



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

IJIRSET

International Journal of Innovative Research in
SCIENCE | ENGINEERING | TECHNOLOGY



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 13, Issue 2, February 2024

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 8.423



9940 572 462



6381 907 438



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Smart Shopping for Visually Impaired People Using AI

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ABSTRACT: These days disability is the state of an individual in which one has got to on others for his or her personal needs. This challenge is advanced to form the ways of life of blind people simple since he or she can't see anything within the world [6]. Hence distant various strategies had been proposed to upgrade the presence fashion of outwardly disabled and daze people. In any case buying items inside the e-buying application without others back is dubious one for them. For this reason this computer program truly benefits dazzle and outwardly disabled people and for that reason making their work of distinguishing items smooth and this framework that gives the simple way for them to choose and buy their items interior the grocery store program. The audio instructions will offer assistance them within the general store application based on the real time conditions. To form the grocery store in a more astute way the charging gadget is computerized. Thus it kills the existing lining machine interior the basic need store. The extreme deliberate of this machine is to require absent others help for outwardly impeded individuals in obtaining and offer them a convenient and advanced environment. On forcing this contraption, it permits the dazzle individuals shopping, store the consumer's time and promotes commerce pay. For Visual impeded individuals it is troublesome to do online shopping. We are creating framework which makes a difference daze individuals to select color of dress in conjunction with such as fabric, estimate, designs etc. by utilizing Programmed discourse acknowledgment module. It deciphers of talked words into content utilizing profound learning strategy. It effectively supplanted Gaussian blend discourse recognition and include coding at an progressively bigger scale. The most of this project is to propose a web shopping application especially for daze individuals through which they can select anything they need by essentially speaking a sentence and to actualize this we are reaching to coordinated profound learning strategy and clustering.

KEYWORDS: Artificial Intelligence, Voice Assistance, Shopping Facilitator, Visual impairment peoples, etc

I. INTRODUCTION

This challenge is evolved to make the lifestyles of blind humans easy. That is very useful in case of locating out the outline of packaged items to the blind humans and for that reason supporting them in identifying to purchase a product or no longer in particular which are packaged. That is because it becomes very difficult for the blind humans to distinguish among the packaged goods. For this reason this software honestly benefits blind and visually impaired humans and for that reason making their work of identifying products smooth. On this smart global, no one can come to be the day without the use of any form of embedded gadget products. It makes our human lifestyles very smarter and to feel comfy[8]. In international, the super remorse aspect is visible impairment. Primarily based on the records of worldwide fitness business enterprise (WHO) in 2012, 285 million humans are visually challenged in the world. Among them 39 million humans are blind and 246 million having low power vision. Approximately 90% of them are residing in developing international locations. Purchasing is a place where people get their everyday necessities ranging from meals products, fabric- ing, electrical home equipment etc. Occasionally customers have issues regarding the unfinished statistics about the product on sale and waste of pointless time at the billing counters. Continuous improvement is required within the traditional billing gadget to improve the exceptional of shopping enjoy to the customers. Now day's numbers of huge in addition to small purchasing programs has extended throughout the global because of growing public demand spending. On the time of gala's, unique reductions, holidays, and so forth. There may be a huge rush in shopping mall. At present, many supermarkets nonetheless undertake traditional shopping mode and bar code scanning, that's a waste of manpower and cloth resources. Additionally, long time waiting to pay and the tire of pushing shopping cart all make customers go through lots and can motive passenger extent cross down. Therefore, the needs to assist lessen queuing time for customers to check-out and to free human beings from pushing

the shopping carts had been an pressing trouble to tackle. So right here the paper introduces a gadget to reduce and possibly put off the total ready time of clients and may avoid manpower [9]. Here the device enables to discover the required merchandise from the buying cart. Right here it uses feature extraction and prevent-phrase filtering era to become aware of the product as per your wishes and to determine the exact product lists from available objects as well as the person. The charge and name of each product taken through the man or woman is delivered to the invoice in addition it is displayed at the display screen and is announced the use of speaker. The billing may be achieved the use of assertion techniques.

II. RELATED WORKS

The Assistant close Living system permits the visually impaired folks to buy problem free. It eliminates the dependence on others and therefore takes care of persons comfort. It conjointly helps them to navigate within the looking complicated and find things with none issue. It provides the power of text to speech conversion for freelance looking of person. The areas of improvement are: sensible Phone may be replaced by the other device if obtainable and therefore the data of things on top of and below the presently detected item are contend within the users sensible phone.

III. PROBLEM STATEMENT

People who are sighted have the luxury of looking at items and reading the labels on clothing to make decisions about what to purchase. People who are visually impaired can feel the items, but they cannot easily tell the color of the garment, the type of clothing, or the care of the garment. In essence, the fashion industry is criminales against visually impaired people by not making the standard information available to them in a form that they can read [10]. The fashion industry should identify an acceptable way for visually impaired individuals to identify specific characteristics of interest about the clothing they purchase.

IV. LITERATURE SURVEY

- Xiaodong Yang ,Shuai Yuan , YingLi Tian, “Assistive Clothing Pattern Recognition for Visually Impaired People”. Choosing garments with complicated patterns and colours is a difficult task for visually impaired individuals. Automatic article of clothing pattern recognition is additionally a difficult analysis downside due to rotation, scaling, illumination, and particularly massive infraclass pattern variations. We’ve got developed a camera-based image system that acknowledges article of clothing patterns in four class plaid, striped, pattern less, and irregular and identifies eleven articles of clothing colours. The system integrates a camera, a mike, a computer, and a Bluetooth headphone for audio description of article of clothing patterns and colours. A camera mounted upon a try of glasses is employed to capture article of clothing pictures. The article of clothing patterns and colours are described to blind users verbally. This method will be controlled by speech input through mike. To acknowledge article of clothing patterns, we propose a completely unique Run Signature descriptor and a schema to extract applied math properties from ripple sub bands to capture global options of article of clothing patterns.
- L. Atzori, A. Iera, and G. Morabito, “From Smart Objects to Social Objects: The Next Evolutionary Step of the Internet of Things”. Iris recognition verification is one amongst the foremost reliable personal identification strategies in statistics. With the fast development of iris recognition verification, variety of its applications are proposed as yet together with time group action system etc. during this paper, a wireless iris recognition attendance management system is meant and enforced exploitation Dogmans algorithmic program (Dogman, 2003). This method based mostly statistics and wireless technique solves the matter of spurious group action and the hassle of birth the corresponding network. It will create the users attendances a lot of simply and effectively.
- Rubi, Chhavi Rana, “Review on Speech Recognition with Deep Learning Methods”. The most common mode of communication between humans is speech. As this is often this can be often the foremost most well liked manner, humans would like to use speech to act with machines together. That’s why; speech recognition has gained numerous recognition. Many approaches for speech recognition exist like Dynamic Time warp (DTW), Hidden mathematician Model (HMM). The main objective of this paper is printed a three stage neural integrated model speech signal sweetening and use the decomposition integrated HMM model for speech feature transformation. For the feature extraction of speech distinct wavelength work on (DWT) has been used that provides a set of feature vectors of speech wave kind. The work has been done on MATLAB and experimental results show that system is during a position to acknowledge words at sufficiently high accuracy.

- Vladimir A. Kulyukin, Aliasgar Kutiyawala, “Accessible Shopping Systems for Blind and Visually Impaired Individuals: Design Requirements and the State of the Art”. Independent grocery searching is one among the foremost functionally difficult tasks for visually impaired and blind people. Several helpful searching systems are developed to handle the matter of blind grocery searching. During this article, we have a tendency to establish many style necessities for helpful searching systems and analyze existing approaches to envision however well they meet them. Our objective is to shed some light on potential analysis and development directions for the accessible blind searching community and to supply designers of accessible searching solutions analysis tools which will be used as initial points of comparison.

V. PROPOSED WORK

Paper introduces a smart shopping facilitator for blind. The machine mainly meant for blind also can be used for ordinary human beings. Automatic Billing is added within the smart statement techniques. And payment the usage of coins on transport or on line can be carried out inside the device [8]. In order that ready long for billing can be averted. The audio instructions will help them inside the supermarket application based at the real time conditions. And these Audio instructions assist the blind people buy product within the grocery store software. The guidelines are given to pick out products. While studying product id and all the information about product are given via the microphone (Auxout).

Overview: The architectural design of the system is as follow which contain the some important points such as algorithm etc. [11].

a. Two protocol for authentication, password-based authentication and voice assistance based authentication that uses visualization by technique for increased reality to give both high security and high convenience. Both conventions offer great circumstances in light of visualization both as far as security and convenience.

b. Model utilization as Web applications which demonstrate the convenience of our conventions in true organization settings.

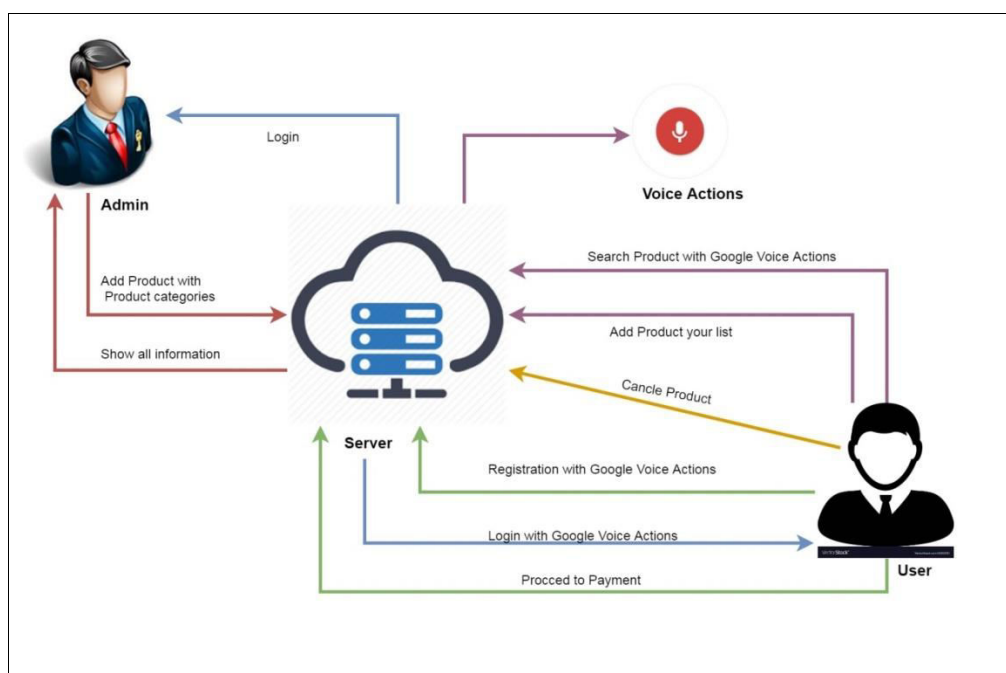


Fig.1: System Architecture

VI. RESULT ANALYSIS

It is convenient for the blind people to do the online shopping performance.

The system contains three major components:

- 1) Database which contain clothing images, a microphone for speech command input.
- 2) Speech converter that convert the input speech into text format.
- 3) Display of resulting items on the screen of desktop or wearable computer along with speech.

The process is as follows:-

- It is convenient for the blind people to do the online shopping.
- The main advantage of this project is, it can be used as an assistive device for blind person for both communication purpose and safety purpose.
- Can be used by normal people also.
- The audio instructions will assist for product selection billing system.

VII. CONCLUSION

The clever shopping application creates an automatic central Billing system (ACBS) for supermarkets utility the usage of pid (product identification), clients will not have to wait near cash counters for their bill price. Due to the fact their purchased product records is transferred to vital billing system, customers will pay their bill via credit score/debit cards as well. The proposed smart purchasing system intends to assist buying in-individual with a view to reduce the sizable amount of time spent in shopping as well as to time required in finding the favored product without problems. The customer simply needs to speak the name of the product, and the cart will routinely manual him/her to the product/s on display screen [12]. The gadget proposed is noticeably reliable, authentic, truthful and time-effective. There can be reduction in income quantity given to personnel and additionally discount in robbery since it reduces the guide duties.

Future Scope

The development of the areas of improvement is: sensible Phone may be replaced by the other device if obtainable and therefore the data of things on top of and below the presently detected item are contending within the user's sensible phone.

ACKNOWLEDGMENT

We genuinely thank all the Staff of Pravara Rural Engineering Collage, Loni, Ahmednagar for their kind help and co-operation throughout our study period. Also we are extremely thankful to the researchers and the publishers for making their resources available.

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