Integration Facility Management: Interface Coordination in Process Management

Dimas Indra Laksmana †, Maranatha Wijayaningtyas ††, Sri Indriani †††, Kiswandono†††

indra@lecturer.itn.ac.id

† Industrial Engineering. Postgraduate Program. National Institute of Technology Malang. East Java. Indonesia.
†† Civil Engineering. Postgraduate Program. National Institute of Technology Malang. East Java. Indonesia.
††† Industrial Engineering. Undergraduate Program. National Institute of Technology Malang. East Java. Indonesia.

Summary

The information research system continues to be developed and directed at leading research National Institute of Technology (ITN) Malang in accordance with the Research Strategic Plan of ITN Malang. One of them is a computer system in a complete integrated facility management activity, such as this research scheme.

The purpose of this research is to combine and integrate people, places, product, processes and technology. All of them are integrate existing organizational factors into a more effective, simplifying of complex processes, identifying and scheduling, notes, decision makers and more. This research was conducted in stages by design with a structured model stage for 3 (three) years (focus on humans, products and processes), research on Integration Facility Management: Interface Coordination in human resources and product management have been completed on 2019 and 2020. While the focus of research this year is to obtain an integrated facility management Interface Coordination in Process Management.

Key words:
Facilities, Integrate, Management, Product.

1. Introduction

Integration facility management is the management control of facilities to integration administrative, logistics, maintenance and repair to support effectiveness and efficient by all elements. Facility management integrates the principles of science, business administration and human behavior. As an integrated process management that considers human, processes and places in the context of the organization, includes an efficient environment, technology, safety, comfort and occupational health in achieving for more optimal work productivity [1-4].

Based on the description above, facility management is developed to support the flow of workplace productive processes by adding value and reducing costs, various services, activities, responsibilities, skills, knowledge and management. All of them are integrate existing organizational factors into a more effective, simplifying of complex processes. A computer system platform and

designed to enable management facilities to implement a comprehensive maintenance management activitie.

2. Background

2.1 Life Cycle Development System

According to Raymond Mc Leod Jr system life cycle is a process of change that is followed by the application of the system or sub-system of computer-based information. This system life cycle consists of a series of tasks that follow the steps of the system approach. Because these tasks follow a regular and top-down way, this life cycle is often referred to as the waterfall approach to system development and use of the system [5-6].

2.2 Delphi

Delphi programming developer write and compile code within application developer or Integrated Development Environment (IDE). The IDE is an integrated display where you see separate but highly related menus and tools that are a unified whole in one coordination. Functioning as a control center starting from main menu, form, code editor and inspector which are used to design, write program code and manage the appearance of applications in various models [7].

2.3 Data Base Management System

Data Base Management System (DBMS) is a database system to store, modify, delete, and extract the data to / from the database, the query language called Structured Query Language (SQL), and database maintenance such as archiving and backup & recovery. A DBMS can store more than one database. Examples of DBMS are Oracle, SQL Server, MySQL and Microsoft Access [5-7].

2.4 Enterprise Resource Planning

Enterprise resource planning systems aim to integrate information into a single database system from different applications. The linkage of financial calculations and human resource modules through the same database is very important, which distinguishes it from other applications that have been made before, making this application more flexible but also better rules [5-7].

2.5 Facility Management

Management theory has evolved from the theory of scientific management in 1880 and 1890 through the development of five theories of management, administration, behavioral science and the theory of the organization's environmental management. In the last few decades, the integrated life cycle on assets built facility management as one of the fastest growing professions in the industry globally related to diverse needs and demands and the establishment of facilities management principles, with three essential elements (people, products and processes) as an integral element involved in the five management theory in terms of the scope of all general management issues [8].

International Facility Management Association (IFMA), an international association in charge of facility management facility management defines as a job that includes a variety of disciplines to ensure functionality of the built environment by integrating people, place, processes and technology. From this definition, facility management be the coordination of the operation of the facility that is intended to make the whole organization more effective at what it does so that the operation runs smoothly. Facility management workplace leads to a more supportive flow of productive processes while adding value and reduce costs. The scope, services, activities, responsibilities, skills and knowledge of facility management are intended to integrate existing organizational factors [8-10].

Research in developed countries such as United Kingdom, United States and Asia Pacific region have analyzed measure and composition of facility management and establish its relevance. Other studies in the United States and the United Kingdom have concentrated on determining the strategic role of facility management in business organizations as competency requirements, cost control and performance measurement [11-14].

Seen from the point of facility management profession, people are clients and facility management professionals and their organizations, products of various facilities management services and processes are various management measures to provide facility management services. A further review is focused on people, products and processes because it is carried out into the evolution of management theory to establish a general framework of management principles in facilities management [11-14].

2.6 State of the Art

This research is expected to obtain designed a computer system platform to implement Integrated Facility Management as a comprehensive maintenance activity process, better integrate organizational factors, simplify complicated processes.

2.7 Roadmap

To provide an overview of this research and direction of next developments, a research roadmap was show in figure 1.
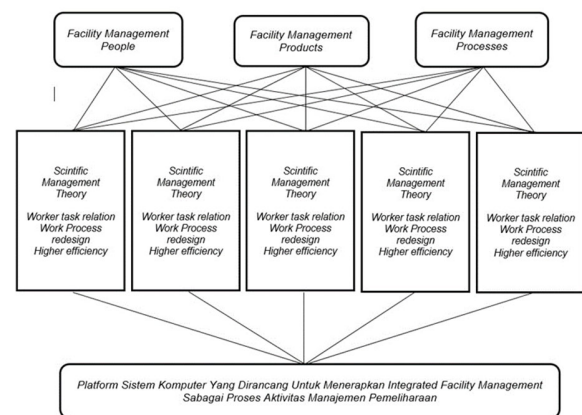

Fig. 1. Research Roadmap.

3. Results and Discussion

There are several categories that need to be used in model formulation and system model design. Facility management integration (interface coordination in process management), namely: Settings, Organization, Employees, Attendance, Leave, Project, Inventory and Assets, Loan, Payroll , Notice.

Before starting the format, enter the pfm folder into the host server (figure 2), create a database with the name db_pfm and import the database db_pfm (figure 3). Initial admin login by using a username and password whose access rights are set by the admin and can be changed by the user.
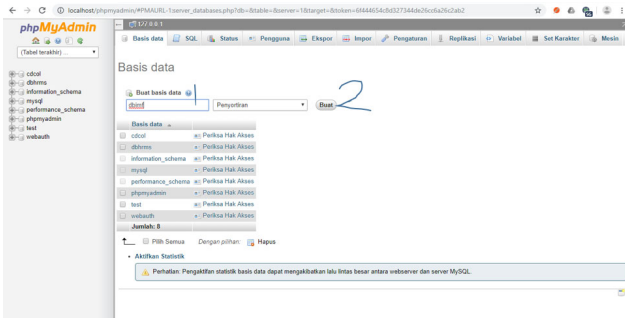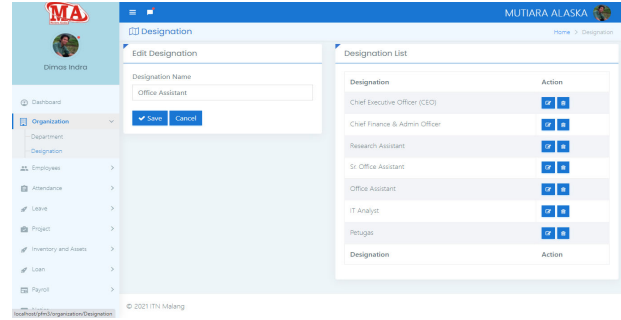
Fig. 2. Create Database.

3.1. Settings

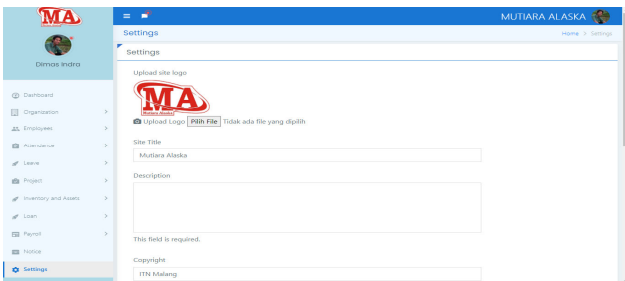Perform Settings Menu to manage company data (logo, company address, social media links, company email).
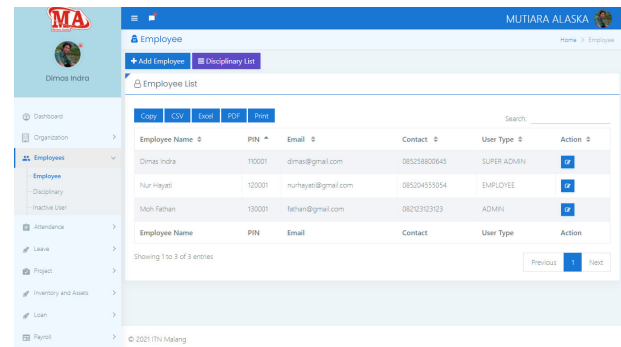

Fig. 4. Setting Page View

3.2. Organization

There is a Department and Designation view, department menu is for displaying a list of positions, adding, updating or deleting department data, while the designation menu is for displaying job naming data, adding, updating or deleting.
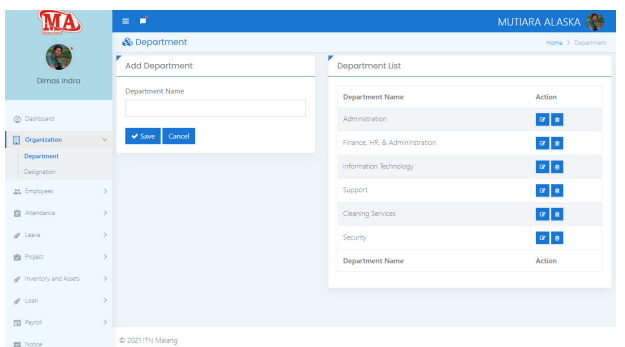

Fig. 5. Department Page View

Fig. 6. Designation Page View

3.3. Employees

The Employee menu is used to display employee identity data, add, update data in the form of personal info, address education, experience, bank account, document, salary, leave, social media and password settings for employee accounts.

Fig. 7. Employee List Page View

3.4. Attendance

Attendance list displays employee attendance data. Can be added with employee attendance data or employee attendance report
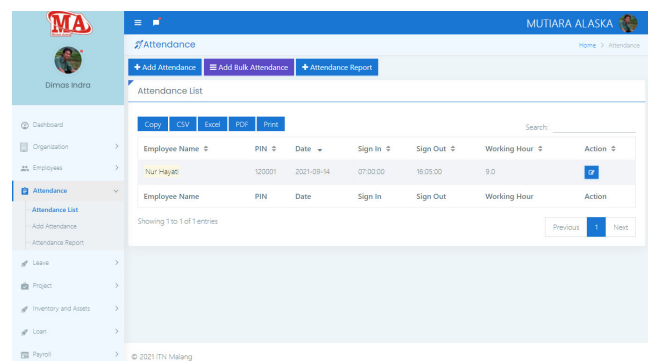

Fig. 8. Attendance Page View

3.5. Leave

This menu includes holiday and leave where the holiday menu displays, edits and deletes the list of holidays or leave type to display, edit and delete types of employee leave.
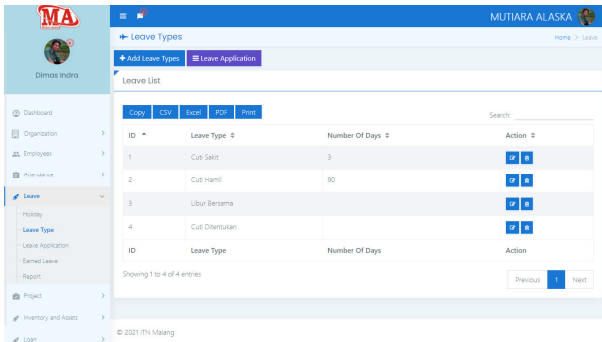

Fig. 9. Leave Type Page View

3.6. Project

The Project menu is used to display the job list. Consists of add project to add to the to-do list and task list for information on the work to be done, cancelled, currently being done or has been completed or a field list to add a task work plan.
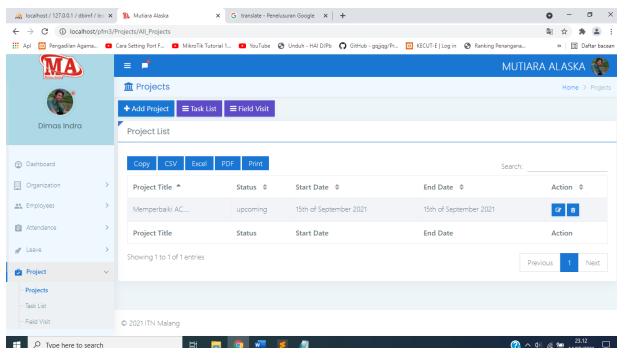

Fig. 10. Project Page View

3.7. Inventory and Assets

This menu consists of Assets category to manage asset category data and assets list to view, add, edit and delete asset data.
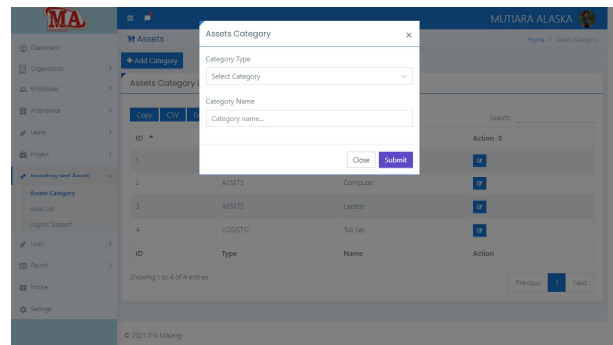

Fig. 11. Assets Page View

3.8. Logistics Support

This menu displays Logistic Support by Adding, Editing and deleting Logistics Support data.
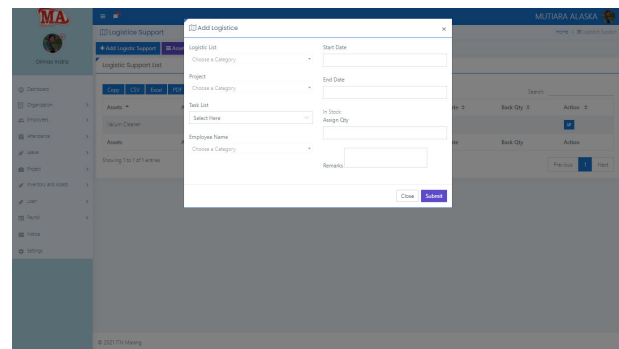

Fig. 12. Logistics Page View

3.9. Loan

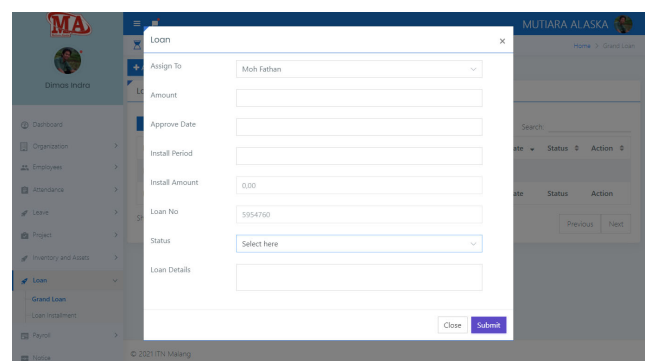This menu displays manage loan data or manage loan installment data.

Fig. 13. Loan Page View

3.10. Payroll

This menu displays payroll list to manage employee salary data, generate payslip for employee salary calculation and payment and payslip report as employee payroll report.
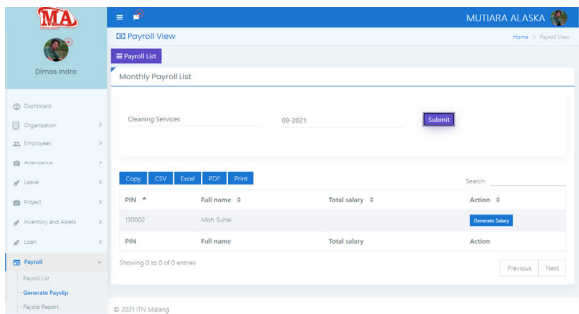

Fig. 14. Payroll Page View

3.11. Notice

This menu is the notification management menu which will be informed to employees.
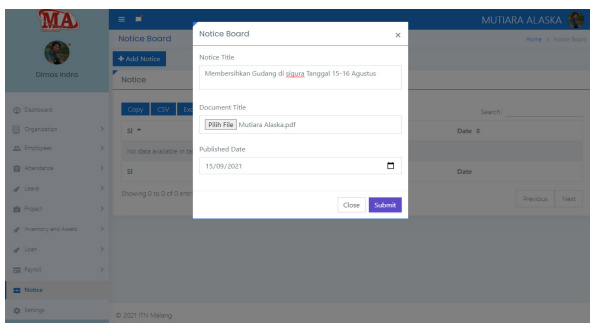

Fig. 15. Notice Board Page View

4. Conclusion

After designing a structured model system an integration of management facilities (interface coordination in product management), the following conclusions are:

1. System and product management run effectively, minimize errors in and facilitate the search for existing data and records more quickly and accurately.
2. System and product management able to produce reports or administration according to wishes of the current user.
3. This system has been copyrighted registered in Ministry of Law and Human Rights of Republic Indonesia Number EC00202146959.

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