



Web Based Toxic Waste Management Information System Using Unified Approach Method

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ARTICLE INFO

Article history:

Received: 01/11/2020

Revised: 10/11/2020

Accepted: 30/11/2020

Keywords:

Information system design,
Hazardous and toxic waste,
Web based,
Unified approach,
Unified modelling language

ABSTRACT

Computers are equipment that are created to facilitate human needs, when successful in both hardware and software manufacturing, PT. NU is a company engaged in industry and industry, in their daily activities there must be several parts that produce dangerous and toxic drinks (LB3). However, in this activity very little information is obtained at the time of collecting the waste which results in the accumulation of waste in each producing section, so for this B3 waste system requires computerized development in processing waste data. The purpose of this research is a waste management information system to produce fast, precise and accurate web-based data information with an integrated approach method. This research produces a web-based information system that can support business processes, facilitate the management of waste data, computerize recording, and facilitate reporting. By making this information system design is the best solution to solve existing problems, and with the development of a web-based system can support activities and information systems more quickly, so that all activities carried out are better than the previous system.

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1. Introduction

The development of increasingly sophisticated information technology has had a very significant impact or change in the world of technology, thus create various kinds of digital technology which are often referred to as the digital era. The digital era emerged by utilizing computer information technology, namely by using the internet [1] with the development of digital computer codes [2] and also the development of the web with an attractive appearance with the use of CSS for web settings[3] with a web browser-based development language [4] in order to be interactive in the browser [5].

In the development of ICT above, the emergence of the web can be used to overcome several problems in the company where the example of the case of waste management, Hazardous and Toxic Waste (B3 waste) is the remainder of a business and or activity that contains hazardous and / or toxic materials due to its nature and or the concentration and / or the amount, either directly or indirectly, can pollute and or damage the environment and or endanger the environment, health, the survival of humans and other living creatures. So it needs special handling. Based on the research that has been carried out in this study, there are still problems faced during the process of requesting for taking hazardous and toxic waste, which in its activities very little information is obtained at the time of taking the waste which results in the accumulation of waste in each of the producing parts, then for the data recording system is still manual using MS. Excel so that it is possible for typing errors to occur and causing data mismatches with physical waste. And it will endanger the disposal process. Hazardous and toxic materials (B3) "substances, energy, and or other components which, due to their nature, cause corrosive waste which has the characteristics of explosive, flammable, reactive, toxic. Based on these problems, this study develops a web-based system and analyzes the web solutions to make them more useful. By using the development of the Unified Approach Model so that the relationship between documents and applications is interrelated with the help of object-oriented program applications. By displaying a set of data relations so that it is fast and easy to use the application [6] use xampp so that it can run on websites and easy processing of MySQL data modifications[7]. In using PhpMyAdmin based on Graphical User Interface [8] so that it can identify MySQL in managing its data sources on the web [9] at this stage of the study rebuild the SDLC cycle for software development by using a web structure for linking



web browsing [9], and data creation related to the requirements of the tables created for data organization [10] and relationship modeling with its attributes and entities [11].

2. Literature Review

The research that is used as a reference for this activity is Febriyanti Darnis's research, the purpose of her 2017 research is to improve the effectiveness of processing the student tuition in SMA Quraniah Palembang for processing the student tuition data and viewing tuition payment information. The output produced is in the form of proof of student payments and reports. [12]

Rina Oktarina in a 2015 study in the form of the Application of Personnel Applications to streamline employee data search work in a sub-district in Margawati to facilitate searching archives and files so that work becomes easier. [13]

Fajar Baskoro, his research in 2002 carried out the design of a luna device model for hotel reservations with UML and the unified approach target method produced in the form of specific documentation of hotel reservation software. [14]

3. Research Methods

The application of the UA methodology is a software development with the object of integrating the process with UML development. Unified Approach (UA), a methodological approach for object-oriented development, collaborates between processes and methodologies that have been and (UML) used as modeling standards, combining practice, workflows related to notation and UML diagrams with object-oriented system development design [15].

3.1 The UA Analysis Phase consists of:

- a. Actor Identification process
- b. Descriptions of work ar ur
- c. Development of an object-to-object interaction diagram
- d. Class Identification
- e. Examination of the results

3.2 The UA design stage consists of:

- a. design ("class, association, methods and attributes")
- b. filter the UML class diagram
- c. the design of the access layer and interface layer
- d. testing, process

Meanwhile, the data collection method is through observation, making direct observations at PT. Nutrifood, especially in the B Waste Management Section, interviews with employees in the B3 waste management company and literature studies

4. Discussion

4.1 Research Framework

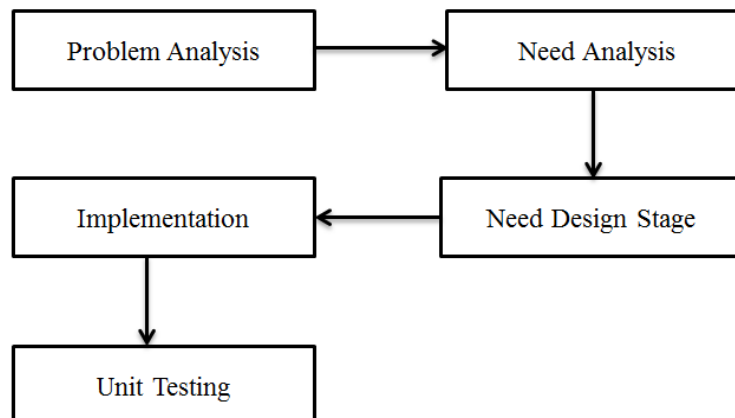


Fig 1. Research Framework

4.2 UA Method Development System

A. Analysis Phase

Identification of the needs obtained based on user needs and system requirements in the design of information systems for B3 waste collection requests at PT. Nutrifood Indonesia.

a. User Needs

1) Admin Requirements

- a) Admin can login to be able to access the web
- b) Manage user data
- c) Manage waste data
- d) Manage department data
- e) Manage supplier data
- f) Entering waste issuance transactions
- g) View waste request reports
- h) View the waste reporting report

2) Staff Requirements

- a) User staff can log in to be able to access the web
- b) Entering the waste collection request transaction
- c) Viewing the status of waste collection

B. System Requirements

Each department can request for B3 waste collection by submitting it to the admin first so that the waste collection procedure can be carried out. Once agreed, the admin will issue a schedule for taking B3 waste and which supplier will carry out the execution. And admins can do:

- a. Users must log in first to be able to access this program by entering their username and password.
- b. The user must log out after finishing using the program so that there is no party others who are abusing that user account.

C. The Modeling Stage of the Waste Management Application Activity Diagram system

a. Activity diagram

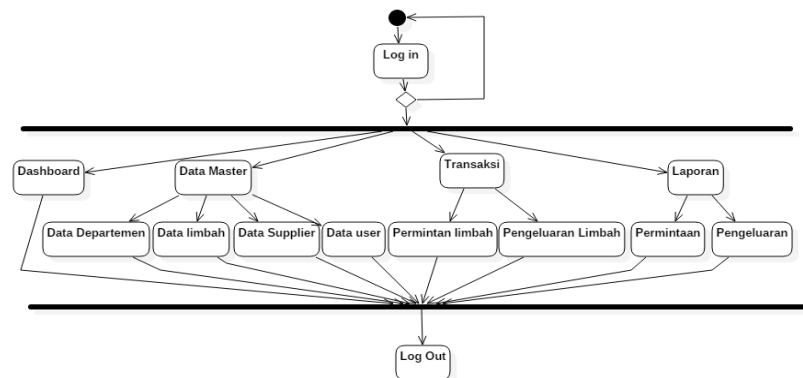


Fig 2. Activity diagram

b. Usecase Diagram

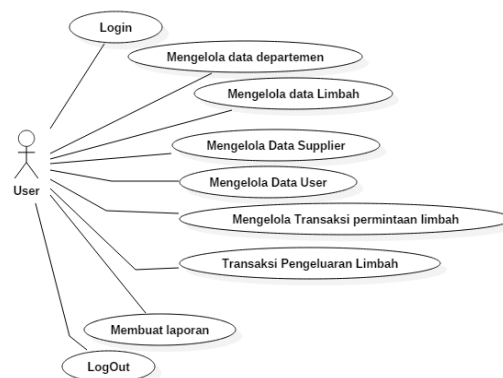


Fig 3. Usecase diagram

4.3 User interface

a. Login page

Admin is Admin is required to log in first to be able to use this web application

Fig 4. Implementation Login page interface

b. Implementation User Main Menu Page

Fig 5. User Implementation of the Main User Page

c. Implementation of Waste Request Form

Fig 6. Implementation of Waste Request Form

d. Implementation of the main Admin page

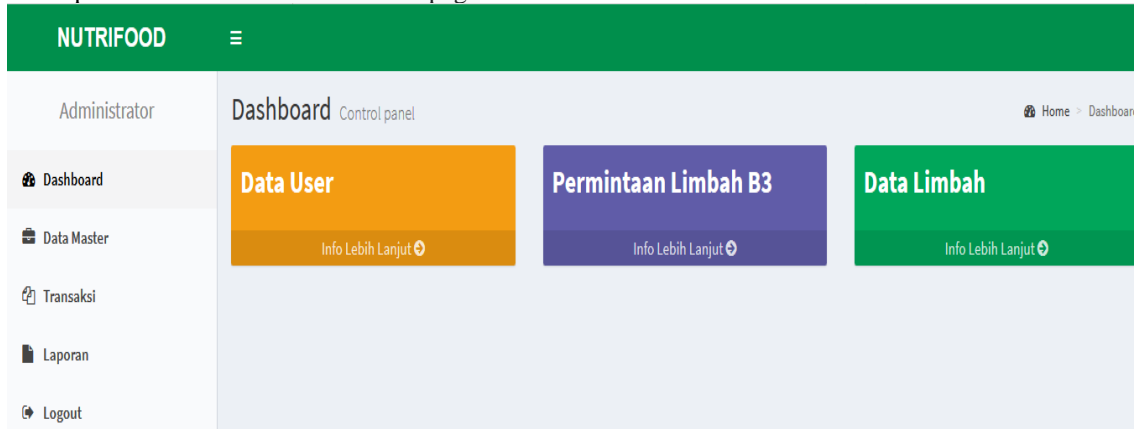


Fig 7. Implementation of the main Admin Page

e. Implementation of Master Data User Pages

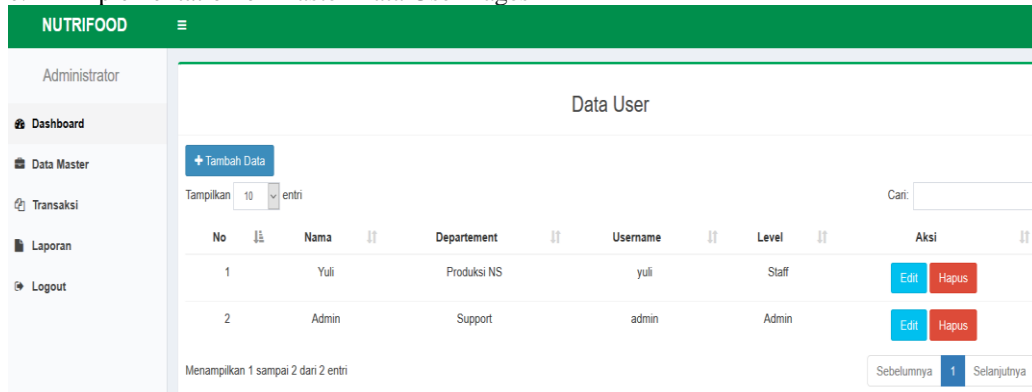


Fig 8. Implementasi of Master Data User Pages

f. Implementation of the Master Data Department Pages

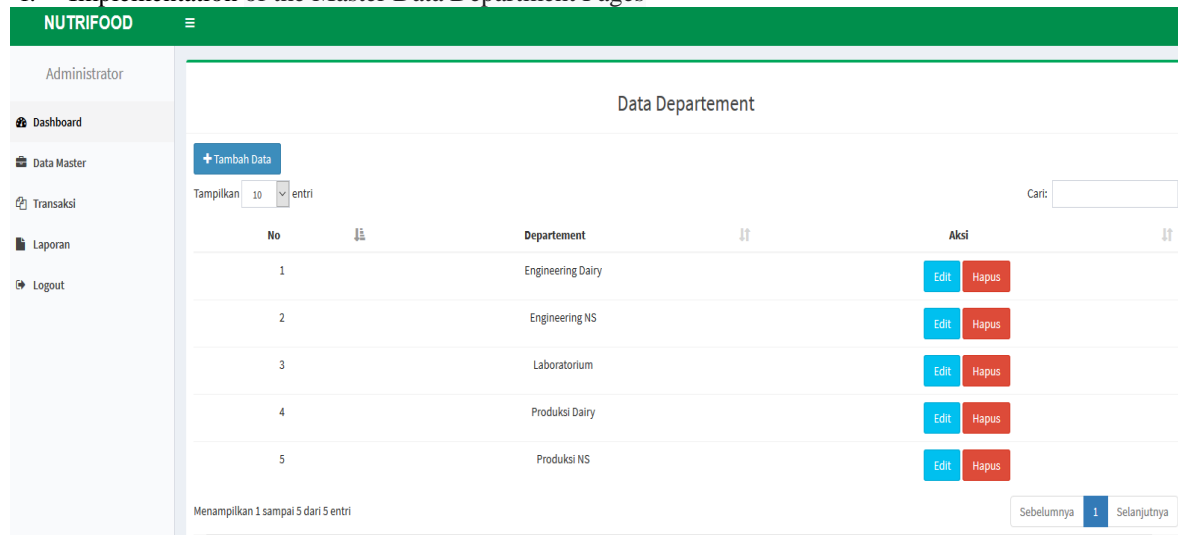


Fig 9. Implementation of the Master Data Department Pages

g. Implementation of Supplier Master Data Pages

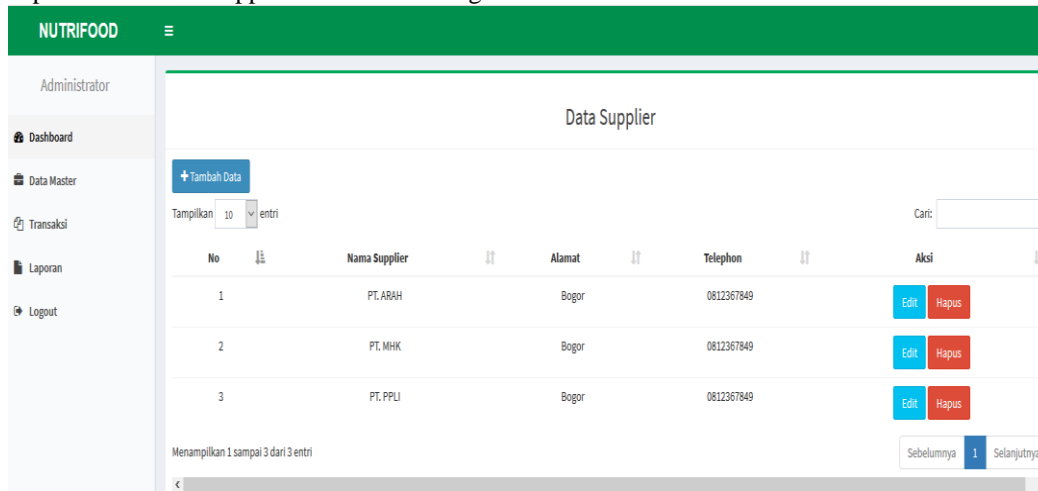


Fig 10. Implementation of Supplier Master Data Pages

h. Implementation of Waste Data Master Pages

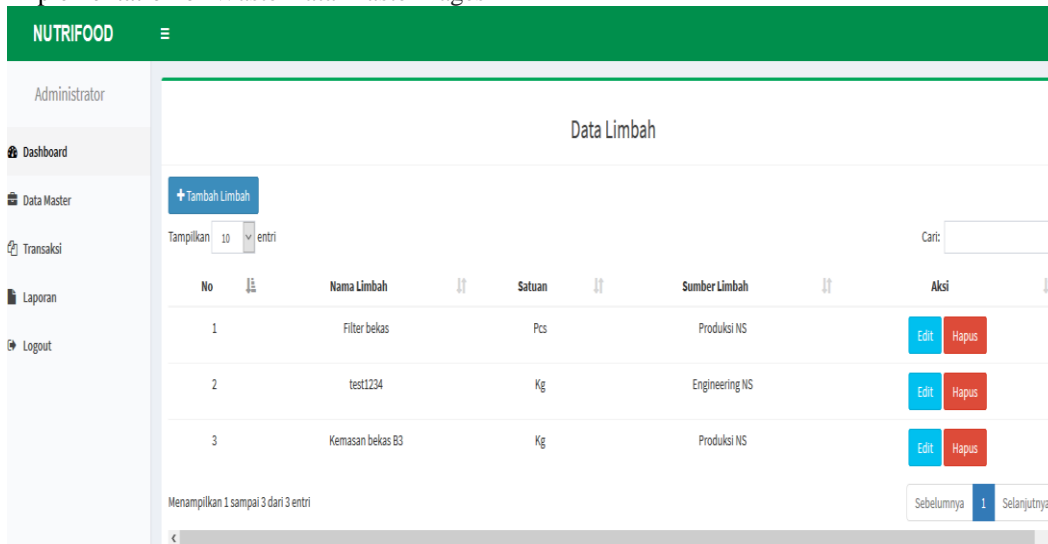


Fig 11. Implementation of Waste Data Master Pages

i. Implementation of Waste Request Transaction Page

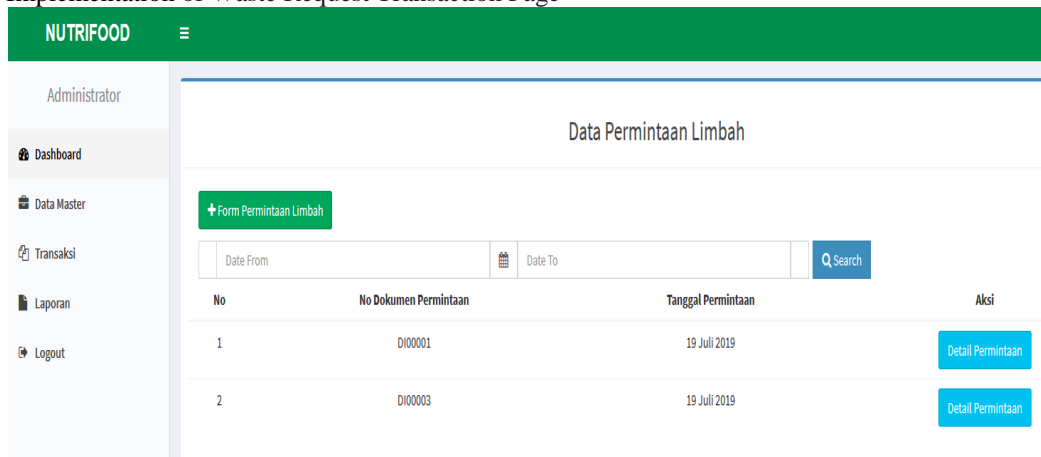


Fig 12. Implementation of Waste Request Transaction Page

j. Implementation of Waste Discharge Data Transaction Page

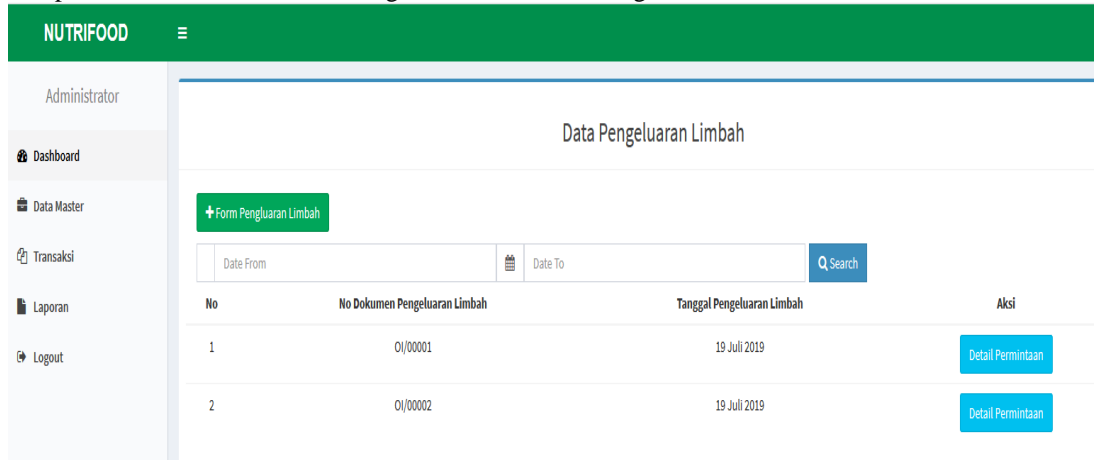


Fig 13. Implementation Of waste Discharge Data Transaction Page

k. Implementation of waste Request Report Page

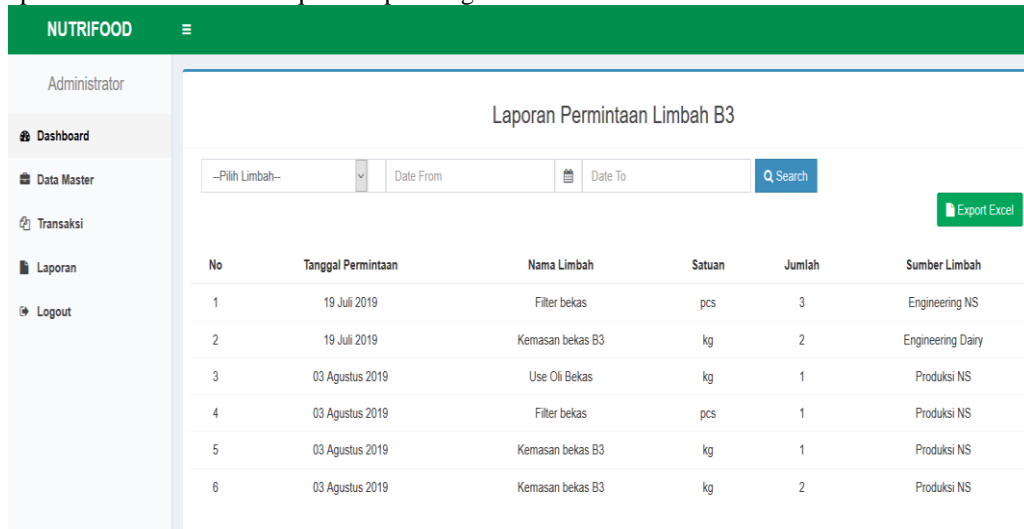


Fig 14. Implementation of waste Request Report Page

l. Implementation of Waste Release Report Page

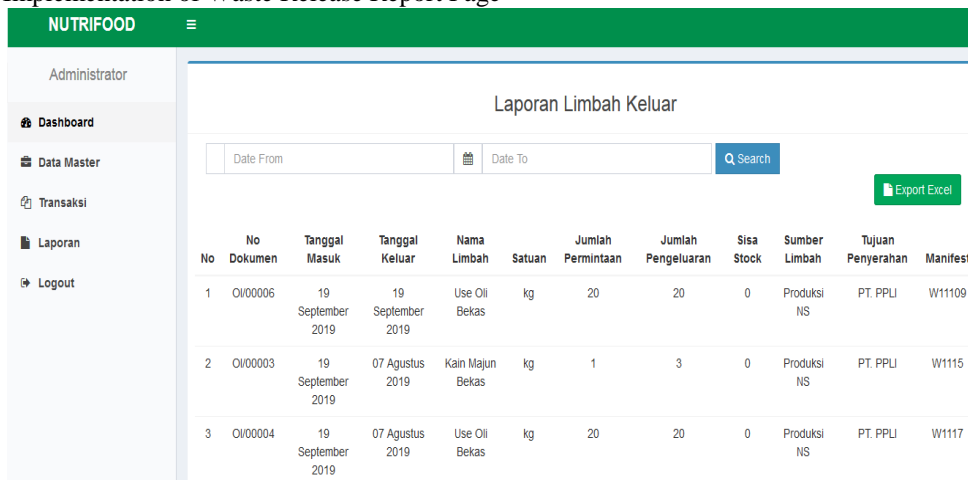


Fig 15. Implementation of Waste Release Report Page

5. Conclusion

- a. The waste waste website can simplify the process of managing data, users, suppliers, expenditure and expenditure transactions and creating reports.
- b. Toxic waste management website as a medium of information in each department
- c. Website The existence of waste management which can make it easier for users to check the status of waste that has been taken by the supplier.

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