Database System for calculating Profit and Goods

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Abstract - Data Management has become the most important thing nowadays. Mainly used in almost everything from private use to Large Company. Everything company has data that must be organized and it is very important to do so. Without data management, it's easy to find mistakes and corruption can easily be unnoticed. This research, *Procalbit* will organize all data starting from the number of goods until the total profit with easy user access. This system will prove to be use full in preventing embezzlement (any form of money loss from corruption) and any form of missing goods because the information can be checked daily with little risk of data manipulation.

1. Introduction

Now days, management of goods stock and accounting in a small to big company always one way or another connected to database, especially in this digital era where computer is become a main commodity needed in almost every company.

The use of paper have started to become obsolete and people prefer to use of computer to implement information management from goods management to accounting which directly connected to money flow of a company.

While company are developing to more modern approach in managing data there are always problems coming out such as goods embezzlement, money laundering and many more similar cases.

The application that is proposed in this paper takes inspiration from those examples, and problems. Using it as basis and create an application named "**Procalbit**" which implement both database management and accounting with the main purpose of avoiding and solving problems that could possibly come out from the data management

2. Limitation

This research focus and creating a program with the combination of Data Management and accounting program. This makes the program become less focused in both the database management and accounting if compared to focused data management and focused accounting management program.

This research also included the HP Website which allows the user to view the accounting of goods stock and also to create a simple report in the form of an excel file.

3. Method

The approach for the software development will use both VB.Net (Visual Studio) and PHP as the programming language. This research will also apply some techniques from Database management system (DBMS), Inventory management system and Accounting system.

3.1 Database Management system

DBMS is a software system that provides comprehensive facilities for the organization and management of a body of information required for some particular application or group of related applications. This implies some overall logical view of the database in terms of some particular data model, and database management systems are conventionally categorized according to the data model they implement. The system will provide a database language in which schemas and subschemas (user views) can be specified and retrieval and update programs written. There will be facilities to specify and modify the storage schema, for logging, rollback, and recovery. A major objective of a DBMS is to provide data independence within the constraints of its data model. More modern DBMS provide a higher degree of data independence than earlier products where significant schema modification requires the database system to cease to be operational and for the data to be reorganized and reloaded. This can be impractical for large operational systems, one of the main reason for them becoming out of date and requiring redevelopment.

Well-known DBMS include the relational database systems ORACLE, INGRES, Sybase and Microsoft SQL Server, INFORMIX, MySQL, and PostgreSQL, and the earlier systems IMS, IDMS, and ADABAS, still widely used in practice. See also object-oriented database, XML database

3.2 Inventory Management System

An inventory management system is the combination of technology (hardware and software) and processes and procedures that oversee the monitoring and maintenance of stocked products, whether those products are company assets, raw materials, and supplies, or finished products ready to be sent to vendors or end consumers. A complete inventory management system consists of:

- A system for identifying every inventory item and its associated information, such as barcode labels or asset tags.
- Hardware tools for reading barcode labels, such as handheld barcode scanners or smartphones with barcode scanning apps.
- Inventory management software, which provides a central database and point of reference for all inventory, coupled with the ability to analyze data, generate reports, forecast future demand, and more.
- Processes and policies for labeling, documentation, and reporting. This should include an inventory management technique such as Just in Time, ABC Analysis, First-In-First-Out (FIFO), Stock Review, or another proven methodology.
- People who trained to follow these policies and processes.

4. Implementation

The implementation of this research will be using VB.Net (Visual Studio) and PHP. The implementation process will cover the 5 function aspect of the VB.Net program and 2 function aspect of the PHP website.

The first one is Create, Edit, Delete Data option. If the user uses this option, the app will be able to create, edit, or delete data inside the database.

The second one is Goods Stock Input option. If the user use this option, the menu will change into input screen, where the user can insert goods ID and number of goods which the function will search the database and stack the data into a table simply by clicking a button

The third one is Goods Stock Output option. If the user use this option, the menu will change into Output screen, where the user can insert goods ID and number of goods which function will search the database and stack the data into a table simply by clicking a button

The fourth one is Auto Accounting Option. If the user clicks this Option, the App will Show the accounting screen, where the user can choose 2 dates which after that the app will automatically calculate the profit of the transaction between these 2 dates after clicking the calculate button.

The last one is Check stock option. If the user clicks this Option, the App will Show the form check screen, where the user can click pull data which will automatically pull data of goods which is below the minimum standard given, after that the user can choose to either send the report directly through email or simply save the report in excel form.

As for the PHP website there are 2 option exists which is as follow:

The first one is Real-time Goods and profit check function option. If the user uses this option, the user will be able to select 2 dates and click the "Run auto generate" button which will decide the report information will be shown, the result will be compiled in a bar-chart for easy view.

The Last one is Excel Report file maker compile option. If the user use this option, the user will be able to select 2 dates and click the "Save as excel" button which will then show the pop-up save for an excel file which is the compiled report based on the dates chooses before.

5. Experimental Results

In order to evaluate the effectiveness of the proposed method in previous section, there are some implementation testing. The testing will be divided into two sections, which are VB.net program evaluation and PHP website evaluation.

5.1 VB.net program Evaluation

VB.net program performance will be evaluated in Table 1 that shows the testing scenarios and expected result.

Table 1 VB.net program Evaluation

Scenario	Expected Result
Login Page	If the input ID and Password is wrong there will be a message error, while success ~~means~~ will cause the system direct user~~ly~~ to ~~go to~~ the main menu.

Create data	The system is able to correctly create new data.		Auto Accounting	The system is able to correctly show data based on date and auto-calculate the profit based on the pulled information.
Update data	The system is able to correctly update data based on ID goods and update all database information based on the user new input.		Stock form check – send email	The system is able to correctly filter the necessary data from database and is capable of compiling the data into excel file as email attachment and then send the email successfully
Delete	The system is able to correctly Delete data based on ID goods.			
Input Data	The system is able to correctly add increase goods stock while saving the transaction information into a separate database table.		Stock form check – save as excel	The system is able to correctly pull filter the necessary data from database and is capable of compiling the data into excel file and sending the information through Email
Output Data	The system is able to correctly reduce goods stock while saving the transaction information into a separate database table.			

5.2   PHP website Evaluation

All the function of PHP website will be evaluated in Table 2 that shows the testing scenarios and expected result.

Table 2. PHP website Evaluation

PHP login Function	If the input ID and Password is wrong there will be a message error, while success will cause the system direct user to the main menu.	
PHP Barchart report function	The system is able to correctly show data based on date and compile the pulled information into a barchart form.	
PHP save as excel function	The system is able to correctly pull the data based on date and compile the pulled information into a excel file and show the download file pop-up.	

There are several conclusions that can be obtained from this research. First, Every Data and Information in the Database is important, and without proper script or function to manage these data can create mistake or misused by other people. Second, this app must be attached to a shop or company with flowing information if the script wanted to be implemented correctly.

Third, every use of the function in the script will one way or another connected to the database, making the database taking more space which have to be managed periodically.

Lastly, the script still has many potential to be developed because an active company always have many need that change with time and rules which mean this app will be changed in the future as the needs follow.

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6.   Discussion

In this section, there are some discussion why data management is so important in this modern digital era. The use of paper have started to become obsolete and people prefer to use of computer to implement information management from goods management to accounting which directly connected to money flow of a company.

While company are developing to more modern approach in managing data there are always problems coming out such as goods embezzlement, money laundering and many more similar cases, this is why it's important to manage everything.

7.   Conclusion