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Development of Android-based Augmented Reality Applications as a Food Promotion Medium

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Abstract. The development of technology at this time is very rapidly developing in the era of the industrial revolution 4.0, therefore we as the next generation of the nation must make the best use of it. Therefore, one of the uses of this technology is by carrying out food promotion activities using augmented reality technology. Augmented reality itself is the technology that is being widely used for object recognition in the multimedia field. Augmented reality is a technology that combines the virtual world with the real world, with it the virtual world displays objects that will be displayed to the real world. The result of this study is to create an application called scan ar only and make it easier for restaurants to promote their food to be promoted on social media. The application of this technology can increase food sales promotional methods that are different from others, namely, by utilizing the ar scan application only users will be directed to scan the food product, and interesting animations and sounds will appear as a promotional method of the food to be sold. The purpose of this study is to develop an augmented reality mobile application as a promotional medium that aims to introduce food to be promoted to customers. augmented reality in the application which will be built using unity3D software is carried out using a different way of presenting information to other media. The method of using the application is by the way the user sees the image in 2D and or 3D by using the application on a smartphone device. These developed applications can provide an interesting informational and moving animation experience for users of these applications.

Keyword: Android application, Augmented Reality, Promotion.

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1. Introduction

The development of technology is now very developed in the current globalization has been greatly utilized for promotional activities such as augmented reality technology which is widely used for food promotion and has become increasingly widespread providing the fact that this media is very interesting to promote and be effective in selling certain foods. food customers are advised to scan food using the app to see the augmented reality experience and share it on social media.

Therefore, augmented reality technology can be implemented on mobile devices. One of the mobile device operating systems that can be used is Android [1]. AR technology is the integration of digital elements that are added into the real world in real-time and follow the state of the environment that exists in the real world and can be applied to android and ios devices [2]. With the help of augmented reality, we will be able to interact in virtual form with the real environment around us. augmented reality is currently a very rapid development, where the target of technological development is in the smartphone e sector which runs simultaneously with Augmented reality technology [3]. Augmented reality can also insert information into the virtual world and display it in the real world with the help of computer equipment, smartphones, or special tools. Users or users in the real world cannot see objects with their eyes. The results of this study are that augmented reality-based promotion can help consumers or buyers interested in trying the products being sold [4].

The purpose of this research is to develop an augmented reality mobile application as a promotional medium that aims to introduce food to be promoted to customers. augmented reality in the application which will be built usingunity3D software is carried out using different ways of presenting information to other media.

2. Method

In carrying out application development, what must be done is to conduct system development research that is carried out is a type of Applied Research (Applied Research) [5]. The results of the research can be directly applied to solve the problems yang around us. The research model carried out is the result of the software cycle that will be developed, namely the waterfall model at the stage of analysis, design, implementation, and testing of the application to be developed [6].

2.1. Literature study methods

Collecting data obtained by studying, researching, and reading books, journals, and theses related to the application to be developed.

2.2. System analysis

The process needed in the software to find out from the application to be made.

2.3. System design

Designing the interface display of the application to be developed.

2.4. Implementation

Software creation according to designed databases and pre-built interfaces

2.4. System testing

Test the application or software that has been created and test whether the software is running with what is expected[7].

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3. Result and discussion

3.1. Use Case Diagram

The use case diagram illustrates the functionality of the process that is expected to occur from a system. A use case represents an interaction between an actor and a system (see Figure 1).

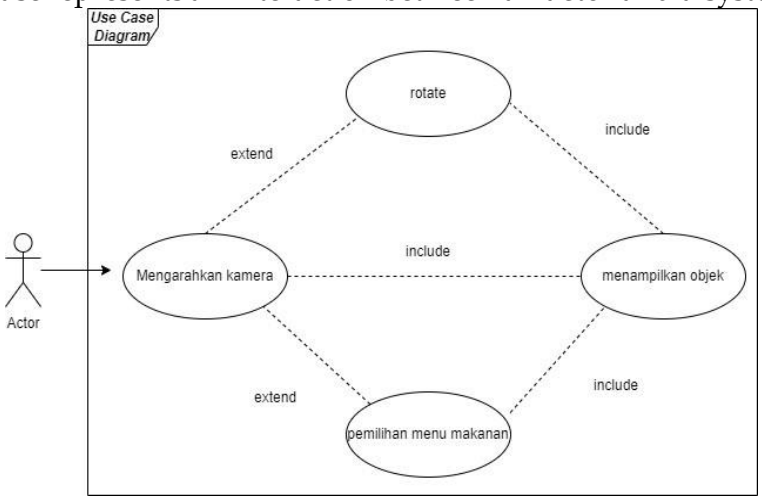

Figure 1. Use Case Diagram.

3.2. Application interface

In this display, users are curious about the augmented reality technology presented in this application (see Figure 2).

Figure 2. Initial View of the Application

3.3. Camera AR

By using this augmented reality camera, it invites users to feel the experience of using this application with real augmented reality technology, when the user scans the application will detect the scanned food and will bring up animations and sounds displayed in the ar camera application and when the user I scan other foods, the animation and sound will be different as well [8] (see Figure 3).

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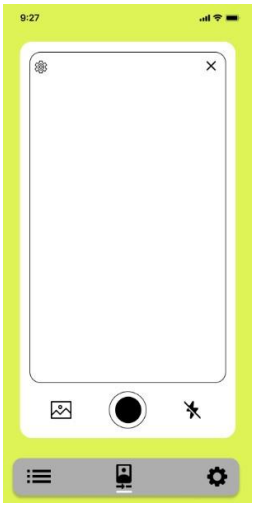

Figure 3. Augmented Reality Camera

3.4. Food Display

When the application user scans the food, the application will bring up a list of foods that have been scanned before [9] (see Figure 4).

Figure 4. Food List View

3.5. Display of application settings

Inside the AR app settings display, there are notification settings, privacy settings, security settings, AR camera settings, and about the app [10] (see Figure 5).

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Figure 5. App Settings view

4. Conclusion

It can be concluded from the results of the analysis and discussion of the application that has been built, a food scanner application with augmented reality technology as a medium for food promotion so that buyers feel different from others offered by restaurants or restaurants in enjoying the food served and feel an unforgettable experience of the experience of using the application and posting the food to social media easily. And this application is also good promotional media to promote the latest variant of food so that people are curious about the food.

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