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

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 system, 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.

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.

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/fql.query
?query=SELECT message FROM stream
WHERE post_id= '40796308305 _ 48525273305'

'Facebook give back the users' comments as XML format.

Fig. 10. How to get users' comments

Acknowledgement

This work (Grants No.00047869-1) was supported by Business for Cooperative R&D between Industry, Academy, and Research Institute funded Korea Small and Medium Business Administration in 2012.

참고문헌