A Novel Methodology Enabling Object Details Mechanism Using Red Tacton Technology

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Abstract - *The proposed model provides a secure and simple communication system that consists of data transfer in real time. The model, wearable on wrist or any other part of the body has an integrated with pic16f877aand an insulating material (copper) to allow the intra-body communication using the method of galvanic coupling. Thus the proposed methodology of using human body enhances the security of transmitted signals as compared to the other wireless technologies. Here we propose a system where we can perform grocery item details whenever a particular item is touched.*

Keywords— Red Tacton ; Pic16f877a Micro Controller ; Uart ; Red Tacton Tx & Rx ; Voice Ic;

1. Introduction

The aim of this project is to make shopping easier for the customer especially for the blind and illiterate people to know the details of the products kept in the shop using red tacton technology that allows the passage of data through any living body that is in contact with it. When the customer touches the red tacton transmitter which contains the product details stored in it, the data passes through the customer's body and reaches to the red tacton receiver which is places in the shopping cart which also is in contact with the body, the speaker connected to the receiver reads the data out loud. With this technology we can also reduce the need of human resources. This technology uses the human body as a medium for transferring data therefore it reduces the cost of any extra medium for transferring data.
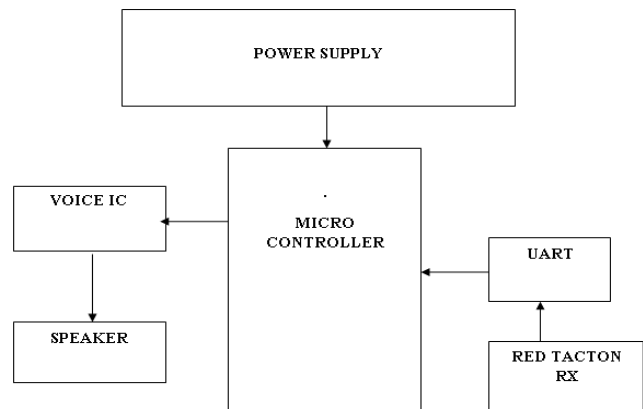
2. Existing System

It is commonly known that the details of the groceries are normally obtained using the details said by the shopkeeper. This requires a manual operation for obtaining the grocery details. The existing system has lots of drawbacks such as less accuracy level, it may require high processing time and it may not be suitable for all environment. Here the important drawback is that the satisfaction of the customer depends on the shopkeeper approach

3. Proposed System

The proposed system overcomes the drawback experienced by the existing system. The proposed system consists of a two sections: the groceries section and the user section. The groceries section consists of a red-tacton transmitter. The transmitter transmits the detail of the particular product.
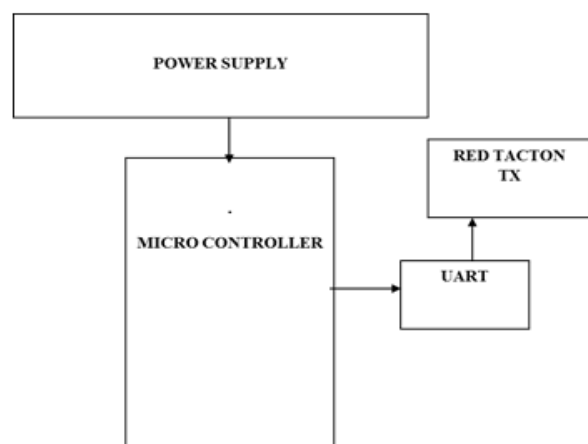
Based on the received signal, the respective details about the product are transferred to the user using voice signals. The user section is provided to the user whenever the user enters the shopping arena. The voice ic is already stored with the details of every product.

4. System Design

Fig(1)User Section

The user section part of the red tacton is placed in the cart which consist of the red tacton receiver connected to the voice ic and speaker. It receives the data about the product from the red tacton transmitter in the object section. Both the transmitter and the receiver uses pic16f877a micro controller. The software used here is embedded c to feed the instructions onto it.

Fig(2) Object Section

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5. Related Works

[1]Deep Shopping Data Acquisition Powered By Rfid Tags

Author: Murad Khan, Bhagya Nathali Silva,
Year: 2015
Description:

To stay competitive, plenty of data mining techniques have been introduced to help stores better understand consumers' behaviors. However, these studies are generally confined within the customer transaction data. Actually, another kind of `deep shopping data', e.g. which and why goods receiving much attention are not purchased, offers much more valuable information to boost the product design. Unfortunately, these data are totally ignored in legacy systems. This paper introduces an innovative system, called tagbooth, to detect commodities' motion and further Discover Customers' Behaviors, Using Cots Rfid Devices.

[2] Online Apparel Shopping Behavior: Effects Of Consumer Information Search On Purchase Decision Making In The Digital Age

Author: Yueh-Chin Chen Yen-His Lee Hsiao-Chun Wu
Year: 2017
Description:

With e-commerce activities burgeoning over the last decades, consumers have seemingly been switching their purchases from the physical marketplace to the internet market space. However, it remains skeptical as to why the consumers are able to make purchase decisions in lack of personally experiencing the products. This study, on the basis of the engel-kollat-blackwell consumer purchase behavior model (the ekb model), attempted to explore the effects of the information search behavior in the context of the digital age on consumer decision making when buying apparel via the internet. the sample consists of 344 with experience of buying apparel products via the internet, and they were recruited from one of the most popular local online forums, in answer to the questionnaire by recall method.

[3] Enhanced In-Store Shopping Experience Through Smart Phone Based Mixed Reality Application

Identify Applicable Sponsor/S Here. If No Sponsors, Delete This Text Box (Sponsors).

Author: Lakmal Meegahapola , Indika Perera
Year: 2017
Description:

A prime concern in today's commerce offering is having satisfied customers through a range of business and technical solutions. Businesses invest and explore different approaches in their merchandising and product promotion to revolutionize in-store shopping experiences. With the advent of mixed reality (mr), augmented reality (ar) and virtual reality (vr) as consumer level technologies, it has now become possible to look at how shopping experience of customers can be enhanced from a fresh perspective. This paper presents smart phone based mixed reality application (spmra), which makes it possible to gamify the whole in-store shopping experience with a low cost, easy to use, smart phone based mixed reality platform.

[4] Analysis Of Shopping Behavior Based On Surveillance System

Author: Mirela Popa ,Leon Rothkrantz , Zhenke Yang
Year: 2016
Description:

In this paper we present our methodology towards developing such a system consisting of participating observation, designing shopping behavioral models, assessing the associated features and analyzing the underlying technology. In order to validate our observations we made recordings in our shop lab .next we describe the used tracking technology and the results from experiments.

[5] A Customer Behavior Identification System Using Passive Tags

Author: Jinsong , Hanhan, Dingchen Qian
Year: 2017
Description:

Different from online shopping, in-store shopping has few ways to collect the customer behaviors before purchase. In this paper, we present the design and implementation of an on-site customer behavior identification system based on passive RFID tags, named CBID. By collecting and analyzing wireless signal features, CBID can detect and track tag movements and further infer corresponding customer behaviors.

[6] "Shopminer: Mining Customer Shopping Behavior In Physical Clothing Stores With Cots Rfid Devices

Author: L. Shangguan Et Al.,
Year: 2015
Description:

Online clothing stores are capable capturing customer Shopping behavior.

In this paper, we show that backscatter signals of passive RFID tags can be exploited to detect.

The proposed system design ShopMiner, a framework that harnesses these unique spatial-temporal correlations of time-series phase readings to detect comprehensive shopping behaviors.

[7] Idsense: A Human Object Interaction Detection System Based On Passive Uhf Rfid

Author: H. Li, C. Ye, And A. P. Sample
Year:2015
Description:

Proposes a minimalistic approach to instrumenting everyday objects with passive (i.e. battery-free) uhf rfid tags. demonstrate that our real-time classification engine is able to simultaneously track 20 objects and identify four movement classes with 93% accuracy. combined with the id information inherently provided by the rfid tags, our approach enables interaction identification for a wide variety of daily objects

[8]Enhancing The Shopping Experience Through Rfid In An Actual Retail Store

Author: J. M. Seguí Et Al
Year:2013
Description:

Radio frequency identication (RFID) oers an extraordinary opportunity to enhance the shopping experience of customers in a retail store. RFID can be used to improve the availability of products, reducing stock outs, to streamline the check-out process. the interactive and virtual ting rooms permanently track the RFID labels attached to the garments. by means of RFID,

[9] Otrack: Towards Order Tracking For Tags In Mobile Rfid Systems

Author: L. Shangguan Et Al
Year:2014
Description:

In many logistics applications of rfid technology, luggage attached with tags are placed on moving conveyor belts for processing.

Due to arbitrary goods placement or the irregularity of wireless signal propagation, neither of the order of tag identification nor the received signal strength provides sufficient evidence on their relative positions on the belts. In this study, we observe, from experiments, a critical region of reading rate when a tag gets close enough to a reader.

[10] Iris: Tapping Wearable Sensing To Capture In-Store Retail Insights On Shoppers

Author: M. Radhakrishnan, S. Eswaran, A. Misra, D. Chander, And K. Dasgupta
Year:2016
Description:

We investigate the possibility of using a combination of a smartphone and a smartwatch, carried by a shopper, to get insights into the shopper's behavior inside a retail store. the proposed iris framework uses standard locomotive and gestural micro-activities as building blocks to define novel composite. Features that help classify different facets of a shopper's interaction/experience with individual items, as well as attributes of the overall shopping episode or the store.

6. Advantages

The red tacton passes the data directly through the body saving the cost of an extra medium for data transfer.

This technology helps the customer to know the details of the product without the aid of a shop assistant thereby reducing the need for human resources

Our product prevents the need for the maintenance of huge databases

7. Conclusion

In this paper, we present the design, implementation of shopping using red tacton technology which would be much easier for blind and illiterate people to know about the products they want to buy. This could also benefit the shopkeeper as it does not require much human resource and any extra medium for transfer of data which helps in cost efficiency .the red tacton shopping can be the most efficient way of shopping for the customers by benefitting the shopkeepers as well

8. Acknowledgment

9. Reference

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