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Android-Based Agriculture And Livestock (Maritani) Marketplace Application

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ABSTRACT

The Maritani application is an android-based agricultural and livestock marketplace application specifically designed to bring together sellers and buyers on one digitalized platform. The maritime marketplace application aims to facilitate sellers and buyers in buying and selling agricultural and livestock needs as well as food needs online. In its business process, the maritime marketplace application uses the B2C (Business to Customer) business model. Where business activities are carried out by producers to consumers using electronic media directly. The development of the Android-based Maritani marketplace is built with the Flutter framework and uses the Dart programming language. At the time of making the Maritani marketplace application for system development using the waterfall method, the development was started with an analysis of system requirements, then carried out the application display design (Graphic User Interface) implementation stage of the application implementation with the Dart programming language. The result of this research is a market application that can have a positive impact on users, both sellers and buyers. In the Maritani application which has a greater opportunity from the community to share knowledge with other sellers, sellers do not need to be afraid of losing consumers, features and regulations of the online market which greatly affect to increase the credibility and safety of the seller's shop , sellers are not required to have large capital. then carried out the application display design (Graphic User Interface) implementation stage of the application implementation with the Dart programming language. The result of this research is a market application that can have a positive impact on users, both sellers and buyers. In the Maritani application which has a greater opportunity from the community to share knowledge with other sellers, sellers do not need to be afraid of losing consumers, features and regulations of the online market which greatly affect to increase the credibility and safety of the seller's shop , sellers are not required to have large capital. then carried out the application display design (Graphic User Interface) implementation stage of the application implementation with the Dart programming language. The result of this research is a market application that can have a positive impact on users, both sellers and buyers. In the Maritani application which has a greater opportunity from the community to share knowledge with other sellers, sellers do not need to be afraid of losing consumers, features and regulations of the online market which greatly affect to increase the credibility and safety of the seller's shop , sellers are not required to have large capital.

Keywords: Marketplace, Maritani, Bussines To Customer, Flutter, Dart

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INTRODUCTION

Competition in the business world is becoming very tight. Companies compete with each other in competing to maintain business in order to remain strong in the midst of fierce competition. Business activities become more efficient and broad in introducing business/business globally without any distance and regional limitations. Marketplace is expected to be a solution in streamlining activities between sellers and buyers.

Information systems that discuss the distribution and sale of the food sector in the agricultural sector are very rare. Especially information systems regarding the distribution and sale of agricultural products, the development of information in the agricultural sector is minimal in the current era of technology and information. Therefore, a revitalization program for agriculture, plantations, and fisheries is needed but in reality it does not touch the improvement of information systems at the most basic level (Marina Tri Susanti, 2018).

The Marketplace system is a location for buying and selling products where sellers and buyers meet in one place or what is known as an electronic market. By using this system, farmers can quickly inform outside parties of their agricultural products through the concept of a web marketplace that will be built using the Business to Business (B2B) concept. In web-based agricultural commodity sales, prospective buyers do not have to come to farmers directly directly, it is enough to visit a website that has been created specifically for selling agricultural commodities (Indra Kelana Jaya, 2018).

At this time, most of the agricultural and livestock entrepreneurs still sell their products and services in a conventional manner such as selling by word of mouth, opening shops or selling agricultural and livestock products to middlemen or collectors. In addition, farmers and ranchers find it difficult to find certain goods. Farmers and ranchers find it difficult to maximize business profits because of limited marketing media. Because many farmers still trade their goods and services conventionally, marketing is limited. In addition, business actors selling and buying agricultural and livestock equipment also do not maximize profits because they cannot market their products more broadly. Even if there are costs, it will be expensive and potential fraud. Based on the problems above, the author offers a solution to create an agricultural and livestock marketplace platform that brings together sellers and buyers. This agriculture and livestock marketplace helps farmers and ranchers to find basic raw materials that help maintain the growth of agriculture and livestock.

With this marketplace platform, it will bring together sellers and buyers online so that people can find it easier to find the items they are looking for, especially in the nearest area, shipping costs will be cheaper, and sellers' profits will be maximized. This platform is the newest platform used by entrepreneurs. agriculture and animal husbandry and will have a positive impact on agricultural and livestock entrepreneurs to sell outside the region.

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METHOD

The Waterfall method is a software development method that allows system creation to be carried out in a structured and systematic (sequential) manner according to the existing development cycle. This method is called waterfall or waterfall because in the process, the system will be made sequentially step by step. Starting from the Requirement, Design, Implementation, Verification and Maintenance stages (Ginanjar Wiro Sasmito, 2017).

The system development method used by the author is Waterfall. Waterfall is an alternative in doing a system development. Waterfall development is carried out in a structured manner, if stage 1 has not been completed, then stage 2 cannot run and so on. All stages are interrelated and each must be worked out in detail.

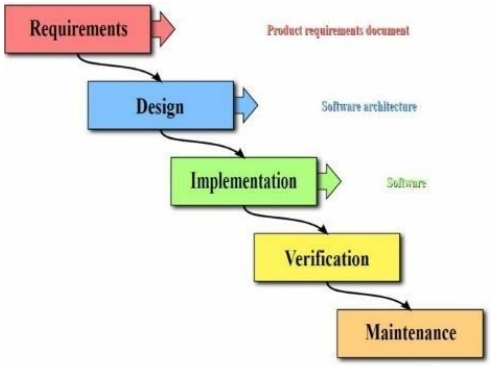

Figure 1. Waterfall Method Flow

Research on Agriculture and Livestock Marketplace was conducted on Agriculture and Livestock shop owners around Lhokseumawe City. This research took place from October – November 2020. By collecting some necessary data and those related to the research. The data sources used in this application are quantitative data sources in the form of sellers, breeders, farmers, and agricultural and livestock entrepreneurs, namely in the form of seller information. and the goods they sell. As well as, information from buyers, such as the identity of the buyer, the identity of ordering, shipping, and information related to other buying and selling transactions.

At this stage, the process or activity that occurs between the user and the application will be explained using the Unified Modeling Language (UML). UML is a standard language for specifying, visualizing, constructing, and documenting software components used for business modeling. Consists of Use Case Diagrams, Activity Diagrams, and Sequence Diagrams.

In this use case diagram there are 3 actors, namely Admin, Seller, Buyer, In this use case there are several use cases for each actor, where it is illustrated that the first actor (Seller) can manage some data on the Maritani Application, this Maritani Application can manage information actor data, all actors have their respective modules according to their profession

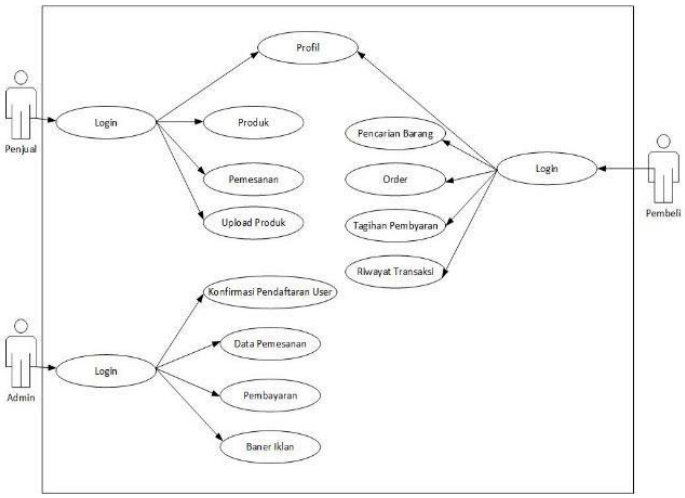

Figure 2. Use Case Diagram

Activity Diagram Login

In the login activity diagram, the user will log into the system by entering the username and password on the login page that will be displayed on the system. If the user enters the wrong

username and password, it will return to the previous step. If the login process is successful, the system will display the Maritani Home page.

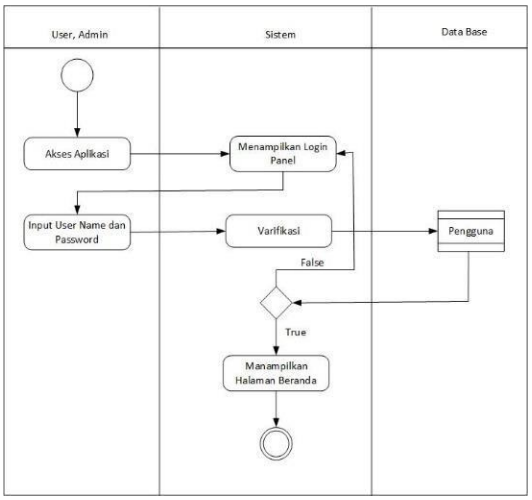

Figure 3. Activity Diagram Login

Activity Diagrams Sale

In the Sales activity diagram,the user can see the Home page then the system displays the home page, after that the user as the seller can see the order list then the system will call the order data in the database then the system displays it on the order page.

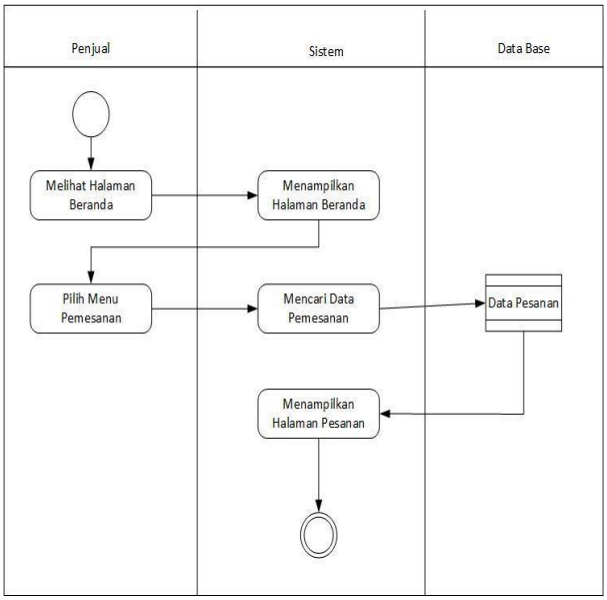

Figure 4. Sales Activity Diagram

Activity Diagrams Buyer

In the Sales activity diagram, the system displays the home page, after that the user as the buyer can choose the product on the product page, then the system will call the product data in the database, after being called the system will display the product to be selected by the buyer. To make a purchase, the user can checkout, if the buyer makes a payment, the system will direct to the payment page, then the buyer makes a payment, then the system will carry out the payment validation process and the process is complete. If in the checkout process the buyer does not make a payment, the system will direct the buyer to the product display page.

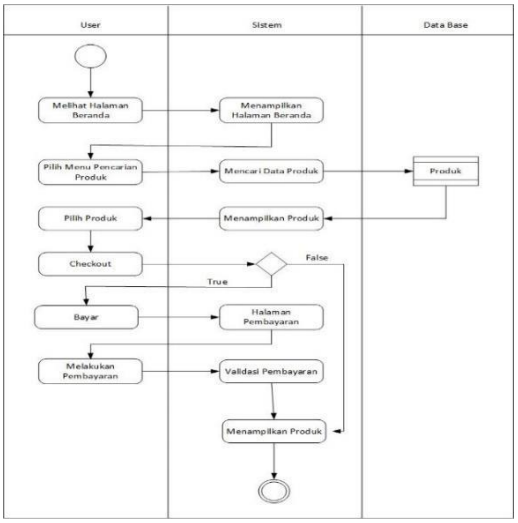

Figure 5. Buyer Activity Diagram

Sequence Diagram Login

In the login sequence diagram, the user will login to the system by enteringusername and password on the login page will be displayed in the system. If the user enters the wrong username and password, it will return to the previous step. If the login process is successful, the system will display the Maritani Home page

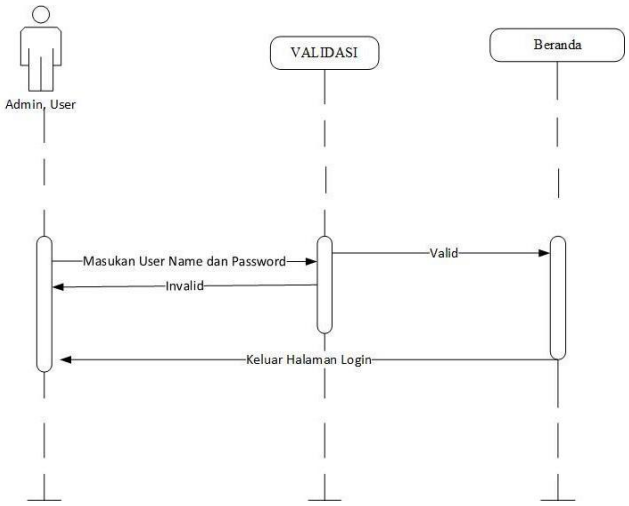

Figure 6. Sequence Diagram Login

Sequence Diagrams Seller

In the seller sequence diagram, the user selects a menu to enter the seller's page and then can view product details on the product page. On the product page, the user as the seller can also add products and the system will store them in the database. When finished saving in the database the system will display the product on the product page.

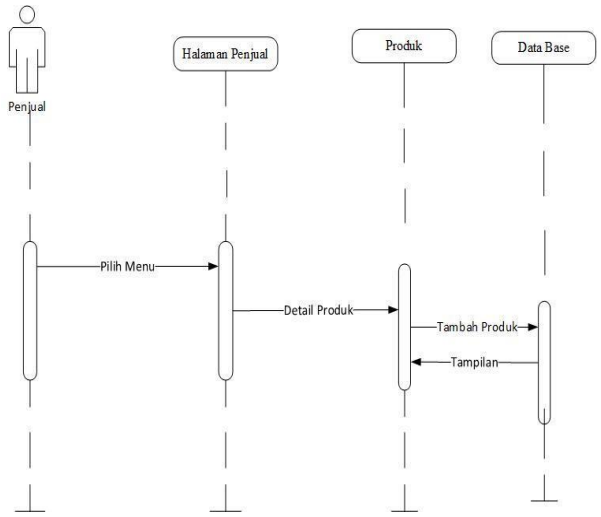

Figure 7. Seller Sequence Diagram

Sequence Diagrams Buyer

In the buyer sequence diagram, the user selects a menu to enter the buyer page and then can view product details on the product page. On the product page, users as buyers can also buy products by checkout first, after completing checkout the system will direct the user to the order page after this the user will be redirected back to the product page.

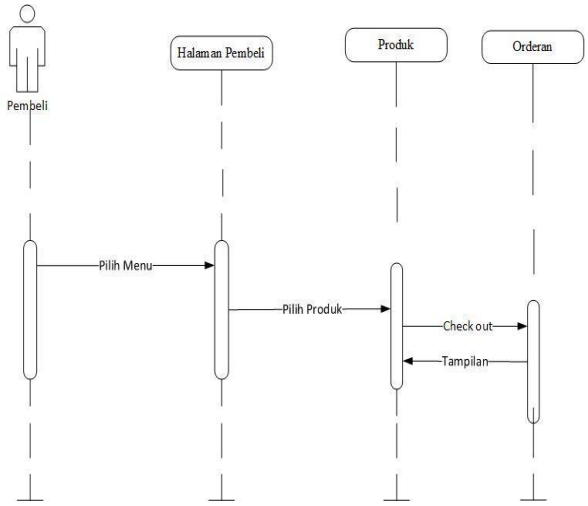

Figure 8. Buyer Sequence Diagram

RESULTS AND DISCUSSION

Maritani is a new marketplace platform for agriculture and animal husbandry, Maritani is designed to bring together sellers and buyers online so that it becomes easier for people to find the items they are looking for, especially the nearest area, shipping costs will be cheaper, and the seller's profits will be maximized. This platform is the latest platform used by agricultural and livestock entrepreneurs and will have a positive impact on agricultural and livestock entrepreneurs to make sales outside the region. This platform will provide benefits for sellers and buyers to make buying and selling transactions easier and more efficient. With this E-Marketplace, it can facilitate buying

and selling businesses in agriculture and animal husbandry to the community. The following is a display of the Maritani Application Main Page

Figure 9. Login Page

The Login page is the screen that will appear first. If the user is already registered, then the user can enter "Email" and "Password" on this page. However, if you don't have an account yet, the user must press the word “I don't have an account” to go to the “Registration” page.

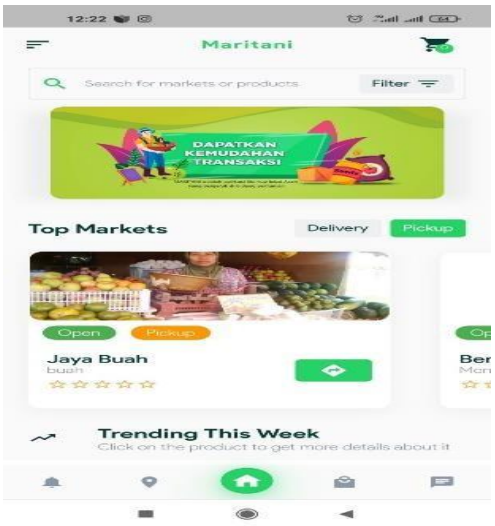

Figure 10. Home Page

Home Page Design is a display that will appear after registered users have successfully entered the application. On this page users can see and use all the features available.

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Figure 11. Profile Page

Profile Page Design is a view that will appear after the user presses the "Profile" side bar in the application. On this page the user gets information about the account that has been registered.

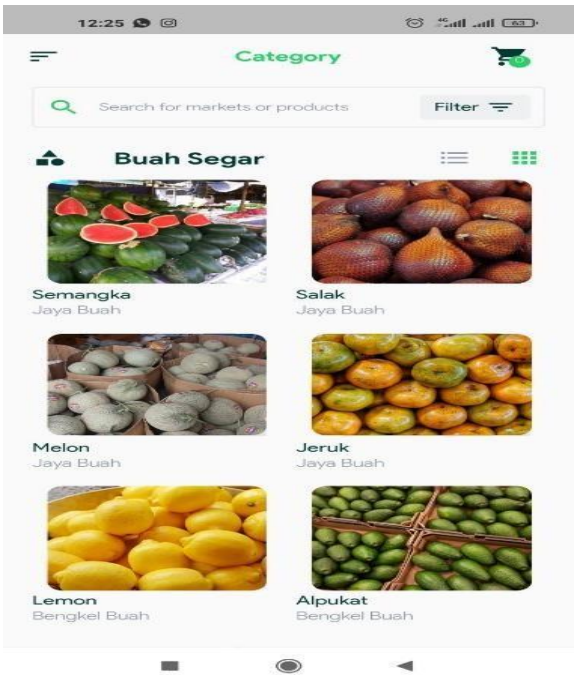

Figure 12. Product Category Page

The Product Category page is the display that will appear after the user enters the Home page.

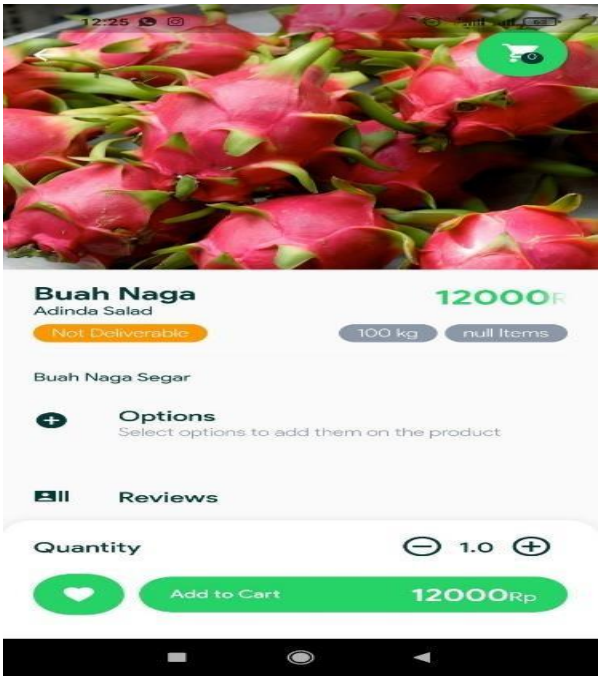

Figure 13. Product Detail Page

On this page users can view product details and prices and add to the shopping cart.

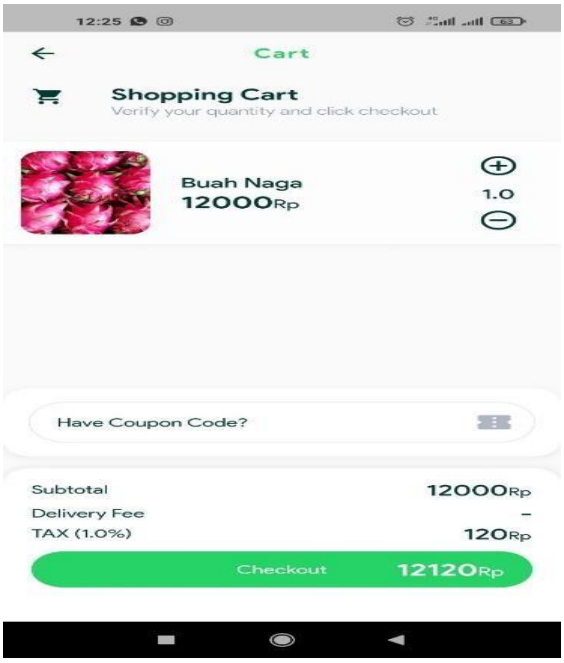

Figure 14. Shopping Cart Page

Shopping Cart Page Design is a display that will appear after the user presses the "Cart Icon" on the application. On this page, customers can choose what products to buy.

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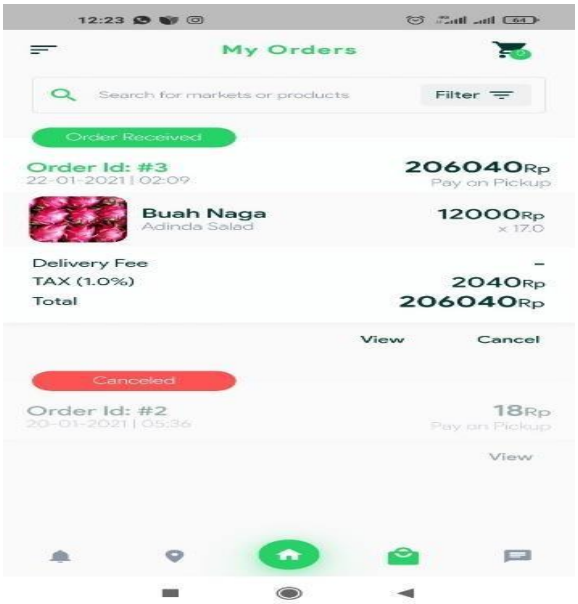

Figure 15. Payment Details Page

Payment Details Page Design is a view that will appear after the user presses "Checkout" in the application. On this page, customers get information about the Total Payment to be made by the buyer.

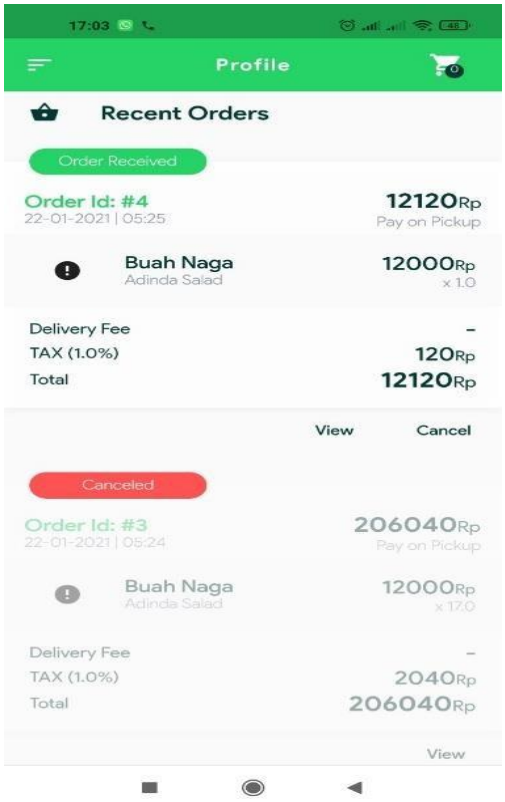

Figure 16. Transaction History Page

The Transaction History page is a view that will appear after the user presses the navigation bar “Recent Orders” in the application. On this page, customers get information about what purchases have been made by the buyer.

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CONCLUSION

From the Design of Android-Based Agricultural and Livestock Marketplace Applications in Lhokseumawe City, several conclusions can be drawn, as follows: This Android-based Farm and Livestock Marketplace application in Lhokseumawe City is designed to make it easier to sell from conventional systems to being online and has no time limit. Application is built with: Observing the conventional process of selling the Android-Based Agriculture and Livestock Marketplace Application system. Analyzing new system requirements After obtaining the new system requirements, continue to create an Android-Based Agriculture and Livestock Marketplace Application Android-Based Farm And Livestock Marketplace Application built with Flutter Framework and Dart programming language. Marketplace AppThis Android-based Agriculture and Animal Husbandry can manage access to buying and selling raw materials for agriculture and livestock, and can be accessed by users, both from sellers and buyers, only for limited buyers and sellers, who can manage everything, namely the admin.

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