스마트 옷걸이를 이용한 매장 모니터링 시스템

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Store Monitoring System Using Smart Hanger

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ABSTRACT

In this paper, we proposed the store monitoring system using smart hanger. This system consists of smart hanger, server, and wireless communication module. The smart hanger consists of LCD, MCU, RF module. In order to verify the effectiveness of the proposed smart hanger, we performed the experiment. This smart hanger can be used for shopping mall to increase sales

Key word

Smart Hanger, Store Monitoring System, Facebook, wireless communication

Ⅰ. Introduction

In the 21 century, Social Networking Services(SNS) becomes an important social method, Almost all the people use Facebook or twitter to make friends or share information[1-3]. Also we can find great value from SNS[1]. Social network site like Facebook and twitter have the function "Like" and "retweet", we can use these functions as the reference of purchasing(Fig. 1).

Fig.1. The favorite button of Facebook and twitter.

With these functions We propose a store monitoring system using smart hanger which can show the degree of satisfaction. The proposed hanger consists of LCD, MCU, RF chip, RF antenna.

In order to verify the effectiveness of the proposed systemr, we perform the experiment. This smart hanger can show the number of "Purchase" and "Good" of the cloth on the hanger.

Ⅱ. Proposed System

Fig. 2 shows the processing flow of the smart hanger. The shopping center server connect with the SNS server through the internet. When the clothes are sold, the information is transmitted to the hanger. Shopping center server read the "Purchase" and

"Good" information and transmit it to the smart hanger through the wireless communication module. Then the LCD will show this information.

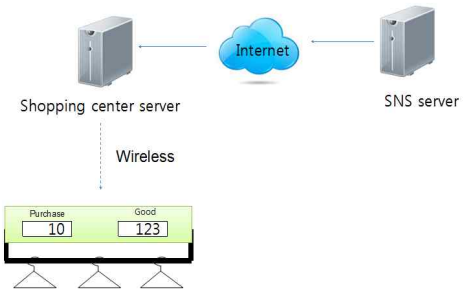

Fig. 2. Processing flow

Fig. 3 shows the composition of smart hanger , They are LCD, MCU, RF module, RF antenna.

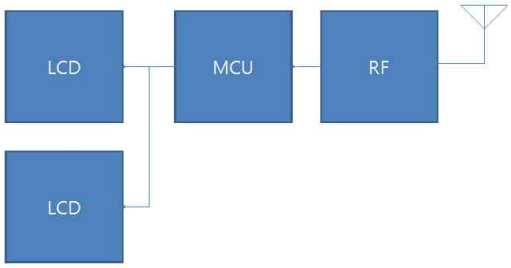

Fig. 3. Composition of smart hanger

Fig. 4 shows the wireless communication module. It use Msp430 and CC2420 to keep a communication with smart hanger under 40m.

Fig. 4. Wireless communication module

III. Experiment

Fig. 5 shows the main board of the hanger. There are MCU, RF chip, and RF antenna in this picture.

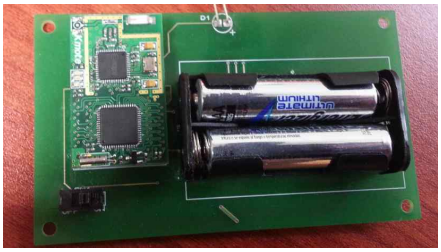

Fig. 5. Control board of the hanger

Fig. 6 shows the smart hanger. It has two LCD, It not

only show the degree of satisfaction but also show the comments of users on Facebook.

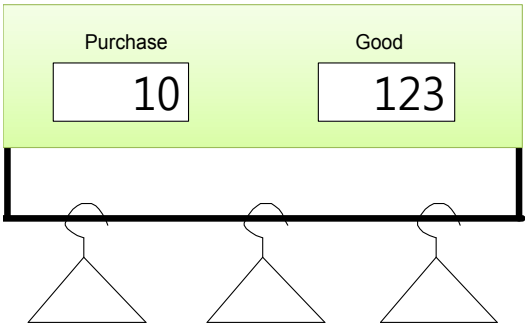

Fig. 6. Smart hanger

Fig. 7 shows the Hot Clothes homepage on Facebook. Facebook provide public APIs for developers to acquire data, including pictures, reviews etc[2].

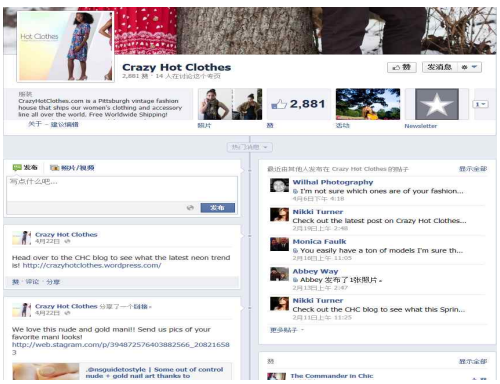

Fig. 7. Facebook example

Fig. 8 shows how to use API to call Facebook data. We

input a series of command and Facebook will give back the JSON format data. JSON(JavaScript Object Notation) is a

lightweight data interchange format. It is easy to read and write.And also it is easy for server to analysis data and generate data.

Fig. 8. Facebook data call

Fig. 9 shows the users' comments on Facebook.

We also want to show these comments to the customers. Facebook provide a method to get users' comments.

Fig. 9. Users' comments

Fig. 10 shows how to get users' comments. We input a command like " https://api.facebook.com/method/f ql.query ?&query=SELECT message FROM stream WHERE post_id= '40796308305 _ 485285273305' "Facebook give back the users' comments as XML format.

Fig. 10. How to get users' comments

Ⅳ. Conclusion

This paper proposed a store monitoring system using the smart hanger which can show the degree of satisfaction Proposed system consists of smart hanger, server, and wireless communication module. The smart hanger consists of LCD, MCU, RF chip, RF antenna.

In order to verify the effectiveness of the proposed system, we performed the experiment. The experimental results showed that this proposed system can show the degree of satisfaction. It can help increase sales of clothes.

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