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Development of Mobile Application to Recognition Muslim Products

Siti Norwahidayah Wahab [1*], Muhammad Aqil Hadi Rosli [2], Noraniah Abdul Aziz [3]

[1] Faculty Computer Media and Technology Management, University College TATI, 24000 Kemaman, Terengganu, MALAYSIA.
[*]Corresponding author: norwahidayah@uctati.edu.my

KEYWORDS

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ABSTRACT

Halal is an Arabic word that means permissible. A Halal certified product means that the product is permissible or acceptable in accordance with Islamic law. For products to receive this certification, they must be from an acceptable source such as a cow or chicken and slaughtered according to these laws. By offering Halal certified products allows Muslim consumers to be confident that the products they use are in alignment with their culture and beliefs. However, in products, not all halal logo certified product can be identified as a Muslim product. This is due to the fact halal means it is faithful to the Islamic law but does not necessarily limits a non-Muslim to make a halal product and sells it. In Malaysia, some are even using "Jawi" writings on their product which may cause confusion in deciding or determining which products are truly made by a Muslim. This paper aim to develop mobile application that recognize Muslim product with halal certified via barcode recognition. The result proof that 96.7% of the respondents stated that they are more confident buying Muslim products using this application.

1.0 INTRODUCTION

Products industry in Malaysia has always been one of the fastest growing global business and it means that more and more products are being invented and registered. Currently, all products that are guaranteed halal is made by a Muslim. However, there are also products that are halal but is made by a non-Muslim. Halal products is the products which adheres to Islamic law, as defined in the Koran. The Islamic form of slaughtering animals or poultry, dhabiha, involves killing through a cut to the jugular vein, carotid artery, and windpipe. Halal is an Arabic word that means "permissible." In terms of food, it means food that is permissible according to Islamic law. For a meat to be certified "halal," it cannot be a forbidden cut (such as meat from hindquarters) or animal (such as pork.) (Norizah, 2014).

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Several studies have investigated the similar development of mobile application. The proposed solution by (Faiz et. al, 2017) implementing a barcode scanning functionality that allows the mobile application to capture the product information automatically named Halal Detector is usable and helps consumers to search the halal status of food product faster than the text-based application. The barcode scanner by (Beki et. al, 2016) used optical scanner to scan the 2D codes using special software. The study claims the use of barcode scanners halal product information using the mobile platform is effective and useful for the public to find out information on a product.

Some authors focus on 1-D European Article Numbering (EAN)-13 barcode since it is used internationally for tagging retail goods (Haroswati et. al, 2011) that help consumers to verify the halal products using smartphone. An innovative software system called Preferences Monitoring presented by (Eman et. al, 2011) used to scan products barcode based on consumer's preferences. Besides, the study also come out with web services to facilitate consumer access for online profiling.

MyMobiHalal 2.0 mobile application designed by (Syahrul et. al, 2008) describes a mobile-based support application for Muslims to identify the *Halal* status (prepared in accordance to Islamic law) of the product using mobile devices. Furthermore, the study applied MMS camera phone-based application is an economical and effective way to speed up the Halal verification process.

This paper aim to recognize *Muslim* and *non-Muslim* products regardless of halal certification using mobile application via barcode recognition. The mobile application is built in Android application development for Muslim consumer to recognize the product certified by Persatuan Pengguna Islam Malaysia (PPIM).

2.0 EXPERIMENTAL PROCEDURE

The concept of improving BMF awareness because of the problem without using special hardware or software, it would be much simpler to be used anywhere and at any time by customers. Planning, analysis, design, implementation and optimization phases are included in the approach. This will ensure that the project is on the right track and that it can be fully implemented and properly work as targeted or as intended. The planning phase was aimed at allowing Muslims to make it easy for customers to choose or endorse the BMF product. Due to the problems occurring and the creation of the application prepared, all the data and information obtained is then evaluated in the next step. The architecture of BMF Recognition includes the figure 1 shown below and Figure 2 showed the process of development flow.

1) User: As a consumer
2) Mobile phone: to install the BMF Recognition application
3) Android platform: Operating system that support BMF Recognition
4) Barcode: Barcode of products
5) List: List of products verified by PPIM

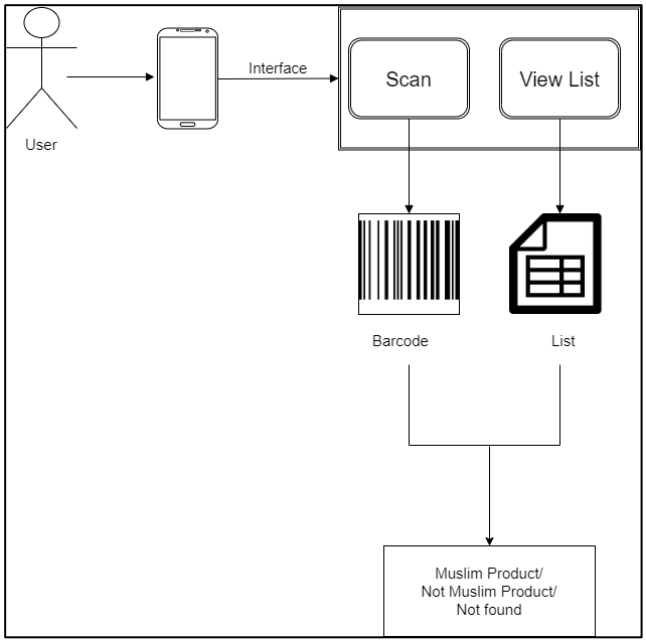

Figure 1: Architecture of BMF Recognition

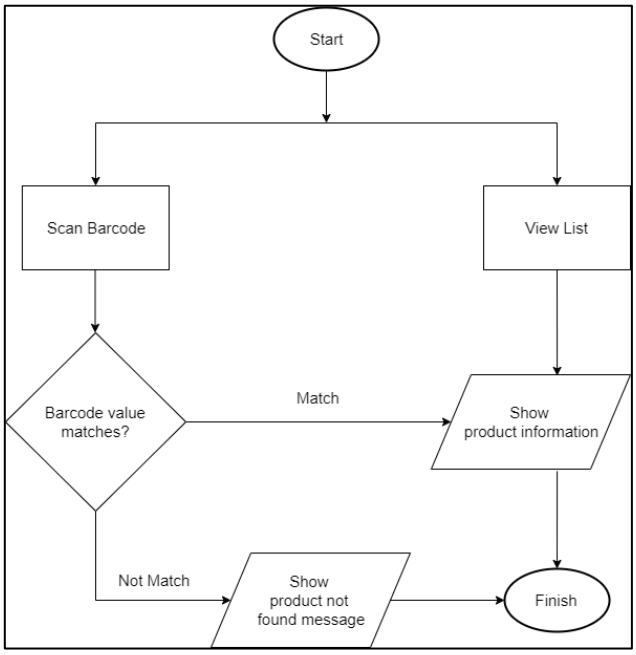

Figure 2: Process of the development

The required interfaces of the BMF Recognition is designed by using MIT App Inventor where it is designed The BMF Recognition user interface is simple where consumer able to select whether to scan a product or viewing the full list of the products covered in this application refer to the Figure 3.

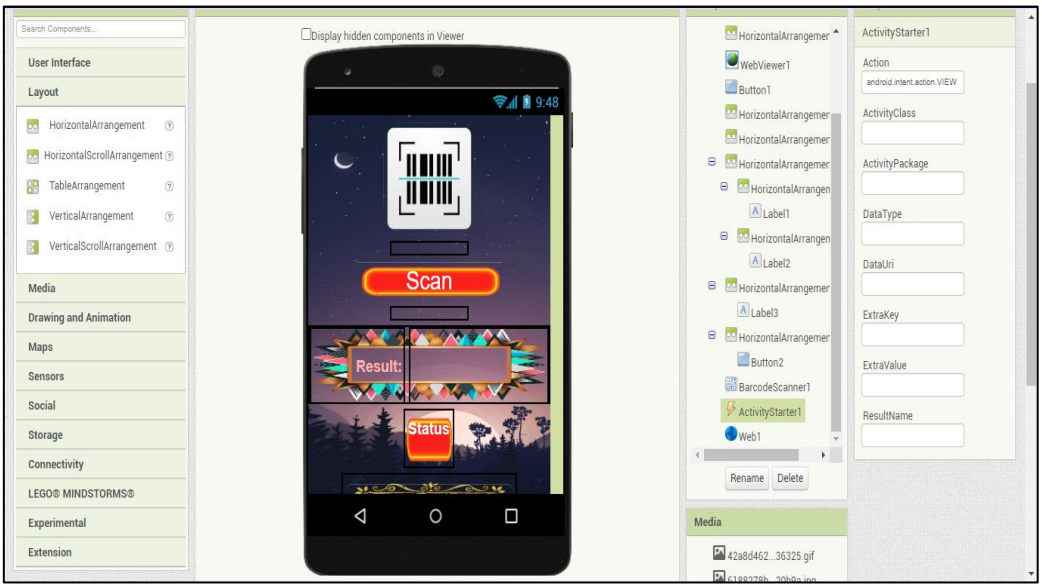

Figure 3: Main interface

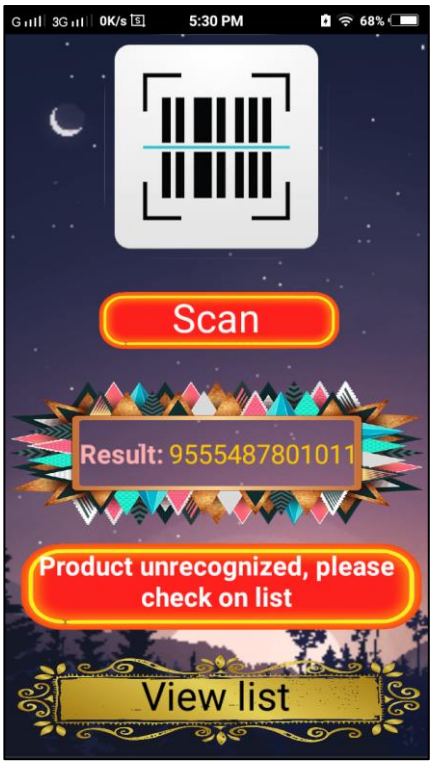

Figure 4: Unavailable Products status

The result if the products scanned by the user using the scanning function inside the application is not available in the application shown in Figure 4. Besides, if the product scanned is verified by PPIM, the result with appear as a *Muslim* product as Figure 5.

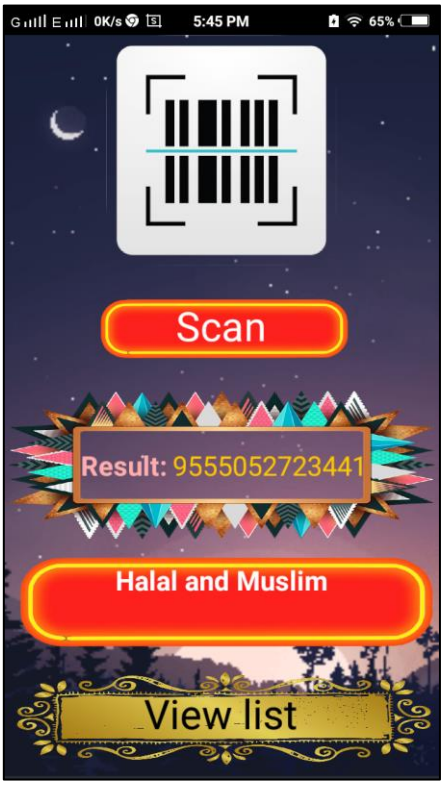

Figure 5: Available product status

3.0 RESULTS AND DISCUSSION

After the creation of the project is completed, the discussion of the BMF recognition was collected. To learn more about the project and to find out more about the importance and feasibility of the project, a survey was developed using Google Form, an online survey tool. The survey focuses on the user 's awareness of "Buy Muslim First" and halal / Muslim goods, as well as input on the use of BMF recognition. A total of 30 respondents responded to the survey and the data is shown for each question in a bar chart. From this result, a debate to clarify the survey result will be made and assumed. Some of the key information that needs to be investigated is

1. Consumer opinion regarding the application efficiency and usefulness
2. The future improvements for the BMF Recognition. This discussion is based on 30 individuals who answered the survey.

Firstly, consumer opinion regarding the application efficiency and usefulness. Figure 6 proof 96.7% respondents agree that the application is helpful to be used for BMF while only 3.3% says otherwise. With this, it is proven that the application is favoured and can be used in order to support BMF and confirming Muslim products.

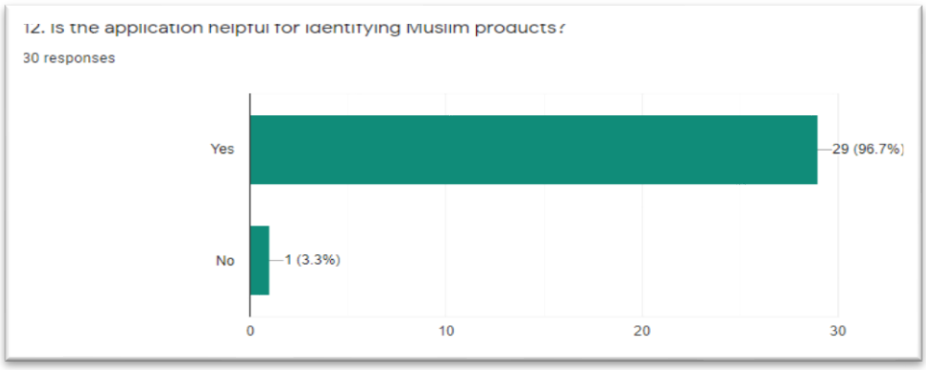

Figure 6: Usefulness result

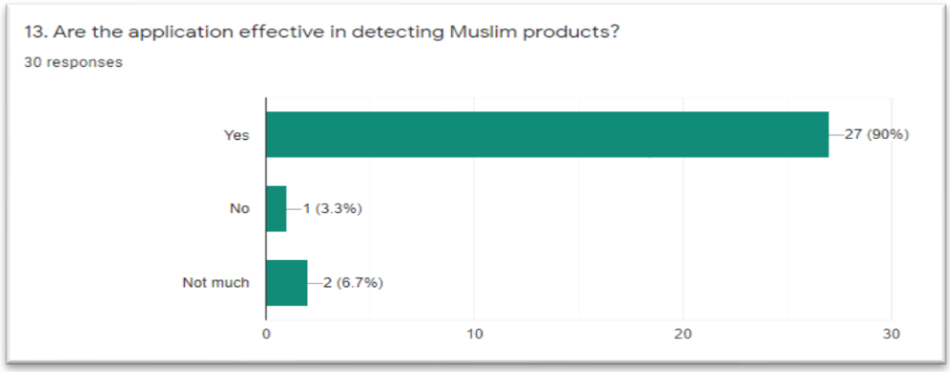

Figure 7: Effectiveness result

Figure 7 proof 90% of the respondents agrees that the application is effective in detecting Muslim products, while 3.3% says it is not effective, and the rest, 6.7% says it is not much effective. This means the project is effective in detecting Muslim products but could use an improvement. While Figure 8 proof 96.7% of the respondents stated that they feel more confident buying BMF products by using this application, and only 3.3% does not feel the same. This means the application is helpful in supporting BMF.

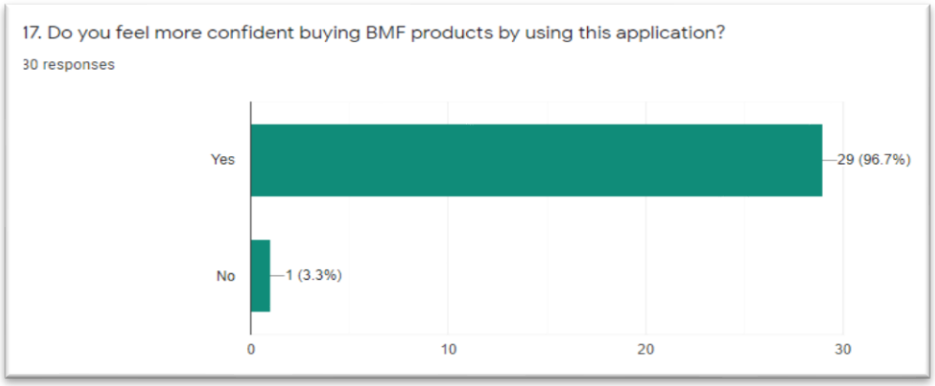

Figure 8: Confidence result

Lastly, the most important thing to be improved on this application, where 63.3% wants more products to be registered, 20% wants more category of products, 10% with the application is good enough and 6.7% wants a more user friendly interface. This can be speculated that user wants more products to be registered and more wide category of it.

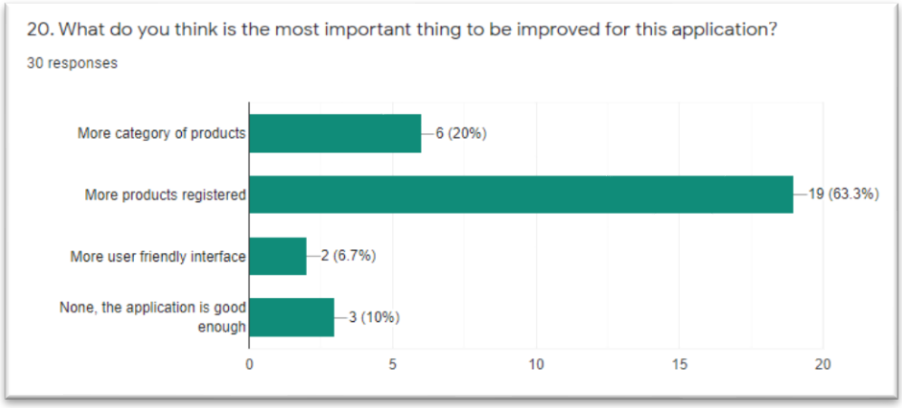

Figure 9: Improvement result

4.0 CONCLUSION

In order to summarize everything, this mobile application was created to support the BMF initiative. In order to decide whether the product is made by a Muslim or not, customers just need to check the barcode of the product using their own android cell phone. The outcome of this application development is effective in doing so and helps customers to recognize a Muslim product in a more accurate way. In addition, since they can easily tell the product is made by a Muslim, it helps customers to be more secure in supporting BMF.

In addition, this mobile application has its own shortcomings and strengths, as well as potential enhancements, so that the application is more stable and meets the requirements of customers. First of all, the drawback is that a Muslim product can easily determine its reliability on an internet connection in order for it to work, and secondly, the strengths that users can easily determine and how a smart phone just needs to use the application. The application is recommended for future updates. to be upgraded where it can work even without an internet connection and is more user friendly so that user's satisfactory is guaranteed.

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