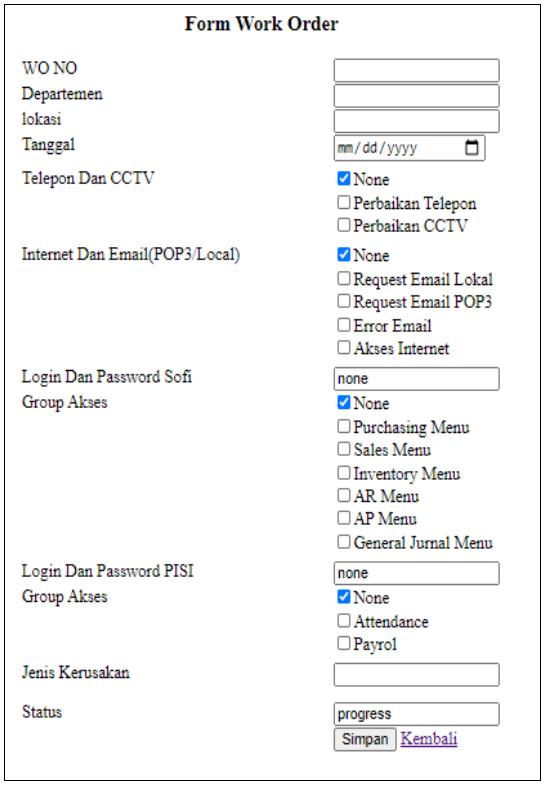
Figure 1 shows the initial view of the login page in using the application. Figure 2 shows the menu on the system application that has been created and in Figure 3 shows the addition of data for users.


Fiture 1. First Login

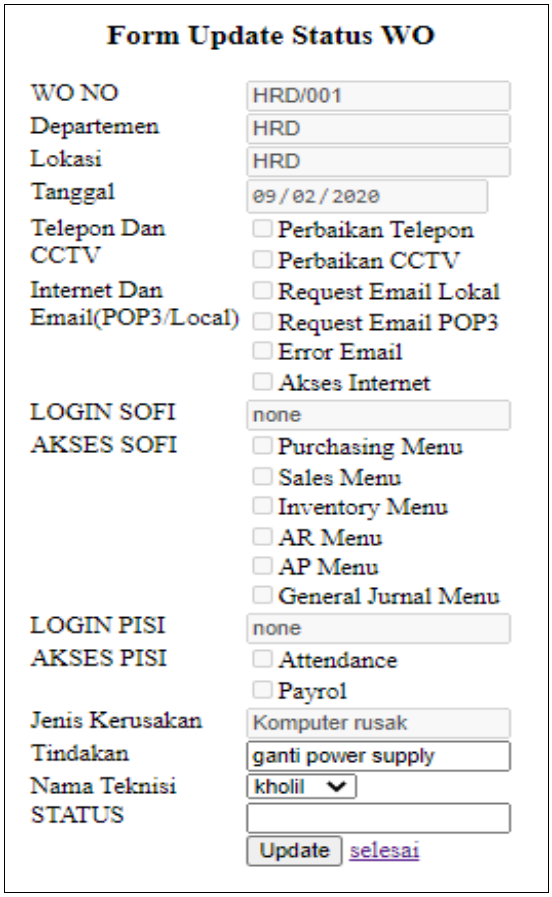



Fiture 2. Main View Appearance


Fiture 3. Home Appearance




Fiture 4. Work Order Form




Fiture 5. Form of complaint

List User Akses WO

Kembali

| NIP | NAMA | PASSWORD | LEVEL |
|---|---|---|---|
| 234 | admin | admin | admin |
| 4040711128220830 | Agustina | titin123 | user |
| 4040711128611101 | Nova Limbong | nova123 | user |
| 4040801217604000 | Luki Andriana | luki123 | user |
| 4040802118404100 | Afrizal | afrizal123 | user |
| 4040802268603100 | Catur Haryani | catur123 | user |
| 4040804108509010 | Kholil | kholil123 | teknisi |
| 4040807287901070 | Abdul Rahman | abdul123 | user |
| 4040810068510200 | Aryanto | ari123 | user |
| 4040912148403160 | Merli Karnilasari | merli123 | user |
| 4041003089105100 | Riza Santika | riza123 | user |
| 4041003268709160 | Ratna Dwilestari | ratna123 | user |
| 4041011267911300 | Mukhtar | mukhtar123 | user |
| 4041410089008200 | Didi Alfian | didi123 | user |
| 4080705047805200 | Susilowati | susi123 | user |
| 4080708038401200 | Ahmad Sufian | ahmad123 | user |

Fiture 6. List of user

LIST KERUSAKAN SESUAI WO

| WOID | TANGGAL DILAPORKAN | JENIS KERUSAKAN | DEPARTEMEN |
|---|---|---|---|
| 1 | 2020-09-02 | Komputer Tidak Bisa Hidup | HRD |
| 2 | 2020-09-02 | Printer Error | PMK |
| 3 | 2020-09-02 | Tidak ada nada | MPD |
| 4 | 2020-09-02 | Printer Error | MPD |
| 5 | 2020-08-24 | Komputer Tidak Bisa Hidup | HRD |
| 6 | 2020-08-24 | Printer Error | PMK |
| 7 | 2020-08-24 | Tidak ada nada | MPD |
| 8 | 2020-08-24 | - | PCS |

LOGOUT

Fiture 7. Crash Data Appearance

Damage data report is a damage list form reported by the department at PT. Inhil Sarimas Kelapa to the IT department.

LIST PERBAIKAN SESUAI WO

| TANGGAL PERBAIKAN | WOID | DEPARTEMEN | NAMA TEKNISI | TINDAKAN | STATUS |
|---|---|---|---|---|---|
| 2020-09-04 | 1 | HRD | kholil | ganti power supply | oke |
| 2020-09-04 | 1 | HRD | kholil | ganti power supply | Selesai tgl 02.09.2020 |
| 2020-09-04 | 2 | PMK | khairin | Ganti roller | Selesai tgl 03.09.2020 |
| 2020-09-04 | 3 | MPD | khairin | Ganti Kabel | Selesai tgl 03.09.2020 |
| 2020-09-04 | 5 | HRD | kholil | ganti power supply | Selesai tgl 24.08.2020 |
| 2020-09-04 | 6 | PMK | khairin | Ganti roller | Selesai tgl 24.08.2020 |
| 2020-09-04 | 7 | MPD | kholil | Ganti Kabel | Selesai tgl 24.08.2020 |
| 2020-09-04 | 8 | PCS | kholil | Buka akses internet dan email | Selesai tgl 24.08.2020 |

LOGOUT

Fiture 8. Repair Data Appearance

The repair data report is a repair/complaint list form that has been completed by IT technicians.

## 4. Conclusion

Based on research that has been done at PT. Inhil Sarimas Kelapa can be concluded as follows :

1. This problem complaint and repair/work order system has been realized and can be used as a medium to input problem complaints/work orders from users/departments at PT. Inhil Sarimas Kelapa to the IT department.
2. This web-based problem complaint and repair/work order system provides accurate and fast information to the IT department in the form of departmental problems or complaints such as problematic software or hardware.
3. Can make complaints at any time so that users are not constrained in their work.Give a statement that what is expected as stated in the "Introduction" chapter can ultimately produce the "Results and Discussion" chapter, so that there is compatibility. In addition, the author can outline the prospects for developing research results and inspire further studies (based on results and discussion).

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