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DEVELOPMENT OF PAYMENT GATEWAY DIGITALIZATION USING MIDTRANS IN THE USE OF HALODOC

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Abstract

The digital age improves old technology to make life easier. Users and providers benefit from new technologies. New technology gives service providers and users significant opportunities. Online health applications, used by businesses to grow, can improve the health system and user experience. To compete with other online health care providers, a company must assess the app's usability and satisfaction. In this study, the author's intent and purpose is to try to describe how much influence service quality has in the development of digitization using midtrans in the use of the halodoc application. The results show that there is a strong influence between the current information technology developments. meaning here it can be seen that the more advanced the development of technology in the digital era, the more living things need communication tools to get information, because it has become an important requirement in order to be able to interact and communicate properly. After conducting research using several methods, the conclusions obtained are the need for instant applications that help find drugs and the location of the nearest pharmacy, reduce the number of queues and make it easier for users in terms of payments.

Keywords: *Halodoc, Health Services, Midtrans, Payment Gateway, Pharmacy*

1. INTRODUCTION

Hospitals and pharmacies have an important role in the health sector in Indonesia. This is because the place is a means of distributing drugs, pharmaceutical supplies and medical devices to the public. The Ministry of Health (hereinafter referred to as Kemenkes) noted that Indonesia will have 30.199 pharmacies in 2021, unchanged from the previous year. Of these, there are only 3.910 pharmacies that work with BPJS Kesehatan. Estimating the tendency in the last decade, in Indonesia the number of pharmacies tends to increase. The highest increase in the number of pharmacies was 19,81% in 2013, from 17.613 units to 21.103 units. Based on its area, West Java is the province with the most pharmacies in Indonesia, namely 4.874 units in 2021. East Java ranks second because there are 4.250 pharmacy units. Percentage of internet users aged 16 to 64 who own each type of device, including mobile phones (96%), smartphones (94%), non-smartphone mobile phones (21%), laptop or desktop computers (66%), and tablets (23%), and profit if they try to use it.

With the support of the internet, the use of mobile devices such as smartphones can make it easier for health services to be able to reach better areas of society with previously limited health workers (Ariyanti & Kautsarina, 2017). The use of the Halodoc application is currently growing rapidly, mainly due to the limited and uneven distribution of the health service system in various provinces. These limitations are partly due to limited health service personnel, a high population growth, developments in disease transmission,

and limited funding sources to support health service infrastructure (Hidayat, 2020). The large number of access to smartphone use, including in remote areas, increases opportunities to provide health services. Especially with the existence of smartphone technology, the development of Halodoc has expanded its functions to include being used as a technology to support diagnosis, remote diagnosis, telemedicine, GPS navigation, surveillance, and management of health information systems.

From the previous studies described above, the authors conclude that previous researchers have also examined similar cases, namely "*Aplikasi Smart Apotek Menggunakan Api Midtrans sebagai Payment Gateway pada Smartphone Android*" written by Reynaldi (2019). Indeed, the similarities obtained from previous research with the discussion that the author will also review regarding health services that use Midtrans as a payment gateway exist, but what distinguishes here is the author examines differences in content and location, usage different methods of problem solving, and the use of research from a variety of different sources.

From the data above, it can be concluded that the needs and concerns of the people for their health make people need health facilities such as doctors and pharmacies to get treatment. There is still a lack of specific information media for health checks, so many people have difficulty accessing health services such as finding service locations, queuing for treatment, and using easy payment methods. They need a solution to minimize this problem, so here the author will discuss the development of a digital payment gateway using midtrans and Halodoc.

2. THEORETICAL REVIEW

2.1. Pharmacy

According to Dianita & Latifah (2017), "pharmacy is a place where pharmaceutical service facilities are carried out by pharmacists". Pharmacy service standards in pharmacies have been established as guidelines for the implementation of pharmaceutical services in pharmacies. In order to achieve success in implementing pharmaceutical service standards in pharmacies, the seriousness and cooperation of all parties is required. So that it will make the standard of pharmaceutical services in pharmacies even better and the impact can be felt by all parties as a result it can improve the quality of health services.

2.2. Midtrans API

Veritrans or Midtrans is a payment gateway that helps e-commerce (online shops) in Indonesia to accept payments from customers quickly and easily (Nawawi, 2021). With Veritrans or Midtrans, the payment process will be easier on the website or mobile application. Veritrans or Midtrans are tools of the API Key type which are commonly used to connect to e-commerce websites or mobile apps so that websites or mobile apps embedded with the Veritrans or Midtrans API Key can make payments online. Veritrans or Midtrans API Key can be downloaded for free on the official website, veritrans.co.id. or midtrans.com. However, Veritrans or Midtrans also provide several paid services because they provide premium features for the convenience of online transactions.

2.3. Payment Gateways

Payment Gateway is an infrastructure component that plays an important role in ensuring transactions take place without problems and are totally protected through the internet network (Nadur, 2022). All online payments must go through a payment gateway to be processed. In theory, a payment gateway acts as a third party or intermediary between the website owner and the financial institution that processes the transaction. Payment Gateway provides evidence and then focuses payment details in the most secure environment between the various parties and the bank concerned. Another function is to act as an encrypted and secure channel for sending transaction details from buyers using personal computers to the bank for receipt (Hidayatulloh, 2020).

2.4. Web Services

Web service is software created to assist interoperability and interaction between systems on a network (Reza, 2020). Hormansyah & Utama (2018) explain "Web service is used as a facility provided by a website to provide services (in the form of information) to other systems, so that other systems can connect to the system through the services provided by the system that provides web services". The web service will store information data in XML format, so that the data can be used by other systems even though they have different platforms, operating systems, and different compiler languages. The goal is to increase cooperation between programmers and companies, with the aim of providing functions in web services that can be borrowed by other applications without the need to understand the details of programming in them.

2.5. Halodoc

Halodoc is known for one of its superior services, namely health teleconsultation, where users can talk to specialist doctors without having to meet in person (Hanifah, 2020). Halodoc as a mobile health service provider wants to create an easy way to provide input in the field of virtual health.

3. RESEARCH METHODS

The research method was a process used to solve logical problems, where data was needed to support research implementation (Sholihah, 2020). This research phase consists of two stages, namely the data collection stage and the application development stage. The method used was a qualitative method involving data collection through internet searching and library research. While the application development method used the waterfall method.

Data collection used this method in order to better assist the object of research by comparing existing theories with existing practices at the location of the data source. In this study, the author's intent and purpose was to try to describe how much influence the quality of digitalized payment services using midtrans has on the use of the halodoc application. It was hoped that with this research, the writer would be able to take advantage of the information and great ideas that were suitable for further research.

The data collection was done by internet searching and library research. In this case, internet searching is the process of searching for data through internet media to obtain information based on online references, journals, articles, or laws and regulations related to the object of discussion. The data obtained is then used to develop new and reliable insights. Meanwhile, library research is a method of collecting data through studying and understanding information from textbooks, journals, articles, virtual resources, and documents (Anshori & Iswati, 2019).

In this study, yhe method used in software development in this study is the waterfall method. The waterfall method is shown in the following figure:

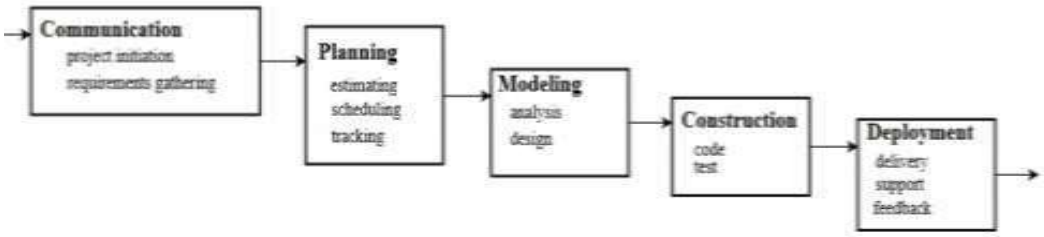

Figure 1. Waterfall Method

4. RESULTS AND DISCUSSION

4.1. Research Results

From the statement above, it is necessary to design a system, design payments and system interfaces on the website or through domain hosting services. Payments that still use cash transactions at the cashier are still less flexible, so that the method is not effective for use on online payment methods. Analyzing the system can be interpreted as the elaboration of a complete information system into its component parts with the aim of understanding and evaluating opportunities, opportunities, constraints that occur, and the expected needs so that they can be proposed as improvements.

Communities as users are faced with various choices of health services according to the preferences and needs of users. The community is aware of the existence of digital-based health services but have not utilized them because of a consideration, namely price. On the other hand, people who have used it are more concerned with the benefits and convenience of using digital health services. Based on a report published by DRResearch, 57,7% of respondents considered Halodoc to be top of mind for digital-based health services (DSResearch, 2019). This explains that Halodoc has succeeded in creating awareness among users. Like advertising, awareness can form a top of mind for users to remember easily and quickly (Christian et al., 2022). Success indirectly explains that Halodoc has advantages that can satisfy service users. Success indirectly explains that Halodoc has the advantage of being able to meet the needs of digital-based health service users and is easier to use or access. This also explains that users are willing to pay a certain price to get products or services easily, or in other words create effective and efficient factors in the use of a technology.

Table 1. Halodoc Application Review, 2020

Username	Review
Dhea Emilian Varsya 25/05/2020	Innovative and useful application for everyone, the doctor is very friendly and answers all questions. Apart from prescriptions, doctors also give their best advice and the response is also fast.
widySon 29/05/2020	Halodoc provides online and free consultation facilities. This facility is very useful especially during the Covid-19 pandemic situation which has not ended yet.

To improve service performance, access and features that make it easier for customers to transact on the platform are needed, so several mobile applications and e-commerce websites have been created for services in Indonesia using payment gateway services as payment confirmation intermediaries. From sales websites to online systems by third parties. Third party or direct bank, if payment is refused for any reason it will be returned to our sales system and vice versa if the transaction is successful then payment will be processed digitally/online.

The automatic payment system uses a payment gateway provided by Midtrans. By integrating the payment gateway system, users are expected to get an easy and fast transaction experience. Halodoc and midtrans synergize to make it easier for users to use health services. Midtrans is able to control online payment activities by minimizing risks when conducting online transactions with good data security. Midtrans is able to increase the number of subscribers and analyze important data that you want to have.

After analysis, the following conclusions can be drawn: Halodoc services can facilitate the search for drugs and the location of the nearest pharmacy. Facilitating customers in finding the desired drug and pharmacy location, halodok services have been able to reduce the number of queues for people who will buy and pay for drugs and halodoc services can make it easier when making payments.

4.2. Discussion

The halodoc health application was launched in 2016 under the auspices of PT. Media Dokter Investama with the vision of "simplifying healthcare" or facilitating health services for people throughout Indonesia. To facilitate access to health services for the people of Indonesia, the halodoc application provides various features or facilities. With halodoc, patients can order medicines from the nearest available pharmacy or hospital, carry out online consultations with licensed doctors, and receive prescriptions from doctors. Halodoc provides drug delivery services from pharmacies or hospitals to patients by partnering with local companies that provide various ride-hailing services. Based on the features of the halodoc application, it can be seen that the most frequently used feature of the halodoc health application is the doctor-patient chat feature, with 166 respondents (55%), then the health shop feature with 77 respondents (25%), then the lab/vaccine test feature with 22 respondents (7%), then special service features such as mental health and animal health by 16 respondents (5%), then the self check feature for 15 respondents (5%)

and the remaining features for making an appointment at the nearest hospital by 8 respondents (3%) and this happened because when the COVID-19 pandemic occurred, the majority of respondents chose to avoid the hospital and used the chat feature with doctors through the Halodoc health application.

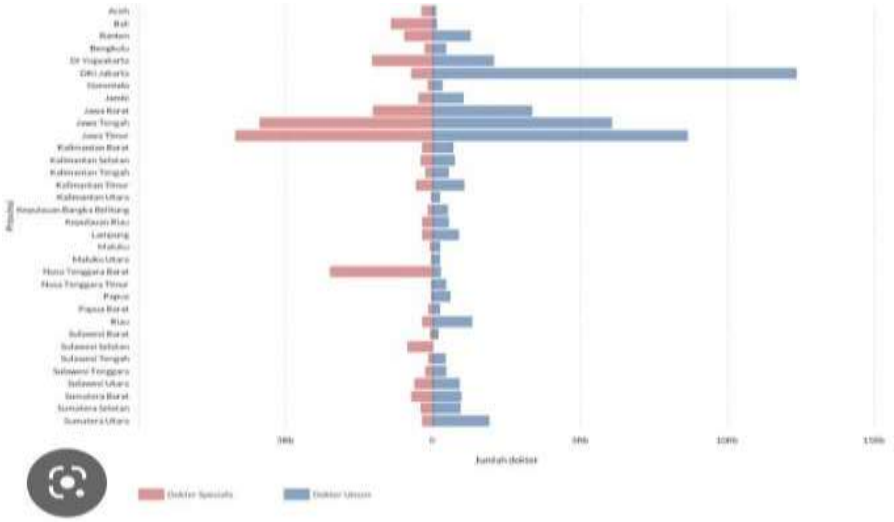

Figure 2. Number of General Practitioners and Specialist Doctors in Indonesia

With the midtrans payment system at Halodoc, the payment flow is easier and better recorded, thereby minimizing problems that occur at Halodoc in making online payments safely and comfortably. Midtrans provides convenience for reconciliation where there is no need to check payments and generate financial reports manually with the midtrans dashboard. With a complete payment method such as card payment, bank transfer, direct debit, e-wallet, and over the counter, midtrans can serve the needs of customers throughout Indonesia. This payment method analysis discusses applications that use midtrans as a third party in terms of payments or payment gateways Midtrans transaction floware as follows:

1) Interface Design
   The following is the interface design of the website and Android. The main display of the website page is shown in the image below:

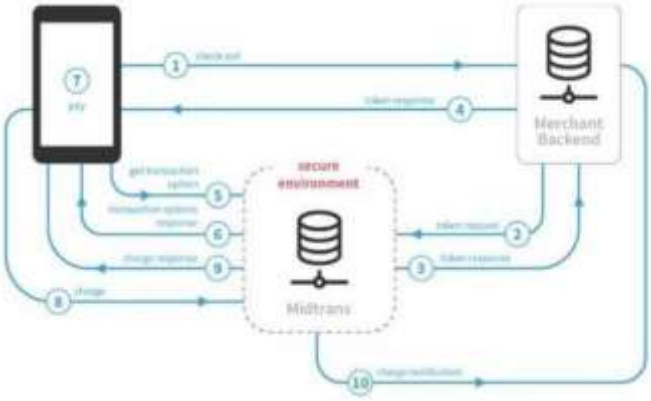

Figure 3. Halodoc Main Page Display

While the display of the drug data management website is shown in the following figure:

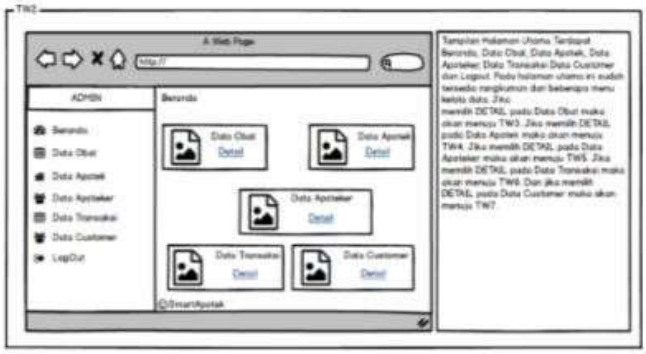

Figure 4. Display of Drug Data Management Website

While the display of the pharmacy data management website is shown in the following figure:

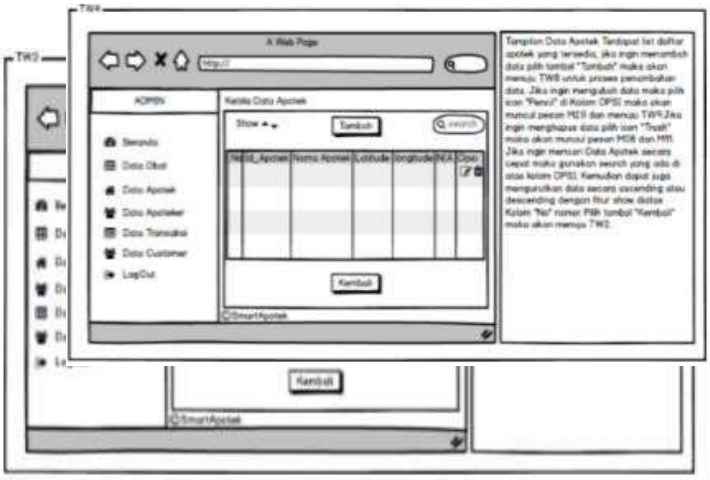

Figure 5. Display of Drug Data Management Website

2) Discussion of the Alpha Testing design (Black-box)
   Alpha (Black Box) testing for the black-box testing stage, the development of the halodoc application using the midtrans API as a payment gateway is tested for its functionality.
3) Discussion of the Beta Testing design
   Beta testing is testing done directly during the service. Users provide an assessment of the application. Based on the results, it can be concluded whether the application built is in accordance with the purpose or not.
4) Discussion of Black-box Testing
   After testing the application, it was concluded that the Halodoc application on the

Android platform that was made worked as expected both in terms of validation and the error resolution process.

5) Discussion of Beta Testing
   Based on the results of beta testing, it can be concluded that: service users agree that the application makes it easier to find drugs and check the health of the nearest pharmacy; the user agrees that this application can reduce the queue for the number of people who will buy and check their health; and customers agree that this application can make it easier to make payments.

5. CONCLUSION

Midtrans is a complete payment gateway solution designed for businesses. Accept payments and send funds easily with Midtrans. Midtrans is working with Halodoc to simplify the management of all payment processes so that it focuses on growing the business. The intention to use Halodoc is influenced by the convenience factor in using this digital-based health service.

Based on search results on the internet regarding the use of Halodoc, after analysis, design and implementation, it can be concluded that this application facilitates drug search and online health checks. Making it easier for users to find the medicine and hospital they want, the Halodoc service has been able to reduce the number of queues for people who will buy and pay for medicine, and the Halodoc service makes it even easier to make payments.

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