

APPLICATION DATA PROCESSING DEVELOPMENT FACILITIES AND ASSETS USING WEB-BASED SYSTEM DEVELOPMENT LIFE CYCLE METHOD AT THE STATE POLYTECHNIC OF SRIWIJAYA

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Abstract: This research aimed to create good data processing and provide information about the facilities and assets in State Polytechnic of Sriwijaya. Research was conducted by direct observation. The results indicated that Inventory section in State Polytechnic of Sriwijaya needed new application for data processing facilities and web based-assets to assist the work of Inventory Staff (PI) in all departments in State Polytechnic of Sriwijaya to provide information to the Inventory section. In making this application researcher used waterfall model and Hypertext Preprocessor (PHP) application programming with MySQL database since the information about the facilities and assets could be informed quickly and accurately to the Inventory section, so as to provide benefits and services to the State Polytechnic of Sriwijaya.

Keywords: Renewable energy, advantages, disadvantages, grid, raw material, decentralization, recycling

I. INTRODUCTION

The rapidly increasing development of technology and information systems in globalization era causes growing need of computers for work. The increasing information needs encourages people to develop new techniques in data processing, so that the obtained information is accurate. This requires a device to support the information requirements like computer. The Inventory section at the Polytechnic of Sriwijaya need special application of web-based to maintain and optimize the use of all facilities and assets, to facilitate in monitoring the facility and existing assets and receive the latest data from each department quickly. The web data base application with PHP and MySQL.

II. THEORETICAL FRAMEWORK

A. Categories of Web Applications Based on Functions

The grouping of web applications based on its function, is useful in understanding the diverse needs and to develop and deploy web-based applications (Murugesan, 2005).

- 1) Informational; Online newspapers, product catalogs, newsletters, reports, user services, online classified ads, online electronic books
- 2) Interactive; The registration form, customized presenting information, online games
- 3) Transactional; Online shopping (goods and services), online banking, online flight reservations, online bill payment
- 4) Workflow oriented; Online planning and scheduling, inventory management, status monitoring, supply chain management

- 5) Collaborative work environments; The writing system of distributed, collaborative design tools
- 6) Online communities, marketplaces; Group discussions, recommendation systems, online marketplace, e-mall, online auctions, online intermediaries

B. Characteristics of Web Applications According to ISO 9126-1

It is important to realize that web application development should pay attention to certain characteristics that are different from traditional software, information systems or computer application development. According to the standard ISO / IEC 9126-1 (ISO, 2001) on evaluation of the characteristics of the software, web application characteristics are grouped into three dimensions, such as the dimensions of the product (product), the dimensions of the usage, and the dimensions of development.



Figure 1. Dimension of web application characteristics

Characteristic dimensions of the use of web applications are characterized by continuous need to adapt to the situation of the particular application, context. Because of the importance of basic context adjustments, the characteristic dimensions of use are divided into three groups: the social context technical context, technical context and physical context or natural context. The social context associated with users, technical context and relates to network and devices and physical context or natural contexts related to the location and time.

III. RESEACH PROCEDURES

The steps of research were as follows:

A. Design

Design was the stage or the next step of the waterfall model, in the design stage, the author designed the facility data processing applications and web-based assets at Polytechnic of Sriwijaya by making system design and design program or interface representation.

B. System Design

The system design illustrated computerized application. In this case the author made system design and built applications with the system design. The authors used Unified Modeling Language (UML), which consisted of Use Case Diagram, Class Diagram, Activity Diagram, Sequence Diagram and Collaboration Diagram.

1) Use Case Diagram

Use case diagrams was model for the behavior (behavior) of information system that will be created. Use case describes an interaction between one or more actors with the application to be built. In this application described the interaction of the three (3) actors: Inventory Staff (IS), Admin and Head of Inventory section.

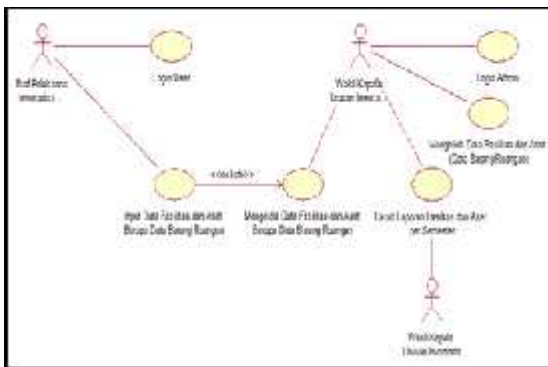


Figure 2. Use Case Diagram

2) Use Case Scenarios

Use case scenarios made it easier to analyze the scenario used in subsequent phases by assessing scenarios.

3) Class Diagram

Class diagram illustrated the structure of the system in terms of defining the created classes to build the system. The classes called attributes and methods of operation.

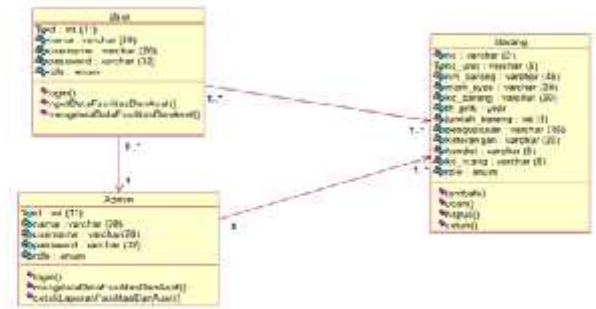


Figure 3. Class Diagram

4) Activity Diagram

Activity diagram illustrated workflow or activity of system or business process or menu on the software.



Figure 4. Activity Diagram

4) Sequence Diagram

Sequence diagram illustrated the behavior of objects in use case by describing the life time of the object and the message sent and received between objects.

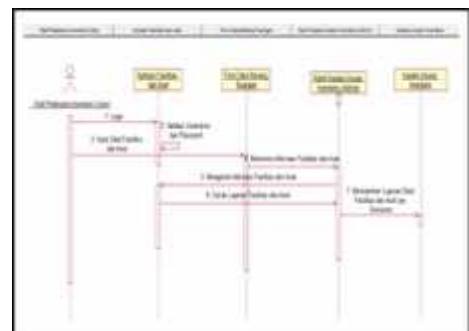


Figure 5. Sequence Diagram

5) Collaboration Diagram

Collaboration diagrams illustrated interaction and structured relationships between objects.

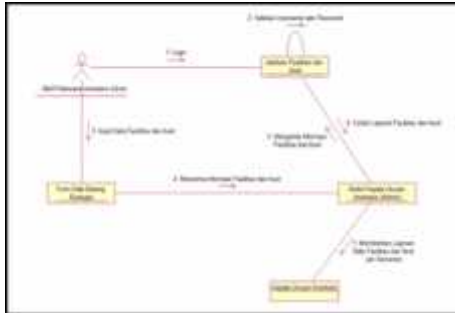


Figure 6. Collaboration Diagram

C. Program Code Preparation

The program code for application data processing facilities and assets on a web-based Sriwijaya State Polytechnic was based on the results of the design program which translated into program software, namely by using application programming PHP and MySQL database.

D. Testing

All parts of the software or application were tested by the author to minimize errors and the resulting output displayed on the design and display of program.

IV. RESULT

A. Result

After waterfall model phases were applied, the application of data processing facilities and assets on a web-based Sriwijaya State Polytechnic was built using Adobe Dreamweaver CS6 and XAMPP server run by a computer. Login form would be displayed at once the application data processing facilities and assets run.

1) Main menu of the developed application



Figure 7. Home page

- 2) The data entry menu of each section within the State Polytechnic of Sriwijaya was very useful for entering essential data for monitoring facilities and assets for good data processing in each department.



Figure 8. Entry Data Menu

- 3) Checking the condition per data item can be done through this application to the details of the data processing of existing assets.

No	Nama Barang	Unit	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama
101	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
102	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
103	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
104	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
105	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
106	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
107	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
108	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
109	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
110	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru

Figure 9. Checking the condition per data item

- 4) Printing of data from the processing of assets that could be displayed through a computer and also be printed.

No	Nama Barang	Unit	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama	Unit Baru	Unit Lama
101	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
102	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
103	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
104	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
105	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
106	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
107	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
108	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
109	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru
110	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru	Unit Baru

Figure 10. Printed result of asset data processing

V. CONCLUSIONS

Based on the research results, we can conclude some of the following:

1. The built applications was for data processing facilities and assets to process the data items in the room Inventory section Sriwijaya State Polytechnic, and facilitate the delivery of the latest information from Inventory Staff (SI) and this application provided information about the condition of facilities and assests that helped Inventory section in making decisions.
2. Application and assets data processing facility was built using Hypertext Preprocesor application programming (PHP) and MySQL database.

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