

# A Design of Consignment Information System

Bayu Sugiarno  
Department of Informatics  
UIN Sunan Kalijaga  
Yogyakarta, Indonesia  
byyouseta@gmail.com

Khurin 'ien Mukhoyyaroh  
Department of Informatics  
UIN Sunan Kalijaga  
Yogyakarta, Indonesia  
khurin.11a3.12@gmail.com

Ahmad Subhan Yazid  
Informatics Department  
UIN Sunan Kalijaga  
Yogyakarta, Indonesia  
yazid.anfalah@gmail.com

Sumarsono  
Department of Informatics  
UIN Sunan Kalijaga  
Yogyakarta, Indonesia  
sumarsono@uin-suka.ac.id

**Abstract**—UD. BTECH Indonesia is a company which works in the marketing service scope/division of computer accesories. The recording of goods income and otcome still uses manual system especially in the warehouse division, because it is only responsibility of the author to check the goods stock. The purpose of this research is to analyze the system which exists and to develop the consigned information system in UD. BTECH. This system will connect the company with suppliers and consumers. The software development model uses waterfall model, whereas for the data model uses structured model, Entity Relation Diagram (ERD) to describe the data model and Data Flow Diagram (DFD) to imagine the functional model. The system is implemented by using the PHP programming language and MySQL database. The application is expected to help and support the marketing system that already exists. The output of this research is an analysis on the existing system and consignment information system in UD.BTECH that is used to the marketing record, marketing consignment purchasing, purhasing consignment, marketing returns and preparing report.

**Keywords**—*Information System; Purchasing; Marketing; Consignment; Web-base; PHP; MySQL*

## I. INTRODUCTION

Along with technological developments, the need for an information system is needed in the world of work. The benefits of information systems as a support in managerial decision making and operational support work have become imperative when manual systems can no longer meet the needs of the company. An information system can be presented with a computerized system, which is processing data that was originally done manually will be processed and presented into electronic data. This computerized system can simplify data processing, minimize data processing errors and speed up the process of performance.

The same is true for BTECH Indonesia, which is engaged in selling various computer devices and accessories. Information or data needs of goods are needed at this time BTECH Indonesia has used a warehouse information system, but the system used is still considered to be less than optimal, because it is not in accordance with the work system or SOP in the company. Features that do not exist in the previous system are sales consignment and purchase consignment.

Seeing the problems that occur, the researchers intend to create a new web-based information system, in order to meet the existing system in the company including the process of checking goods both by suppliers and consumers, the process of selling goods (cash and credit), the process of purchasing goods, goods who consigned the purchase, as well as the process of returning sales or purchases.

## II. PURPOSE

The purpose of the researchers doing research at UD.BTECH is:

■ Designing information systems for consignment of goods at UD. BTECH.

■ Implementing a consignment information system using PHP and MySQL databases.

## III. THEORY BASIC

### ■ Basic Concepts of the System

A system is a collection of elements that interact with each other and are responsible for processing inputs so as to produce output [1].

### ■ Definition of Information Systems

An information system is an integrated system that is able to provide useful information for its users. Other definition is an integrated system or human-machine system, to provide information to support operations, management within an organization. Systems can also be technically defined as interrelated components that collect (or regain), process, store, and distribute information to support decision-making and control in an organization and also help stakeholders to examine problems, visualize complex subjects, and creating new products [2].

### ■ Database Concept

Database can be interpreted as a series of files that are interrelated logically and maintained to support management information systems. The objectives of database management are as follows [3]:

- Provides storage for data from users.
- Makes it easy for users to access data
- Enables immediate response to requests from users.
- Make the last modification immediately on the database.
- It allows simultaneously and simultaneously several users which means it also increases data freedom so that it is useful for some programs.
- Enables further development in the database system.
- Minimize duplication and redundancy in data storage.
- Protect data from damage or user interference by irresponsible people.

### ■ Information System Designer Toot-tool

In the design of information systems there are a number of tools that can be used to help design tasks, among others [4]:

- Context Diagram
- DFD
- Data Dictionary
- ERD

## IV. RESEARCH AND METHOD

### ■ Data collection method

In the data collection method the author uses two ways including sources in the form of primary data and sources in the form of secondary data.

■ *Interview Method*: The interview method is a method of collecting data by asking questions directly to parties related to the object of the research. In this case the author conducted interviews with employees related to the inventory of the Company BTECH Indonesia.

■ *Observation Method*: Observation method is a method of collecting data obtained by directly observing the object under study to collect data related to existing problems.

■ *Literature review*: Library study is a method of collecting data using books as reference material in writing and making systems.

### ■ System Development Method

The method used by the author in developing information systems using the Classic Life Cycle method or generally stated Waterfall paradigm. In this method there are five stages to developing a software. To implement the method in this research, the following steps are carried out:



## Analysis

In this stage the author collects the needs in full, then analyzes and defines the needs of what needs to be met by the system to be developed.

## Design

At this stage, changing these needs is done into the data structure by modeling it using DFD.

## Coding

At this stage where making the system based on the design results that have been made previously. Implement it using the PHP programming language and MySQL database.

## Testing

The testing phase of the program that has been made. This test begins with making a test case for each function in the software for information systems for buying and selling.

## Maintenance

Software that has been made can change according to the user's request. Maintenance can be carried out if there are additional functions in accordance with the wishes of the user or the growth and development of both software and hardware.

## V. SYSTEM DEVELOPMENT

## Analysis

Analysis system provides an overview of the observed systems that are currently running. The advantages and disadvantages of the system can be identified so that in developing software more easily than the old system. It will find some data and facts that will be used as test material and analysis towards the development and application of a proposed application. Figure 1 shows a system context diagram that is running on the company.

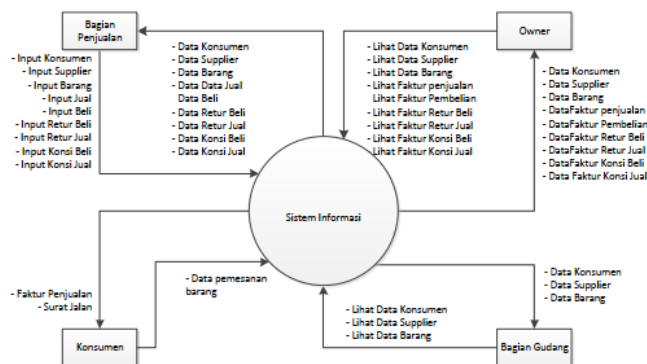


Figure 1. Context diagram of system runs on BTECH

## Design

Design system is the stage to improve, because it is very important in determining whether the results of the system planning obtained or not. Planning system stage can be described as a planning to build a new system that will be submitted to the company and configure the software components and hardware to produce a good system.



This article is distributed under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/). See for details: <https://creativecommons.org/licenses/by-nc-nd/4.0/>

The starting point of the structure analysis is the context diagram of the DFD that describes the relationship of the relationship of the system to its external environment [5]. Figure 2 is a proposed system context diagram.

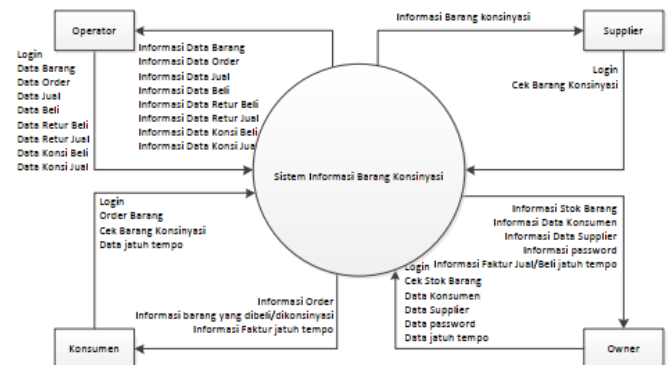


Figure 2. Context diagram of proposed system

Figure 2 shows the existence of 4 active users who can work on this consignment information system, including consumer supplier operators and owner

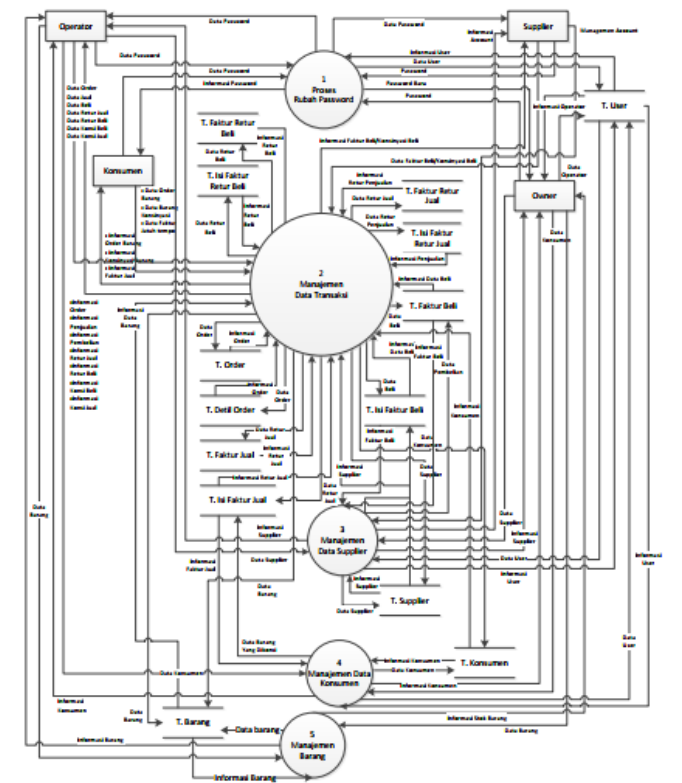


Figure 3. DFD level 1

Figure 3 shows the level 1 of our proposed system's DFD. A transaction data management process is a large data processing which is divided into several small processes. All goods transaction problems will be processed in this process, including goods, consignment of sales, selling items and purchase returns.

While the supplier data processing manages data related to suppliers, both adding new data management suppliers to suppliers to view data on the consignment of their goods recorded in the system.

### Coding

Consignment Information system software is built using PHP programming language and using MySQL database. The software used in the process of implementing this information system includes:

- Web Server Xampp win32-1.7.3
- Operating system Windows 7
- Notepad++
- Web Browser Firefox 6.0.2

The hardware used in the process of implementing this information system includes:

- Processor Intel (R) Core (TM) i5 CPU M 540 @2.53GHz.
- Harddisk 500GB
- Memory RAM 4GB
- VGA Intel Graphics Media Accelerator HD/Radeon HD 4550

Next, database implementation and interface design. Database implementation is done using SQL Language, where the programming application used is MySQL. Implementation results of the interface design can be seen in Figure 4-7.



Figure 4. Login page

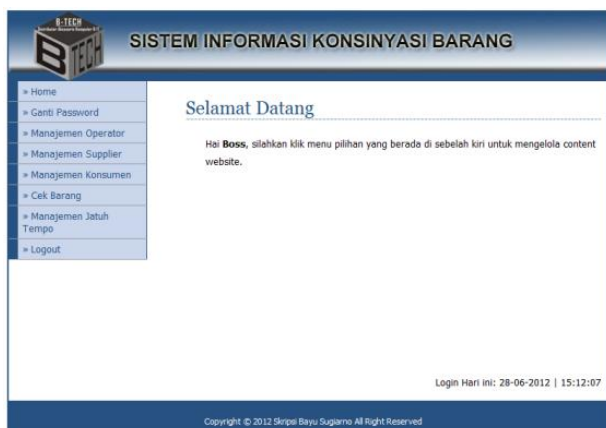


Figure 5. Dashboard page



Figure 6. Management supplier page



Figure 7. List of stock items

### Testing

A testing is an important part of the software development cycle. Testing is carried out to ensure the quality and also to know the weaknesses of the software being built. The purpose of this test is to ensure that the software being built. The purpose of this test is to ensure that the software that is built has a good quality that is in accordance with the analysis, design, and coding and is able to meet user needs

Based on the results of the test, as shown in Table 1, with the case above, it can be concluded that the software is free of syntax errors and functionally produces results that are as expected.

TABLE I. TABLE OF SYSTEM TEST RESULT

Item Testing	Description	Type of testing	Test results
Login	Login to the system	Black Box	Success
Test password changes	Checking password data can be changed or not	Black Box	Success
Operator data input testing	Add operators	Black Box	Success
Supplier data input testing	Add supplier	Black Box	Success
Consumer data input testing	Add konsumen	Black Box	Success
Item data input testing	Add items	Black Box	Success



Product order input process	Order item	Black Box	Success
Testing input invoice data purchase	recording the purchase invoice data	Black Box	Success
Testing consignment invoice data purchase data	record consignment purchase invoice data	Black Box	Success
Testing sales invoice data input	recording sales invoice data	Black Box	Success
Testing input data for purchase returns and purchase consignment	recording data of purchase returns and purchase consignment	Black Box	Success
Testing input data sales returns and selling consignment	recording sales return data and selling consignment	Black Box	Success

### Maintenance

This stage is to maintain the system so it still works as it is expected.

## VI. RESULT

In this research, the authors analyze the existing system and the authors look for weaknesses from the previous system. Then the authors do an application design information system configuration in BTECH Solo and test the system. the result is that the system can be used properly without obstacles.

In terms of time, the consignment information system of the goods was also designed to succeed in increasing the efficiency in the consignment of goods in UD. BTECH Solo. with this information that consists of consignment system, goods data, sales and purchases can be computerized well. The results of the system testing on the user are 50% very agree and 50% agree to be used.

## CONCLUSION

After analyzing the running system, we found various weaknesses in the system. We then built an information system application design consignment of goods in UD. BTECH Solo. This research has succeeded in designing a consignment information system in UD.BTECH and has successfully implemented it using the PHP programming language and MySQL database.

## REFERENCES

- [1] M. A. Syaekhoni, "Rancang Bangun Sistem Informasi Akademik dengan Konsep Collaborative Customer Relationship Management," Islamic State University of Sunan Kalijaga, Yogyakarta, 2010.
- [2] S. M. Muttaqin, "Implementasi Rich Internet Application pada Sistem Informasi Geografis (SIG) Peta Penyebaran Penyakit Hewan Di Pulau Jawa Menggunakan Google Maps API For Flash (Studi Kasus Balai Penyidikan dan Pengujian Veteriner Regional IV Yogyakarta)," Islamic State University of Sunan Kalijaga, Yogyakarta, 2010.
- [3] H. Sardianto, "Pengembangan protipe sistem informasi persediaan ( studi kasus pada PT. Jamu Air Mancur )."
- [4] A. R. SETIAWAN, "APLIKASI SISTEM INFORMASI GUDANG PT. ANTIKA RAYA," Semarang, 2010.
- [5] F. Handayani, "Sistem informasi inventory pada Perusahaan Handuk Lumintu," 2010.

