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Application Project Management Charter Using a Method of Batch Processing Based on Mobile Apps (Study Case: PT. Netpolitan Cipta Cakrabuana)

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Abstract**—** *PT. Netpolitan Cipta Cakrabuana is one of the companies engaged in the making of e-Learning services and also as consultants. As the development of information technology makes many companies create E-Learning which resulted in the number of customers and also projects to be completed on time. Project management is the process of completing a project by controlling the best possible resources to achieve a set goal and a timely manner. Resource limitations are one of the challenges that how all projects are done following their quality. The utilization of spreadsheet applications to record phases, team members involved until the estimates from projects to completion in project management are assessed less than maximum, as they could result in the improper allocation of resources, and updates that not automatically so that the information from project management becomes improper. The purpose of this research is to design and analyze the project management information system to manage projects and to help achieve the success of the project with good quality and the right time and following the business process in PT. Netpolitan Cipta Cakrabuana. Another urgency in this study is to provide information from the systems designed as well as advanced research from previous studies that have not been perfect. The method used in this research is to use Project Charter with Batch Processing. This method is chosen because it provides a clear direction and focus to the team about the goals that you want to accomplish in a project. The system will be created in the form of a mobile apps platform for application to be done anywhere and anytime.*

Keywords**—** *Project management, project charter, batch processing, information system design.*

I. INTRODUCTION

PT. Netpolitan Cipta Cakrabuana is one of the companies engaged in the manufacture of e-Learning services and also as consultants. As the development of information technology makes many companies make E-Learning as a learning medium for its employees that resulted in the number of clients and also projects to be completed on time. At this time, the resources owned by PT. Netpolitan Cipta Cakrabuana amounted to 18 people (4 Instructional Designer, 5 Graphic Designer, 4 Animator, 2 Programmer and 3 Project Manager). To complete a project it takes ± 1.5 months for 1 hour of learning, and in general, each client makes a project ranging from 2-3 hours of learning. PT. Netpolitan Cipta Cakrabuana has been working with more than 50 large companies in each sector, including 24 Financial and Banking Sector, 20 Government, Public Sector and Others, and 15 Manufacturer, Telco and 2019 Consumer Goods. From the list of companies of various fields, every year there is always a demand to create learning modules from each client at least the shortest duration submitted is 1 hour of learning, as well as adding requests from new clients that May reach 5 hours of learning so that the project will be more and more time-dense. In practice often changes in activities in a short time so that it can result in discrepancies in planned planning at the beginning of the project. In addition, the progress of the project work is not transparent, so often the completion of projects that should be shown quickly and actually become and often error updates progress data from the project E-Learning or LMS (Learning Management System). Of the many problems, there should be a system that can be used to hold, monitor, and manage the planning of an ongoing project in an actual way. Therefore, the system can answer the problems that occur at PT. Netpolitan Cipta Cakrabuana. PT. Quantum Leap is necessary to socialize all employees to use the project management Information system to be implemented [1]. The results of another study conducted at PT. Sinar Iswana Teknik with the existence of the project management information System at PT. Sinar Iswana Teknik is expected to provide convenience for managers regarding the development of a project, facilitating staff Related to the needs required during the project, and can assist the employer in deciding if problems were found in the course of the project [2]. The focus of this research is to design and analyze project management information systems to manage projects and to assist in achieving the success of the project with good quality and accurate timing and following the business processes at PT. Netpolitan Cipta Cakrabuana. The methods used in this research are Project Charter with Batch Processing and assisted with UML (Unified Modeling Language) as tools for architecture in software development.

Based on the background and the problems that will be solved in this study are:

1. How to design create an application that can handle problems in PT. Netpolitan Cipta Cakrabuana in making scheduling & update the development of a project programmatically?
2. How to create a project management information system application that can be used to monitor teamwork in a project?

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There are several limitations of the topics raised are as follows:

1. Discusses the analysis and design of a project charter management Information system using batch processing.
2. Using the UML Diagram in designing applications includes the Use Case Diagram, Activity Diagram and Class diagram and Diagram Sequence.
3. Presenting the Design Interface or Mockup of any required page Management Information System Project Charter uses a batch processing based on mobile apps.
4. The system will be presented in the form of a mobile platform (.apk) with the application's 50% record and not yet available in the Play Store or AppStore.
5. The system will be created using the Ionic 4 framework with the AngularJS programming language.

The objectives of the study are:

1. To minimize the delay of a project due to the absence of a system that can be used for scheduling or renewal of developments of a project that can be used by project managers, implementing teams and stakeholders.
2. To minimize the delay and erroneous portion of projects done by each team because it can cause other projects to become obstructed within the company.

II. Literature Study

A. Analysis

The analysis is the steps in solving information into smaller components to make it easy to understand. The analysis will at least form a fixed or consistent pattern so that the results can be re-learned briefly and clearly [3].

B. Planning

Design is the process of planning and creating a basic sketch or collection of activities from separate elements into a single entity that functions wholly. The design of a system is described through the form of a flowchart, which is a form of graphic that is commonly used to demonstrate the processes of a system [5]. System analysis and design is the first step in the development of the system to know the problem that can be solved by the system to be built [6].

C. Information System

An information system is a system in the organization that assists in the needs of processing daily transactions that support the functioning of organizational operations in a managerial [7]. Information System is a working system whose activities are specific to processing (manipulating, displaying, capturing, storing) information. The information system is the set of sub-sub systems both physically and non-physically interconnected with each other and moves to achieve one goal i.e. doing data processing into useful information [8].

D. Project Management

Project management is the process of planning, managing, utilization and controlling the resources available to complete a pre-defined project. The main objective of project management is that the ongoing project can be completed according to the agreement both the time of work and the quality produced. Everything in a project needs to be agreed between the executive and stakeholders, it is very useful for the project to be completed on time [9].

E. Project Charter

Project Charter is a document specially created by a sponsor or an initiator project that formally has the authority over a project as well as authorizes the project manager to use resources against Project activities. Project Charter also helps to control the changes that occur during the project. The project charter can be defined as a basis as well as a formal interpretation of a project [10].

F. Batch Processing

Batch Processing is a model of data processing by collecting data first, then grouping its data into specific groups. Each batch will be given the identity and information about the data in the batch that will then be processed when it has passed the grouping stage to a group. The working process of batch processing is to do the hashing of a transaction, then done validation, inserted into the transaction file with other transactions and then will be entered into the system periodically. Subsequent transaction files can be validated which is then used to update the corresponding master file [11].

G. UML (Unified Modeling Language)

Unified Modeling Language (UML) is a tool used to describe and document the results of an analysis and a display or design that contains the syntax in modeling the system visually, UML modeling is also used to determine a Systems that are intertwined with objects [12]. UML is also a modeling language system or software with object-oriented analysis. There are eight commonly used diagram shapes for building a system i.e. Use case diagram, Class diagram, Statechart diagram, Activity diagram, Sequence diagram, Collaboration diagram, Component diagram, and Deployment diagram. The function and use of each diagram vary but all are interconnected to each other so that if in the development of a system there are eight diagrams, the system has the analysis and design that Very strong [13].

III. Research Methods

A. Data Collection Techniques

In the research, there are several ways to collect data. The following data collection techniques are used:

1. Interview, conduct question and answer to interested parties to collect the required data.
2. Observation, direct observation of the condition of the system and the flow of business in PT. Netpolitan Cipta Cakrabuana.
3. Literature study, studying books and journals that have linkages and support research.

B. Research Flow Chart

In this study there are the following main stages:

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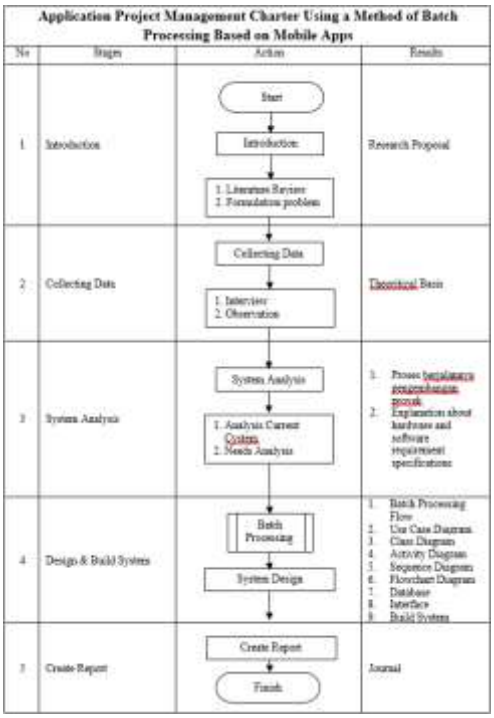

Fig. 3.1. Flow diagram research

IV. Results and Discussion

A. Batch Process Flow Processing

In the Batch Processing stage used as a method of research development There are the following processes:

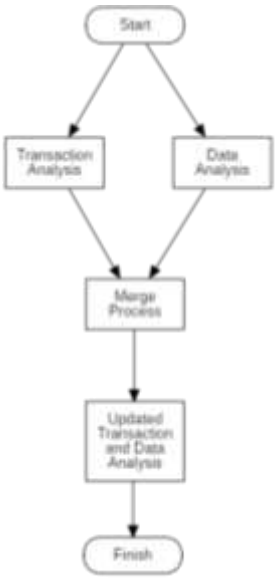

Fig. 4.1. Batch Process Flow Processing

1. Transaction analysis proses and analysis data

At the beginning of the development of the system using Batch Processing the thing that needs to be done is to analyze the transaction that will be used as a feature in the system. It is also accompanied by analyzing the data that will be entered or fields in the database that are later useful to support the features of the transaction.

2. Merge process

After analysis of the transactions and data that will be entered into the system then it will be merged against both of these matters. This is done as a parameter in knowing whether the transactions on the system are following the data required or not.

3. Updated transaction process and analysis data

The final stage of Batch Processing is to update or update to the analysis of transactions and data analysis to later enter the next process of system design concerning Batch Processing for analysis on Transactions and data analysis, making the system design easier.

B. Analysis of running systems

Fig. 4.2. Running system flow map

C. PIECES Analysis

Analysis of problems on the system that have been running can be done by analyzing the following points:

- *Performance*
- *Information*
- *Economics*
- *Control*
- *Efficiency*
- *Service*

D. Proposed System Design

1. Use Case Diagram proposed

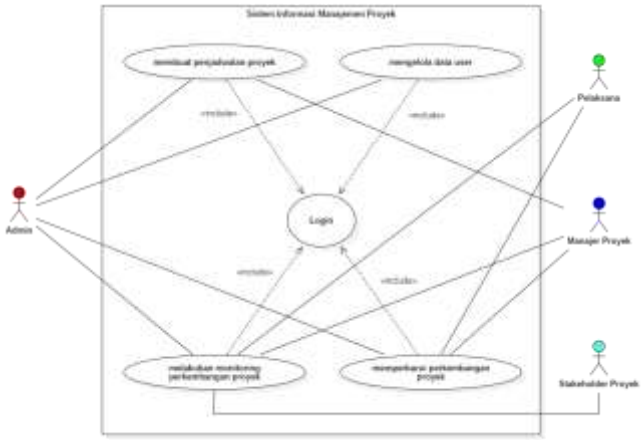

Fig. 4.3. Use a proposed diagram image

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The image above depicts three actors who interact directly with the case that makes up the system. The actors are admins, project managers, the executor (internal teams), and Stakeholder projects (clients).

2. Class diagram proposed

Fig. 4.4. Class diagram proposed

3. User Interface Design Proposed

Fig. 4.5. User interface profile page design proposed

Fig. 4.6. User interface edit profile page design proposed

4. Display User Interface

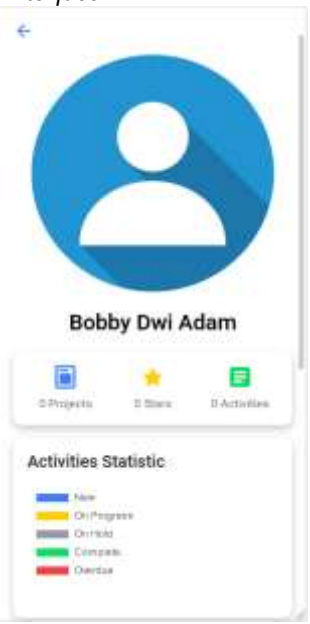

Fig. 4.7. User interface profile user

Fig. 4.8. User interface edit profile

V. CONCLUSION

The application of the Project Management Information System at PT. Netpolitan Cipta Cakrabuana, it can be concluded that:

1. This system can be used by PT. Netpolitan Cipta Cakrabuana to perform scheduling up to update the progress of the project systematically and can perform the project time estimation properly.
2. The system can be used to monitor ongoing projects so that each executor is well tracked on the project portion and project progress.

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