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Design Systemof Monitoring Invoice Employee Financial in PT. AngkasaPura II

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Abstract:

PT. Angkasa Pura II is one of the State-Owned Enterprises engaged in the business of airport services and services related to airports in the region of western Indonesia. Effective information systems and accountability are needed by the company as a successful support and success of a plan that is desired by a company. Information is needed to improve the quality of services for the unit technician or customer. Financial information system monitoring bill still using manual systems, by using Microsoft Excel as a data storage medium, such that the need for the development of a computerized system for creating a productive performance. The analytical methods used using PIECES (Performance, Information, Economic, Control, and Efficiency, Service). Design method using UML (Unified Modeling Language), a programming language PHP, using a MySQL database, and using Macromedia Dreamweaver CS3 for web design and testing method using the Black Box Testing. With the development of the system is expected to be the future of PT Angkasa Pura II can improve the productivity performance by using the computerized system.

Keywords *— Design, Monitoring, financial invoice, online.*

I. INTRODUCTION

Information is one of the keys at this time, all activities require information, and it can also be said that all activities are required to produce information. To get and produce information, computers and technology are one of the most appropriate tools. Submission of information and data access is an information system that can improve company performance.

From the research conducted at PT. AngkasaPura II the process of monitoring employee financial bills that require complete and systematic data preparation is still done manually. Some of the problems faced in the process of monitoring financial bills still require a long data search process, the location of the file is not right, and can cause the billing file to disappear.

PT. AngkasaPura II is one of the State-Owned Enterprises that is engaged in the business of airport services and airport-related services in the West Indonesia region. In order to improve the performance of the company in the accounting and budget section, each technician unit (ST) or customer must provide the accounting department and budget for disbursing funds. The process of monitoring financial bills of employees of the technician / customer unit who are running at this time is already using a computer but the processing is still using a simple application (by using Microsoft Excel). So that the system used has not worked properly and optimally. With the need for this information system that is increasingly increasing, a good system is needed to facilitate all of the employee's financial bill monitoring processes.

II. RELATED WORK

In order to make it easier to understand the material related to the writing of scientific articles, the writer presents it simply as follows.

A. Monitoring

Monitoring is monitoring that can be explained as awareness about what you want to know, high-level monitoring is done in order to make measurements through time that shows movement towards the goal or away from it (Junaidi, 2010: 14).

Purpose of Monitoring:

1. Assess whether the activities carried out are in accordance with the plan.
2. Identify problems that arise so that they can be overcome immediately.
3. Assess whether the work patterns and management used are appropriate for achieving project objectives.
4. Find out the link between activities with the aim of gaining a measure of progress
5. Adjust activities with a changing environment, without deviating from the goal.

B. Invoice

Baridwan (2008: 123), "Claims are company claims for money, goods or services to other parties. But in accounting the notion of bills is usually used to show claims that will be repaid with money ".

Bills can arise from a variety of sources, but the largest amount usually arises from the sale of goods or services. The bills owned by the company can be divided into two groups, namely:

1. Bills that are not supported by written promises are called receivables.
2. Bills that are supported by written promises are called notes receivable.

C. Financial statements

Baridwan (2008: 17), "Financial statements are a summary of a recording process, a summary of financial transactions that occur during the financial year concerned. This financial report is made by management with the aim to account for the tasks assigned to him by the company owner. In addition, financial statements can also be used to fulfill other objectives, namely as a report to parties outside the company ".

III. RESEARCH METHOD

A. PIECES Analysis

The stages of analysis of a system or application are carried out before the design stages are carried out. The purpose of applying the analysis of a system is to find out the reasons why the system is needed, formulate the needs of the system to reduce excess resources and help plan scheduling of system formation, minimize distortions that may be contained in the system so that the functions contained in the system it works optimally. The analytical method used by researchers here is using the PIECES method, namely:

1. Performance

Performance or performance is an analysis of system capabilities and completing tasks well.

Table I. Performance Analys

Parameter	Hasil Analisa
Troughout	Penyajian Informasi yang dibutuhkan memerlukan waktu lama karena harus mencari dari banyak tagihan dan letak berkas yang menumpuk, dapat menyebabkan kesalahan posisi berkas yang kurang tepat. Pencarian data tagihan satuan teknisi/customer pembayaran membutuhkan waktu kurang lebih 2 menit pertagihan.
Respond Time	Waktu pencarian sangat lambat menggunakan komputer dengan *microsoft excel* dan buku catatan,Jika dengan sistem komputer maka pencarian dan pencatatan hanya membutuhkan waktu 30 detik setiap tagihan.

2. Information

Information is the most important commodity for an end user in a system in decision making. With a good information system, it will produce useful information and support in responding to problems and opportunities.

Table II. InformationAnalys

Parameter	Hasil Analisis
Akurat	Penyajian informasi masih sering terjadi kesalahan karena masih dilakukan dengan sistem konvensional sehingga rincian tagihan tidak ditampilkan secara detail.
Relevan	Penyajian informasi yang dhasilkan kurang relevan. Sehingga sistem yang tepat harus memberikan informasi untuk setiap bagian dan satuan teknisi/*customer*.
Tepat Waktu	Keterlambatan waktu dalam pencarian data untuk mengambil keputusan, sehingga keputusan yang diambil tidak sesuai dengan waktu yang ditentukan.

3. Economy

The current system is still conventional, in terms of the economics of the system that is currently still costing not a little every time it will record billing data, so that the system currently running is still less economical.

Table III. EconomyAnalys

Parameter	Hasil Analisis
Biaya	Mengeluarkan biaya banyak dalam pencatatannya karena melakukan pencatatan pada buku dan *microsoft excel*.

4. Control

Control in the system is very necessary, which is used to improve system performance, prevent or detect misuse or system errors and to ensure the security of data and information.

Table IV. ControlAnalys

Parameter	Hasil Analisis
Kontrol Sistem	Kontrol Sistem tagihan tidak ada, sehingga tidak dapat diketahui pembayaran tagihan yang telah dikeluarkan/dapat diambil oleh satuan teknisi/customer.

5. Efficiency

There is a difference between efficiency and economics. Economical deals with as little as possible the amount of resources used so as to generate profits, while efficiency relates to how existing resources can be used as well and as economically as possible with the most minimum waste / costs.

Table V. EfficiencyAnalys

Parameter	Hasil Analisis
Sumber Daya Biaya	Buku catatan, tinta dan stempel yang digunakan untuk pencatatan transaksi pembayaran terlalu berlebihan.
Sumber Daya Tenaga	Banyaknya satuan teknisi/customer yang mengurus tagihan keuangan setiap harinya sehingga tidak efisien sumber daya manusia.

6. Service

The services provided are very supportive in increasing profits or profits for the company.

Table VI. Performance Analys

Parameter	Hasil Analisis
Proses Layanan	Pelayanan terhadap satuan teknisi/customer mengenai tagihan yang ada mengalami ketidaknyamanan karena mengakibatkan satuan teknisi/*customer* tidak mengetahui kapan pembayaran itu akan dikeluarkan untuk keperluan satuan teknisi/*customer* ketika dana tersebut harus lebih cepat digunakan. Proses pemberian pelayanan kepada satuan teknisi/*customer* oleh para bagian akuntansi dan anggaran menjadi tidak baik karena setiap bagian lebih disibukkan pada proses pencarian data daripada proses pelayanan.

B. Design System in Use Case Diagram

The following is anEmployee Financial Bill Monitoring System.

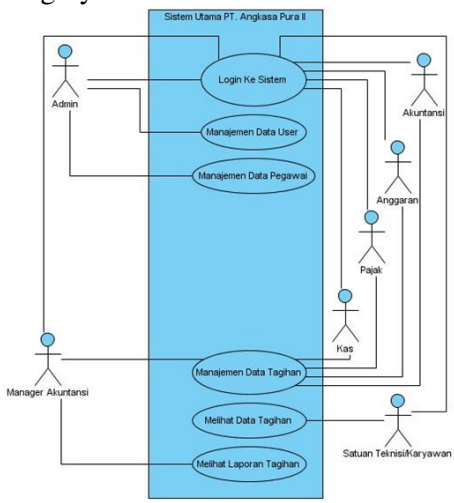

Fig 1. Case System Diagram Monitoring Financial Bills of Employees at PT. AngkasaPura II

Can be explained in figure 1 Use Case the proposed diagram is:

1. 1 system that covers all activities in the process of monitoring employee financial bills
2. 7 actors who carry out activities, namely the Technician / Customer Unit, Admin, Accounting, Budget, Tax, Cash and Accounting Manager.

3. There are 6 (six) use cases carried out by these actors, namely: Login, User Data, Employee Data, Bill Data, View Bill Data, and View Bill Reports.

C. Design System in Sequence Diagram

a. The following is a diagram of Proposed Sequence Diagram for Admin.

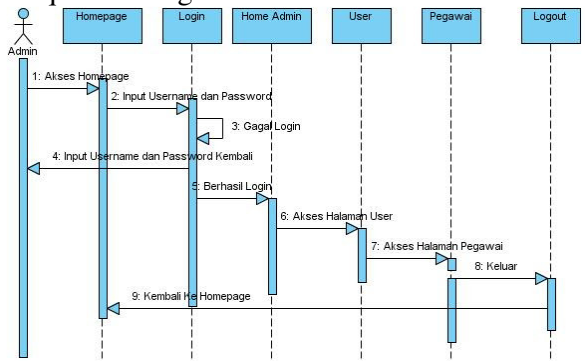

Fig 2. Proposed Sequence Diagram for Admin

Based on figure 2 Proposed Sequence Diagram there are:

1. 6 LifeLine interfaces that interact with each other.
2. 1 actor who conducts activities namely Admin.
3. 9 (nine) messages starting from the display of the homepage consisting of employee logins and logins, if you want to log in, you have to enter a username and password, if it fails then you have to enter your username and password again and if successful, the admin page will appear, then the admin can access data user and can access data. When it's finished, logout.

b. The following is a diagram of proposed Sequence Diagrams for Accounting, Budget, Tax, Cash, Accounting Manager and Technician or Customer Unit

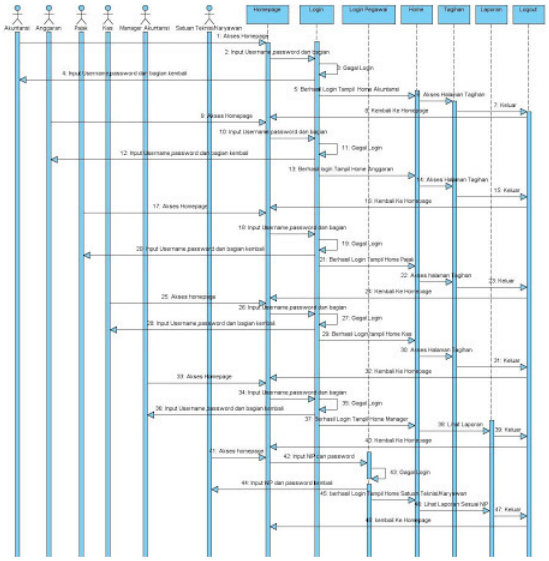

Fig 3. Proposed Sequence Diagrams for Accounting

Based on the figure 3 Proposed Equity Diagram there are:

1. 11 LifeLine interfaces that interact with each other.
2. 6 actors who carry out activities namely Accounting, Budget, Tax, Cash, Accounting Manager and Technician / Customer Unit.
3. 48 (forty nine) messages starting from the display of the homepage consisting of employee logins and logins, if you want to log in, you have to enter a username and password, if it fails then you must enter the username password again and if successful then a page will appear according to the home page section login, if it's the Accounting section. Budget, Tax, and Cash login will display the billing data page will display Input billing data, Edit billing data and delete billing data, if the accounting manager login it will display the billing data report page and if the technician / customer login unit selects employee login input NIP and Password then the page will display the billing data according to the NIP. When it's finished, logout.

D. Design System in Activity Diagram

a. The following is a diagram of Proposed Activity Diagram for Admin.

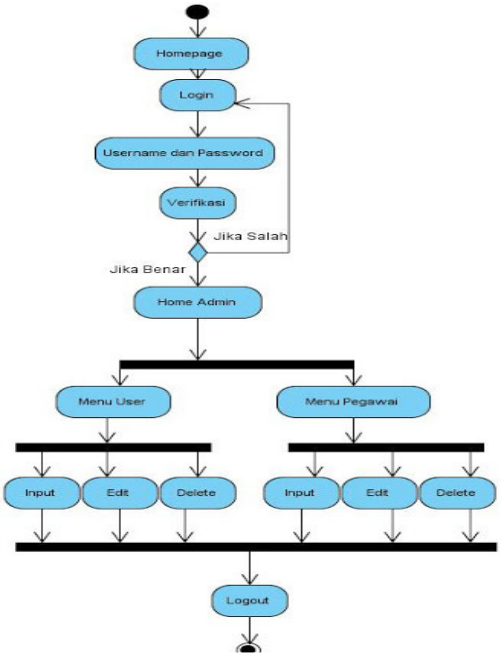

Fig 4. Proposed Activity Diagram for Admin

Based on figure 4 Proposed Activity Diagram there are:

1. 1 (one) initial node as the starting object.
2. 1 (one) actor who can carry out activities namely Admin.
3. 14 (fourteen) action states that start from the display of the homepage consisting of a list of employee logins and logins, if you want to log in, you must verify the password, if it works then home admin will appear, and the user data menu will appear, input menu, edit, and delete user data, and display employee data menus that have input, edit and delete employee data menus. When it's finished, logout.
4. 1 activity final node explains that object is formed.

b. The following is a diagram of proposed Activity Diagrams for Accounting, Budget, Tax, Cash, Accounting Manager and Technician or Customer Unit

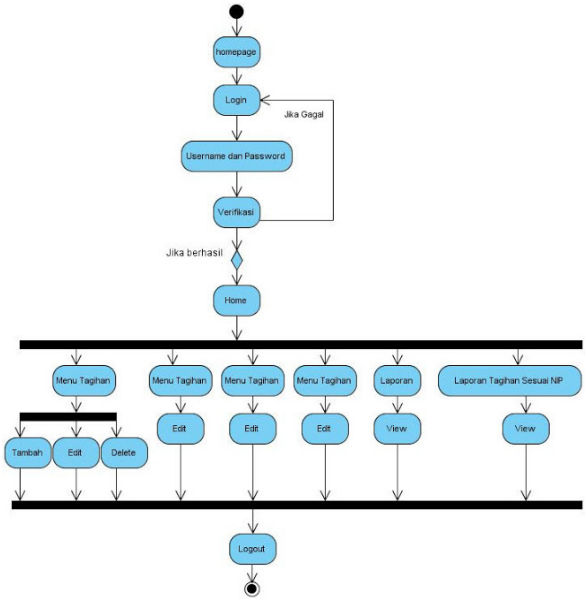

Fig 5.Proposed Activity Diagrams for Accounting

Based on Figure 5 the Proposed Activity Diagram there are:

1. 1 initial node as starting object.
2. 6 (six) actors who can carry out activities namely Accounting, Budget, Tax, Cash, Accounting Manager and Technician or Customer Unit.
3. 20 actions start from the display of the homepage which consists of a list of employee logins and logins, if you want to log in, you have to enter a username and password, if it fails, you must enter your username and password again and if successful it will appear if the accounting section displays home and billing data menu will display added billing data, Edit billing data and delete billing data, if part of the budget, tax and cash will display the home and billing data menu and will display edit billing data. Ifthe accounting manager login it will display the billing data billing report page and if the unit technician / customer login will display the billing data report according to NIP and logout.
4. 1 activity final node explains that object is formed.

E. The proposed State Machine Diagram

a. The following is a diagram of Proposed State Machine Diagram for Admin.

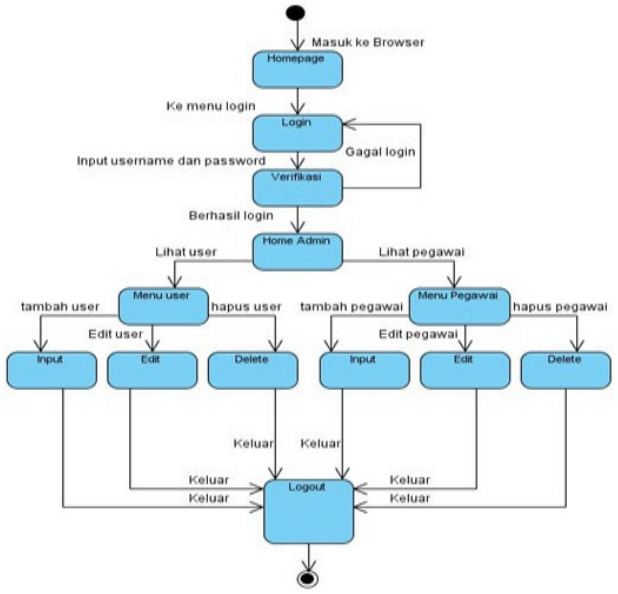

Fig 6. Proposed State Machine Diagram for Admin

Based on Figure 6. The proposed State Machine diagram is:

1. 1 Initial Pseudo State, object that begins
2. 13 State, the value of the attribute and value of a link at a certain time, which is owned by an object.
3. 1 final state, object is formed.

b. The following is a diagram of proposed Activity Diagrams for Accounting, Budget, Tax, Cash, Accounting Manager and Technician or Customer Unit

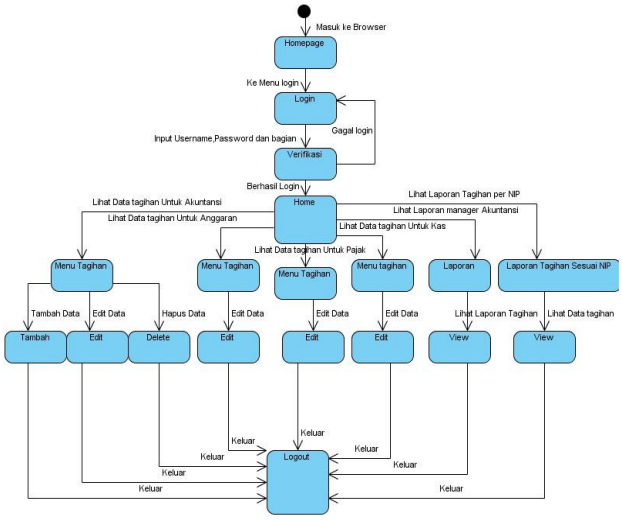

Fig 7.Proposed Activity Diagrams for Accounting

Based on Figure 4.7. The proposed State Machine diagram is:

1. 1 Initial Pseudo State, object that begins.
2. 19 State, the value of the attribute and value of a link at a certain time, which is owned by an object.
3. 1 final state, object is formed and destroyed.

F. The proposed Class Diagram

The following is an Employee Financial Bill Monitoring System.

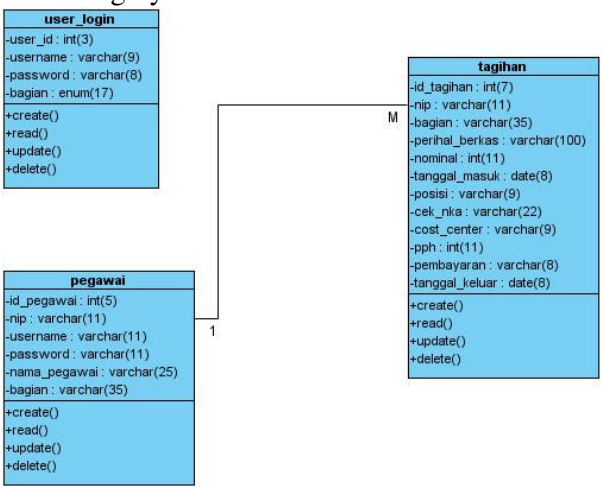

Fig 8. Class Diagram Monitoring System Bill Finance

Based on Figure 8 the proposed Class Diagram is:

1. 3 Class, a set of objects that share the same attributes and operations.
2. 2 multiplicity, the relationship between objects one with other objects that have value.

IV. RESULT AND DISCUSSION

A. Implementation System

This stage is a clear picture of the complete build design for the users and website under study, as well as meeting the needs of the system users. The following is a display of the design of the Employee Financial Bill Monitoring system that has been made as follows:

Fig 9.Display of the Main Menu

The login menu display is used so that we get access to run menus in the main menu. This is done so that people cannot access this system application. So that the confidentiality menu form is maintained properly. Equipped with the first level of user level, the user can access all menus in the system.

Fig 10. Login System Web

Fig 11. Display of Home

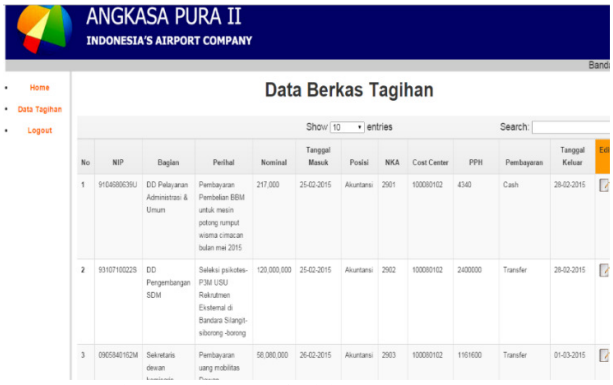

Fig 12. Display of Bill Menu on Cash

Fig 13. Display Employee Report

V. CONCLUSIONS

Based on the results of analysis of existing problems, especially regarding monitoring financial bills at PT. AngkasaPura II is as follows:

1. The current system has not been able to provide information on financial bills quickly, because it still uses a manual financial billing system with Microsoft Excel and books for expeditions or records of each part so that there are often incorrect file layout errors and long data searches, due to monitoring financial bills at PT. AngkasaPura II still uses Microsoft Excel and books so the current system is not optimal, the data presented is not complete and detailed.
2. Based on the results of the analysis, the design of information systems monitoring financial bills is done through several stages such as designing Use Case Diagrams, Activity Diagrams, Sequence Diagrams, State Diagrams, and Class Diagrams that are created using Visual Paradigm for UML 6.4 software. the author makes the database needed by using the MySQL application. Then the system is created using the PHP programming language with Adobe Dreamweaver CS5 software. The results of this application design help PT. AngkasaPura II in carrying out monitoring of financial bills of employees / technician units, including a faster input system, faster data search with details, as well as data stored securely in the database so that there is no loss of data and use of books for the record.
3. The information system for monitoring the financial bills of employees / technicians is built through database design and application design,

MySQL is used to build a database that serves to hold data with a table structure that is appropriate, while designing the application as a user interface, so that it can provide fast and accurate information.

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