

# CRUMB RUBBER PRODUCTION CONTROL INFORMATION SYSTEM DESIGN (CASE STUDY: PT. HOK TONG JAMBI. INDONESIA)

Eko Martono\*

Sekolah Tinggi Ilmu Teknologi Nasional, Jambi

## ABSTRACT

PT. Hok Tong Jambi, Indonesia. As a long-established company in Indonesia, PT Hok Tong Jambi has undergone many changes in its business journey. Although it was established in 1937 as a company that runs the natural rubber trading business, Hok Tong continues to make breakthroughs and innovations to compete with similar companies in the era of globalisation. Located in Sejinjang district, Jambi, Hok Tong is now a supplier of crumb rubber to many well-known local and international companies such as Sumitomo, Bridgestone, Goodyear, Michelin and others. In fact, in the last five years, Hok Tong has also exported its products to China and the United States. PT. Hok Tong Jambi, Indonesia, places great emphasis on meeting production targets. Although the obstacle faced by the company is in meeting the on-time delivery of orders, this is caused by a poor production planning and control system that results in delays in the delivery of raw material components that can hamper the production journey or production delays due to errors in predicting. The time. Production at the time of scheduling. Therefore, the company has difficulty controlling the production of flake rubber more effectively. The levels of research carried out are data collection, OPC making, standard time calculation to make product structure. The results of these calculations can be known when and how much raw materials and components are needed. This information system uses web programming languages such as PHP, CSS, HTML, and for databases, it uses a MySQL database and several other supporting tools such as sublime notepad++. Xampp can run this application on a local server. The design used is UML, namely use case diagrams, activity diagrams, sequence diagrams and class diagrams.

Keywords: Production, UML, MySQL, System, Control.

## 1 INTRODUCTION

In the business world, to survive in the competition that comes from domestic companies and from abroad, companies are increasingly required to find strong competitiveness to survive and dominate the market. And it is estimated that only products with good quality and service at lower costs will dominate the market along with these developments, the management of PT. Hok Tong Jambi, Indonesia, a company engaged in the manufacture of crumb rubber, most of which is exported, feels the need to improve service to consumers, especially in terms of meeting the target of delivering goods on time, of course not forgetting the quality of production and minimise costs. A delivery time limit will be given on each order receipt that both parties have agreed. To meet production targets to achieve delivery deadlines. This is important for the reputation and

trust of consumers in the professionalism of the company's work. Based on the information above, the authors are interested in conducting research with the title: " CRUMB RUBBER PRODUCTION CONTROL INFORMATION SYSTEM DESIGN (CASE STUDY: PT. HOK TONG JAMBI. INDONESIA)" Given the broad scope of the production control system, in this study, the system created has the following limitations:

This system can plan natural rubber production into crumb rubber products.

The system can provide production control information on how much crumb rubber can be made in a specific time.

The programming language is used with PHP and the Code Igniter Framework with MySQL Database.

---

\*Corresponding author's email: [ekomartono399@gmail.com](mailto:ekomartono399@gmail.com)  
<https://doi.org/10.36706/jmse.v8i2.63>

## 2 METHODOLOGY

The following is a system procedure that runs at PT. Hok Tong Jambi, Indonesia. The process carried out on the running system starts from the production section selecting the existing natural rubber material. The production section receives a request for crumb rubber to carry out the production process immediately, then enters the bid and runs the production process. Then the control section accepts the production results and checks; if not, it will return to the production process, and if so, the contracting process in the production process will continue. Then the finishing section receives the results from the production, then does the finishing and enters the finishing data and becomes a report obtained by the product section from the finishing and finished quarter.[3]

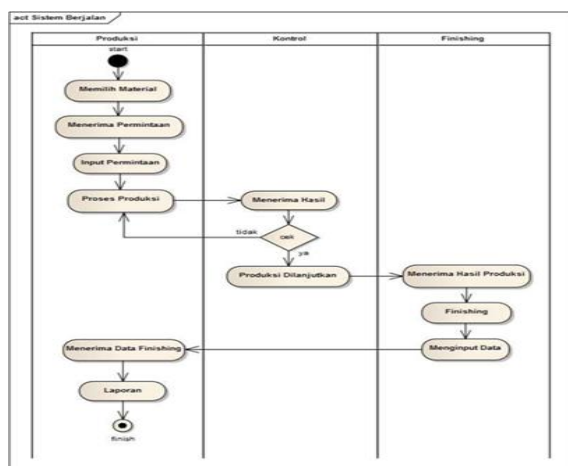


Figure 1 Current System Flowchart

## 3 RESULTS AND DISCUSSIONS

Based on the problems that exist in PT. Hok Tong Jambi, Indonesia the proposed system is:

Information system for crumb rubber control operated by an administrator with a computerised system that can provide information on crumb rubber control from production to completion quickly and accurately.

The UML Diagram (Unified Modeling Language) application that describes the model in this application consists of Use Case Diagrams, Activity Diagrams, Sequence Diagrams, Class Diagrams, ERD Diagrams and LRS Diagrams.

Implementation is the stage of translating a design based on the analysis results. Its implementation aims to validate the design

program module to system implementers so that users can provide input to system developers. Software Environment.[1][3] The software used to implement this software is as follows:

Table 1 Software

No.	Software	Implementation
1.	Microsoft Windows 8 Ultimate 32-bit	Operating system
2.	Programming language	PHP 5, SQL
3.	Application Software	Notepad++, XAMPP, MySQL

### 3.1 Hardware Specifications

Hardware (hardware) is an analytical process that emphasises using existing hardware. The specifications of the computer hardware used are as follows:

Table 2 Computer Hardware

No.	Hardware
1.	Processor Core i3 2,5 GHz
2.	RAM 6 GB DDR 3
3.	VGA On Board
4.	DVD-ROM
5.	Hard disk 500 GB
6.	Keyboard and Mouse
7.	Printer
8.	Monitor LED 17"

### 3.2 Interface Implementation

Understanding the system interface is one of the services provided by the operating system as a means of interaction between the user and the operating system. The interface is the active system component in direct contact with the user. There are two types of interfaces: Command Line Interface (CLI) and Graphical User Interface (GUI). The following is the implementation of each interface created.[1][2]

Form The administrator page is the centre of all pages; this page contains the main menu that can access and become a liaison between the user/administrator and the system. The following is the implementation of the menu structure on the main page of this information system.[1][2]

Admin Menu Program Usage:

- a. Login Page

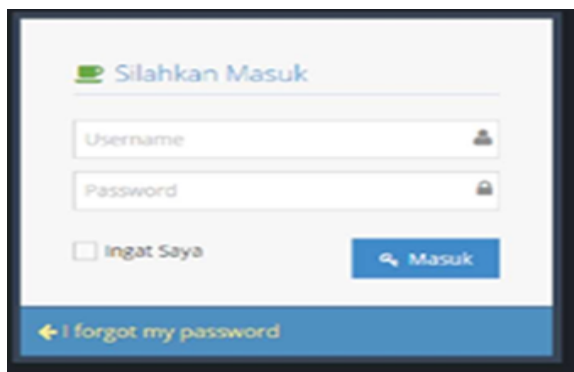


Figure 2 Login Page Image

The display above is a login page to enter the main page menu. If you want to log in, you must enter a username and password: admin.

b. Main Page Menu

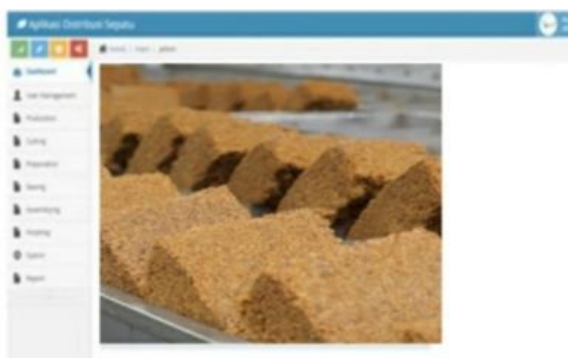


Figure 3 Main Page Menu Image

This menu functions when the user logs in with the correct data; the user will be directed to this main menu page and perform processes such as maser data input and other inputs.

c. Menu Input Options Profile

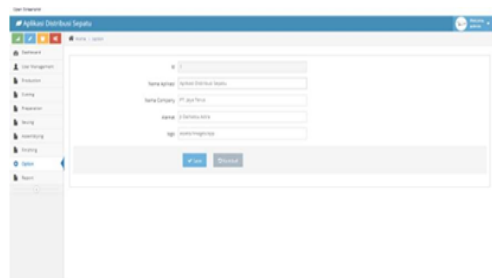


Figure 4 Picture of Input Option Profile Menu

d. Group List Menu

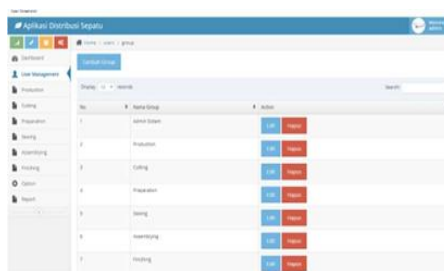


Figure 5 Group List Menu Image

This menu serves to view the entire data set and edit and delete data sets permanently on the system and make additions by selecting the add group button.

e. User Data Menu

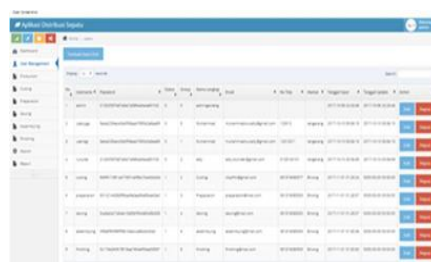


Figure 6 User Data Menu Image

This menu serves to review or view user data and edit and permanently delete user data. To add user data click the add user button.

f. User Input Menu

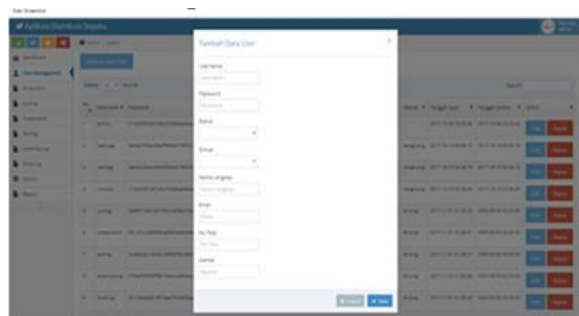


Figure 7 Picture of User Input Menu

This menu serves to enter a new user by filling in the form, adding user data, and clicking the save button.

## 4 CONCLUSIONS

Based on the implementation and testing in the previous chapter. So that it can be concluded from this performance monitoring information system, namely:

1. By using this crumb rubber production monitoring system, you can control crumb rubber production quickly by looking at the report menu, which can provide information on crumb rubber orders from the production stage to the finishing process.
2. The design of this crumb rubber production control system uses the UML design where use case diagrams, activity diagrams, sequence diagrams are used in designing a web-based crumb rubber production control information system correctly and precisely.

## REFERENCES

- [1] Sutabri, Tata. 2012. Basic Concepts of Information Systems. Yogyakarta: Andi Offset.
- [2] Kadir, Abdul. 2014. Introduction to Information Systems. Revised Edition. Yogyakarta : Andi Offset
- [3] Ahyari, Agus, 2011. Production Management: Production system planning, 5th Edition, Print -4, Jakarta