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WINGS TO YOUR THOUGHTS.....

A Review Paper: Smell on Internet (DIGITAL SCENT)

Jasleen Kaur

IET Bhaddal Technical Campus- Ropar,
Department of Master of Computer Applications
jasleen.kaur@ietbhaddal.edu.in

Abstract: Can you imagine a world with no smells? Think of some of the smells that you would never be able to enjoy, like homemade cookies, flowers or that scent that follows a summer rain. Smell adds so much to our experiences. Of course, without smell there is also no taste, since our sense of taste is almost completely dependent on our sense of smell. This world without smell exists on the Internet -- but that is about to change. You will soon have your choice of two computer peripheral devices that will make your nose as involved in your Web experience as your eyes and ears. These devices are: iSmell Personal Scent Synthesizer, SENX Scent Device. The cost of these devices is approx. $250 - $500. The technology has so far targeted mainly our sense of sight and sound. To further enhance the virtual reality experience and another flavor to it, technology is now targeting your nose and tongue. The application area of virtual reality is vast- from normal entertainment to the Internet and e-commerce application. You will be able to smell product before buying them online. California-based Digiscents Inc. has developed the iSmell personal scent synthesizer. This small device connects through your pc via serial port and has its own drive.

Keyword: Smell Synthesizer, ISMELL, SENX Scent Device, DigitalScent.

1. Introduction

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. Until now, online communication involved only three of our senses - hearing, touch, and sight. New technology is being developed to appeal to our sense of smell.

2. Digital Scent Technology

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 odors will be licensed to developers for integration into games, websites and advertisements and so on.

3. Smell Synthesizer

The smell synthesizer means the device which is used to generate the smells. Such as ismell is device used to produce the gas using computer.

There are various types of smell synthesizers available in the market, but for computer the smell synthesizer is made by digiscents industry.

4. iSmell

The *iSmell* is a peripheral device, about the size of a PC speaker that connects to a PC via a serial or USB port. It uses consumable cartridges which are used and replaced similar to the way ink jet printers use ink cartridges. It emits natural-based vapors into the user's personal space. *ISmell* is triggered either on demand by the user (via a keyboard or mouse action) or via a timed or programmed response (as is the case with a DVD ScentTrack). A prototype of the iSmell Personal Scent Synthesizer is shaped like a shark's fin, and it will be connected to your PC through a serial or universal serial bus (USB) port. It can be plugged into any ordinary electrical outlet. Here's how it works:

- DigiScents has indexed thousands of smells based on their chemical structure and their place on the scent spectrum.
- Each scent is then coded and digitized into a small file.
- The digital file is embedded in Web content or e-mail.
- A user requests or triggers the file by clicking a mouse or opening an e-mail.
- A small amount of the aroma is emitted by the device in the direct vicinity of the user.

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The company's technology turns smells into digital codes that can be stored on laser discs or as computer files, and can even be e-mailed. The iSmell device reads a digital scent file, creates a smell from a "palette" of 128 chemicals stored in a cartridge, and then wafts into the air with a small fan.

Specifications:

1. It has cartridge of 128 chemicals which is able to produce 10,000 smells
2. To active this device for computer it will require a driver program called as ScentStream.
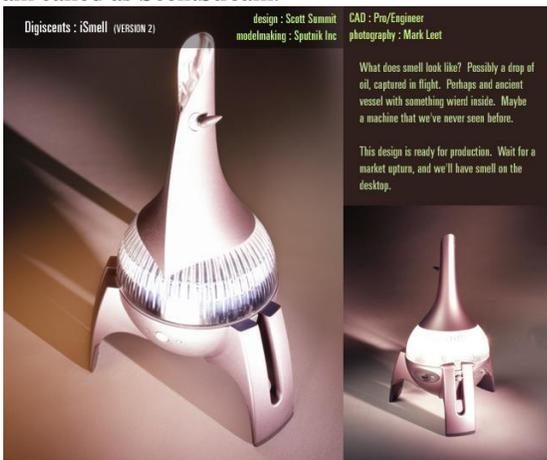

Figure: DIGISCENTS ISMELL VERSION II

Cartridge: The cartridge will contain chemicals -- either natural oils or synthetic fragrances -- that will be activated by either heat or air pressure, when you send a signal from your computer. The digital smell device could add another sensory dimension to the sights and sounds of a computer game. Currently 128 chemicals are stored in a cartridge. Similar to an ink jet printer, those oils form the core of a replaceable cartridge, which is inserted in the company's iSmell device. The oils are electrically stimulated in different combinations to create specific smells in response to software prompts programmed into applications such as Web site features, computer games, digital music, and movies. But after some time as user will be more familiar with these smells the cartridge will come in market in which you can add chemicals
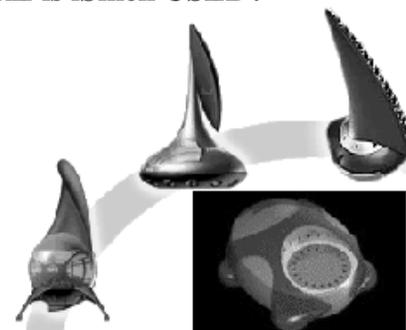
as many as you want. They are still investigating all the scent combinations that are currently possible with the iSmell device. As the technology becomes more refined, more and more scents and scent combinations will be possible.

"The idea would be to have a box about the size of a small speaker that would be connected to your computer and within that box is this cartridge of odors, having a hundred different small chambers in it, and then on command from the computer, you can choose various odors within that hundred, to be mixed up together and then puffed gently out of this port where you can smell it."

Scentography: Scentography is a new form of expression that allows the integration of scents with traditional digital multimedia, such as games, DVDs, and web sites. By allowing you to communicate with smells, Scentography adds a new dimension and richness to web pages and virtually any other form of electronic/digital communication. The capability to digitize and broadcast scents will enable vendors and consumers to send scented mail, make and watch scented DVDs, and play scented games and simulation.

5. WHERE is iSmell USED?

According to Brian Nelson at DigiScents, "What kind of smells can be emitted by the iSmell device? Just about anything you can imagine". There are many applications for digital scent technology such as:

* send scented email
* watch scented DVD's
* play scented video games
* sample a perfume from a beauty product's website.
* smell the assortment of freshly brewed coffees for sale in their online store.

6. SENX Scent Device

TriSenx is planning to take you one step further, by allowing users to not only download scents, but to print out flavors that can be tasted. The Savannah, Ga., based company has

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developed a patented technology that allows users to print smells onto thick fiber paper sheets and taste specific flavors by licking the paper coated with the smell.

The SENX machine is a printer-like desktop device that will produce smells based on data programmed into a Web page. SENX stands for **Sensory Enhanced Net eXperience**. Like the iSmell, the SENX machine will be activated by user actions. The fragrances and aromas are stored in a disposable cartridge within the SENX. This cartridge has 20 chambers, each holding a distinct scent. Thousands of smells can be created with a 20-chamber cartridge and a 40-palette rendition, which composes two separate cartridges.

The SENX is 5.5 inches wide, 8 inches long and 2.5 inches tall (14 x 20 x 6.4 cm). Users will plug the device into an open external COM port on their computers, and it will be powered by a DC 6-volt rechargeable battery. TriSenx is already taking orders for their SENX machine, which will cost $269 and include the SenxWare Scent Design Studio Software.

Digital scent technology is a technology to sense, transmit and receive scent-enabled digital media (such as web pages, video games, movies and music). This sensing part of this technology works by using olfactometers and electronic noses.

7. Why Would You Want to Do This?

There are four basic types of applications that scentware seems a logic fit for at the moment.

- Marketing.
- Entertainment.
- Education.
- Medical.

8. Facilities and Limitations

8.1 Facilities:

1. As we now that user can send any type of smell so the ismell is designed in such a way that it will give protection against that smell.

2. The scent cartridges contain mostly natural materials commonly found in the cosmetics, foods and beverages you use every day.

3. There might be possibility that user has allergy from any smell so for this problem the ismell provides locking facility. So that user can lock that particular smell which he doesn"t like.

8.2 Limitations:

The obvious one is the price. Most home computer users won"t be willing to pay the $250-500+ price tag for the luxury of scratch-and-sniff websites. Some diehard game fans may find the olfactory add-on a worthwhile boost to their multimedia experience, but chances are this technology will find its first strong market in small kiosks and other specialty shops.

While many fragrance manufacturers will find the ability to use scentware for both market research and the generation of new sales, most of the "ScentWare" application available today operates at a very simple level and aren't capable of reproducing the very complex protein level of molecule modeling that commercial fragrances require. Specialty food marketers will face the same problem. While pizza, popcorn and apple pie are already stock smells in a number of scentware collections, exact replicas of some of the more complex "branded" foods that big distributors want to entice you with just won"t be possible yet. While a few year"s old, the technology is still immature, and will require a committed partners and reasonable investment to customize the results in a way that"s suitable for companies whose smell is their branding.

9. The Present

Digiscents were awarded the "best technology" prize during the Retail Vision 2001 ceremony, for the past ten years one of the major honor in the IT retailers industry. 2,500 developers have already applied for the ScentWare Developers Kit which was launched in March 2000 and is used to create "Scented games and multimedia applications.

10. The Future of DigiScents

Under their system a person could send an 'encoded' message from one computer to another, and then person will get the message in the form of smell. Then this smell will be cached by the input ismell device then given to the translator which will translate these release chemicals to the message form.

Google Nose: New and existing technologies purportedly employed by Google Nose promised to provide smartphone and other users of handheld devices the ability to search for, and actually smell, a wide variety of fragrances.

11. Conclusion

A Scent has a strange power over human beings. It can create a mood, such as foreshadowing or ambiance. It can intensify emotions such as fear or love. It can also give the sensation of virtual reality and suspension of disbelief. "The Sense of smell is closely tied to memory and emotion, making scent a powerful way to reinforce ideas". There are several streams over which this digital smell is used, Such as over the television, theater and the web. 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 must requires this device. This device will become our need in future.

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