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LionBarat App: Augmented Reality-Based Fashion Shopping Application

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Abstract. The purpose of this study is to design a mobile-based application that serves to help potential buyers to easily find fashion according to the wishes of potential buyers accurately. The research method used in this study is a descriptive method of analysis with a qualitative approach. Meanwhile, the application development process uses an object-oriented approach with the System Development Life Cycle Prototyping. The results of the research method on the LionBarat application are expected to provide convenience in shopping for fashion without fear that the clothes that will be purchased are not suitable because of the greatness or are different from those in the application user interface. The main concept of this application is a way to make it easier for potential buyers to find the right and accurate fashion according to what the LionBarat application displays. This idea was created from the unrest of online shopping application users who buy clothes such as clothes, pants or shoes due to the lack of accurate images and descriptions of existing products. In addition, this application has features that are integrated with Google Lens and Lidar so that application users can search and buy the desired fashion by inputting/scanning images into the search field. The conclusion of designing this application can be concluded that fashion sales on the application can be even better if it can take advantage of the implementation of Google Lens and Augmented Reality (AR)technology as an online fashion shopping feature. This research is expected to help fashion sellers in getting more potential consumers who can indirectly increase new innovations in online shopping.

Keywords: Augmented Reality, Fashion, Aplikasi, Teknologi, Google Lens.

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1. Introduction

Online shopping is the activity of purchasing goods or services through the internet. By shopping through the internet, a prospective buyer can see the goods or services offered through photos or descriptions listed on the web/application that are viewed and then buy them without having to come to the place where the seller of the goods/services. However, when buying goods, especially clothes via the internet such as marketplaces, sometimes the items ordered do not match what is in the marketplace's sales display and also the size of the clothes that do not match the size of the body. There are several factors that make the item not in accordance with being accepted by the buyer, including, the item is not specific to the same as that displayed on the web/application, the size of clothing with sizes S, M, L is different in length in each brand. Therefore, technology is needed to anticipate the problem.

Online shopping or e-commerce is one of the ways to shop through electronic communication tools or social networks used in buying and selling transactions, where buyers do not have to bother coming to the store to see and buy what they are looking for, just look at the desired item through the internet then order the goods according to their choice and transfer the money and then the goods will be sent by the online store to the house [1]. The development of the digital age is increasingly inevitable that every company has to adjust its marketing strategy by including an online system to sell its products [2]. This relates to the research made by Suryawinata, B. A. where Augmented Reality is a technology that combines the environment in the real world captured through a camera with a virtual object so that it seems as if the virtual object merges with the environment in the real world [3]. For cases in the implementation of fashion shopping so that the use of Augmented Reality (AR) is more optimal, this Virtual Fitting Room can be implemented in online stores or clothing stores as usual. The research stages include: the application of Kinect technology to obtain skeleton data from potential buyers which is used as a basis for providing clothing size recommendations [4]. Therefore, the use of Augmented Reality (AR) systems in fashion can help marketing a product to be more attractive and time efficiently [5-7].

The purpose of this study is to design a mobile-based application that serves to help potential buyers to easily find fashion according to the wishes of potential buyers accurately. The research method used in this study is a descriptive method of analysis with a qualitative approach. Meanwhile, the application development process uses an object-oriented approach with the System Development Life Cycle Prototyping.

2. Method

The research method used in this study is descriptive analysis using a qualitative approach to convey the research design. In system designing, we use android studio application with prototyping system development method [8]. The method of developing prototyping requires interactive communication from the user [9-12]. The Framework of Thought briefly describes the entire object of research studied from beginning to end, the framework of thought is made to make it easier for researchers to understand the flow of research to be carried out (see Figure 1).

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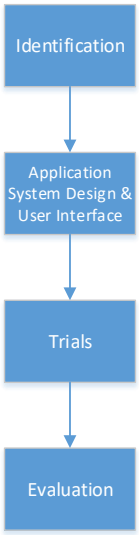

Figure 1. Framework of thought

In the initial stage, identification is carried out by collecting data through observing system needs in e-commerce applications to find deficiencies that occur in Indonesian e-commerce and then entering the information system needed.

In the second stage, a system design for Augmented Reality applications was carried out on the LionBarat App.

After the AR system design was successfully made, the AR (Augmented Reality) system application testing was carried out on the LionBarat application, to see the results of the application's work as a whole so that it could be ascertained that it was working according to the requirements set.

In the final stage, an evaluation is carried out by analyzing the results of the LionBarat application trial on an Android/IOS Smartphone until the application can be really used properly.

3. Results and Discussion

3.1. Identifying the Requirements

LionBarat App is designed to meet the needs of fashion customers on e-commerce applications. This research is designed to maximize fashion shopping features to make it easier and more reliable. This LionBarat application is equipped with clothing recommendation features based on gender, user's taste in dress and also body shape that can be detected by scanning the body from shoulder width, arm length, leg length. The menu structure of the LionBarat application (see Figure 2).

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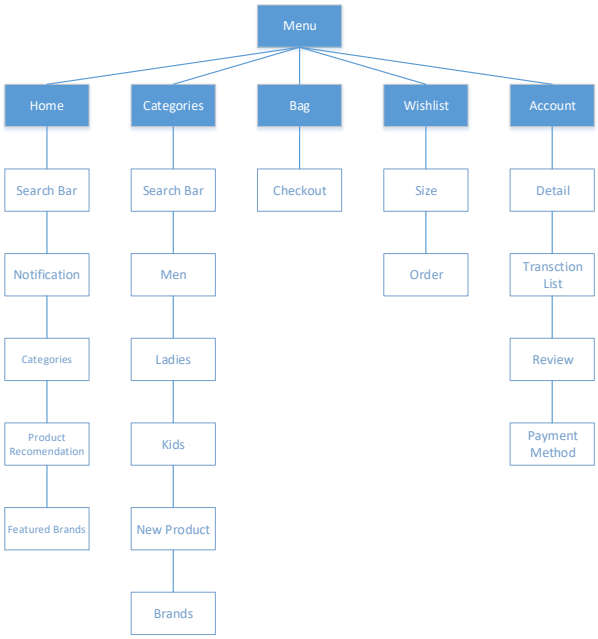

Figure 2. Application Menu Structure

The picture above shows the design of the LionBarat App menu structure. Home menu which is the main menu contains a display of fashion options based on categories, product recommendations & Superior brands.

3.2. Application System Design & User Interface

About the design of the system needs the LionBarat application prototype will be used by the Unity multiplatform application to build an AR program to operate an information system that can measure the dimensions of objects and recognize objects scanned through a smartphone camera. While at the stage of creating the Application User Interface (UI), the developer designed the application's opening appearance that displays the LionBarat logo which will then display a variety of fashion products (see Figure 3).

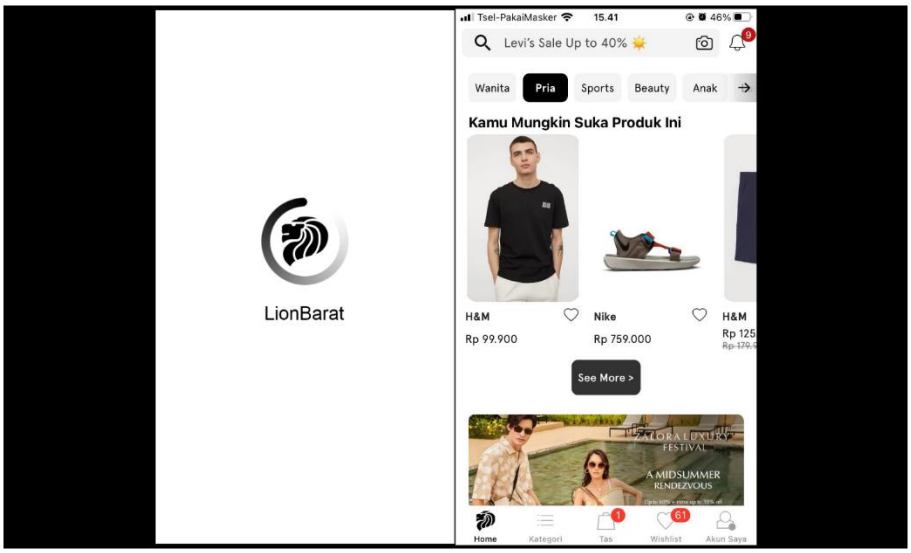

Figure 3. The display a variety of fashion products

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Figure 3 shows the start page of the LionBarat application then directly displays the main page of the application. On this main page will be displayed search icons, notifications, clothing categories, clothing recommendations.

3.3. Testing Prototype

After the appearance of the start page and the main page of the application is successfully created, on the main menu page of the application, a discussion will be carried out on testing the prototype of the main page of the application to users regarding search icons, notifications, clothing categories, clothing recommendations (see Figure 4).

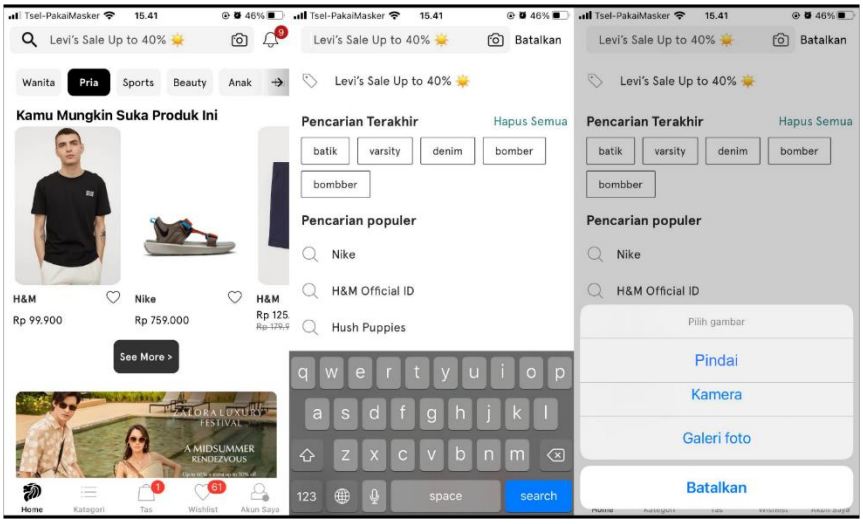

Figure 4. the prototype of the main page

In this search column users can search for products by typing a keyword they are looking for or by importing product photos and looking for products by scanning the entire user body through the camera which will later bring up product recommendations based on the user's posture of the application.

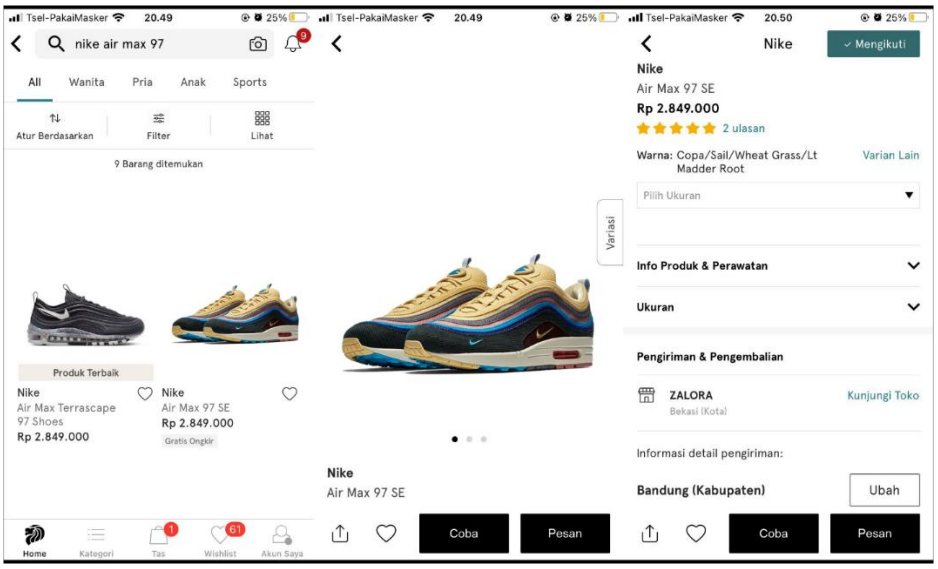

Figure 5. The various fashions available in the application

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Once the product being searched for having appear the user can see the various fashions available in the application (see Figure 5). If the product they are looking for is found to be interesting to order, the application user can see the product by tapping the product image and the user can see the details of the product.

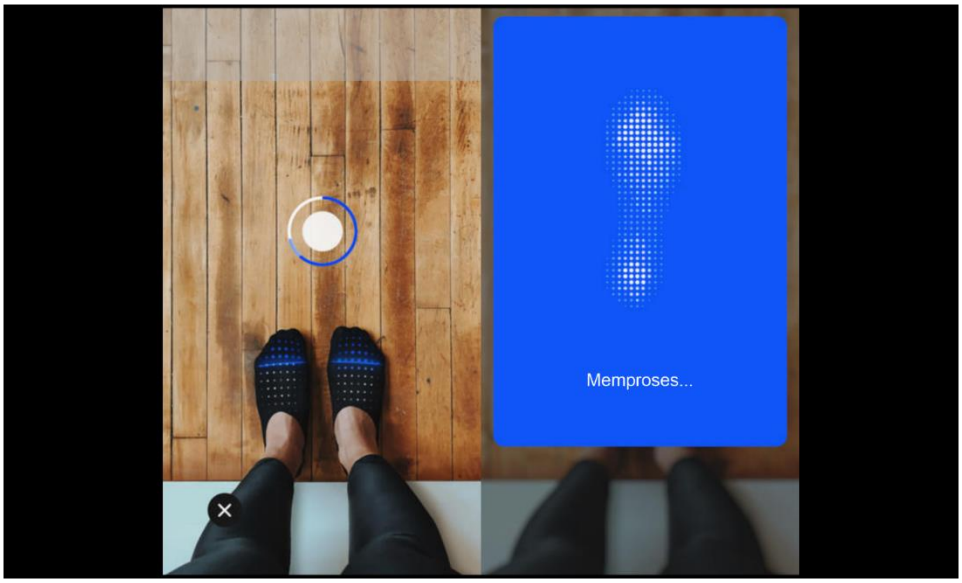

Figure 6. The feature scans

If the detailed photos and product descriptions are still not able to provide a clear picture of the product to be purchased, users can use the "Try it" feature (see Figure 5) and see whether the product to be purchased is suitable or not by trying it through tapping the "Try" icon and the application will open the smartphone camera and scan the limbs as a case example above (see figure 5 to 7). In the example of the case above, the user is directed by the application to open the smartphone camera and point it at the foot, after that the application system will mind the length and foot width and then provide information about the recommendation of the right shoe size to wear and the application user can also see if the shoe will look good if worn before deciding to buy the product (see Figure 7).

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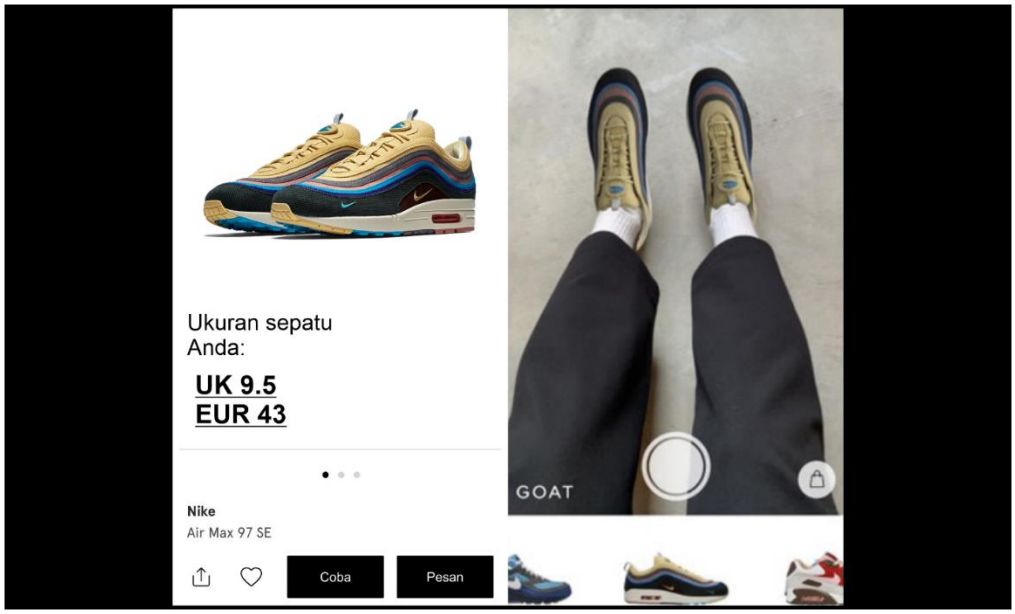

Figure 7. The feature application systems

If the product is deemed suitable, users can immediately order the product and will be directed by the application to the "shopping bag" menu or if they want to see other variants of the product first, application users can save it by tapping the "Wishlist" icon in the form of love at the bottom of the application.

In the notification icon the user application can see various discount promotions offered by various brands. In this notification section, application users will also be able to get notifications about the status of goods purchase transactions or delivery of goods (see Figure 8).

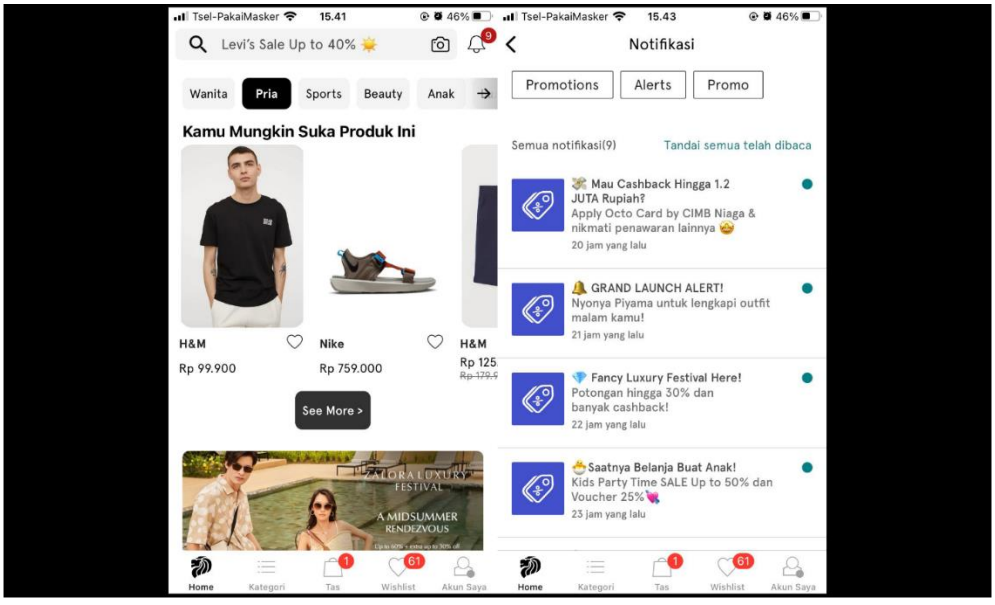

Figure 8. The shopping bag and the Wishlist

The category icon under the search, and notification column serves to display the type of fashion product based on gender, age, brand (see Figure 9).

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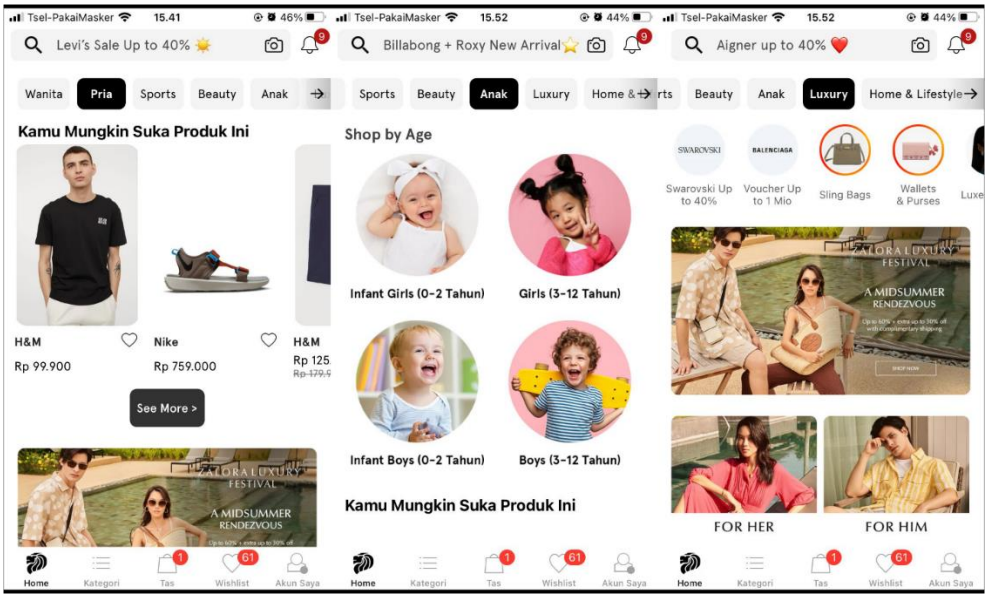

Figure 9. The category icon to display the type of fashion product

Product recommendations contain the appearance of fashion products based on the selected category at the bottom of the search field. If the category chosen is the men's category, then if the user taps the "see more" icon, it will bring up fashion products for men such as clothes, pants, hats, shoes, etc (see Figure 10).

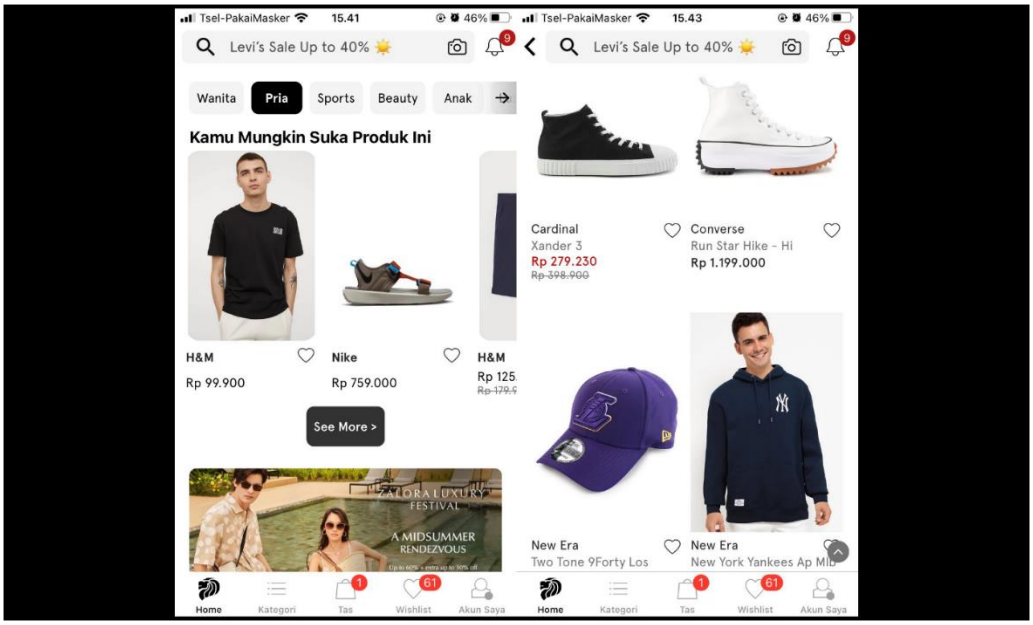

Figure 10. The Product recommendation's view

3.4. Evaluation

At this stage, an evaluation will be carried out on LionBarat application users whether the application prototype has been built in accordance with the requirements standards. If the application prototype is not perfect, the application prototype will be revised starting from the system design stage to completion.

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4. Conclusion

LionBarat App is designed to make it easier for users of fashion shopping applications to be easily practical and more reliable, because in the application the goods offered provide a different shopping experience. Because this application provides an Augmented Reality information system that can make it easier for users to shop for clothes. This AR feature can be used to find what clothes are suitable for the user and the clothes can be seen in appearance by scanning the user body which will then display what kind of clothes will look like later if they have been ordered.

Acknowledgement

It can be concluded that social media is one of the tools to promote business better, especially business in the field of public health services. It is effective when it packed with new innovations. It will facilitate internet users to access and to maintain positive image for the company.

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