

**Internet Tracking Report**  
**Pew Internet & American Life Project**

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**13 million Americans 'freeload' music on the Internet;  
1 billion free music files now sit on  
Napster users' computers**

**Contact: Lee Rainie, Director  
Susannah Fox, Director of Research  
Amanda Lenhart, Research Specialist  
(202.296.0019)**

## **Millions of ‘freeloaders’**

Some 14% of Internet users, about 13 million Americans, have downloaded free music files on the Internet that they do not own in other forms. Only a fraction of Internet users, just 2%, say they have paid for downloading music and a similarly small percentage say they own the same music they have grabbed online in other forms such as compact disks or cassette tapes.

The act of pulling free music files from online sources – an act we call “freeloading” – is particularly popular with students and it is especially appealing to young men. Still, 42% of those who have done freeloading are between the ages of 30 and 49 and they tend to be those with a lot of experience online.

These findings emerged from a month-long phone survey in April of 2,503 American adults, 1,345 of whom are Internet users. They are the first to quantify the extent of music downloading in the entire adult population and they come at a time when a major dispute rages about whether people who use popular music-sharing services such as Napster are breaking the nation’s copyright laws.

From new questions in the April installment of its ongoing tracking poll, the Pew Internet Project has found that 38% of all Internet users (about 35 million Americans) have enjoyed some form of music online, either by downloading files or listening to files streamed from online services or radio stations. More than one in five Internet users (21%) have ever downloaded music files. They break down this way:

- 14% of Internet users, or 13 million Americans, have downloaded music they don’t own and got it for free. These are the freeloaders.
- 2% of Internet users have paid to download new music.
- 2% of Internet users have downloaded music they already own and did not pay for it.
- 1% paid to download music that they already owned, but which most likely wasn’t in a computer-compatible form.
- 2% of Internet users have downloaded music but declined to answer other questions about what they did and why they did it.

## **MP3 Files and the Tools for Downloading Music**

MP3 stands for MPEG version 3, and is a file type that compresses songs into a format that can be easily traded without much compromise to the quality of the sound. Another competing file type, Windows Media Audio Player (WMA), also compresses music into small transferable files, but also protects copyright by requiring licenses for copyrighted files. There are no solid estimates of how many such files exist, but Listen.com, the firm that provides the MP3 search engine for Lycos suggests that as many as 500,000 authorized MP3 files are available on the Internet. There are many hundreds of millions more unauthorized files available. Some Internet users are buying songs in the MP3 format from websites (like eMusic) using a credit card. Some people are copying files from CD’s that they already own

and “storing” them on a website so that they can listen to them when and wherever they want, as on MyPlay.com and others.

MP3.com pioneered the song storage idea, but the Recording Industry Association of America sued the firm for copyright infringement and forced it to disable its storage area. MP3.com’s storage software only checked to see that the user had a copy of the CD that he wished to store on the site in his CDROM drive and then plucked a copy of the music from MP3.com’s collection and put it in the user’s storage area, instead of having the user actually upload the songs from his own CD. Talks aimed at settling that suit are reportedly near completion.

Some online music users are simply listening to music files online using devices like RealPlayer and Sonique and streaming the music. Such files are not usually created in a way that allows them to be saved.

The most controversial and popular activity is downloading MP3’s from the hard drives of other Internet users, using one of the many versions of file sharing software, of which Napster or a slightly different program called Gnutella are the two most well known examples.

### **Napster**

Napster software (and others like it, like iMesh and Scour Exchange,) works through a shared server, which lists “addresses” that tell an individual user’s computer how to find music files on the hard drives of other users. Napster connects users to other users, but does not store any music, or pass any music through its servers. Napster was created by Sean Fanning, a 19 year-old former Northeastern University student, who has since left school to develop the Napster software full time. It was released to the public in August, 1999 and now the firm claims to have 10 million users. By way of comparison, it took America Online more than six years to get 10 million users.

Users download software from the Napster website that allows them to share MP3’s or Windows Player Audio files made from CD’s that they own and have put on their computer, and retrieve files from other users. According to Napster spokesperson Jill Mango, there are about 10 million Napster users. (Napster’s numbers have not been audited by any independent entity.) Though it is possible that millions of Napster users are online at a given moment, each individual using Napster would only have access to several thousand other Napster users at that time because the individual user just has access to the users who are on the same Napster server as he is. Napster uses many servers, but does not connect users on one server to those on another server.

A regular check of activity on Napster by the Pew Internet Project since the beginning of April suggests that, on average, about 5,000 users are sharing files at any given time on a particular server and that between 500,000 and 600,000 song files are available on those users’ computers. That suggests that the average Napster user has approximately 100 music files that she or he shares with others. Multiplying Napster’s figure of 10 million users times the average of 100 files per user indicates that as many as 1 billion MP3 files exist in the Napster system.

Napster is currently enjoying record growth. Nielsen/NetRatings recorded more than 1 million unique users (accessing the site from home) on Napster's website in the last two weeks of April 2000, with a 19% increase in users from the first week to the second.

### **Gnutella**

Gnutella operates on another technological model. Instead of working through a central server to search through and store all the "addresses" of MP3 files, Gnutella creates a network of users over the Internet, and transmits the search request from user to user until the file is found. Gnutella has no company behind it, and no central servers, so it is a very difficult thing to "shut off" or regulate. Justin Frankel and Tom Pepper, the two Nullsoft developers who created Gnutella, were ordered to remove it from the web by their employer within hours of its posting. However, within that time, about 10,000 people had downloaded the software, ensuring its continued existence and proliferation despite its lack of visible financial support.

Gnutella, (as well as iMesh and Scour) differs from Napster in that it can also carry any kind of file, not just WMA or MP3 music files. Gnutella is also open source software, which means that anyone can access and modify the code. Consequently, there are already more than 20 different versions of Gnutella on the web, often with different variations on the Gnutella name (e.g. Gnut, Gnubile, Gnotella) with many others still in development.

Gene Kan, a Gnutella software engineer, has been serving recently as spokesperson for Gnutella and he estimates that about few hundred thousand users and files are available on Gnutella at any given time. He explains that it is difficult to estimate the size of Gnutella because there is no centralized place to record who is using it at any given time. Within immediate "view" of any given computer connected to GnutellaNet are about 10,000 other computers that are immediately searchable. If a user sent out a search query, within 4 hours it would have passed through about 100,000 computers.

Gnutella software is also being used as the basis for the next generation of search engine—real-time distributed search—which, like Gnutella uses no central server and which can access dynamic content so that it is always current, rather than relying on spiders to crawl each site to update it.

### **FreeNet**

One notable variation on Gnutella is Freenet, a software that allows both the user and the holder of files to be anonymous. Once a file of any type is put onto FreeNet, there is no way to suppress or retrieve it, whether it is the writings of a political dissident or pornographic images of children. The files are constantly shuffled through the hard drives of each user, so no one user will know what is on his computer at any one time, and making it impossible to track the origin of any particular file. Creator Ian Clarke, based in London, has likened it to "near-perfect anarchy."

## Profiles of Music Users and Non-Users on the Net

### **Freeloaders**

Those who use software like Napster or Gnutella or who access new MP3 files make up 14% of all Internet users. They look a lot like the early adopters and current heavy users of Net. They are disproportionately men (64% men, compared to 36% women), white, and experienced Internet users (79% have had Internet access for two or more years).

Nearly half of freeloaders, or a bit less than 6 million, are between the ages of 18 and 29. Almost 1 in 4 (23%) of all Internet users under thirty have freeloaded music. The bulk of the remainder of the freeloaders are between the ages of 30 and 49 (42%), with a mere 9% of freeloaders over 50.

Like other heavy users of the Internet, freeloaders most often have access at home (44%) or both home and work (48%). Very few (8%) of them go online from work exclusively. They also go online frequently—72% are online daily, and 25% are on several times a week. A mere 1% go on less often. Two-thirds of freeloaders have at least some college education. Some 37% of freeloaders are currently students; that amounts to one quarter of all students who are online, or 5 million people. The numbers are even more striking with younger students. Almost a third (31%) of students under 30 with Internet access have freeloaded.

### **Song Samplers**

Not every online music user downloads files. Some 16% of Internet users, about 15 million Americans whom we call “Song Samplers,” listen to music via file types such as RealAudio that are available as files streamed or accessed from a web server. Such files cannot be saved or are not typically saved by users. In addition, other song samplers use Internet radio stations to stream (or broadcast) music to their computer. The profile of these online music users is rather different from those who download music and save it. They look a bit more like the newcomers to the Internet, which means the group contains slightly more women, and more users without a college degree.

There are more women who enjoy music this way, 52% of song samplers as compared to the 48% who are men. Those who listen online are also older than the freeloaders, with the plurality of them, 46%, between ages 30 and 49, and 20% over 50. Less than a third (31%) are between 18 and 29. Some 43% of them have a high school education or less and 57% of listeners having had some college or more. About a quarter of song samplers (23%) are students; that is 17% of the overall online student population. Some 44% of samplers listen to music from home exclusively; 10% of samplers access music only at work; and 41% of them have Internet access at both home and work.

Many more of the song samplers than freeloaders are new users, with 38% having come online for the first time in the last year. One third, 33%, went online two to three years ago and 29% have been online for more than three years. Samplers also go online less frequently than freeloaders. Some 63% of song samplers go online daily, 25% report that they go online several times a week, and 7% go online less often.

	Male	Female	18-29	30-49	50+	Student
<b>Freeloaders</b>	64%	36%	48%	42%	9%	37%
<b>Song Samplers</b>	48%	52%	31%	46%	21%	23%
<b>Silent Majority</b>	47%	53%	24%	48%	26%	17%

Note: Numbers may not always add up to 100 due to non-response by some respondents

### **The Silent Majority**

More than three-quarters of Internet users (79%) have never downloaded a music file, including 62% who have never listened to or downloaded music online. Some 66% of all female and 58% of all male Internet users have not listened to or downloaded music, which means 53% of “nonlisteners” are women, and 47% men. The nonlisteners are also predominately middle aged, with nearly half (48%) between the ages of 30 and 49; 26% are over 50; and 24% are in the 18-to-29 age bracket. They are also overwhelmingly well educated with 69% having attended or graduated from college, with the remaining 30% having attended high school or less.

Nonlisteners tend to be newcomers to the Internet and exhibit other characteristics of the newly online. Some 40% of them have come online in the past year; 30% got Internet access between two and three years ago; and 29% first started using the Internet more than three years ago. They also go online mainly from home, with 45% saying they go online from home only, 15% accessing the Net only at work, and 33% going online at both home and work. And they go on less frequently than Internet veterans and those who download with 57% going online daily, 28% going online several times a week, and 8% going online less often.

### **Legal Issues: Copyright and Intellectual Property**

While the advent of Napster, Gnutella and their brethren has been a boon to downloaders of music and other material, it has also turned copyright law on its head. Copyrighting material “prohibits the unauthorized duplication, performance or distribution of a creative work.” Copyright seeks to provide economic incentive for people to innovate by giving them extensive, though not total control over use of their work.

The creation of file-sharing services threatens to render much of copyright law, such as the Digital Millennium Copyright Act (DCMA), moot. Passed in 1998, DCMA obliges the United States to enforce the terms of two international copyright treaties that raise the overall level of copyright protection, and specifically address Internet-related copyright issues. While the Recording Industry Association of America (RIAA) has filed legal claims to stop Napster and MP3.com under the DCMA and other copyright laws, many are predicting this new technology will force changes in copyright law and trigger a new relationship between producers and consumers of copyrighted material.

Much of the debate between supporters and detractors of programs such as Napster has settled into a “shut-it-down” versus a “leave-it-alone” argument. The RIAA and performers Metallica and Dr. Dre have sued Napster saying that it contributes to rampant piracy, with Metallica and Dr. Dre supplying the logon names of thousands of Napster users who they say have illegally downloaded their music. On the other hand, “cyber-libertarians” say that Napster should be left alone, arguing that it allows musicians to offer their music directly to their fans, thus bypassing the record labels. This “power to the people” argument is

championed by Chuck D of Public Enemy. Some predict that Napster, Gnutella and FreeNet are the beginning of a process that will conclude with all music and information being free to all.

The most prominently discussed solutions recognize that artists should be paid for their work and that the technology represented by Napster is here to stay. Copyright reforms proposed by several commentators call for Napster and its imitators to become fee-based services, in which users would pay a monthly fee to download all the music they want. Napster would pay a portion of these fees to the record labels and the artists. Services like Scour.com are seeking licensing arrangements with the record labels, and the labels have also begun discussions with Yahoo! to create such a fee-based service. A recent survey of college students by the polling firm Webnoize found strong support for paying about fifteen dollars a month for such a service.

Focusing on copyright issues, the Progressive Policy Institute (PPI), a Washington-based think tank and advocacy organization, recently urged that the DCMA should be strengthened to allow prosecution of those who use these new technologies for piracy, primarily by requiring that all users register with personally identifiable and verifiable information, thus eliminating the anonymity of users that is a trademark of services like Napster. This proposal would also require a timetable for the removal of infringing materials from these services. Such a solution could not apply to Gnutella and FreeNet, two decentralized services that would be virtually impossible to bring under any kind of control or centralized registration regimen. At present, no reform proposals have addressed that and opponents suggest that only a sustained law-enforcement campaign will rein in users of those programs.

Also on the horizon is MP4 technology, which will allow compression of very large files, such as full-length movies, books, and large software applications. While files such as these are already being traded online, their long download time makes them impractical for most users. However, with the expansion of bandwidth and the improvement in file transfer technology, it is not difficult to imagine the publishing, movie, and software industries coming under the same threat from the Internet that the music industry has.

More information on Napster and copyright laws can be found at:

Progressive Policy Institute - [PPI Press Release: PPI Offers Third Way Proposals to Napster Debate](#)

[Berkman Center for Law and Society at Harvard Law School – “Signal or Noise? The Future of Music on the Net” briefing book](#)

## **Methodology**

This report is built on the findings of an innovative tracking survey of Internet activities, which was designed to get an accurate reading on the impact of the Internet on Americans’

lives. Running continually since March 1, 2000, the daily poll has asked thousands of Internet users not only about what they have ever done online, but also about what they did "yesterday." Using a daily sample design, this approach measures the scope of Internet activities more accurately than conventional surveys because it focuses on activities that are fresh in respondents' minds. It also provides new insights into the range of online behavior that occurs daily.

The survey results related to music files are based on telephone interviews conducted by Princeton Survey Research Associates among a sample of 2,503 adults, 18 years of age or older, in the continental United States during the period April 1-30, 2000. This sample included 1,345 Internet users. The survey was conducted using a rolling daily sample, with a target of completing 75 interviews each day throughout the month.

For results based on these Internet users, one can say with 95% confidence that the error attributable to sampling and other random effects is plus or minus 3 percentage points. In addition to sampling error, question wording and practical difficulties in conducting telephone surveys may introduce some error or bias into the findings of opinion polls.

## Questionnaire

### Selected Questions from the Pew Internet & American Life

#### DAILY TRACKING SURVEY

#### April 2000

Princeton Survey Research Associates  
for the Pew Internet in American Life Project

Sample: n = 2,503 adults 18 and older

Interviewing dates: 4-1-2000 - 5-1-2000

Margin of error is plus or minus 2.5 percentage points for results based on the full sample

Margin of error is plus or minus 3 percentage points for results based on Internet users

Q6 Do you ever go online to access the Internet or World Wide Web or to send and receive email?\*

%	49	Goes online
	14	Does not go online
	*	Don't know
	37	Not a computer user

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\* For Q6 the results are aggregated from our March, April and May tracking poll, so N=6,035.

Q22/23 As I read another short list, please tell me if you ever do any of the following when you go online. Do you ever ...**(INSERT ITEM; ROTATE ITEMS)** Did you happen to do this YESTERDAY, or not?

**Based on all Internet users (Q6=1)**

	HAVE DONE THIS			DON'T KNOW/ REFUSED
	EVER HAVE DONE THIS	DID YESTERDAY	NO, HAVE NOT DONE	
c. Listen to or download music				
April	38	5	62	*
March	35	5	65	*

Q24 Thinking about the music you access online, have you ever **DOWNLOADED** music or songs to your computer? **(IF YES, ASK:** About how many times have you done this — once or twice, 3 to 5 times, 6 to 10, 11 to 15, or more than that?)

%	44	Never
	17	Once or twice
	13	3 to 5 times
	6	6 to 10 times
	3	11 to 15 times
	17	More than 15 times
	1	Don't know/Refused

Q25 Did you buy the music you downloaded, or did you get it for free? **(IF ANSWERS "BOTH", ASK:** Which have you done **MOST** often — bought the music you downloaded, or gotten it for free?)

**Based on those who download music**

%	13	Bought it
	85	Got it for free
	3	Don't know/Refused

Q26 Did you download music that you already owned on a CD or tape, or did you download new music? **(IF ANSWERS "BOTH", ASK:** Which have you done **MOST** often — downloaded music you already owned, or downloaded new music?)

**Based on those who download music**

%	13	Music already owned
	81	New music
	7	Don't know/Refused

end