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Information System Point of Sales Based Real Time on PT. Buccheri Indonesia

Teofilus Sunarsa[1)*], Paulus Yayan Christian[2)], Yuki Gunawan[3)]

[1)2)3)]*Buddhi Dharma University*
Imam Bonjol 41st Karawaci, Tangerang, Indonesia
[1)*] teofilus.sunarsa@ubd.ac.id
[2)]paulus.christian@ubd.ac.id
[3)]yuki.gunawan@ubd.ac.id

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Abstract

Buccheri is a retail company that provides quality footwear for men and women since 1980. We begin our history with our first flagship store in a historic business district, "Pasar Baroe." Now Buccheri has been through various challenges and experienced many developments. This of the most prestigious and footwear brand in Indonesia. As the leading formal shoes in Indonesia, Buccheri tends to put their segmentation in the middle-upper class. Established in 1980, the name of this brand is well known among Indonesian consumers. With specialized informal to daily leather-based footwear, and claimed as a handcrafted, stylish yet comfortable footwear brand. Buccheri is committed to providing a high-quality product and post-buying service and maintaining the best craftsmanship in every item that we produce. Innovation is also one of the keys to our future development. With the development of existing technology, Buccheri made changes to its sales system. With the many stores that exist, real-time technology is needed to meet the company's business needs. Therefore, the point of Sale is redeveloped to answer the needs of time-based.

I. INTRODUCTION

PT. Buccheri Indonesia is a fashion retail company that is the holder of the trademark name Buccheri. PT. Buccheri Indonesia has been running this fashion retail business since 2012 with a background in the fashion industry, especially in shoes, from 1986. It has branches spread throughout Indonesia, with a total of approximately 178 units from Sabang to Merauke. With the number of companies that must be regulated and with a large number of customers, PT. Buccheri Indonesia began to use information systems in its business.

For that since its establishment in 2012, PT. Buccheri Indonesia has implemented the first retail system with a transfer database that is not real-time and requires synchronization per day to integrate all data in existing outlets with data at head office. Looking at the system running, the researchers found various shortcomings of the system based on synchronization per day. The data displayed for analysis becomes invalid because the data submitted is always late, and there are also some weaknesses when the data is not sent from one of the outlets or some outlets due to local database errors in the outlet, so the data will be less actual.

Responding to these problems, researchers want to build a system based on real-time with a reliable connection (does not require large bandwidth) to conduct transactions per day. With the system running later, it is expected that there will be no more discrepancies in data synchronization and also guaranteed data quality to create a strategic report for management. Therefore, researchers want to develop a point of sales application based on real-time at PT. Buccheri Indonesia.

II. RELATED WORKS/LITERATURE REVIEW

Review studies in the form of results from several previous or previous studies or studies related to reviewing the ability and measuring the system's performance from the system built.

*Corresponding author

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Based on the information obtained, there are several findings found that are relevant to this research, namely:

Jurnal Penelitian Pos dan Informatika 771/AU1/P2MI-LIPI/08/2017 e-ISSN 2476-9266, titled Designing Integrated Restaurant Information System Based on Java Web Socket Online, concluded that real-time communication with Java Web Socket resolves the problems that occur in order ordering and also comparisons to the level of stock needs provided. This research resulted in a Point of Sale system integrated online with a web-based platform, which has been implemented in the restaurant business unit to help more efficient and fast service.

Information System For Educators and Professionals Vol 1. No. 2, June 2017, 189-204 e-ISSN 2548-3587, titled Point of Sales Information System Based on Colony Amaranta Bekasi, concluded that with the construction of this information system, the business process that occurs could be well integrated, starting from activities at reception, admin and cashier. With this information system structure, all search, processing, and sales recording activities can be appropriately archived. The owner can monitor and monitor the course of business processes anywhere and anytime. Information systems can provide reports as needed because information systems can filter data that has been stored in a database.

The difference between previous research and this research is a point of sales information system development developed more desktop-based application and using the reliability of point of sales machines in the market that will mostly be better in managing desktop-based applications and more used in retail fashion formats that mostly require more compact applications and have reliability in terms of integration with hardware.

III. METHODS

The authors' type of research in the research Information System Point Of Sales Based Real-Time On Pt. Buccheri Indonesia is an applied study. Applied research serves to find solutions to specific problems practically. The author carries out applied research to apply, test, and evaluate practical issues so that they can be utilized for human benefit, either individually or in groups. This applied research aims to find new solutions for business owners to make it easier to run their business processes.

In this research flow, the authors start by identifying problems that occur, and that will be possible, analyzing system flows, collecting data needed by users and stakeholders, creating SOP, designing databases with ERD and developing user interfaces, and conducting system tests running before full implementation.

In this study, data collection was carried out aimed at obtaining the data needed for research. The types of data collected are divided into two types, namely:

1. Primary Data
   Primary data is collected directly from the research site. In this study, preliminary data in the form of interview results. This primary data is obtained through:
   a. Observation
      We conducted by conducting observations directly on research objects during a specific period.
   b. Interview
      By doing a question and answer with samples that have been summarized in the sampling to get information objectively so that existing problems can be solved in accordance with the needs of research.
2. Secondary Data
   Secondary data is data used to complement primary data obtained from respondents, secondary data obtained from several references such as books related to research, reports of other research results, documents, and archives related to research.
   To get secondary data is carried out in various ways, namely:
   a. Documentation studies
      In this documentation study, data collection is done by looking for references from various media such as company documents, case records, work reports, and so on in the research environment or outside the research object.
   b. Website
      Data is collected from reference sources on the internet.

IV. RESULTS

The author does this analysis to gather information about existing problems so that the author can find the cause of the problem before designing the system. This process is an activity that aims to describe the needs required by the system in meeting the business needs of PT. Buccheri Indonesia. After conducting interviews with stakeholders

at PT. Buccheri Indonesia, the author concluded by planning a system that identifies problems and shows application selection. Here is the system planning in its development:

Table 4.1 System Planning

Project	**PerancanganPoint Of Sales berbasis Real Time**
Project Description	1. Build a new point of sales with real-time-based infrastructure. 2. I added a manual synchronization feature when the outlet network is disconnected from a central server. 3. Build a web connector to ensure the security of the connection between the outlet and the center.
Project Reference	1. Scope of work a. The system created is a desktop-based system with the same infrastructure as the previous system. b. Tools used are Microsoft .Net with engine specifications is VB.Net and add a web connector with hardware separate from the server. 2. Uptime a. The working period is 3.5 months from the analysis and design of the system to the implementation and testing, starting from August 20, 2020, to November 30, 2020

For the design of this application, the author needs *software* and *hardware* with the following specifications:

a) Software

The software that will be used to build this system is:

- Microsoft Visual Studio with engine specifications VB.net.
- SQL Server 2015.
- Devexpress add-on for VB.Net.

b) Hardware

- The server for the database is HP Proliant Tower Model with ML350 Gen 8 series.
- Web Connector is a pc assembled with specifications Intel Core i5, RAM 16 GB, Hard drive 1 TB.
- The client uses PC POS with the Wellness brand.

Here the author will explain the comparison of the old system with the new system that will be presented in the form of a table as follows :

Tabel 4.2 System Comparison Table

No.	**Old**	**New**
1.	Has many local databases available in each outlet	Centralized and in-store databases only have backups when offline
2.	Add resources and time to update existing POS systems in outlets	THE IT team has no difficulty in the maintenance of POS applications because they are all connected
3.	It takes H+1 day to update overall sales data	Sales data is updated in real-time when transactions occur at outlets
4.	Can't update member point in real-time	Point member updated in real-time and can be used directly
5.	Requires synchronization of data at the time of delivery of stock from the center to the store within 1 day	Stock delivery that occurs within the same day has been immediately updated on the system

Based on the application that has been built, the author tries to do some testing of system functions by using the test table as follows:

Login Function Testing Table

No	**Tested Function**	**Expected Results**	**Test Results**
1	Admin performs login test with appropriate username and password	The app has successfully signed in and displays the home page	Successful

2	Admin login with username and wrong password.	The application will display an incorrect username and password message.	Successful
3	Admin login without inputting username or password.	The application will display a warning to complete the required fields.	Successful
4	Admin opens app after signing in	The login page will be skipped	Successful

Login Function Testing Table

No	Tested Function	Expected Results	Test Results
1	Admin input session according to available fields	A session can open and open point of Sale	Successful
2	Admin performs incomplete input session according to data	Issue warnings to fill in less data	Successful
3	Admin input session where the session has been opened on the same PC	A session cannot be saved and issued a message that session has been created	Successful
4	Admin performs input session with local PC data, not following server date	Exit warning that date is not appropriate and a session cannot be saved	Successful

Login Function Testing Table

No	Tested Function	Expected Results	Test Results
1	Admin input member data based on HP No.	The appropriate member data will be loaded	Successful
2	Admin input member data based on Member ID	Member data according to member ID will be loaded	Successful
3	Admin inputs member data that does not match HP	Member data can not be loaded and will exit the message of the data in search does not exist	Successful
4	Admin input member data that does not match Member ID	Member data can not be loaded and will exit the message of the data in search does not exist	Successful
5	Admin input item code of goods sold	Exit goods data with stock and price information	Successful
6	Admin inputs code items that are not in the goods data	No information displayed and outgoing message item searched does not exist	Successful
7	Admin tries to make transactions with stock according to	Transaction saved successfully	Successful
8	Admin tries to make transactions with inappropriate stock	The transaction was not successfully created, and out of stock message the goods were not enough	Successful
9	Admin tries to input transactions with the appropriate member data	Transactions are successfully inputted, and the calculation of points is correct	Successful
10	Admin tries to process payments according to the bill amount	The transaction was successfully saved and the receipt was successfully printed	Successful
11	Admin tries to make the payment process does not match the billing amount	Unsuccessful transaction saved and out message less payment amount	Successful

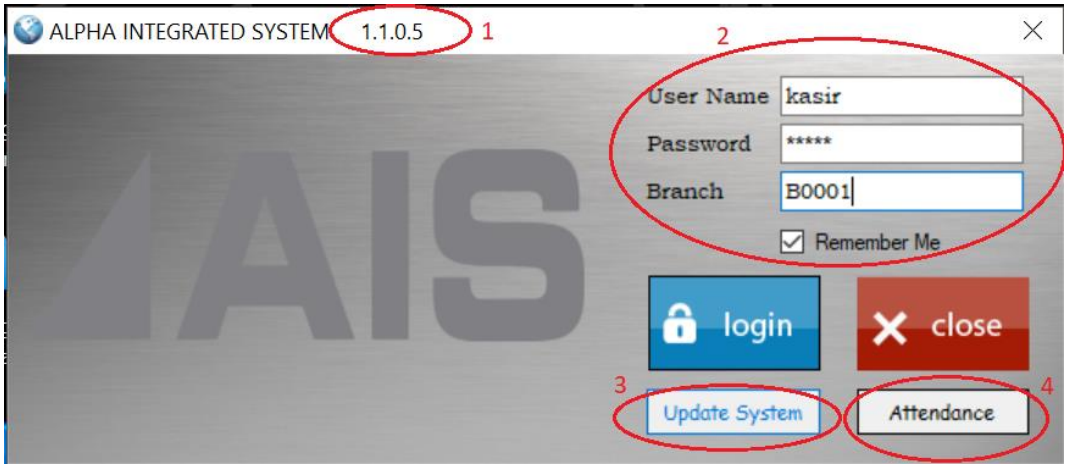
Login Function Testing Table

No	Tested Function	Expected Results	Test Results

1	Admin tries to close the session that already has a transaction and session is still open	Session successfully closed and issued a transaction report according to the machine used	Successful
2	Admin tries to close the session with a transaction that can be completed	A session cannot be closed, and out the message, there is a transaction that is still not completed	Successful
3	Admin tries to close session that no session is open	A session cannot be loaded to close because there is no open session	Successful
4	Admin tries to close session with no transaction at all and session has been opened before	Session successfully closed with transactions that are not in the transaction recap	Successful

User Interface Systems

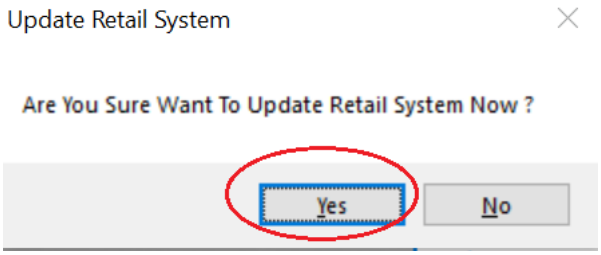
1. **Login Form**



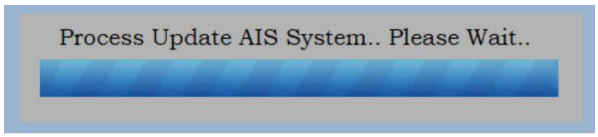
Login Form

On the login page, there are several sections, including:

- Verses
  The number listed in **Figure 1** above (**1.1.0.5**) is the current version of the running program on the pc.
- Form Login
  This login form is a form to be able to access the AIS program. Every user who has the right to access this program will be given a username and password.
  The steps are:
  - Enter username and password
  - Input Branch is the store code to be accessed
  - Click the Login button
- Update System
  This update system button aims to update the system to the latest version. Where in the newest version later there will be some changes with the previous version.
  The steps are:
  1. Press the Update System button
  2. Then press Yes to continue the update system, press No if cancel the update



If you press the Yes button, the update process will appear, wait until the update is finished, and return to the login page



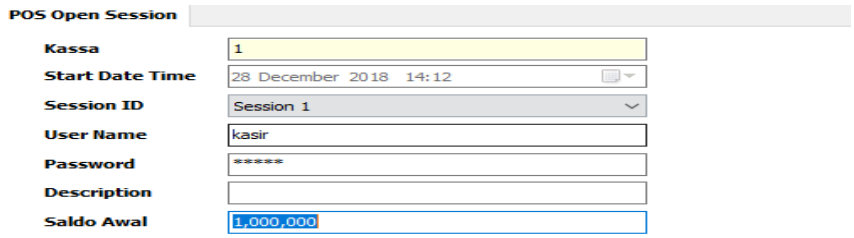
2. Open Session Form

Open session page to open the cashier before making a sale today, or open the cashier after closing the cashier and want to open the cashier for the 2nd shift
In the Open Session Form, there are several data, namely:

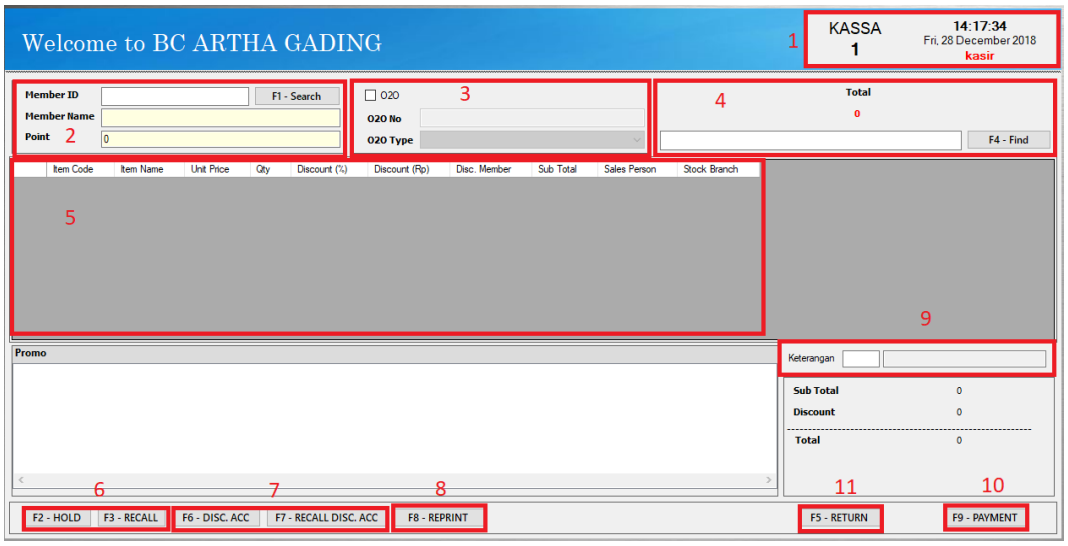
1) Kassa: Kassa number
2) Start date-time: date and time of open session creation
3) Session ID: select session, choose from session one first, then continue session two and so on if there is a change of cashier shift
4) Username: username input when logging in
5) Password: input password
6) Description: input a description of the cashier's shift when needed
7) Beginning Balance: input beginning balance

The steps of inputting open session are:

1) Click the **New** button
2) Input the requested data on the open session page
3) Click **SAVE** if it is correct



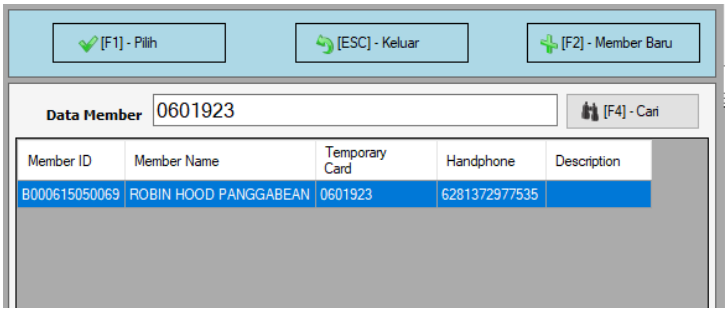
3. Point of Sale



At Point of Sale (POS), the page for in-store sales transactions. There are several sections, including:

1) Kassa Information
   Information no Kassa, current date and time
2) Member
   Menu for member search and create new members

Search member:

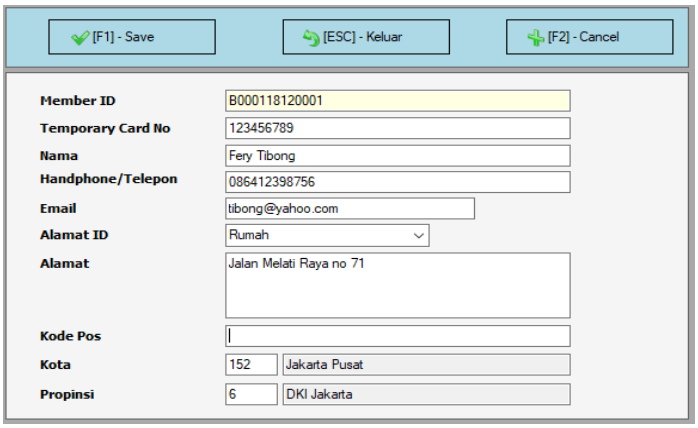


Gambar 4.7
Search Member Form

- Input no member or member name
- Click **Search**
- Select the member row, if it is correct Click **Select**

Create a new member

- Click **New Member**
- Input data member



Gambar 4.8
Data Member Form

- If it is correct, Click **Save**

V. DISCUSSION

Based on the research results that have been made above, with a description of existing problems, library studies, research fists made, and the development of point of sale system that has been running in PT. Buccheri Indonesia, it can be concluded as follows:

3. The research conducted aims to develop the Point Of Sale system at PT. Buccheri Indonesia on a Real-Time basis. An analysis is built based on the existing Standart Operational Procedure and the current system with improvements in a centralized database.
4. The implementation process turns out that things that went before can still be adjusted when the system is real-time-based, with testing that is following management and writers' expectations.
5. This research brings hope to several parts of business processes related to the various changes in the efficiency level of work in it, operational and non-operational.

VI. CONCLUSIONS

In the preparation of this writing, researchers are well aware that the various changes that occur are not always following expectations and business processes will continue to develop and dynamic; for that, some suggestions for future improvements need to be also made:

1. In terms of real-time POS, system improvements also found some constraints when the outlet area experienced power outages or unstable internet connection, the author has built the system offline, but there is a lack of when customers will use the point redeem mechanism can not run because the central database can not be accessed, in the future can be thought of for redemption using the mobile app.
2. The current development is expected to be the basis for developing POS applications that are currently running on a retail business base in particular.

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3. Fellow lecturers
4. Management of PT. Buccheri Indonesia
5. And to all those who helped the implementation of this research, we can not mention it one by one.

Hopefully, this research can be useful for all parties who read it. Peace be upon you, and God bless.

REFERENCES

[1] Tata Sutabri, Analisis Sistem Informasi. Yogyakarta : Andi, 2012

[2] Laudon, Sistem Informasi Manajemen. Jakarta : Salemba Empat, 2014

[3] Ahmadi dan Hermawan, E-Business & E-Commerce, Yogyakarta: Andi, 2013.

[4] I Putu Arya Dharmaadi, Gusti Made Arya Sasmitha, "Perancangan Sistem Informasi Restoran Terintegrasi Berbasis Java Web Socket Online", E-ISSN 2476-9266, 2018.

[5] Sapto Catur Cahyodi, Rita Wahyuni Arifin, "Sistem Informasi Point Of Sales Berbasis Web Pada Colony Amaranta Bekasi", E-ISSN 2548-3587, 2017.

[6] Al-Bahra Bin Ladjamudin, Analisis Dan Desain Sistem Informasi, Yogyakarta : Graha Ilmu, 2013.

[7] Yahya, Muchlis, Dasar-Dasar Penelitian Metodologi dan Aplikasi, Semarang : Pustaka Zaman, 2010.