HASIL CEK_Development of E-Marketplace in Department of

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Development of E-Marketplace in Department of Agriculture Food Crops and Horticulture as a Means to Expand The Market of Processed Food

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Abstract— Department of Agriculture Food Crops and Horticulture has a task to develop an activity to increase the production of agriculture and horticulture, and also develop the business of food crops and horticulture. One of its partner to do the task is Aspemako. Aspemako is an association of business of processed food. In this paper we take a case in Gunung Kidul District. Currently in marketing part, the Aspemako puts its products in a tent in front of the Department, so the market is very small and the business becomes sluggish. In that way Aspemako needs a new means to expand the market to increase their business. The development of the e-marketplace follows water fall process model, like analysis, design, implementation and testing. From the testing it is sure that the e-marketplace is running well and it is a decent tool for Aspemako to increase the market of processed food.

Keywords—e-marketplace; processed food; aspemako

I. INTRODUCTION

One of the goal Department of Agriculture Food Crops and Horticulture in Indonesia is to develop a sustainable activity to increase the production of agriculture and horticulture, to make a good product of food corps and horticulture and also develop the business of food crops and horticulture [1]. In this paper we take a case of Gunung Kidul District. One of its partner to achieve the goal is Aspemako. Aspemako is an association of business of processed food. Aspemako in Gunung Kidul District currently has 60 member. All of them doing a business of processed food. Every Friday morning Aspemako opens a traditional market of processed food in front of Department of Agriculture Food Crops and Horticulture office, to sell their processed food [2]. In that way their turnover is limited, because the consumer are only from its surrounding neighborhood. Their processed food has a specific taste and has a potential to be sold in the global market.

From that situation, we can say that actually, Aspemako and Department of Agriculture Food Crops and Horticulture together needs a means to increase their business and hence their turnover. Electronic marketplaces (e-marketplaces) are

examples of new business practices that have emerged to facilitate specific e-commerce processes. E-marketplaces are commonly defined as a central marketplace connecting buyers and suppliers (or sellers) electronically to facilitate exchanges of information, goods and services [3].

Daniel, E M, Hoxmeier, J. White, A, Smart, A [4] have proposed a framework that describes the factors that influence the sustainability of e-marketplaces. These factors are the macroeconomic and regulatory level, the industry level, the individual firm level. Xiaoping, Z, Chunxia Wu, Dong Tian, Xiaoshuan Zhang [5] have concluded that B2B E-Marketplace process in agriculture product marketing can be analyze the benefit and critical factors in problem agriculture marketing. Agung [6] has made an application for buying and selling on e-marketplace. It has features for a buyer like shopping cart, multi transaction, and refund. For a seller it has features like processing product, processing transaction, statistic, and payout. For administration, it has feature like registration for buyer and seller, moderation processing refund and payout. Rudi [7] has made an e-marketplace for online auction, it has features like searching a product offering (offer to buy and offer to sell). Novaldy [8] has made an e-marketplace that has a feature like buyer can buy from a different seller with a single payment. Bukalapak [9] is an application of e-marketplace for public, anyone can joint Bukalapak as a buyer or a consumer. They can sell anything an also they can buy anything. Bukalapak, one of the biggest marketplaces in Indonesia, facilitates about IDR 500 million ($41,000) worth of transactions every day in 2014 [10]. In particulari, Zanita and Miranda [11] said that recognize e-marketplace is no easy task for managers to attain a competitive advantage that will endure over time. they has identified four key factors in maintaining a high-quality level, managers of B2B e-marketplaces should pay special attention: reliability and security, the usefulness of the information provided, value-added services, and efficiency.

From the above explanation, it is clear that there is not yet marketplace for Aspemako that is exclusive for processed

food from Gunung Kidul District. This paper will talk about the development of e-marketplace in Department of Agriculture Food Crops and Horticulture as a means to Expand the market of processed food in Gunung Kidul District.

II. REQUIREMENT ANALYSIS

In this part we will talk about requirement analysis for e-marketplace in Department of Agriculture Food Crops and Horticulture as a means to Expand the market of processed food in Gunung Kidul district.

A. User Requirement analysis
- Administrator of the e-marketplace has an access to all data, so that he can control all the system. Administrator for this e-marketplace is Department of Agriculture Food Crops and Horticulture.
- Seller, is a member of Aspemako who's already registered in the system. He/She can do processing product, order, and delivery of the product.
- Buyer, has an ability to search a product, has a shopping cart, confirmation of payment, and see the status of shipment.

B. System Requirement Analysis
- Functional requirement like login, processing member, product, order, payment, and shipment. It also has a forum to communicate between all the registered user.
- Nonfunctional requirements like it can be used with any browser, can be accessed by anyone from anywhere and anytime

III. DESIGN

Design of e-marketplace in Department of Agriculture Food Crops and Horticulture in Gunung Kidul follows object oriented design, so it has use case diagram, activity diagram, sequence diagram. Use case diagram of e-marketplace in Department of Agriculture Food Crops and Horticulture as a means to expand the market of processed food in Gunung Kidul can be seen in Figure 1.

Figure 1. Use Case Diagram

From Figure 1, we can see three actor which are administrator, seller and buyer. Every actor has a different

access rights. Administrator can do login, managing member, manage product, order, payment, shipment, topic in forum, and logout. Seller can do registration, login, managing product, order, topic in forum, shipment and logout. Buyer can do searching a product, managing shopping cart, ordering product, confirming payment, and shipping.

Activity diagram is modelling the workflow of business process and the sequence of the activity in the process. Activity diagram also helpful for describing parallel behavior, or describing the interaction of several use case. According to the use case diagram we will have 15 activity diagrams, due to the limited space we are not putting them in this paper.

Sequence diagram describe interaction between object in time sequence. It can be used to show the message that is passed between object. 15 sequence diagrams, due to the limited space we are not putting them in this paper.

The design of database uses entity relationship diagram (ERD). ERD of e-marketplace in Department of Agriculture Food Crops and Horticulture in Gunung Kidul can be seen in Figure 2.
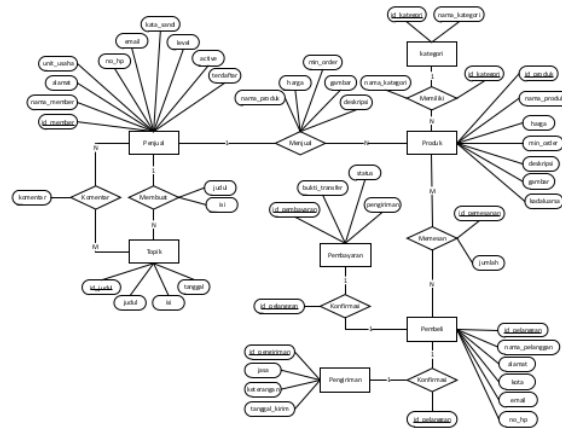

Figure 2. Entity Relationship Diagram (ERD)

IV. IMPLEMENTATION

In implementation we use PHP with framework CodeIgniter (CI), HTML, and for database we use MySQL. We will not show all the screenshot of the application, but only some of them which are:
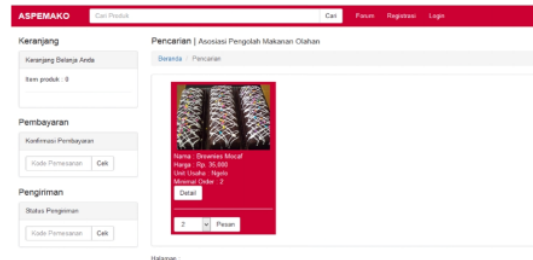
A. Searching Page

Figure 3. Searching Page

Figure 3, shows the screenshot of searching page. User can search the product they want to see and buy. User can input the searching key and the system will display the the result. Figure 4, shows the screenshot of manging the shopping cart. Users can manage their shopping cart like add item, delete item and clear the shopping cart.
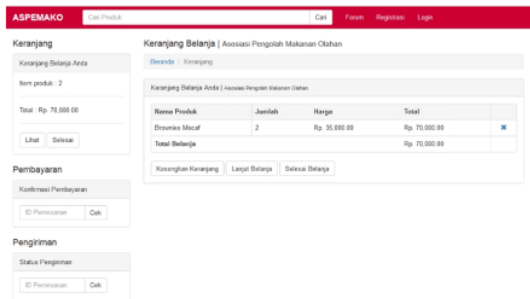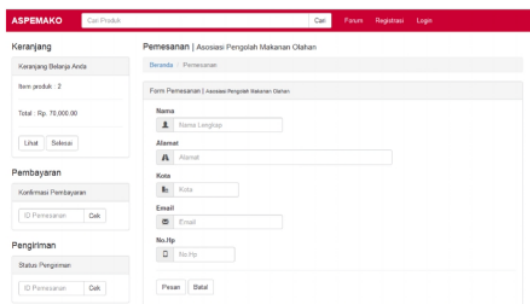

Figure 4. Manage the shopping cart

Figure 5. Order Page

The order page can be seen in Figure 5. User can fill the form where the product has to be shipped. The payment confirmation page can be seen in Figure 6. User can upload their transfer receipt.
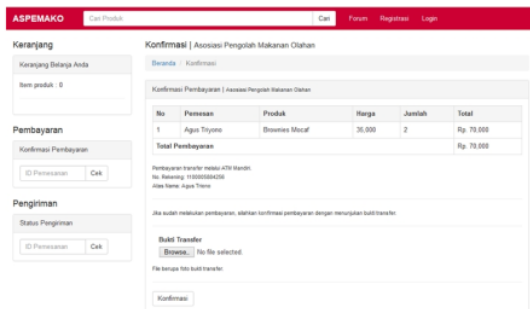

Figure 6. Payment Confirmation Page

The shipment status page can be seen in Figure 7. User can see the shipment status of their order in this page.
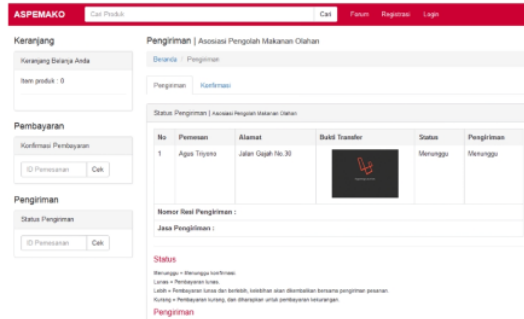

Figure 7. Shipment Satus Page

V. Testing

We have done testing for e-marketplace in Department of Agriculture Food Crops and Horticulture in Gunung Kidul District with two methods. Alfa testing and Black Box Testing. Respondens to conduct Black Box Testing are Dinas Tanaman Pangan dan Holtikulura (TPH) Gunung Kidul. They are really understood about management of these system. From Black Box testing we have a result that the system is running well and no errors. Whereas Alfa Testing, involves 10 respondens from the different work backgrounds. From the Alfa testing we have a result that 95% of users agree that the system is user friendly, easy to used, nice performance, so the system is deserve to be implemented.

VI. Conclusion

We have several conclusion in developing e-marketplace in Department of Agriculture Food Crops and Horticulture in Gunung Kidul District i.e:

- We have developed developing e-marketplace in Department of Agriculture Food Crops and Horticulture in Gunung Kidul District as a means to expand the market of processed food in Gunung Kidul District

- The developing e-marketplace in Department of Agriculture Food Crops and Horticulture in Gunung Kidul District is deserve to be implemented.

- This e-marketplace in Department of Agriculture Food Crops and Horticulture in Gunung Kidul District can help in Department of Agriculture Food Crops and Horticulture in Gunung Kidul District to achieve their goals.

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