



Application of Framework in the Mobile Application of the Price Data System (Sidara) Desperindag Dumai City

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ABSTRACT

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The trade sector at the Dumai City Trade and Industry Office (DISPRINDAG) and also the general public need a reliable and easily accessible reference for information on food prices. This study aims to build a price data information system (SIDARA) to support price control work in the trade sector which has become a government program. The system was developed with a reference to the standard needs for monitoring food prices by the Riau Province Inflation Control Team. The system architecture utilizes RESTful API technology, in the REST architecture, the REST server provides resources and the REST client accesses and displays these resources for further use. In designing the system, researchers use the Laravel and Ionic framework with the concept of Model View and Controller (MVC).

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1. Introduction

The market is a community economic activity, this is based on or driven by economic development factors which initially only originated from problems to meet the needs of human life (basic needs). The market has been integrated and has the most important place in people's daily lives, broadly speaking the market is a meeting place for sellers and buyers. One of the products we can find in the market is food products, especially the nine staples (SEMPAKO). is the basic need of our society, and is the main commodity as a reference for the welfare of society, but unfortunately at the lower middle class level of society there is often a lack of accurate information about the development of prices prevailing at that time.

One of the media that is often used to obtain information is the internet, with the internet all the information needed can be obtained quickly and easily. According to the market research institute e-Marketer, the net population in Indonesia in 2014 reached 83.7 million people and 93.4 million people in 2015, currently Indonesia is ranked 6th largest in the world in terms of the number of internet users.

Based on the Presidential Regulation of the Republic of Indonesia Number 95 of 2018 concerning Electronic-Based Government Systems (SPBE), the Perguruan Office must be able to provide electronic service data, especially regarding goods price data services. As the topoxy authorized in controlling the price of goods, the trade office is also required to provide a web service as a database of goods prices for its SPBEI application.

From this description, an idea is formed which in nature wants to help overcome these problems by designing and building an integrated application of price data information (SIDARA) for food and groceries in the market.

Research entitled "E-Monitoring of Basic Food Prices at the Department of Trade and Industry of Musi Banyuasin Regency" was investigated by [1] by designing a monitoring system for the market price of basic necessities using internet technology in the form of a website. The V-model method is a method of developing the system. With this system, it will make it easier for the population to know the market price of staples.

The research entitled "OOAD Modeling for Android-Based Basic Food Price Prediction Applications" was examined by [2] with OOAD modeling (Object Oriented Analysis and Design). Applications that will be made are mobile on an Android basis so that all people can use them. The prediction application that will be made is an application that can help provide references to the increase / turn of the price of basic food items every time.

Research with the title "Application Design and Price Information Application of Food Products and Staple Food in the Pasar Kab. Karawang" was researched by [3]. The purpose of this study is to be able to



collect valid price data sources from volunteer traders and stakeholders to inform the public. Can build mobile-based and food product price information applications that can run on the Android Operating System.

Another study entitled "Design of Realtime Food Price Information Systems as a Policy Instrument for Regional Inflation Control" was investigated by [4]. This study aims to build a food information system to support regional inflation control work that has become a government program. The Food Price Information System as a research product will provide a direct contribution to how to complete price monitoring from the manual method using a server database system structure.

Research with the title "E-Government Sembakodroid Monitoring Basic Food Prices Based on Android" was investigated by [5]. The Sembakodroid system is divided into two, namely a mobile system based on the Android platform which will be used by field officers to input and process food price report data and the web based system as a server and to produce basic food price report documents by administrators. With the Android platform-based basic food price monitoring system, it is hoped that it can help field officers at the Industry and Trade Agency to monitor food prices periodically and make it easier to produce data reports on basic food prices quickly and accurately. In addition, the system built can be accessed by mobile field officers, so that the data management process of basic food prices can be carried out directly on the market.

From previous research journal sources, it is clear that the idea of a design renewal that will be built by researchers is the application of the RESTfull API for integration between systems and using the Laravel and Ionic frameworks in building applications. In addition, the resulting application consists of two platforms, namely web and android. The application is accompanied by an API to make it easier to provide price data services for other applications that require a realtime price list of goods.

2. Method

The method used is the engineering method using the Software Development Life Cycle (SDLC) in developing the application using a prototype model. The reason the research uses this prototype model is because this model provides the best approach if it defines the rules of the game at the start, that is, the customer and the developer both have to agree that the prototype is built to function as a mechanism for defining needs [6]. The research location is in the Department of Trade and Industry of Dumai City. Can be seen in Figure 1 below,

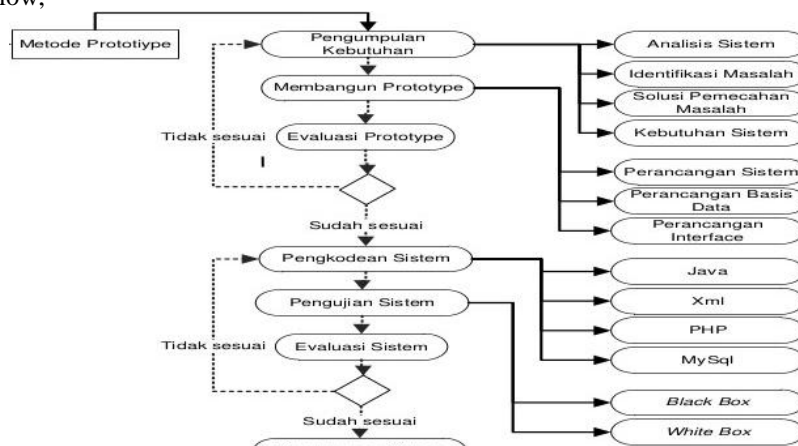


Fig 1. Stages of Research Methodology

The steps in the prototype method are as follows:

2.1 Collection Needs

At this stage, it was carried out by interviewing the Department of Industry and Trade of Dumai City regarding the system that will be designed and run later and conducting field observations to observe directly the data processing process at the Dumai City Disperindag. At this stage, the collection of needs was carried out, including:

a) Old System Analysis

There is no control over basic food prices in the community and it is difficult to monitor and supervise the Dumai City Department of Industry and Trade on the growing price of basic foodstuffs in the community.



b) Identification of Problems Faced

The difficulty of supervising food prices by the Desperindag of Dumai City

c) Troubleshooting Solutions

Build systems and applications to make it easier to supervise the price of goods that are developing in the people of Dumai City.

d) System Requirements

Desperindag can monitor the price of basic food, Desperindag knows the amount of basic food available in the market through a web service. While the public can see information on basic food prices through the mobile system service.

2.2 Building Prototype

After the data is collected, the next stage is to build a prototype of a system to be built including:

a) New System Design

At this stage the objective is to design a sheet system using the Unified Modeling Language (UML) notation as a tool in the sensing device system.

b) Database Design

Database design using Entity Relationship Diagram (ERD)

c) Interface Design

Interface design using mockups for the back end is web while the front end is android.

2.3 Prototype Evaluation

At this stage Showed the results of the system design to the Disperindag party to get an agreement including evaluation from a management and technical point of view of the application system. After the evaluation is complete, then the next step is coding a system. The following is a statement of approval for innovation and research from several stakeholders involved.

2.4 System Encoding

At this stage, translating a prototype design that has been evaluated by the user into a programming language that is in accordance with the research and in this study the programming languages used are Java, XML, PHP and MySql as the database.

2.5 System Testing

At this stage what is done is constructing, testing, installing and providing services to users. This application was tested using two ways including the following:

a) White Box Testing

White box testing is testing a system program from start to finish and data flow, whether or not it is in accordance with the expected research.

b) Black Box Testing

Black box testing is a system application testing that involves the user, which aims to determine the shortcomings of the application system that has been built.

3. Results and Discussion

3.1 Global Design

The system in this study involved two users, namely Industrial Industry and Trade officers and the community. Every actor in the system must go through the verification for restrictions on the use of the system. Desperindag officers log into the system, view and manage market info, view and manage foodstuff info, view and manage the amount and price of basic necessities. The public logged in and saw market information, the amount of groceries and prices of basic necessities. The global design of the Sidara application can be seen in Figures 2 and 3 below.

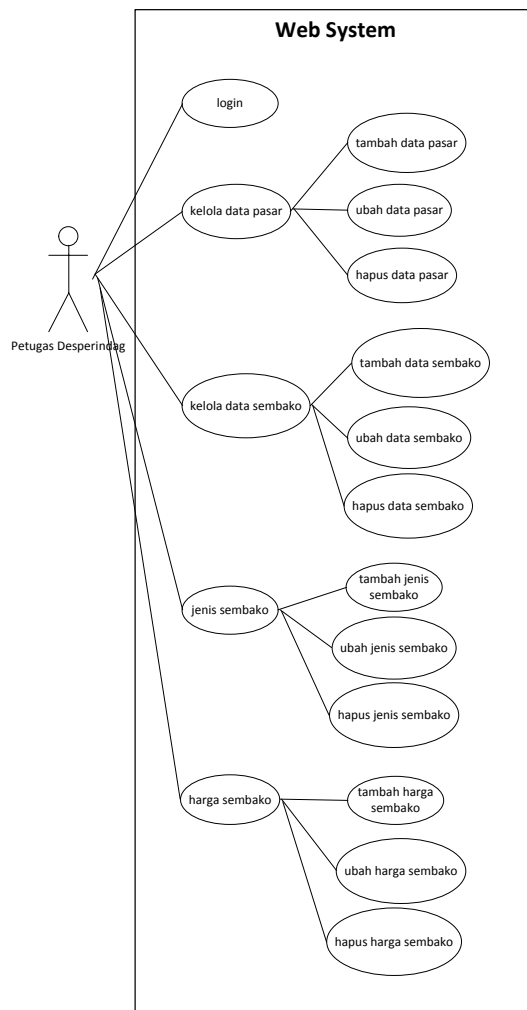


Fig 2 Use Case Diagrams on the web system

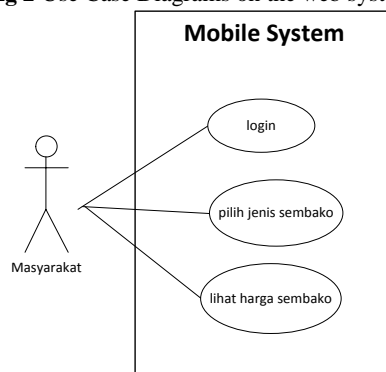


Fig 3 Use Case Diagrams on a mobile system

3.2 Interface Design

The application on the back end is the web system, which is managed by the city of Dumai desperindag officers who can input, manage market data, manage basic food data, and prices of basic food. Seen in the following image

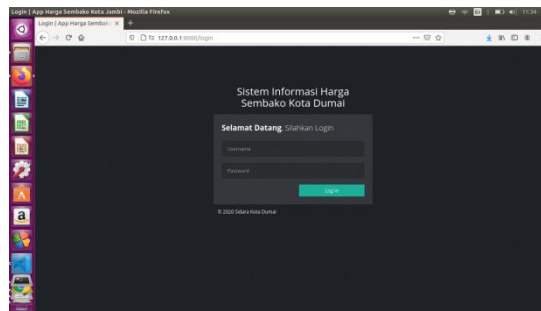


Fig 4 login form on the web system

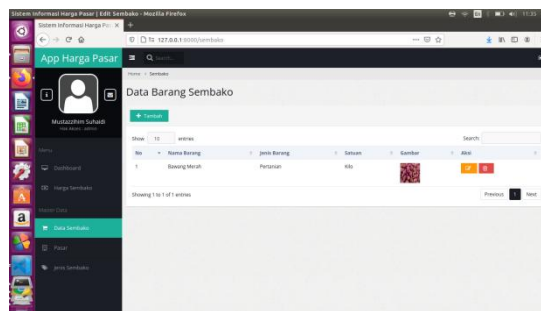


Fig 5 groceries data form on the web system

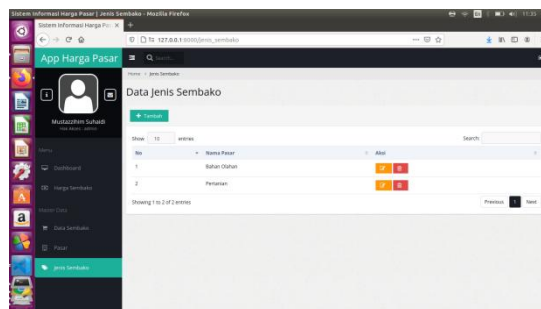


Fig 6 form data types of groceries on the web system

Meanwhile, on the front end (mobile system), the public can see basic food information, market information, and basic food prices. Seen in the following image

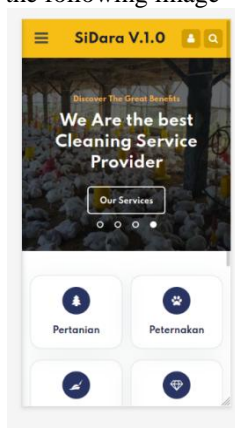


Fig 7 display types of groceries in the Sidara application



Fig 8 display of basic food prices in the Sidara application

4. Conclusion

This research produces a price data system application (sidara) for Desperindag Dumai City using laravel and ionic framework with the concept of the Model View Controller (MVC). With this system, it makes it easy for the Dumai City Ministry of Industry and Trade to monitor and supervise the price and amount of basic foodstuffs scattered in markets in Dumai City.

5. References

- [1] Juansyah (2018), E-Monitoring of Basic Food Prices at the Department of Trade and Industry of Musi Banyuasin Regency, *Journal of Informanika*, Vol. 4 No.2, July-December 2018
- [2] Mujilawati. S, Fauziah. S. N, (2018), Ooad Modeling of Android-Based Basic Food Price Prediction Applications, *Antivirus Journal*, Vol. 12 No. 1 May 2018
- [3] Hananto. AL, Priyatna. B, (2017), Application Design for Price Information of Food Products and Groceries in the Kab. Karawang, *Journal of Computer Science & Information Technology*, Vol 2 No. 1, April 2017
- [4] Rahman, Wahyuni. S, (2017), Design of Realtime Food Price Information Systems as an Instrument for Regional Inflation Control Policy
- [5] Rosyadi. A. F, Risnandar, Ummah. I, (2013), E-Government Sembakodroid Monitoring of Android-Based Food Prices
- [6] Simarmata. J, (2010). *Software engineering*. Yogyakarta: CV AndiOffset