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OPTIMIZING BROKERAGE COMPANY MARKETING: A WEB-BASED PERFORMANCE MONITORING SYSTEM WITH CODEIGNITER

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ABSTRACT

PT Kontrak Perkasa Futures provide trading services, particularly commodities that generate various investment products. The company's operations rely on the performance of the marketing team, especially in the process of acquiring customers willing to have their investment funds managed. Currently, the performance reporting process for the marketing team employees at PT. Kontak Perkasa Futures is still carried out conventionally through manual recording in a ledger. This is very ineffective and inefficient for the employee especially in real time reporting process to their manager. This research aims to design a web-based information system using the CodeIgniter Framework to assist in computerizing the reporting process so that the performance of the marketing team can be monitored. The research methodology involves requirement analysis, system design, system development and system evaluation. The data collection methodology employed in this research includes interviews and observations, with the data analyzed using performance, information, economy, control, efficiency, and service (PIECES) analysis. The design of the marketing performance information system utilizes unified modeling language (UML). The system development method is using Scrum framework and built using MySQL, CodeIgniter Framework and PHP language. The system evaluation is using black box testing. The result of this research is a recommendation for the design of a marketing performance information system that can be used by the company as a reference for the development of marketing performance information systems in the future. Besides that, designing a web-based information system can make positive contribution in the effectiveness and efficiency of data and information management.

Keywords: *Black Box Testing. Codeigniter, Performance, SCRUM, UML.*

1. INTRODUCTION

Information system has been developed in Indonesia. It helps some businesses to control easily, quickly and accurately [1]. Dashboard is an information system application model provided for managers to present performance quality information from a company or organizational institution. The concept of dashboard performance has existed for years, and dashboards have been widely adopted by companies or business sectors. [2]–[4].

Employee performance assessment as key players in the organization involves establishing performance metrics aligned with the organization's goals. The performance assessment standards of an organization should be projected onto the performance standards of employees according to their respective work units. Performance evaluation should be conducted continuously to ensure that organizational goals are achieved effectively and efficiently[5]–[8]. Therefore, periodic performance assessment activities oriented towards the past or future are necessary. Companies need to identify various weaknesses or strengths of employees as a basis for improving weaknesses and strengthening strengths in order to enhance employee productivity [9].

Web-based information system has been developed in many fields and purposes, such as stock monitoring and transactional financial reports [1], [10], sales system and company profile [11], promotion and marketing system [12], [13], logistic activities especially shipment of goods [14] and so on. The results showed that the existence of a web based information system help monitoring activities faster, more effective and efficient [1], [10].

PT. Kontak Perkasa Futures, as a member of the Jakarta Futures Exchange and a member of the Indonesian Futures Clearing House, leverages its experience and capabilities in developing commodity futures trading in the country. They provide other derivative transaction services that are highly sought after by investors, such as stock index derivative transactions, in addition to existing commodity derivative transactions. PT. Kontak Perkasa Futures still uses a manual system for recording and processing data especially the performance report of marketing team employee. This causes the reporting process become less effective. To overcome this, we tailored a web-based information system with PHP programming, MySQL database and CodeIgniter framework. Information system in business activity hopefuly can be useful for the company [15].

2. RESEARCH METHODS

General Overview of the System

In system development or application design, there are methods of system development involved. There are several methods in developing a system, and in this system development, the SDLC method with the Agile Scrum model is used. [16]–[20]

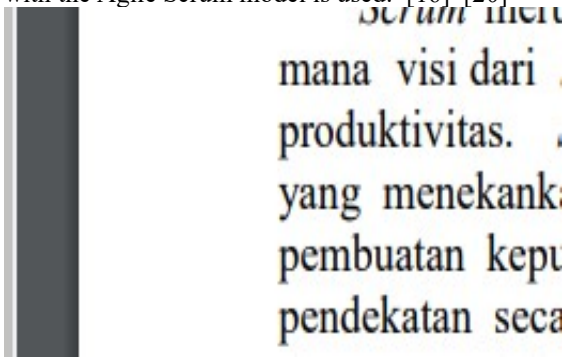

Figure 1. System Development using the Scrum Framework

The data collection methods used in this research include:

Observation or direct observation is a method of data collection by observing directly at the research site regarding the discussed object to obtain accurate and precise information. The author conducted direct observation or observation at PT. Kontak Perkasa Futures located at Jl. Jendral Sudirman Kav.76-78 Jakarta Selatan, specifically regarding the processing of performance report analysis systems aimed at obtaining a real picture of the system's condition and its issues.

Information gathering by face-to-face interaction and direct questioning to individuals directly involved in the activities and those related to the activities. This method is carried out through a question and answer process conducted by the author to the leaders at PT. Kontak Perkasa Futures. The aim is to obtain detailed information starting from the company's history, organizational structure, and its functions to the processing system of performance report analysis.

Literature review is writing by collecting data through books, magazines, journals, and other sources closely related to the writing theme to complement and refine existing data. In addition to conducting observation and interviews, the author also conducted literature reviews through existing literature or references.

3. RESULT AND DISCUSSION

The system designed utilizes a web-based performance report monitoring information system with the CodeIgniter framework. [4], [21], [22]

Proposed Use Case Diagram

Figure 2 explains about, the proposed use case diagram includes three main actors, namely admin, marketing, and manager. With five use cases, namely, managing users, creating and managing visit schedules, creating and managing reports, viewing reports, and approving visits.

Figure 2. Proposed Use Case Diagram

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Activity Diagram

Activity Diagram is a diagram that depicts the activities of a system.

a. Activity Diagram Login

Figure 3 will explain the login activity diagram, explaining the admin's interaction with the system.

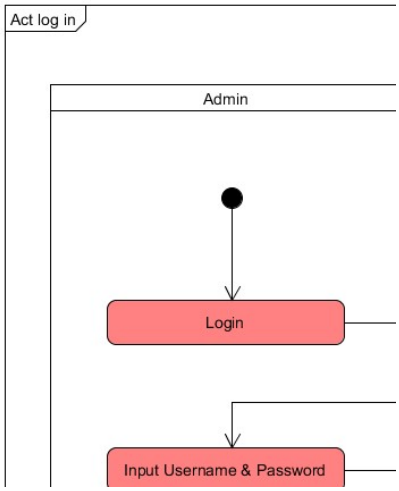

Figure 3. Activity Diagram Login

b. Activity Diagram for Managing Visit Schedules

Figure 4 will explain the activity diagram for managing visit schedules, explaining the interaction between marketing, systems and managers.

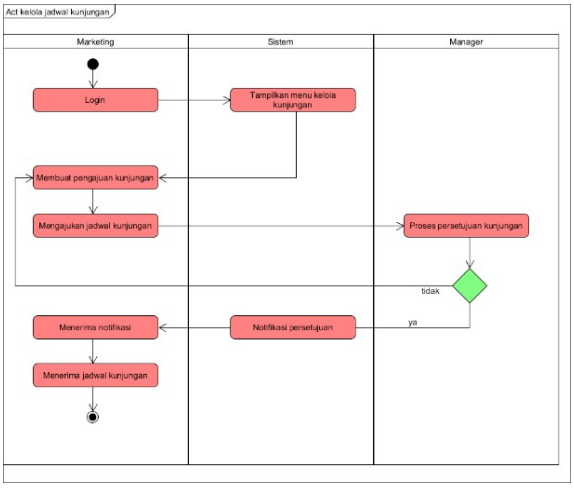

Figure 4. Activity Diagram for Managing Visit Schedules

c. Activity Diagram for Managing Visit Reports

Figure 5 will explain the activity diagram for managing visit reports, explaining the interaction between marketing, systems and managers.

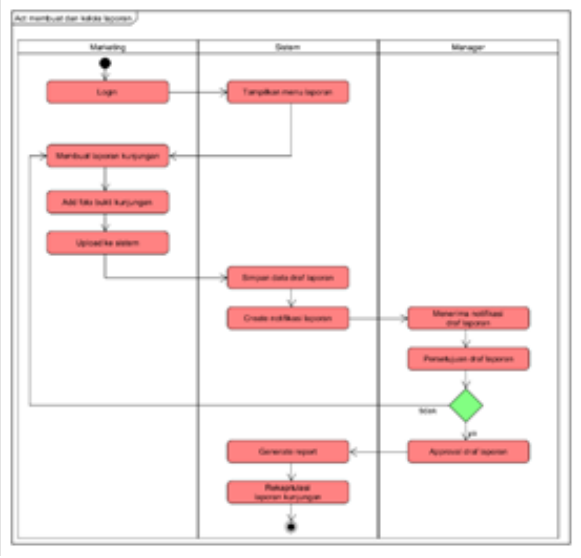

Figure 5. Activity Diagram for Managing Visit Reports

Class Diagram

In Figure 6, we will represent the class diagram of the proposed system to be built.

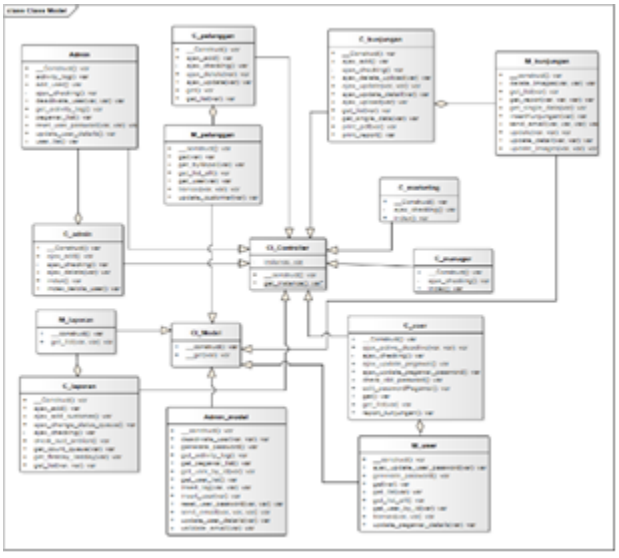

Figure 6. Class Diagram

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System Development

The performance report monitoring information system is built using PHP language with the CodeIgniter framework and MySQL database. The development of the system produces the following interface:

a. Login Interface

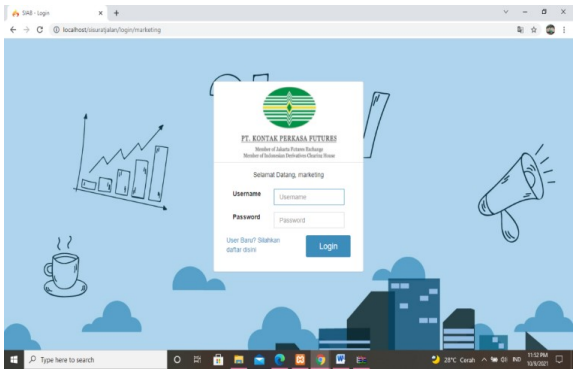

Figure 7. Login Interface

Figure 7 depicts the login page. Before accessing the system, every user must enter their registered username and password to gain access.

b. Admin Main Menu Interface

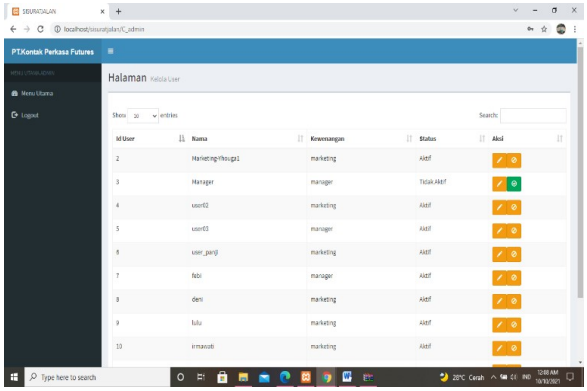

Figure 8. Main Menu Interface for Admin

Figure 8 illustrates the main menu interface for the admin, which includes employee data. Only the admin user can change the employee's status on this page.

c. Marketing Main Menu Interface

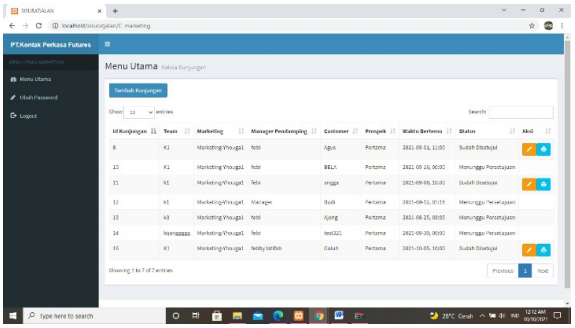

Figure 9. Marketing Main Menu Interface

Figure 9 depicts the main menu interface for marketing, which includes customer data. Only marketing personnel can submit visit schedules and visit reports on this page.

d. Manager Main Menu Interface

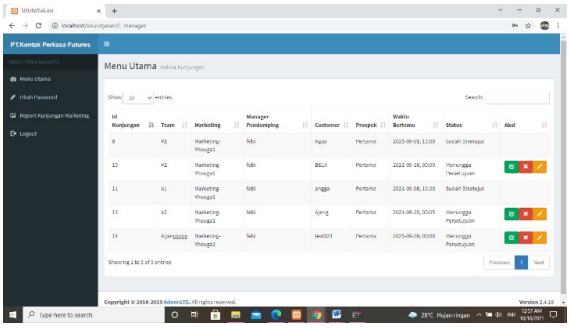

Figure 10. Manager Main Menu Interface

Figure 10 illustrates the main menu interface for the manager, which includes marketing visit data. Only managers can approve marketing visit schedules on this page.

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e. Visit Schedule Management Interface

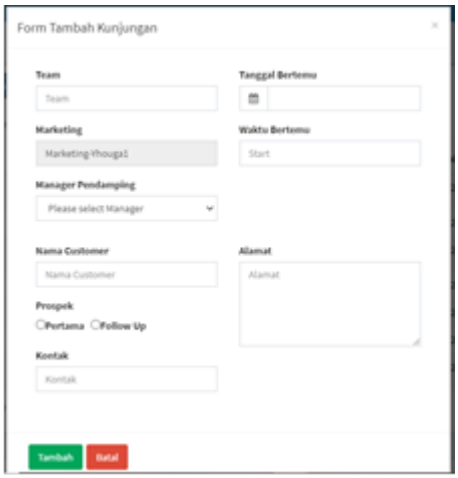


Figure 11. Visit Schedule Management Interface

Figure 11 depicts the visit schedule management interface, which includes a list of marketing visits. Only marketing personnel can manage visit schedules on this page.

f. Visit Report Schedule Management Interface

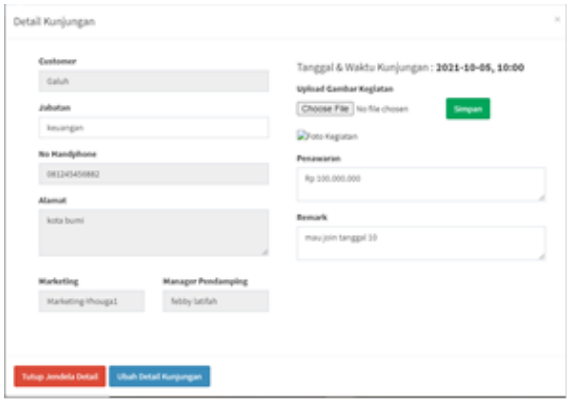


Figure 12. Visit Report Schedule Management Interface

Figure 12 illustrates the visit report management interface, which includes marketing visit report data. Only marketing personnel can manage visit reports on this page.

g. Marketing Visit Report Interface

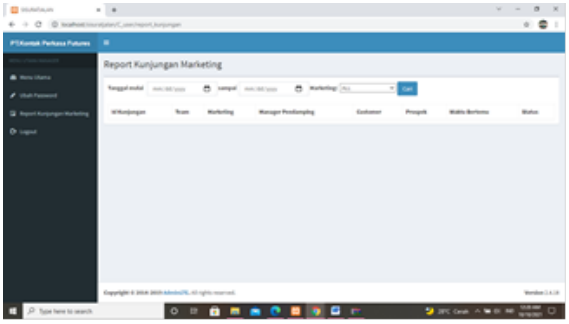


Figure 13. Marketing Visit Report Interface

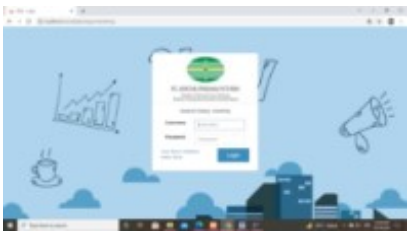
Figure 13 depicts the menu interface for reporting visit data, which includes marketing visit report data for a one-month period. Only managers can print marketing visit reports on this page.

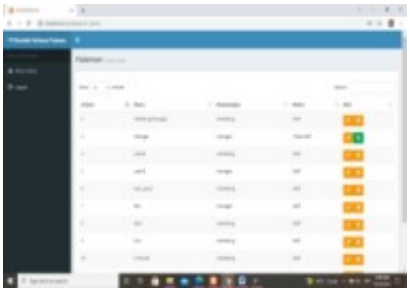
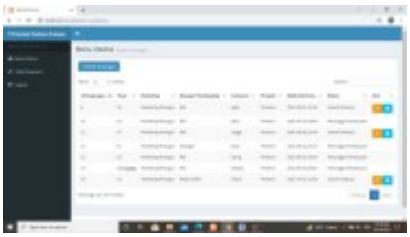
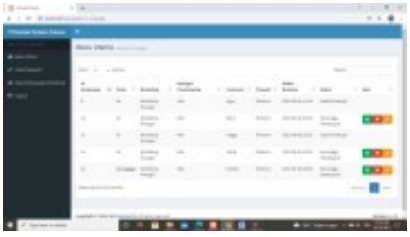
System Testing

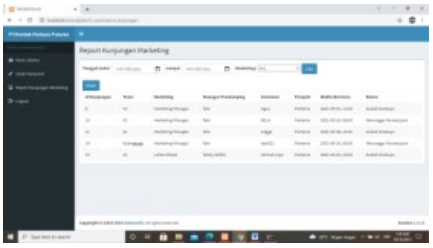
The table below shows the results of system testing using the Black Box method.

Black Box Testing [23], [24]

Tabel 1. Black Box Testing

No	Testing	Expected Results	Test Results	Conclusion
1	*Login*	The application displays a login form.	It displays a login input form 	Valid

2	Enter email and password.	The application displays the main menu for the admin.	It displays the main menu for the admin. 	Valid
3	Enter your email and password.	The application displays the main menu for marketing.	It displays the main menu for marketing. 	Valid
4	Enter your email and password.	The application displays the main menu for the manager.	Menampilkan men It displays the main menu for the manager. 	Valid
5	View visit request submissions.	The application displays the management of visit lists.	It displays the management of visit lists. 	Valid
6	View visit reports.	The application displays the management of visit reports.	It displays the management of visit reports. 	Valid

7	View marketing visit reports.	The application displays marketing visit reports.	It displays marketing visit reports. 	Valid

Based on the system design and specification that we have been made, we are hoped a web-based information system will have an impact on monitoring performance of marketing team employee. In addition, information system hopefuly can give some benefits such as operational efficiency, better decision-making, and also effective data processing and storage. Besides that, information system also improve collaboration and communication, customer satisfaction, moreover inventory and supply chain management [15].

4. CONCLUSION

Web-based information system for monitoring the performance report conducted at PT. Kontak Perkasa Futures regarding the issues related to employee performance reports in the marketing team play critical role. The development of the system can provide effective solution to the company. By implementing the system, numerous benefits are gained such as higher operational efficiency, better decision-making, and also more effective data processing and storage

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