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Analysis and Design of e-Commerce Application "PALMARKET" based on Mobile Android as a Media for Selling Quality Palm Seeds and Seeds

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Abstract

The use of e-commerce mobile applications is very useful toreach sales and purchases widely and is easy, fast and convenient to use for the community. Until now, there has not been found e-commerce that is devoted to selling seeds and plant seeds, especially oil palm plants that can betrusted. In fact, there are many farmers who buy the wrong seeds, resulting in long-term problems in the oil palm plantation industry whose production is decreasing. Therefore, the sale of seeds and plant seeds needs support through a trusted e-commerce Mobile Application so that farmers do not need to be afraid to buy quality oil palm seeds. The development method used in this research uses the Waterfall method. The results of this study are in the form of e-commerce Mobile Application as a means of buying and selling oil palm seeds and seeds that are easy and reliable throughout the region.

A. Introduction

The presence of information technology requires every individual, organizationor company to follow its development, because every time the need for information is increasing and developing. Proper utilization of information technology will produce fast, precise and accurate information. There is no exception in choosing the best palm head seedlings[1].

In the development of technology, information can be obtained and distributed quickly and easily, therefore the development of the Internet is one of the electronic business services (e-commerce) which is very important in the business environment [2], [3].

The utilization of electronic business can be utilized, one of which is by developing mobile android applications. Android is an open source-based operating system that allows users to build applications such as palmarket. Android as a platform has grown significantly since its inception in 2009. Android continues to maintain its competitive advantage in the technology market[4].

The development of an application for the sale of oil palm seedlings and seeds "Palmarket" is a solution to the problems that often arise in the palm oil industry and cause other prolonged problems. Where oil palm farmers often make transactions to buy seeds at low prices, and also of poor quality. This makes long-term production that will not meet the target, and makes the palm oil industry experience a decline in quality[5].

By collaborating with distributors of quality and reliable oil palm seeds and seedlings. Palmarket will be an e-commerce application for oil palm seeds and seedlings that will have an impact on the palm oil industry and is easily accessible to all groups, especially oil palm plantation owners and developers[6].

B. Research Method

1. Data collection

a) Interview

Interview is a data collection method that requires direct communication between investigators and respondents[7] . The author conducts interviews with palm oil experts and distributors of quality and reliable palm oil seeds and seeds.

b) Observation

In observation, the researcher is involved with the daily activities of the person being observed or used as a source of research data[8] .The author makes observations by directly observing the process of selling oil palm seeds and seeds, and seeing the quality obtained from the transaction results.

a) Literature Study

Literature study is related to theoretical studies and other references related to the values, culture, and norms that develop in the social situation under study. And there are three criteria related to the theory used as the basis for research, namely relevance, recency and originality[9]. The author seeks information from the internet, from libraries, from books and journals as reference material as a reference in writing reports and also making this application.

2. System Development

The methodology that the authors use for system development in this study uses the waterfall method. The design approach based on the waterfall model theory is the first step and can reflect the basis of program development activities[10]. This system development model consists of Requirement (needs analysis), System and software design, Implementation and unit testing (implementation and unit testing), Integration and system testing (system integration and testing), Operation and maintenance (operation and maintenance)[11]. The author uses the waterfall method in the research made with the aim that during the process of making the marketplace can be completed in order, directed and detailed every stage by stage as in Figure 1.

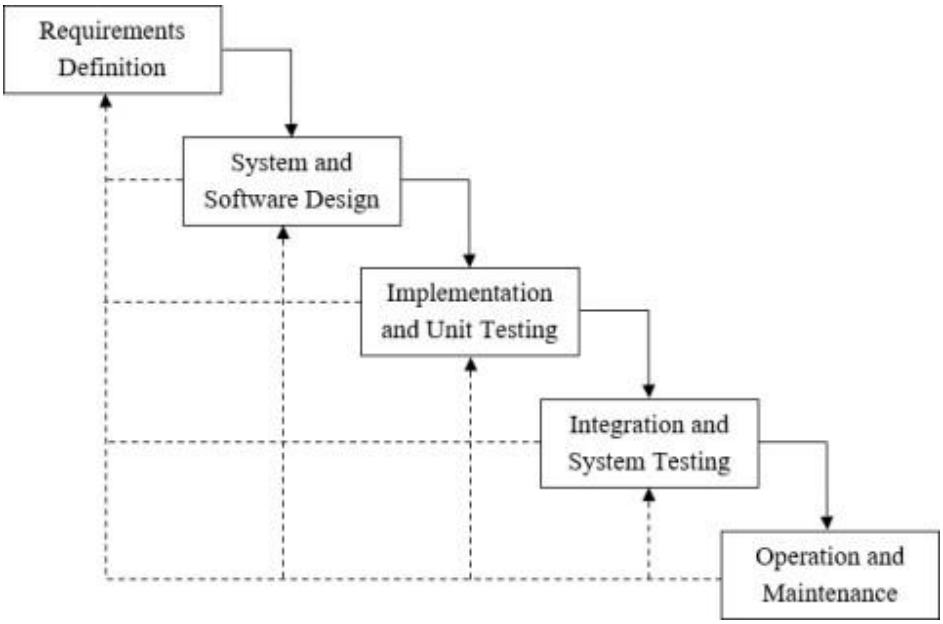


Figure 1. Stages of the Waterfall Model

At the stage of system development techniques or the data collection process carried out by the author is to collect facts related to existing problems. The system development techniques used consist of several aspects, namely Interviews, Observation, Literature Study[12].

A. Result and Discussion

This research produces a user interface display of the Palmarket Application. User Interface serves to input new knowledge into the system knowledge base, display system explanations and provide a thorough step-by-step system user guide, so that users understand what will be done to a system[13] . The following is the result of the user interface display design of the "PALMARKET" Application.

1. Registration and Login Page

   On this page, the user will be asked to input some data required by the application in order to access features and make transactions in the application. Starts the registration and login display can be seen in Figure 2.

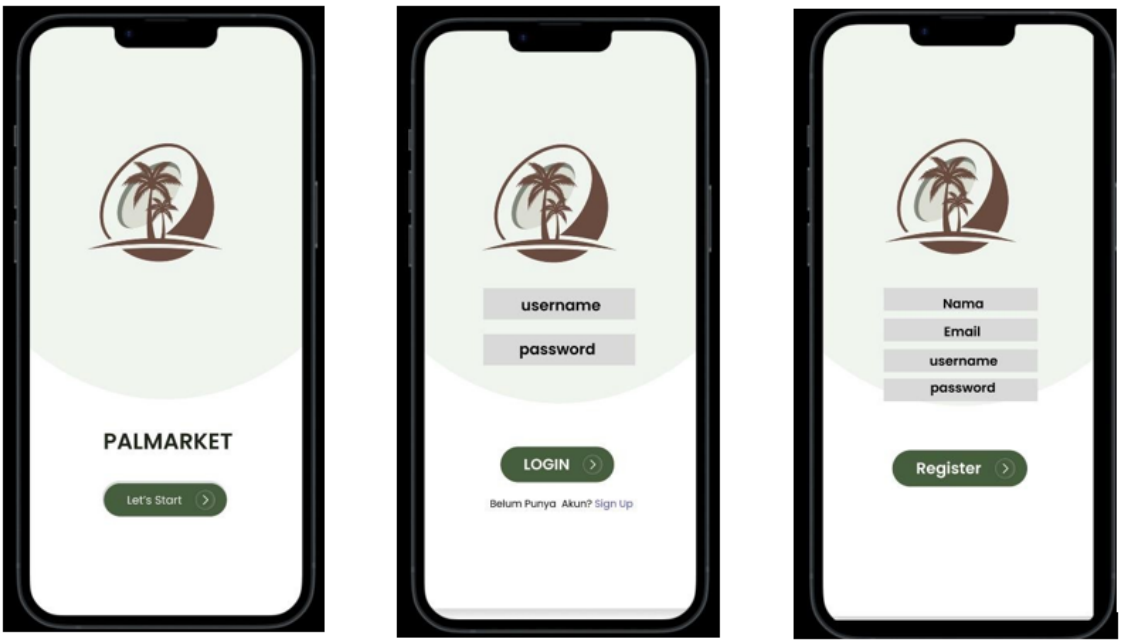


Figure 2. Interface Registration and Login Page Palmarket

2. Home Page

In this page the user can see some of the features in the application, and can see interesting products offered in the application. In addition, it can also access other pages in the application, such as profile, product details, and cart. Home page can be seen in Figure 3.

Figure 3. Interface Home Page Palmarket

3. Profile Page

The Profile page contains detailed user data needed in the application, such as contacts that are still active and the address used to

receive ordered goods. Profile page can be seen in Figure 4.

Figure 4. Interface Profile Page Palmarket

4. Product Page

The product page contains details of the product that the user wants to see, the information displayed can be in the form of name, price, description and photo of the product being sold. To make it easier for users to get the desired product before making a transaction. Product page can be seen in Figure 5.

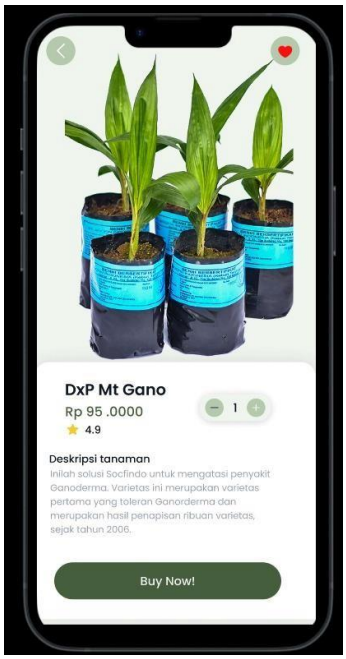
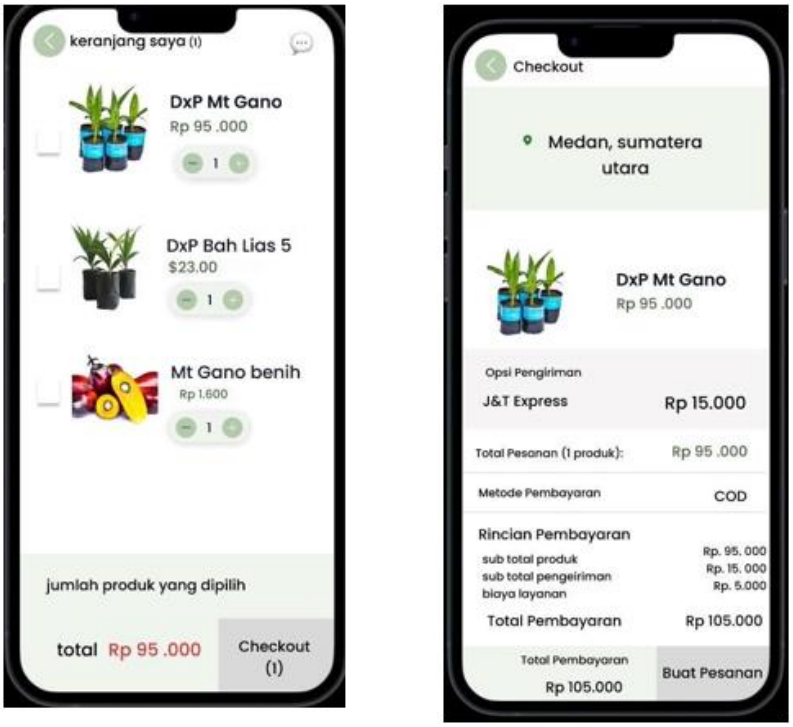


Figure 5. Interface Product Page Palmarket

5. Cart and Purchase Page

On the cart page the user can see the items that have been selected and put in the basket, this page contains information related to the price of the selected number of products and directs the user to the purchase page. On the purchase page the user will be asked to fill in the shipping address and payment method that will be made. The system will inform the final total payment of the transaction. Cart and Purchase page can be seen in Figure 6.



C. Conclusion

Based on the analysis and design of the Palmarket application, conclusions are obtained The proposed e-commerce Mobile Application system is a means for buyersto make trusted transactions in purchasing the best oil palm seeds and seeds, the second, Sales and purchase transactions can be easily accessed by all customers from various regions.

D. References

[1] M. Ikhlas, "Penerapan Metode Mfep (Multifactor Evaluation Process) Dalam Pengambilan Keputusan Pemilihan Bibit Kelapa Sawit Terbaik," Jurnal Sains dan Teknologi, vol. 19, no. 1, 2019.

[2] R. R. M. S. S. H. M. H. Virsky, Pengembangan Website Party Planner. 2019. [Online]. Available: http://prosiding.seminarid.com/index.php/sensasi/issue/archive

[3] C. D. Utami, M. W. Worth, R. R. M. Salim, and H. Handoko, "Analisis dan Perancangan E-Commerce 'YoPlant' Berbasis Mobile," remik, vol. 7, no. 1, pp. 63–73, Jan. 2023, doi: 10.33395/remik.v7i1.11941.

[4] D. Susanti and A. Tisti Pratiwi, "Sistem Informasi Distributor Penjualan Bibit Tanaman Dan Sayuran Di Kabupaten Majalengka Berbasis Mobile Android," vol. 02, 2020.
[5] P. Paryanta, H. Basuki, and A. Widhiyatmoko, "Sistem Informasi Penjualan Bibit Tanaman di Toko Higar Agro Berbasis Android," Go Infotech: Jurnal Ilmiah STMIK AUB, vol. 27, no. 2, pp. 159–166, Dec. 2021, doi: 10.36309/goi.v27i2.158.
[6] M. Fauzan Azrial and N. Fadillah, "Sistem Informasi Pengangkutan Pupuk Menggunakan Metode Waterfall (Studi Kasus PT. Pupuk Iskandar Muda, Aceh Utara)," Jurnal Informatika dan Teknologi Komputer, vol. 01, no. 02, pp. 75–81, 2020, [Online]. Available: https://ejurnalunsam.id/index.php/jitkom/
[7] Suswono. 2013. Target Produksi Perkebunan Kelapa Sawit Rakyat 6 Ton/hektare. (ekonomi.inilah.com, diakses pada tanggal 21 Januari 2013).
[8] Teknologi Budidaya Kelapa Sawit. 2008. Balai Besar Pengkajian dan Pengembangan T eknologi Pertanian Badan Penelitian dan Pengemabangan Pertanian. Seri Buku Inovasi BUN/11/2008.
[9] Nurhida Pasaribu. 2004. Minyak Buah Kelapa Sawit. Jurusan Kimia Fakultas Matematika Dan Ilmu Pengetahuan Alam Universitas Sumatera Utara.
[10] Thiam Kian Chiew; Karen Renaud. 2015. Estimating web page response time based on server access log. 9th Malaysian Software Engineering Conference (MySEC). Pages: 140 – 144
[11] Siti Azreena Mubin; Azrul Hazri Jantan; Rusli Abdullah; Azrina Kamaruddin. 2015. UML-based navigational design approach for modeling complex interactions in web applications. 9th Malaysian Software Engineering Conference (MySEC) . Pages: 60 – 63
[12] Brady, M., Loonam, J., 2010, Exploring the use of entity-relationship diagramming as a technique to support grounded theory inquiry, Bradford: Emerald Group Publishing.
[13] Syaukani, dkk., 2012, Otonomi Daerah dalam Negara Kesatuan, Yogyakarta: Pustaka Pelajar.