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A PATH FOR HORIZING YOUR INNOVATIVE WORK

REVIEW ON DIGITAL SCENT TECHNOLOGY

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Abstract*:* Smell is a very powerful, powerful sense It can trigger an emotion or memory at the subconscious level before we logically think about it. Digital Scent Technology, is the engineering discipline dealing with olafactory representation .It is the technology to sence, transmit, and receive scent-enable digital media (such as webpages, video games, music, and movies) This technology works by olafactrometers and electronic noses. As the technology is increasing day- by –day. We used to do our online communication basically three basic sences like hearing, touch and sight. The digital scent technology is being developed to appeal to our sence of smell. The digisents, an interactive media company's is creating i-smell digital scent technology. This is a new software which will enable scent to be broadcast from web with the help of this technology we are able to create and modify their own fragrance and post on internet. Today many companies such as scentcom are working on this technology. This technology can be used in range of commercial applications, from diet program, advertising and health care, to cooking recipies and personal communications.

Keywords: Digital Media, Virtual Reality, Digitized Scent, Olafactometer, e-Nose

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INTRODUCTION

In this modern age, computers have verified the cause of their existence. They have virtually taken over in every field of today's fast life. Gone are the days when applications of computers were limited to official use only. Today computers have important place in every household purpose, and mainly internet has taken over whole world. There are various causes due to which computers have their own stand in our life. It provides a very good facility of fast processing, sound and picture. The virtual reality concept has provided very good features to the computer systems. The concept of virtual reality is introduced by the computer programmers to provide more attachments to the user. There are several concepts of the virtual reality that are available such as digital smell, virtual theatre.

The digital smell is basically a hardware software combination. The hardware part of digital smell will produce the smell, and the software part will evaluate the smell equation and generate specific signals for specific smell and finally that smell will be produced by the device. The hardware device is a device like speaker, like speaker this device is also connected to the computer system. For this device there is also a driver program which will evaluate the digital equation for generating specific gas. New technology is being developed to appeal to our sense of smell. DigiScents, an interactive media company, is creating iSmell Digital Scent Technology, new software which will enable scents to be broadcast from the Web.[1]

This new technology will make it possible to send and receive scented e-mails and to add scent elements to Web sites, to name just a few of its applications. In future these devices will play very well role in our life, such as in Theatre, Televisions, internet.[1].In 2000, Aroma Jet developed a scent generating device prototype called Pinoke[3] . After $20 million in investment, Digisents was shut down in 2001 when it was unable to obtain the additional funding it requires.[8].

2. Literature Review

An electronic nose can be a modular system comprising of active materials which operate serially on an odorant sample. These active materials can be classified into two: an array of gas sensors and a signal processing system.

The output of the electronic nose can be the identification of the odorant, an estimation of the concentration of the odorant or the characteristic of the odor as might be perceived by the human.

Fundamental of artificial nose is that each sensor in the array has different sensitivity. The pattern of response across the sensors is distinct for different odors. The distinguishably allows the system to identify the unknown odor from the pattern of sensor responses. The pattern of response across all the sensors in the array is used to identify the odor. Different e-noses use different types of gas sensors which form heart of e-nose.

3. SENSING AN ORDANT

In a typical e-nose, an air sample is pulled by a vacuum pump through tube into a small chamber housing the electronic sensor array. Next the sample planning units exposes the sensor to the ordant, producing a transient response as the VOC's interact with the surface and bulk of sensor's machine, a steady stste condition is reached in a few seconds to a few minutes.During this interval, the sensor's response is recorded and delivered to the signal processing unit. Then a washing gas such as alcoholic vapor is applied to the array so as to remove the odorant mixture from the surface and bulk of sensor's active material. The period during which odorant is applied is called the response time of the sensor array. The period during which washing and reference gases are applied is called the recovery time.The sensor's response is converted into electronic signal by using a transducer and is processed by using the signal processing unit.

4. related work

Imagine being able to smell things using a device that connects to your computer. Like a new language, this technology is a new set of tools for self-expression, communication, and commerce. It includes software components and a peripheral device called the Personal Scent Synthesizer. Digiscents don't plan on designing the games and other platforms themselves. As well as the synthesizers, they've been creating the soft and hardware that game producers will need to mix and incorporate scents into their latest offerings. Part of that is "Reminiscent", a database of standard smells. These odours will be licensed to developers for integration into games, websites and advertisements and so on.
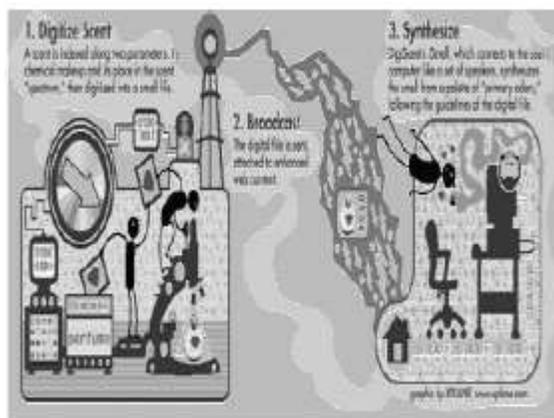
5. BROADCASTING OF SMELL

Fig. 5.1 Broadcasting of smell

5.1 Digitized Scent:

A scent is indexed along two parameters, its chemical makeup and its place in the scent spectrum", and then digitized into a small file.

5.2 Broadcast:

The digital file is scent, attached to enhanced web content.

5.3 Synthesize:

DigiScent's iSmell, which connects to the users computer like a set of speakers, synthesis the smell from a palette of "primary odours", following the guidelines of the digital file.

iSmell technology turns smell into digital codes that can be stored on laser discs or as computer files and it can even be emailed. It reads the digital scent file, creates a smell from a palette of 128 chemicals stored in a cartridge, which wafts into the air with a small fan.

5.4 The complete product:

DigiScents is developing a complete solution for scent-enabling the Internet and all forms of digital media, including iSmell Personal Scent Synthesizer: A computer peripheral device which recreates Scent Objects by mixing and releasing one or more of 128 scents. The device includes replaceable cartridges similar to those used in color printers.

5.5 Scent Palette Cartridges:

Consider cartridges contained inside the iSmell device. The cartridges are filled with over one hundred different fragrant materials that are emitted alone or in combination. In addition to the general purpose of Scent Palette there is a possibility of creating industry Specific cartridges for every thing from fragrances and food to games and movies.

6. DIGITAL SMELL COMMUNICATION

The e-nose detects the smell molecules and it is indexed based on two parameters. The scent is indexed account to its chemical makeup and its place in the scent spectrum. The chemical makeup can be detected by the electronic nose.

The indexed scent is digitized into a small file by olfactory signal processing. This file is scent as an attachment to the recipient's compute.

At the receiving end, there will be a personal scent synthesizer and air cannon. The personal scent synthesizer reproduces the smell and the air cannon direct the smell to user's nose.
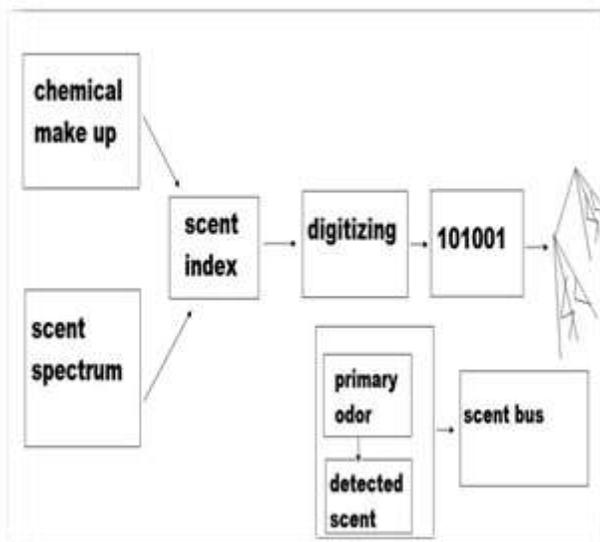
Bulk of sensor's active material. The period during which odorant is applied is called the response time of the sensor array. The period during which washing and reference gases are applied is called the recovery time.The sensor's response is converted into electronic signal by using a transducer and is processed by using the signal processing unit.

7. APPLICATIONS

There are many applications for digital scent technology such as:

1. Send scented email.

2. Play scented video games.

3. Sample a perfume from a beauty product's website.

4. Advertisement.

5. Checking the quality of food products in most of the cases.

6. Applicable in laboratories.

7. Used in live shows.

8. Online buying of food products to determine weather food is fresh or not.

9. 4-d Theater, to give the real sense.

10. Television etc.

8. Advantages

- iSmell provides locking facility.

- The scent cartridges contain mostly natural materials commonly found in the cosmetics, foods, homecare you use every day.

- ismell device gives protection against the smell.

9. Conclusion and Future Scope

- A Scent has a strange power over human beings. "The Sense of smell is closely tied to memory and emotion, making scent a powerful way to reinforce ideas". Hence we conclude that this digital smell will revolutionized the world. And at every place we will require this device, such as for scented mail, scented movies, scented songs we will require this device.

- This new technology will make it possible to send and receive scented e-mails and to add scent elements to Web sites.

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- In future these devices will play very well role in our life, such as in Theater, Televisions, internet etc.

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