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Basics

A Radio Station Just for You

By WILSON ROTHMAN

FOR all the talk about satellite radio, the most vibrant frontier in radio may be the Web. Many traditional AM and FM stations have begun streaming on the Internet, along with hundreds of smaller online-only operators. Even subscription download services like [Napster](#), Rhapsody and Urge from MTV have preprogrammed radio for users who are not in the mood to hunt for tracks.

Currently, the most compelling online radio is interactive. Services like Pandora, Last.fm and Slacker evaluate your musical tastes, then serve up a continuous stream of programming to match. They mix familiar songs with new material you might like. They all do it by harnessing the technological forces of social networking, data mining and music analysis, though each uses a slightly different technique.

With so much momentum, there are still plenty of bumps. The Copyright Royalty Board of the [Library of Congress](#) recently announced a Web-radio royalty payment plan that has caused many free Internet broadcasters to fear for their fragile business models.

Some new interactive music services choose not to stream anything. Instead, they rely strictly on music the listener already owns or new tracks donated by publicity-hungry independent artists and labels. Others are becoming as creative with the way they license content as they are with the way they personalize it for you.

On its surface, Pandora is the simplest option. When you visit www.pandora.com, enter the name of a song or artist you enjoy. Immediately you will hear music from a “station” based on that initial choice. You can refine your station by naming other artists and songs, and Pandora picks music from those artists but more important, it chooses other songs you might like based on your suggestions.

Pandora makes recommendations based on analysis of songs by musicologists in Pandora’s Music Genome Project. The experts listen for up to 400 different characteristics in every song, from musical genre to the presence of a particular instrument. Songs with the most similarities naturally make their way to the same radio stream.

If you do not like one of Pandora’s suggestions, you can click on the “thumbs down” sign and it is never

heard from again. If, on the other hand, you do like a song, you can give it the “thumbs up,” and that particular preference will be used in later suggestions.

Now that the free ad-supported service has been operational for 15 months, it can use the behavioral data of its six million listeners to add a new layer of suggestion. For instance, even if, on paper, the musicologists think it logical to pair a song by the “American Idol” superstar Clay Aiken with one by the Canadian folk balladeer Ron Sexsmith, several hundred listeners may give the juxtaposition a vote of no confidence. Tim Westergren, a Pandora co-founder, says the database now contains half a billion useful points of “contextual feedback.”

Last.fm (www.last.fm), an interactive radio service started in 2003, doesn't use a musicologist. Instead, it bases its suggestions primarily on the wisdom of the crowd. A Last.fm co-founder, Martin Stiksel, refers to it as “collaborative filtering applied on a massive scale.”

At signup, the service asks users to download software — available for Macs and PCs — that tracks the music playing on your computer. The song-counting process, called “scrobbling” by Last.fm's chief software developer, lets the company observe shifts in popularity, spot unexpected correlations between songs, and even discover new artists — or new tracks by known artists.

To date, Last.fm has “scrobbled” 65 million tracks by 8 million artists, in just about every country in the world. As with Pandora, you can identify songs you love, which helps to tailor your radio experience. The result is a stream of music that, statistically speaking, you ought to enjoy.

An important byproduct is the identification of musical “neighbors.” As the Last.fm community grows to over 15 million active users, it also promotes itself as a social networking site, like MySpace. You can see and contact others whose musical tastes correspond significantly with your own.

“This is community-driven,” Mr. Stiksel said. “Interest in new music flags when you don't have an infrastructure of informers around you.”

The most ambitious free service is Slacker, unveiled this month. The ad-driven beta program at www.slacker.com resembles Pandora. But when the full-fledged release becomes available in early summer, Slacker will have several components. Slacker was founded by former chief executives of Musicmatch and [Rio](http://www.rio.com), so it is only fitting that Slacker will offer a free software player, like the once-popular Musicmatch Jukebox, and sell a portable [iPod](http://www.apple.com/ipod)-like device, like those Rio made.

One twist is that, like Last.fm, the Slacker jukebox will enhance the radio stream by paying attention to the songs you choose. (D.J.'s will aid in programming as well.) Another twist is that, in addition to MP3s, the portable player will carry personalized radio streams that will be automatically freshened. For \$7.50 a month, users get access to more features, but even if you do not pay, you will be able to buy the portable device and have access to free — though ad-rich — radio streams.

Most radically, sometime this year Slacker says it will introduce a satellite receiver dock for the portable player. The Slacker team plans to blast individual song files to listeners from a satellite several times an hour. As each song is sent, the player itself will determine whether the song is a good fit for its particular user. If so, it will be saved. If not, it will be rejected.

Because of the controversy over royalty rates, and because of its unique portable properties, Slacker made its own licensing deals directly with the four major music groups plus several hundred independent labels. Last.fm recently announced content deals with the Warner Music Group and EMI for tracks on its new, ad-free \$3-a-month premium radio service.

The royalty issue is explicitly why services like Soundflavor, Goombah and Mog don't offer true streaming radio. Soundflavor DJ, a free player available at www.soundflavor.com, uses a collaborative filtering technique, but instead of streaming new songs, it lets you cue up songs on iTunes or Windows Media Player, then takes over D.J. responsibility, matching your initial choices with other tracks from your own collection. It is especially effective if you have a library with thousands of tracks. After every few songs, Soundflavor offers you a free track download from an independent artist, or the opportunity to buy a song that its filter suggests you might like.

Goombah (www.goombah.com), another new service, asks you to download software that analyzes your entire music library. You can, however, select artists or albums that you do not want included in this evaluation. After the analysis, Goombah offers free track downloads and connects you to music fans with similar tastes.

Mog (www.mog.com) is a bustling new online community of music fans. Like Goombah, it uses software to examine your whole library, but it gives you the opportunity to prioritize songs played recently. The result is not streaming radio, but a music blog (hence "mog") scene where people with overlapping musical tastes talk about concerts, post MP3s and share videos.

Mog's most inspired development starts today. It is Mog TV, a personalized stream of YouTube music video posts. Mog says there are 400,000 videos there now, plenty to personalize for all tastes.

"Imagine if YouTube knew what songs were in your music collection," said Mog's chief executive, David Hyman. "It's the ultimate mash-up."

As for artist royalties, that currently appears to be YouTube's problem.

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