International Journal of Advances in Data and Information Systems
Vol. 3, No. 2, October 2022, pp. 98~105
ISSN: 2721-3056, DOI: 10.25008/ijadis.v3i2.1245

Development of Marine Products Auction Information System (Case Study: Fish Auction Place in Karanganyar, Kragan, Rembang, Central Java)

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Article Info

Article history:

Received Sep 15, 2022
Revised Oct 21, 2022
Accepted Oct 30, 2022

Keywords:

Information Systems
Auction
Marine Products

ABSTRACT

Information is needed at any time, where with the development of information technology in developing computerized systems to produce the right decisions in achieving goals, the Kraganyar Fish Auction Place (TPI) is one of the government agencies in the field of Village Unit Cooperatives which functions as a place for buying and selling fishermen and bidders. The problem to be discussed is to build a marine product auction information system that will regulate the information dissemination process to be more effective and efficient. The built system will also use the PHP and MySQL programming languages. The system development method used is the Prototype method. System planning uses unified modeling language (UML), and Entity Rational Diagram (ERD).

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1. INTRODUCTION

In this modern era, humans are required to think, act and decide things quickly, things like this can also be supported by fast technology. Nowadays almost everything can be done online, from newspapers, trade transactions, promotion of a product, to personal data and the location of a place, done practically via cell phone or using a computer online. This prompted the researchers to create a system that is usually carried out by humans by always meeting face to face so they don't need to meet face to face or meet again.

The increasing demand for consumption of marine products has driven purchasing growth, by seeking relatively lower prices than market prices and better quality, the seafood auction sites are the intended places. Before circulating in the market for marine products obtained from fishermen, there is no fixed price, because marine products from fishermen will be auctioned directly first. The more seafood at that time, the cheaper it was. However, information on auction results is not processed properly. Meanwhile, many parties want to know information about seafood auctions. Another problem is in terms of traditional marketing, where people have to come to the Fish Auction Place (TPI) to bid on the price of the fish to be purchased. However, it is prone to unwanted fraud from irresponsible parties. In addition, it can have an impact on the quality of the fish to be purchased

which is no longer fresh. This problem also harms the fishermen because the quality of the fish decreases.

Algorithms and online auction procedures that use website-based software with updated data at any time [1][15]. In addition to algorithms, we also need a database to store data, the term database or database is a collection of data that are interconnected and related to a particular subject for a specific purpose, the relationship between the data can be seen by the presence of fields. or column [2]. Which will be joined in a network of procedures that are interconnected, gather together to carry out activities or to carry out certain goals [3][13]. So that the data is processed into a form that is more useful and more meaningful for those who receive it [4][14].

A system is a set of interrelated or integrated elements that are intended to achieve a unit consisting of two or more components or subsystems that interact to achieve a goal [4]. The system is a network of procedures that are interconnected, gathered together to carry out activities or to carry out certain goals [3]. The system is an arrangement consisting of a number of functional components (with specific tasks/functions) that are interconnected and jointly aims to fulfill a particular process/job [5]. The system is a network of procedures that are interconnected, gathered, together to carry out an activity or complete a certain goal [6]. Information is data that has been processed so as to reduce uncertainty about a situation or an event. While the word data is the actual fact or reality [7]. The web is "one of the services obtained by computer users connected to hypertext facilities to display data in the form of text, images, sound, animation and other multimedia" [8][9]. Base can more or less be interpreted as a headquarters or warehouse, a place to attack/gather. While data is a representation of real world facts representing an object such as humans (employees, students, purchasing customers), animal goods, events, concepts, circumstances, and some that are manifested in the form of numbers, letters, symbols, text, images, sounds, or a combination thereof. [10][11][12]. While the word data is the actual fact or reality [7]. The web is "one of the services obtained by computer users connected to hypertext facilities to display data in the form of text, images, sound, animation and other multimedia" [8][9]. Base can more or less be interpreted as a headquarters or warehouse, a place to attack/gather. While data is a representation of real world facts representing an object such as humans (employees, students, purchasing customers), animal goods, events, concepts, circumstances, and some that are manifested in the form of numbers, letters, symbols, text, images, sounds, or a combination thereof. [10][11][12]. While the word data is the actual fact or reality [7]. The web is "one of the services obtained by computer users connected to hypertext facilities to display data in the form of text, images, sound, animation and other multimedia" [8][9]. Base can more or less be interpreted as a headquarters or warehouse, a place to attack/gather. While data is a representation of real world facts representing an object such as humans (employees, students, purchasing customers), animal goods, events, concepts, circumstances, and some that are manifested in the form of numbers, letters, symbols, text, images, sounds, or a combination thereof [10][11][12] animation and other multimedia" [8][9]. Base can more or less be interpreted as a headquarters or warehouse, a place to attack/gather. While data is a representation of real world facts representing an object such as humans (employees, students, purchasing customers), animal goods, events, concepts, circumstances, and some that are manifested in the form of numbers, letters, symbols, text, images, sounds, or a combination thereof. [10][11][12]. animation and other multimedia" [8][9]. Base can more or less be interpreted as a headquarters or warehouse, a place to attack/gather. While data is a representation of real world facts representing an object such as humans (employees, students, purchasing customers), animal goods, events, concepts, circumstances, and some that are manifested in the form of numbers, letters, symbols, text, images, sounds, or a combination thereof. [10][11][12].

Based on these problems, a website-based application is needed, namely "Marine Product Auction Information System at Fish Auction Places". With this system, it is hoped that it will make it easier for the public to obtain information on auction results quickly and accurately and can assist fishermen in conducting fish marketing efficiently.

2. RESEARCH METHODS

In the process of making this information system, there are several stages of problem solving carried out, the first stage is the researcher identifying the problems that exist in the relevant agencies and people, then the researchers collect the necessary data through interviews with agencies or parties

directly related to the agency, such as fishermen and price bidders. Then the researchers carried out the development and testing of the developed system.

Table 1. Auction Data

Day/ date	No	Boat	Seafood	Number/ Basket	Price	Total	bidders	Auctioneer
Monday, May 3, 2021	1	Sekar 5	Cob	15	Rp. 9,000,000	IDR 34,000,000	Hj. tick	Suhaman
			Cakalan	20	Rp. 13,000,000			
			Bloating	20	IDR 12,000,000			
	2	Ocean Sea	mackerel	23	IDR 22,000,000	Rp. 40,000,000	Tumina h	Suhaman
			Bloating	30	IDR 18,000,000			
Tuesday, May 4, 2021	1	HS 2	Bloating	19	Rp. 10,000,000	Rp. 17,560.00	Hj Yanti	Suhaman
			Mullet	28	IDR 7,560,000			
	2	Liman's work	Tiger Shrimp	35	Rp. 87,000,000	IDR 90,240.00	Hj Tutik	Suhaman
			Mullet	12	IDR 3,240,000		Hj Yanti	
	3	sustainable	Bloating	65	IDR 27,300,000	IDR 27,300,000	Hj Tutik	Suhaman
	4	True Work	mackerel	32	IDR 20,480,000	IDR 33,680,000	Hj Hasan	Suhaman
			Cakalan	24	IDR 13,200,000			
Wednesday, May 5, 2021	1	Ayu's source 1	Juwi	56	IDR 11,760,000	IDR 16,700,000	Sulastri	Sigit
			Bloating	19	IDR 4,940,000			
	2	HS 1	mackerel	9	IDR 7,740,000	IDR 25,690,000	Hj Hasan Hj Tutik	Sigit
			Juwi	25	IDR 5,250,000			
			Bloating	15	Rp. 3,900,000			
			Cob	8	Rp. 8,800,000			
Thursday, May 6, 2021	1	Now 3	Bloating	20	IDR 4,500,000	IDR 29,220,000	Sulastri	
			mackerel	20	IDR 11,200,000			
			Cakalan	26	IDR 13,520,000			
	2	Muslim	Juwi	36	IDR 7,560,000	IDR 25,200,000	Hj Hasan	
			Cob	28	IDR 17,640,000			
	3	Blossom	Bloating	42	IDR 15,960,000	IDR 24,650,000	Hj Lastry	
			Cakalan	9	IDR 4,770,000			
			mackerel	7	Rp. 3,920,000			

There are two types of input processes for the system to be built, namely data entry that will be entered by the user using the android user application and data entered by the admin using the android admin application. The following is a use case diagram used in the android user application.

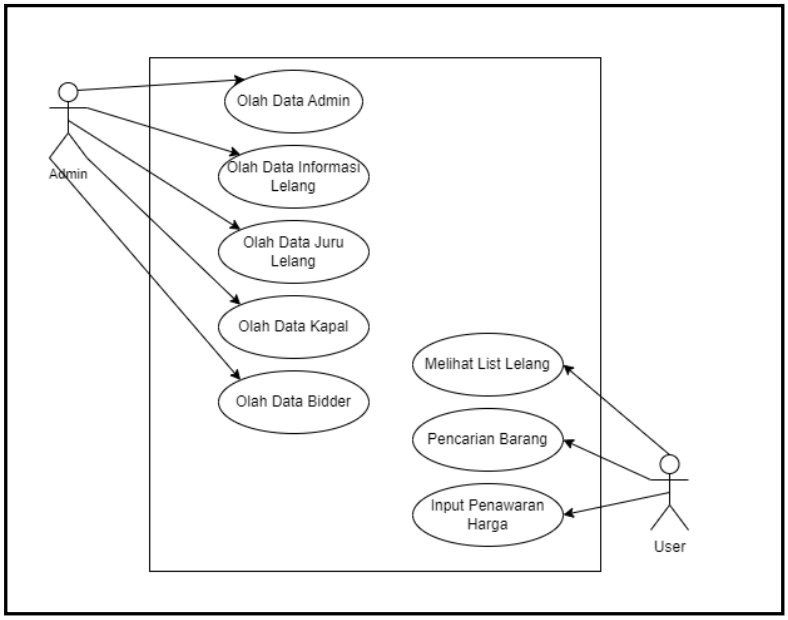

Figure 1.Use Case Diagrams

From the use cases in this auction application, a more detailed design is carried out in the form of a sequence diagram. This sequence diagram will explain how the process is carried out and what orders will be given to achieve the intended function. The following is a snippet of the sequence diagram of this auction application:

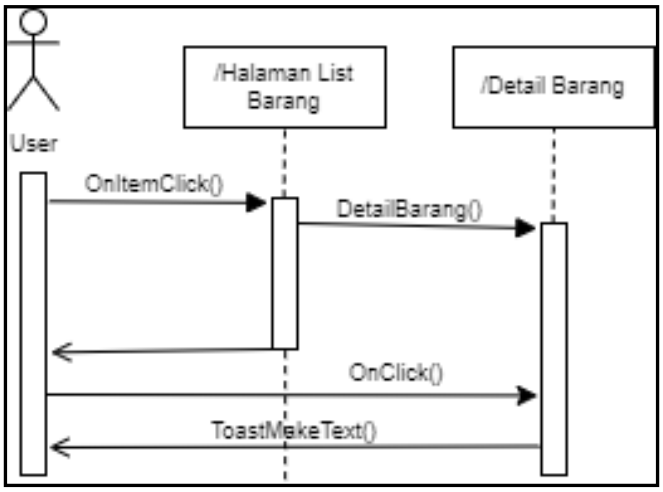

Figure 2.Bid Price Input Sequence Diagram

From the use case design that has been done before, then an activity diagram is designed to find out the details of the activities that can be carried out on this application. This activity diagram serves to describe the flow of activities in the system being built. The following is a snippet of the auction application activity diagram:

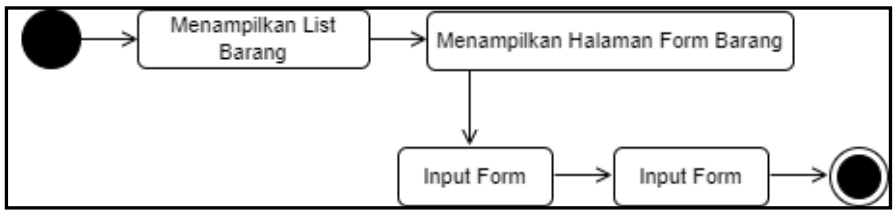

Figure 3. Add Goods Activity Diagram

ERD is a data model to describe the relationship between one entity and another entity that has a relationship (relationship) with boundaries [5]. Entitiy Relationship Diagram is a diagram that can express the entire logical data structure from the depiction of the database. Describe the relationship between entities used in making information systems.

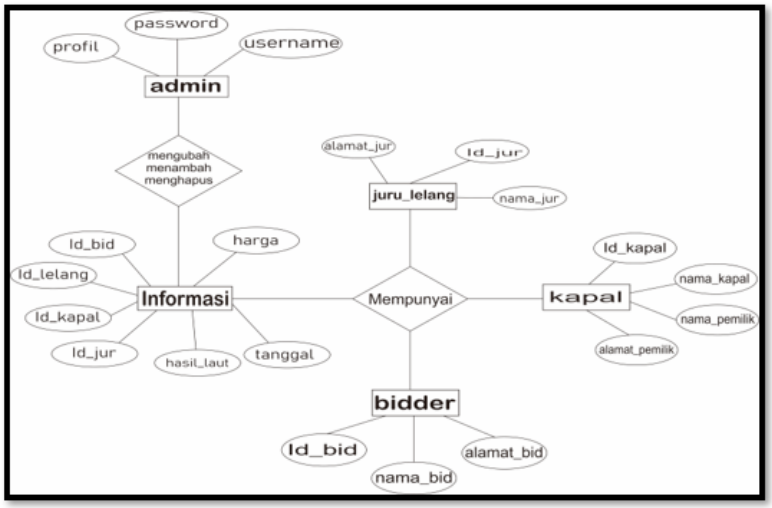

Figure 4. ER Diagram

This stage, defines the database that will be stored including field names, data types, lengths, and descriptions. The following is an example of an information system table structure

Table 2. Auction Transactions

Field name	data type	key	Information
id_lelang	varchar(5)	primary	Primary of the Information table
id_bid	varchar(5)	foreign	primary of the Bidder table
id_ship	varchar(5)	foreign	primary of the Ships table
id_jur	varchar(5)	foreign	primary of the Auctioneers table
date	date	Not	save date
seafood	varchar(20)	Not	Save the name of the seafood
price	double	Not	Save Prices

3. RESULTS AND DISCUSSION

After creating the database and designing it, trials will be carried out using SQL Queries with several forms of testing, namely DDL, DML, and DCL.

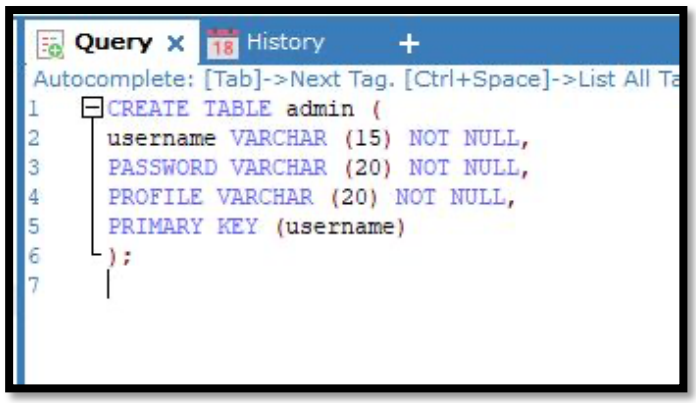

Figure 5. Create a Table

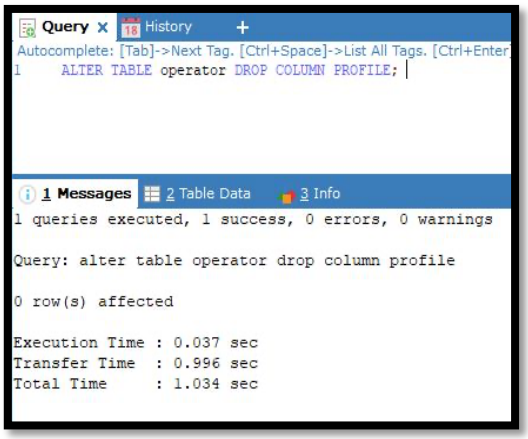

Figure 6. Alter Table

The system created will have several features. Some of these features include:
a. Login feature, for TPI Admin to enter the system
b. CRUD feature, for Admins so they can update data
c. Search feature, when entering the main page the user will immediately display the auction results information feature and search for auction results on a certain day or time
d. Thanks to the download feature, users can also download auction results at a certain time that has been chosen by the user.

Figure 7. Homepage

Figure 7 is an application figure for the homepage.

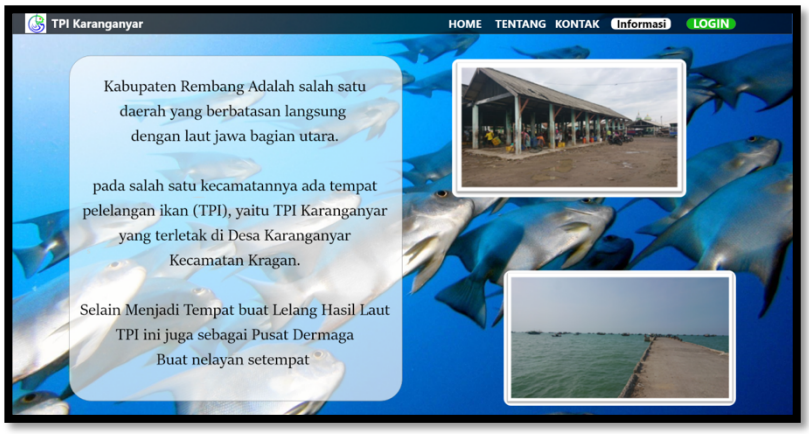

Figure 8. Information

Figure 8 is an application image for information on auction results and venues.

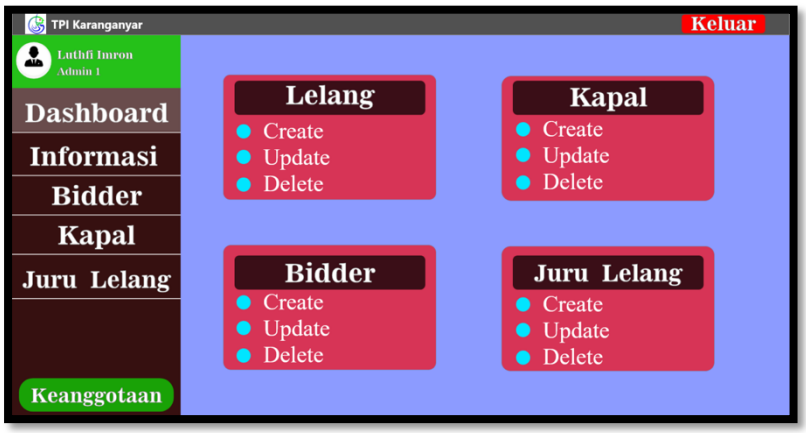

Figure 9. Home Admin

Figure 9 is an application image that will be used by the admin to process auction data. Admin access testing is carried out to test various menus and features that are in admin access, this test will be tested by the Fish Auction Place Admin (TPI).

Table 1.Admin Access Testing

No	Testing Activity	Hope	Results	Status
1	Login as Admin	Enter into the admin dashboard	✓	In accordance
2	View, add, edit, and delete Auction data	Displays Auction data	✓	In accordance
3	View, Add, edit and delete Ship data	Displays Ship data	✓	In accordance
4	View, add, edit, and delete Bidder data	Displays Bidder data	✓	In accordance
5	View, Add, edit, and delete Auctioneer data	Displays Auctioneer data	✓	In accordance
6	Logout	Return to login page	✓	In accordance

User access testing is carried out to test various menus and features that are in User access, this test will be tested by the Fish Auction Place Admin (TPI).

Table 2 . User Access Testing

No	Testing Activity	Hope	Results	Status
1	Login as User	Enter the user's main page containing the auction list	✓	In accordance
2	Item Search	Displays the auction item data sought	✓	In accordance
3	Price quote input	Displays price quote input data	✓	In accordance
6	Logout	Return to login page	✓	In accordance

4. CONCLUSION

The results of the research and discussion with the Karanganyar Fish Auction Place (TPI) case study can be concluded that:

a. With the use of a Website-Based Information System at TPI Karanganyar, the process of updating information about TPI can be done quickly.

b. The Fish Auction Information System in Kragan Karanganyar, reviews the processing of Daily Auction Data, such as ship data, marine products, to the name of the bidder or bidder, which makes it easier for TPI officers to record all data quickly and accurately.
c. Using a computerized system can minimize data recording errors, and will save more on the cost of purchasing stationery, as applied to the previous system. And the prospect of implementing further studies in the future (based on results and discussion).

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