Prototype Planning and Technician Job Report System at PT Visionet Data Internasional

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Abstract

PT Visionet Data International is a subsidiary of PT. Multipolar tbk, based in lippo Cyber Park, and is engaged in outsourcing IT service providers, serving data center operational services and a company's daily IT operational services (IT Help desk). As a company engaged in services, PT Visionet Data International always strives to run its projects optimally and always maintain the reliability and scalability of computerized infrastructure that supports the customer's main business activities. The prototype planning, control and technician report system is an information system for scheduling, monitoring and reporting the job of technicians in the customer. In this study, researchers conducted an analysis and design of a technician job report system at PT. Data International Data Tangerang. The research method used was interview, survey and literature study methods. The system design process uses UML and the application is developed using PHP. The results of this study are information systems that can improve the services provided by PT. Visionet International Data to customers.

Keywords — *Prototype, IT Outsourcing, Technical Support, Technical Report*

1. INTRODUCTION

PT. Visionet Data Internasional is a company engaged in IT Support that collaborates with several large companies in the field of asset stock taking services. To find out the condition of the assets at the time of taking the company stock-taking, it is supported by a team of certified technicians (SATS) that are spread across several company branches. SATS jobs based on the schedule plan made by the project manager. Every day, every SATS is obliged to see, select and report the daily schedule plan in the morning and report the job done the next day to the project admin. To simplify the reporting activities carried out by SATS, it is necessary to develop a planning information system and job reports. A system is a relationship between one unit and another which is interconnected with one another and cannot be separated and leads to a single unit in order to achieve predetermined goals [1]. Information systems and systems are parts that are interconnected with one another to produce useful information / data for users according to their use [2]. The use of computer-based information technology is expected to make all data recording jobs can be done more neatly, quickly and accurately [3]. Base on these definitions, information systems and systems can be defined as things that are interconnected with one another which ultimately produce information / data that is useful for the right person according to its designation. A job schedule is a process of preparing a business or activity to be carried out systematically and logically to achieve a predetermined goal by the leadership. To get an effective and efficient job schedule, we need a computer-based information system that can process data quickly and accurately.

Currently the reporting process uses a semi-computerized method whereby the reporting process is carried out using the MS Excel application that is inputted manually by the reporting staff based on a written report from a technician, and management has difficulty if it wants to see the recapitulation of the technician's report data periodically in a certain period, reports can only be presented in the form of weekly reports, monthly reports are made at the end of the month. In addition, the reporting of technician activities using semi-computerized methods often results in

data entry errors due to human error. The research carried out aims to solve how to make a computerized system prototype for the process of entering and managing data from a technician's daily report to a daily recapitulation report and designing a system that can be developed into an integrated system to produce reports according to user and management needs. The system prototype developed in this study is expected to improve the quality of services provided by the company as an IT outsourcing company. The system being developed is also expected to be a tool for process control, because quality data input can be used to identify problems and provide concrete suggestions on preventive actions taken by management .

2. RESEARCH METHODS

2.1   Data Collection Methods

This study uses the method of observation, interviews and literature study in the context of the process of collecting data and information.
a.   Observation Method
    The activity carried out by researchers was to make direct observations on the profile of the organization and the research object, namely PT Visionet International in the city of Tangerang.
b.   Interview Method
    The activity carried out by the researcher was to prepare a list of questions related to the daily activities of the PT Visionet International SATS team.
c.   Literature Study Method
    Activities undertaken by researchers are collecting data by studying, researching, and reading books and journals related to planning information systems and reports on job results.

2.2   System Design & Development Methods

System design in general can provide an overview of the system components to be developed, thus helping the system development process [4]. Prototype planning information systems and reports of job developed using object-oriented design methods and system development using the prototype method. Unified Modeling Language (UML) is a standard language for visualizing, specifying, constructing and documenting a software. The aim of UML is to provide a general vocabulary of object-based terms and diagramming techniques that are rich enough to model any systems development project from analysis to design [5]. The development model can also be said to be an object-oriented analysis, focused on the definition of classes / parts of the process and how to collaborate with each other so as to cause the effect of meeting customer needs [1].

Researchers chose to use the prototype model system development in building information systems planning and job report in this study because the prototype model is a structured development model, simple and suitable development model for developing a new system for the first time. The prototype model system development is also a system development model that is quite good to use to solve misunderstandings between users and the technical team developing application systems (systems analysts and programmers) due to the lack of ability to convey or define their needs. An illustration of the development of a prototype model system can be seen in Figure 1:
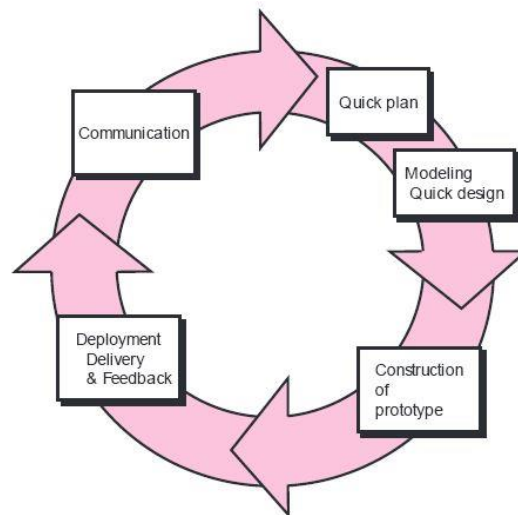
Figure 1. Development of a prototype model system [6]

The development of a computer-based information system can use a prototype model if it has the following conditions [6] [7]:
1. The user definition is general, the user does not know exactly what he wants, the user definition is not detailed, the user does not know exactly what and how the system inputs, processes and outputs are built.
2. Developers feel uncertain about the choice of algorithm to be used, how the system environment will be developed and the nature and characteristics of the system interface.
3. There is uncertainty on the part of the user about what he wants.
4. There is uncertainty on the part of the developer about what needs to be done.

3. RESULTS AND DISCUSSION

System analysis is a process/stage carried out by a system developer in the development of a computerized system to be able to meet all needs, solve problems or to increase the efficiency and effectiveness of user work.

Researchers use the elicitation method to map all the needs so that what the user needs can be met by the system. All user needs are then designed using UML (Unified Modeling Language) which is a standardized modeling language consisting of an integrated set of diagrams, developed.

3.1   Elicitation of User Requirements

Elicitation is a design based on a new system that is desired by the management concerned and the system developer is able to execute, obtained through the interview method and is usually carried out in three stages [8].

In designing and developing a new system that the user needs, the researcher uses a tool in the form of an elicitation table where the results of stage III elicitation can be seen in Figure 5 below. Phase III elicitation is the result of elicitation phase I and stage II elicitation which is carried out by eliminating requirements in the MDI method (Mandatory, Desirable, Inessential) to be classified using the TOE method (Technical, Operational, Economic).

The TOE method is grouped into several options:
a. High (H)   : Important need but difficult to develop, this need should be eliminated.
b. Middle (M)   : Important needs and can be done with optimal effort.
c. Low (L)   : Important requirements and easy to do with minimal effort.

Table 1. Elicitation III Table

	Functional	T			O			E		
	Users Need Analysis									
NO	**PT. Visionet Data Internasional Management needs a Computerized System That Can:**	L	M	H	L	M	H	L	M	H
1.	Displays the login menu by entering the user name, password, position (PM, SATS, DSN Admin, Technician, All Manager)		√			√			√	
2.	Displays the main display menu for the User		√			√			√	
3.	Select Customer Project (except technicians)		√			√			√	
4.	Uploading excel into a database for the Plan Schedule		√			√			√	
5.	SATS fills in the technician list for the project based on Service Points		√			√			√	
6.	Create Real Schedule		√			√			√	
7.	Technicians can change the Schedule with SATS and DSN Admin approval		√			√			√	
8.	All Managers can view data plan Schedule with Real Schedule		√			√			√	
9.	Admin can match the data plan Schedule with the Real Schedule		√			√			√	
10.	Admin makes the Final Schedule		√			√			√	
11.	PM and All Managers can see the Final Schedule		√			√			√	
12.	The technician makes a report on the work at that location		√			√			√	
13.	Admin creates a Progress Report Project		√			√			√	
14.	Admin Create Report Summary Project		√			√			√	
15.	PM and All Managers can see the Summary Project		√			√			√	

3.2   UML Design

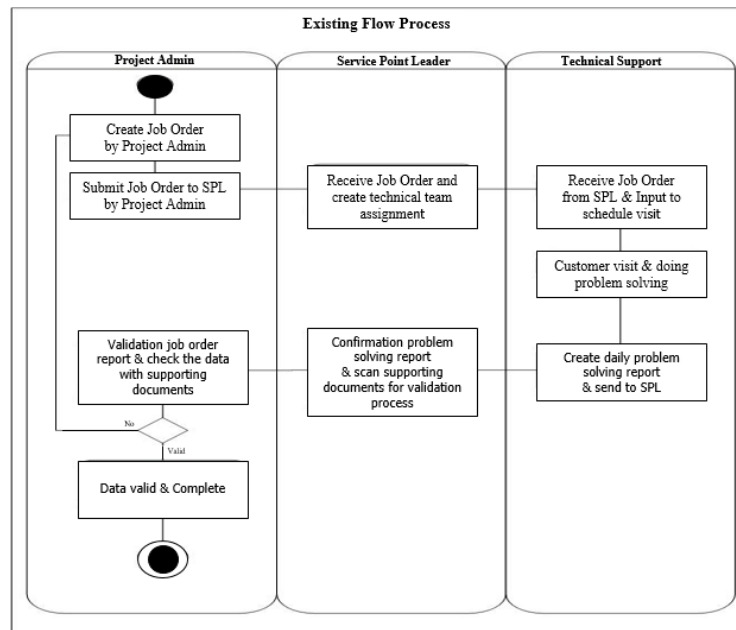a.   *Flow Process Of The Current System*

Figure 2. Existing Flow Process

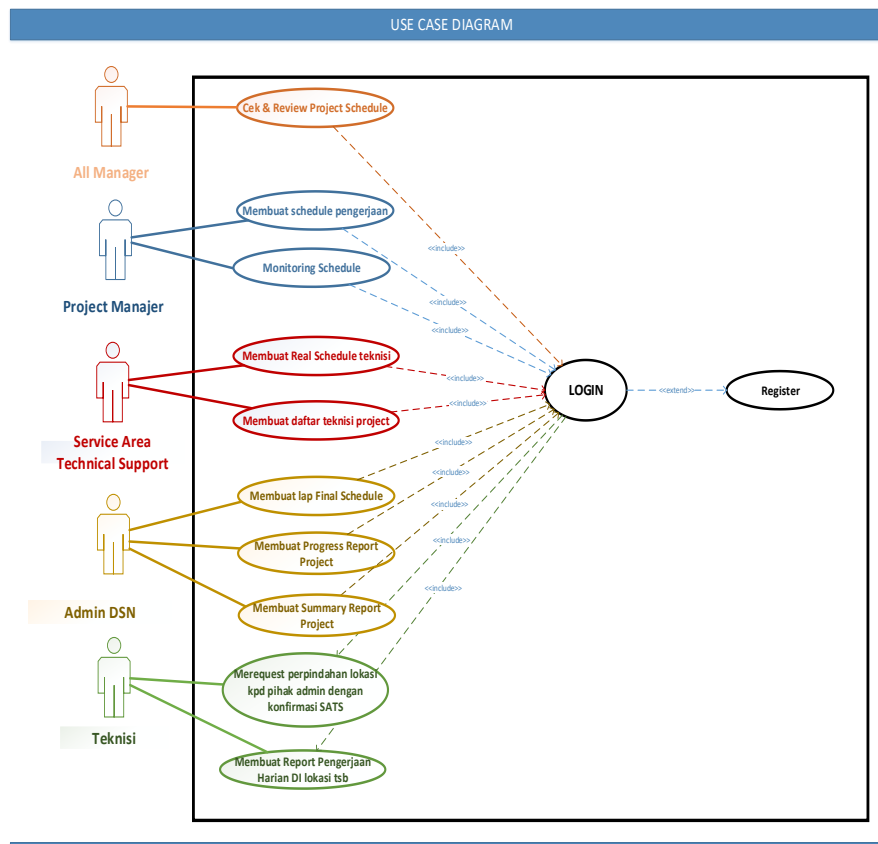b.   *Proposed System Use case Diagram*

Figure 3. Proposed System Use Case Diagram

Detailed information on the proposed use case diagram can be seen in table 1 below:

Table 2. Use Case Diagram Description

| No	Actor	Description	Use Case
1	Project Manager	Project manager is a person in charge of making project plans	Monitoring Project SLA
2	Project Admin	Project admin is a staff in charge of distributing the activities in the project plan to the service point and making project recapitulation reports	Create Job Order, Cancel Job Order, Validating Job Order, Monitoring Project SLA
3	Service Point Leader	Service point leaders are staff who are in charge and responsible for distributing activities in the project plan to the technical support staff at the service point	Assign Technical Support, Reject Job Order, Print BAST report, Confirm Job Order
4	Technical Support	It is the technician who is responsible for running and solving all technical problems according to the job order given by SPL	Print BAST report, Upload BAST

c. *Activity Diagram*
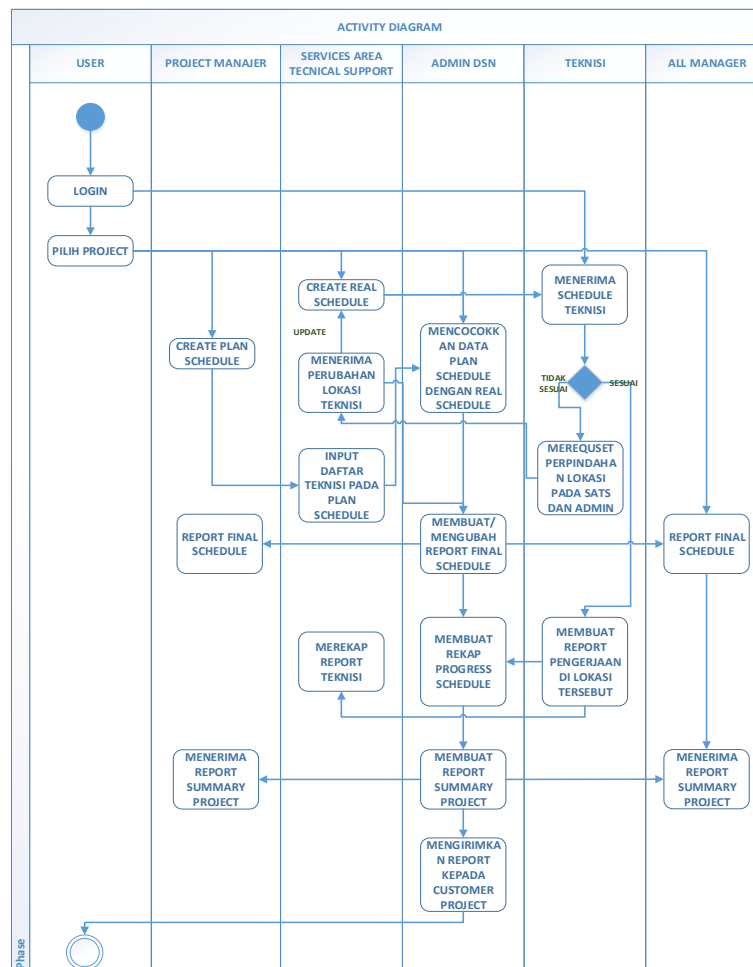
Figure 4. Activity Diagram

d. Sequence Diagram
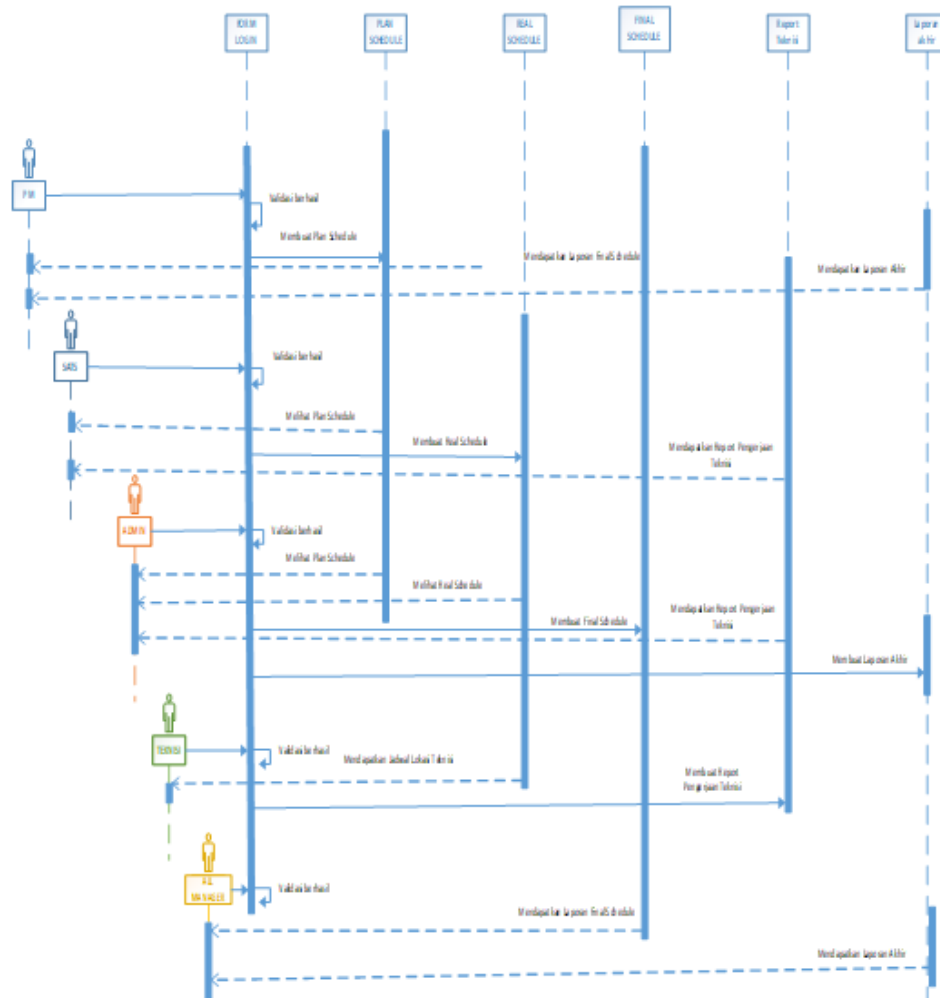

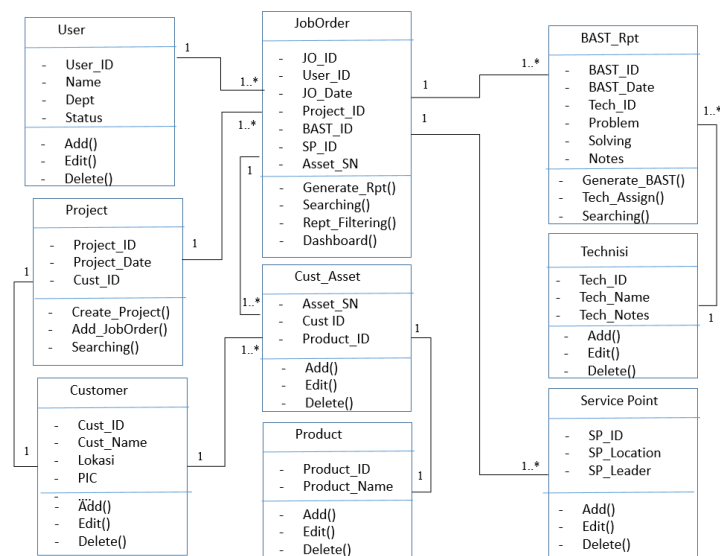**Figure 5.** Sequence Diagram

e. Class Diagram

Figure 6. Proposed System Class Diagram
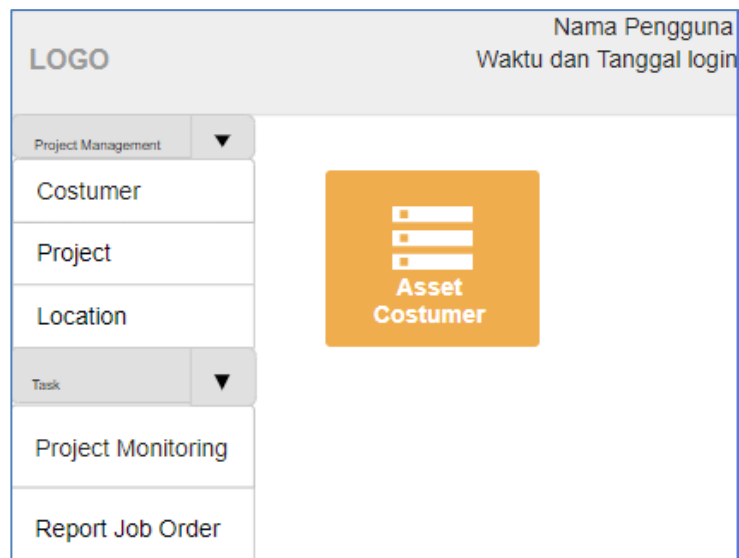
2.3   Prototype System Design

Figure 7. Main Menu

Figure 7 is the display of the system's main menu being developed, in that menu it appears that in order to enter the system the user must already have a user name and password registered in the system.
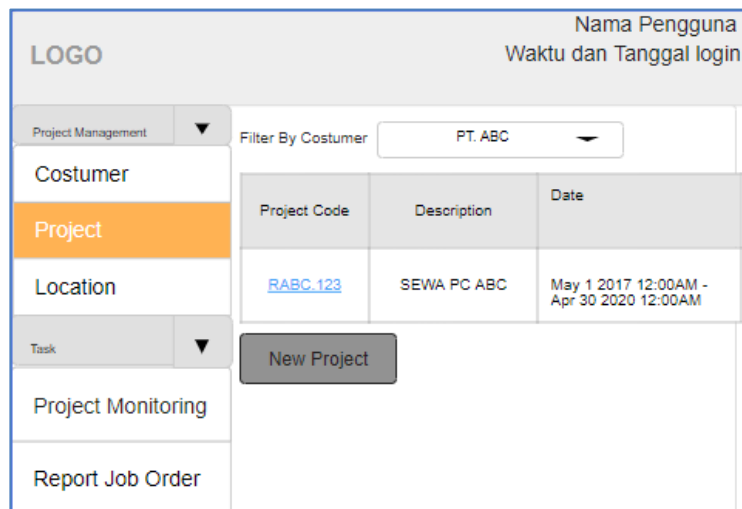

Figure 8. Schedule & Monitoring SATS Menu

Figure 8 is a display of the schedule menu and monitoring of projects owned by the company, this menu is a menu that can be accessed by someone who has access rights as a project manager. In this menu, a project manager can create projects and monitor ongoing projects with up-to-date, so that they can quickly and precisely take the steps needed if needed.

Figure 9. Activity SATS Menu

Figure 9 is a menu display of the work schedule that must be done by a SATS (Service Area Technical Support), this menu allows a SATS to quickly find out what work to do today. This menu also allows the Project Admin to quickly monitor the status of work carried out by the SATS, so that the project admin can quickly and precisely generate reports on the summary of work performed by all SATS, to be submitted to the Project Manager.

Figure 10. Final Activity Status SATS Menu

Figure 10 is the Final Activity Status SATS menu display which displays a list of work statuses that have been carried out by SATS, in this menu SATS can upload work handover documents (BAST) and the project admin can download these documents to be validated with existing data.

Figure 11. Project Reporting

Figure 11 is the Project Reporting menu display, this menu is a menu that can be used by project admins, project managers and all company managers associated with the project to print the final reports of projects and services provided by the company to customers. The printing process can be done according to user requirements, by date or by customer group.

4. CONCLUSION

Based on the results of data collection, data processing and development of the Prototype Planning and Technician Job Report System at PT Visionet Data Internasional, the researchers concluded:

1. Development of a planning information system prototype and job reports produced in this study have been able to assist the process of making and planning the job schedule of the technical support team.
2. With the resulting system prototype, the project admin can more quickly receive information on the results of SATS activities, so they can quickly create and submit reports to the project manager, so that the project manager can quickly decide on strategic steps from the project.
3. Fast and accurate service information will be able to help the company continue to improve service to customers, so that the company can continue to improve the customer satisfaction index.

5. SUGGESTED

Suggestions that can be given relating to the continuation of the research conducted by researchers include:

1. The system being developed is still a system prototype and still needs further development in order to have more complete features as a system that manages project implementation.
2. We recommend that the system also be developed into an android application to make it easier for users, especially SATS who are in the field to upload reports of work required by management.

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