Inventory Information System Integration at CV. XYZ Web-Based

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Abstract— A company that utilizes information technology optimally can survive in this global era, because by utilizing information technology companies can access information quickly, precisely and accurately and can provide effective and efficient services. Companies need technological assistance such as an application that can increase customer satisfaction. Service quality needs to get great attention from the company, because service quality has a direct relationship with the company's competitive ability and profit level. The research method used is a descriptive method that collects data systematically. This descriptive research method is supported by the Waterfall model software development method. The conclusions from this study include (1). Implementation of Inventory Information System Integration in CV. XYZ Web-based, (2). Information systems can carry out data input activities, data processing and data reports properly, (3). The information system provides database backup and database restore utilities

Keywords : information technology, application, service quality

I. INTRODUCTION

Inventories are current assets owned by the company that are purchased and held for resale in the normal business operations of the company. Inventory is the most important asset that must be met so that demand from customers can be met, and to determine the smooth running of sales so that proper inventory management is needed to maintain inventory quality and inventory quantity stability. Inappropriate inventory management by the company will have an impact on not fulfilling consumer demand due to a lack of inventory due to damage, expiration, loss, fraudulent acts on inventory so that it hampers the course of operational activities and is very detrimental to the company [1].

Inventory is one type of current asset which is quite large in a company, which is purchased and stored for resale in the company's normal daily business operations. Without inventory at a certain time, the company cannot meet the needs of the people who need it [1]. According to Agoes and Sukrisno [2] inventories have the following characteristics: a) they are current assets because their turnover period is usually less than or equal to one year; b) constitute a large number, especially in trading and industrial companies; c) has a major influence on the statement of financial position (balance sheet) and profit and loss calculations; d) inventory recording and valuation methods. According to Rudianto [3], there are two methods for counting and recording inventories, namely the physical (periodic) method and the perpetual method.

Basically a company that utilizes information technology optimally can survive in this global era, because through the use of information technology companies can access information quickly, precisely and accurately and can provide effective and efficient services. Information itself is a very important role in supporting the balance of the company in order to achieve the desired goals [4].

Companies need technological assistance such as an application that can increase customer satisfaction. Service quality needs to get great attention from the company, because service quality has a direct relationship with the company's competitive ability and profit level [5].

Recording of inventory data is still done manually, namely by using a notebook. All sales data, employee data and supplier data are recorded in the book. Employees must enter all sales data and inventory data one by one and repeatedly for the same data so that the work becomes a lot and the completion takes longer. In the process of checking goods in the warehouse, the sales department must wait for data from the warehouse keeper to find out the availability of goods in the warehouse. After knowing the availability of goods, then the sales department can provide feedback to customers. Recording which is still in the form of a notebook is also still an obstacle where items must be checked to update the data. After checking, you can add data to the latest notebook. This process is a problem because service time and work are long and ineffective [6].

II. RESEARCH METHODS

The research method used is a descriptive method that collects data systematically. Descriptive research method is a research method that seeks to describe and interpret objects according to what they are. The descriptive research method is also commonly referred to as the non-experimental method, because in this study it did not control the manipulation of research variables [7].

This descriptive research method is supported by the Waterfall model software development method, along with the stages of the research conducted.
1. Analysis of software requirements
   In this stage, the authors carry out a needs analysis needed in making an inventory information system at a web-based pharmacy, starting from a functional requirements analysis (system function requirements

obtained by each user), non-functional requirements analysis (system support requirements, such as the hardware used and supporting software) using data collection techniques.

2. Design
   At this design stage using Unified Modeling Language (UML) diagrams consisting of use case diagrams, activity diagrams, class diagrams, sequence diagrams, component diagrams and deployment diagrams.

3. Generating program code
   The programming languages used are hypertext markup language (HTML), hypertext preprocessor (PHP), Boostrap, cascading style sheets (CSS), javascript and jQuery, CodeIgniter as a PHP framework.

4. Testing
   Testing is carried out to determine the results of the program that has been made. The testing technique carried out is to use the blackbox testing method or testing that focuses on system functionality.

5. Support or maintenance
   Carry out maintenance on the software and make changes if you feel there is something that you still want to develop in the software [8].

III. RESULT AND ANALYSIS

1. Analysis of software requirements
   a. Functional requirements analysis
      Determining functional requirements makes it easier for writers to be able to determine how many forms will be made and which will be used as a reference for output [9]. Broadly speaking, the inventory information system is divided into 3 main menus, the menus include:
      1) Master Data
         Master data consists of: Goods, Stores, Suppliers, Sales, Leadership Access
      2) Transactions
         Transactions consist of: Book Period, Incoming Goods, Sales Notes, Payments, Returns of Goods
      3) Reports
         Reports consist of: Stock taking, Goods Incoming, Sales, Invoices, Differences, Sales Receivables, Sales Salary Calculations, Due Notes, Goods Returns
   b. Analysis of non-functional requirements
      Analysis of non-functional requirements consisting of Computer Hardware and Computer Software
      1) Computer Hardware
         i. Screen size 14 inches
         ii. Screen Resolution 1366 x 768 Pixels
         iii. Brand Intel Processors
         iv. Core i3 Processor Type
         v. Processor Speed 3.4 GHz
         vi. Cache 4 MB
         vii. 4GB of RAM
         viii. RAM speed 2666 MHz
         ix. 512GB SSD/eMMC
      2) Computer Software
         i. OS Windows 10
         ii. Sublime text editor
         iii. MySQL

2. Design
   The login page is the initial page where the user will be asked to access the username and password in order tobe able to use the system, if the user does not have a username and password then he will not be able to access the system.
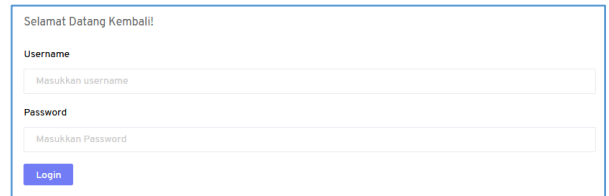

Figure 1. Login Page

The dashboard page will provide information on what menus are in the application, these menus include the Master Data menu which consists of the Goods, Stores, Supplier, Sales, Leadership Access menus. The Transaction menu consists of the Book Period menu, Incoming Goods, Sales Notes, Payments, Goods Returns and finally the Report Menu.
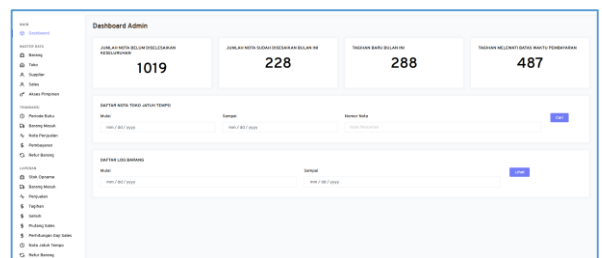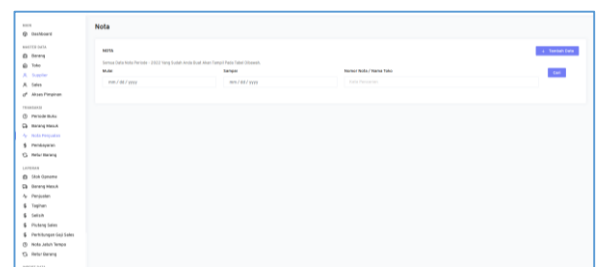

Figure 2. Dashboard Page

Figure 3. Nota

This system consists of 19 tables, these tables include goods table, ledger, detail_return, discount, item note, item log, migration, master note, password reset, payment, payment recap, item return, sales, store sales, incoming stock , stock entry details, suppliers, stores and users.

Figure 4. Table Structure

The item table will hold data consisting of the id attribute, item code, item name, unit, stock quantity, purchase price, selling price and retail price

SQL command to create item table:
CREATE TABLE `items` (
`id` bigint UNSIGNED NOT NULL,
`kode_barang` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci NOT NULL,
`item_name` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci NOT NULL,
`unit` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci NOT NULL,
`amount_stock` int NOT NULL,
`buy_price` int NOT NULL,
`sale_price` int NOT NULL,
`retail_price` int NOT NULL,
`created_at` timestamp NULL DEFAULT NULL,
`updated_at` timestamp NULL DEFAULT NULL
)

The command to enter data into the goods table:
INSERT INTO `items` (`id`, `item_code`, `item_name`, `unit`, `stock_count`, `buy_price`, `sale_price`, `retail_price`, `created_at`, `updated_at`) VALUES
(1, 'B-00001', 'MDN / VPR PVC GLUE SHOOT TOOLS', 'PCS', 87, 19000, 30000, 25000, '2021-04-25 23:07:18', '2022-11-16 08:19:57')

Figure 5. Table Barang

The discount table will record the discount given, while the attributes contained in the discount table are id, note id and nominal.

SQL command to create discount table :
CREATE TABLE `discount` (
`id` int NOT NULL,
`id_nota` int NOT NULL,
`nominal` int NOT NULL,
`created_at` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
`updated_at` timestamp NOT NULL DEFAULT '0000-00-00 00:00:00'
)

SQL command to enter data in the discount table:
INSERT INTO `discount` (`id`, `id_note`, `nominal`, `updated_at`) VALUES
(239, 2174, 500, '2022-01-25 15:28:23')

Figure 5. Table Diskons

3. Generating program code
   Generating the program code is carried out in 2 stages
   a. The coding stage in the table, the table in this information system consists of 19 tables as shown in Figure 4. Table Structure
   b. PHP code creation stage
      Example of PHP code in .env file
      APP_NAME=Laravel
      APP_ENV=local

```
APP_KEY=
APP_DEBUG=true
APP_URL=http://localhost

LOG_CHANNEL=stack

DB_CONNECTION=
DB_HOST=
DB_PORT=
DB_DATABASE=
DB_USERNAME=
DB_PASSWORD=

BROADCAST_DRIVER=log
CACHE_DRIVER=file
QUEUE_CONNECTION=sync
SESSION_DRIVER=file
SESSION_LIFETIME=120

REDIS_HOST=127.0.0.1
REDIS_PASSWORD=null
REDIS_PORT=6379

MAIL_DRIVER=smtp
MAIL_HOST=smtp.mailtrap.io
MAIL_PORT=2525
MAIL_USERNAME=null
MAIL_PASSWORD=null
MAIL_ENCRYPTION=null

AWS_ACCESS_KEY_ID=
AWS_SECRET_ACCESS_KEY=
AWS_DEFAULT_REGION=us-east-1
AWS_BUCKET=

PUSHER_APP_ID=
PUSHER_APP_KEY=
PUSHER_APP_SECRET=
PUSHER_APP_CLUSTER=mt1

MIX_PUSHER_APP_KEY="${PUSHER_APP
_KEY}"
MIX_PUSHER_APP_CLUSTER="${PUSHER_A
PP_CLUSTER}"
```

Code in .htaccess file
```
RewriteEngine on

RewriteCond %{REQUEST_URI} !^public
RewriteRule ^(.*)$ public/$1 [L]

# BEGIN cPanel-generated php ini directives,
do not edit
# Manual editing of this file may result in
unexpected behavior.
# To make changes to this file, use the cPanel
MultiPHP INI Editor (Home >> Software >>
MultiPHP INI Editor)
# For more information, read our documentation
(https://_____)
```

```
<IfModule php7_module>
  php_flag display_errors Off
  php_value max_execution_time 100
  php_value max_input_time 100
  php_value max_input_vars 1000
  php_value memory_limit 500M
  php_value post_max_size 10M
  php_value session.gc_maxlifetime 1440
  php_value                session.save_path
"/var/cpanel/php/sessions/_____
_____"
  php_value upload_max_filesize 2M
  php_flag zlib.output_compression Off
</IfModule>
<IfModule lsapi_module>
  php_flag display_errors Off
  php_value max_execution_time 100
  php_value max_input_time 100
  php_value max_input_vars 1000
  php_value memory_limit 500M
  php_value post_max_size 10M
  php_value session.gc_maxlifetime 1440
  php_value                session.save_path
"/var/cpanel/php/sessions/_____
_____"
  php_value upload_max_filesize 2M
  php_flag zlib.output_compression Off
</IfModule>
# END cPanel-generated php ini directives, do
not edit

# php -- BEGIN cPanel-generated handler, do
not edit
# Set the "ea-php74" package as the default
"PHP" programming language.
<IfModule mime_module>
  AddHandler              application/x-httpd-ea-
php74___lsphp .php .php7 .phtml
</IfModule>
# php -- END cPanel-generated handler, do not
edit
```

Code in User.php
```php
<?php
namespace App;
use Illuminate\Notifications\Notifiable;
use
Illuminate\Contracts\Auth\MustVerifyEmail;
use        Illuminate\Foundation\Auth\User        as
Authenticatable;

class User extends Authenticatable
{
  use Notifiable;

  /**
   * The attributes that are mass assignable.
   *
   * @var array
   */
```

```
    protected $fillable = [
        'name', 'email', 'password', 'username',
'level',
    ];

    /**
     * The attributes that should be hidden for
arrays.
     *
     * @var array
     */
    protected $hidden = [
        'password', 'remember_token',
    ];

    /**
     * The attributes that should be cast to native
types.
     *
     * @var array
     */
    protected $casts = [
        'email_verified_at' => 'datetime',
    ];

    public function isAdmin()
    {
        if ($this->level == 1) {
            return true;
        }else{
            return false;
        }
    }

    public function isPimpinan()
    {
        if ($this->level == 3) {
            return true;
        }else{
            return false;
        }
    }

    public function isSales()
    {
        if ($this->level == 2) {
            return true;
        }else{
            return false;
        }
    }

    public function getSales()
    {
        if ($this->level == 2) {
            return     $this->belongsTo('App\Sales',
'username', 'username');
        }else{
            return false;
        }
```

```
    }
}
```

4. Testing
   Tests carried out include testing related to menus in the information system which includes the master data section (Goods, Stores, Suppliers, Sales, Leadership Access), transactions (Book Period, Incoming Goods, Sales Notes, Payments, Goods Returns) and reports (stock taking, incoming goods, sales, invoices, differences, sales receivables, sales salary calculations, notes due, goods returns)

5. Support or maintenance
   At this stage, regular and well-scheduled data backups can be carried out.

VI. CONCLUSION

The conclusions of this study include
1. Implementation of Inventory Information System Integration at CV. XYZ Web Based
2. The information system can carry out data input activities, data processing and data reports properly
3. The information system provides database backup and restore database utilities

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