PERSONAL TECH

The Sweet Smells of Smartphone Messages

**By ROXIE HAMMILL
and MIKE HENDRICKS**

Back when people communicated more often through physical letters, there was a strong market for perfumed stationery. One sniff, it is said, could bring a rush of memories or longings.

Now communication is digital and instant. You can watch videos and hear voices of your loved ones. But smell? Not so much.

There are some signs that could be changing. Product developers are preparing to offer a variety of items to consumers that will allow scent to become a part of digital messaging.

This fall, the start-up Vapor Communications, for example, will introduce several devices to include subtle scents with books, movies and clothing. And the company will start mass production of its oPhone Duo, a tabletop device that can emit scents based on how an iPhone photo is labeled.

Another company, Scentee, already has a scent product on the market. The product, also called Scentee, is a cartridge that plugs into a smartphone's headphone jack. It can be set up with an app to emit a puff of fragrance when a text message or email arrives.

Companies have long tried injecting scents into the modern entertainment and messaging world. Movie theaters worked for decades on ways to make aroma part of the viewing experience. A half century ago, Smell-O-Vision and AromaRama released scents in time with the film through the theater seats or air vents.

But the smells tended to linger and become muddled with other smells. By the second act, theatergoers couldn't tell them apart.

Vapor Communications says it has overcome that problem with a system that includes small plastic pellets with scents that are activated when air flows over them. The scent is not dispersed widely; users have to lean in close, as if sniffing a flower, to smell anything at all.

The idea is to keep the scent message as personal as possible while avoiding complaints from others in the room who object to the smell or have perfume allergies, said David Edwards, one of three founders of Vapor Communications.

"To be able to deliver scent like iPod delivers sound is really where we're at," he said. "Creating that meaningful experience that is just yours and not your neighbor's is the goal."

All of the products depend on a small pellet called an oChip — the "o" in the product names is for olfactory. In the oPhone, each chip contains from one to four aromas. The chips are sold in packets of eight, grouped into "families" of similar smells, called Coffee, Foodie and Memory. A person who wants to describe the smell of a pasta sauce, for example, could choose notes of tomato, rosemary and parsley, which would then command the player to position those chips so the air would flow over them, combining the scents.

PHOTOGRAPHS BY ÁNGEL FRANCO/THE NEW YORK TIMES

Visitors using the oPhone Duo, made by Vapor Communications, to smell the forest in a version of Goldilocks and the Three Bears at the Museum of the Moving Image in Queens. A scarf, below, includes a scent chip that smells like chocolate. Developers are beginning to offer products that allow smartphone users to send and receive scents.

Products that release fragrances when a text message, email or photo arrives.

Enough aromas are available, the company said, to create over 300,000 distinct smells. Each chip lasts for about 1,000 uses and costs about $2.

To receive a scent on the oPhone Duo, a tabletop receiver is necessary. The aluminum and plastic device is about the size of a shoe box. Once the oChips are inserted, the player is ready to receive a scent message.

The process for sending a scented message begins when the sender tags a picture with the oSnap iPhone app. To tag a photo, the sender selects up to eight aromas to be mixed within the receiver. Once the message is sent, the

person on the receiving end can tap for the scent to be played. The app tells the receiver which scents to position over the air flow, a fan whirs and the machine emits the aroma from one of two small towers.

The Duo has been available since last fall from the company's website to people willing to take a survey and pay $650. As large-scale manufacturing begins, it will cost $350 and be available through onotes.com beginning Nov. 16.

The size of the Duo makes it most practical for home use, Mr. Edwards said. The company said it would introduce the Uno, a more portable and simpler model, in 2016. The app, oSnap, is free, but only for iPhones. It will not be available for Android users until at least 2016.

The Scentee, which has been on the market for about two years, is a much simpler product. For $70, the suggested retail price, buyers get a small white dongle that plugs into a smartphone's headphone jack as well as three scent cartridges. The liquid fragrance cartridges are converted into aerosol by a tiny motor. They come in coffee, strawberry, lavender, rose and rosemary, and can be bought separately for $7.50 each. Each cartridge is good for about 200 sprays.

With the Scentee app, users can select the spray intervals and duration. A quick adjustment in settings can make Scentee puff out an aroma when a text or email arrives, or when a post is "liked" on Facebook. The scent is determined by which cartridge the person receiving the message has clipped onto the phone at that moment.

One of the first uses for Scentee technology was a promotion for Oscar Mayer, in which winners in a lottery could get a cartridge of bacon scent that would be paired with an alarm clock app to "wake up and smell the bacon." Perfume makers also have expressed interest in using the device to advertise new fragrances, said David Haenel, Scentee's American distributor.

Vapor Communications is also pursuing commercial possibilities. One of the group's new developments, a time-release scent chip, has been inserted into a fashion scarf as part of a promotion for Magnum Ice Cream and the clothing company BCBG Max Azria. That product will be available from July 23 to 26, free with a purchase of $300 or more from the clothing retailer. The company said it would announce the availability of an oBracelet this fall that is expected to carry a removable scent chip. The price is yet to be determined.

The inventors of the oPhone have also experimented with other kinds of media. Their first oBook, "Goldilocks and the Three Bears: The Smelly Version," is at the Museum of the Moving Image in Queens through July 26. Visitors can read the digital book and tap to smell the forest.

"In our digital world, smell is something that has been forgotten," said Don Zereski, a co-founder of Vapor Communications. "This makes it possible to bring it back."

Protecting Smartphone Data, With Some Fortifications

By KIT EATON

SMARTPHONES have a million practical uses, which means they are jammed with credit card numbers, website passwords and other personal information that can tempt thieves or hackers. While phones have built-in protection, you can always add a little more in the form of security apps.

There is a bonanza of such apps, especially for phones based on Google's Android software. Because of Android's open nature, phones based on that operating system can be vulnerable to viruses and malware attacks.

AVAST MOBILE SECURITY is a free app that provides virus scanning tools to check apps on your phone and files on your phone's memory card. It can remove threats it finds and can also detect and try to foil potential hackings that happen over Wi-Fi. If you lose your phone or it gets stolen, Avast has web tools to let you track your phone's whereabouts, and you can make the device emit a siren sound.

It has a straightforward, if rather boring, interface, but it does require some time to set up and maintain. Avast also offers a paid $15-a-year version that includes geofencing — your phone will emit an alarm if it is carried outside a certain area — plus other extras like cloud backups of your data.

LOOKOUT SECURITY AND ANTIVIRUS is free for Android devices, and its more modern user interface may make using it feel less of a chore. Lookout has many of the same features as Avast, including tools to find a lost or stolen phone, plus virus scanning.

The free version includes cloud-based backups of all your contact information. The paid version can wipe data from
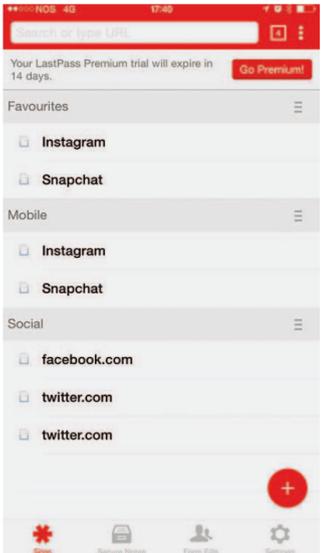
LastPass, left, stores user passwords and is protected with encryption and a master password. The 1Password app, center, encrypts a user's phone information. Lookout, right, has tools to find a lost phone, as well as virus scanning.

your lost device remotely, and can even take a photo of someone who tries to use your phone. Such extras cost $30 a year, which is expensive for an app that's not quite as sophisticated as its rivals. Lookout also has an iOS app, but most of its features are already offered free in iOS.

iPhones and iPads are thought to be less vulnerable to viruses than Android devices, but they are equally full of personal information. If you use a free app like **1PASSWORD**, much of your data can be put behind another security wall to keep it safe.

The app acts as a secure vault for data you have on your phone, including website user names and passwords and

Apps that can scan for viruses, encrypt private data and manage passwords.

credit card information. It can also store secure text notes that can be read only inside the app. Then you need to remember only one password — the master password for 1Password itself — instead of having to remember all your myriad login details.

The 1Password app encrypts all the information so that if your phone falls

into the wrong hands, it would prove difficult for someone to maliciously exploit your information. Extras include a password generator that can create passwords more secure than those you might create yourself, and it can sync all your passwords and information across your devices. 1Password also has an Apple Watch extension, which can show you password and payment data on your wrist.

The 1Password user interface can be confusing, and for the most secure website browsing, you have to use the special browser built into the app. To get the full range of features, including the ability to store driver's license details, you have to upgrade to the Pro version

In a video, Kit Eaton adds a little extra security with Avast Mobile Security, 1Password and LastPass.
nytimes.com/personaltech

for $5. The version available for Android devices is almost the same as the iOS edition, but it lacks some design finesse and features like support for Android Wear smartwatches.

LASTPASS is an equivalent password manager app that's free for iOS. It's my favorite for its modern design and ease of navigation. It can securely store and enter your passwords and website logins, credit card information, secure notes and more, and is protected with encryption and a master password. The app also has an Apple Watch version. Your LastPass account makes it easy to access all your data across different devices. A family sharing option allows you to give someone you trust access to some of your data.

But the family sharing and other features are available only if you buy the Pro upgrade for $12, and the app has been criticized by some app store reviewers for not having as many features as the desktop edition of LastPass. The Android edition of LastPass is broadly similar.

Apart from apps like these, you can also use official security apps like Apple's **FINDMYIPHONE** and Google's **ANDROID DEVICE MANAGER**. And always set a passcode for your phone.

Quick Call

RETYPE is a fresh iOS app that adds a new twist to an old trick: Adding text to photos in your phone before you share them on social media. Retype's specialty is adding text and decorations that look like classic poster typography, including 3-D, shadow and multicolored layer effects. It's an elegant way to personalize photos and costs $3.