



Pirates, file-sharers and music users

A survey of the conditions for new music services on the Internet

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Facts about STIM

STIM (the Swedish Performing Rights Society) is an incorporated association that is owned by the creators of music and their music publishers and that operates on their behalf. STIM has 60,000 registered members. The Society issues licences to people and organizations wishing to use music. The organization distributes the monies collected to music creators and music publishers, on an individual basis STIM works with similar organizations throughout the world.

Introduction

The Internet offers fantastic opportunities for simple, fast distribution of music to people around the world. Of all information-sharing that takes place on the Internet, music and music-related information represents the single largest category. We share songs, playlists, music recommendations and music advertising more than anything else. Of course, everyone involved with music should see this as a wonderful acknowledgement of the enormous importance of music in people's lives.

At the same time, however, the creators of music are finding it more and more difficult to get paid for their work, in a world where music is seen as something that is and should be available free of charge. In the long run, this will undermine the creation of music in the future in a way that few actually want.

In the debate about file-sharing, not least in the light of the court case against Pirate Bay and in view of the Swedish law based on IPRED (the EU's Intellectual Property Rights Enforcement Directive), voices are often raised to argue that it should be legal to distribute and share music and other cultural products on the Net, at least for non-commercial use. To us, whose task is to distribute financial compensation to tens of thousands of famous and non-famous creators when their music is played, it is clear that in the long term a situation of this kind would lead to a decline in the production of music and less diversity in the field of music.

Paradoxically enough, it is above all the most commercially successful artists of all and their record companies who could probably secure full financing in that kind of a future, while songwriters and artists without huge live tours and substantial advertising revenue could be reduced to practising their art as amateurs in their leisure hours, despite the fact that their music is in demand on the Net.

To reconcile the opportunities of the Internet with the principles of copyright, STIM has launched the idea of a special Internet subscription that offers the legal right to file-share, while at the same time providing payment to creators of music for their work. The vision is that everyone should be able to listen to all the music that is available on the Internet in the same way as we watch TV programmes - paid-for and legally - but without having to wonder about how much the programme we are watching is costing to watch.

The purpose of this document is to report on STIM's investigations into the possibilities for a model of this kind. We wanted firstly to find out more about how users of music on the Net view these issues and secondly to look into the technical aspects. Via an Internet questionnaire - completed anonymously - we put a number of questions to 1,123 music users on the Net. A majority of respondents have paid for less than a half of their digital music library. More than 50 percent of respondents also stated that their digital music collections held more than 1,000 songs.

Some of the most important findings are as follows:

- Nine out of ten music users on the Internet - 86.2 percent - would be interested in paying for a voluntary subscription legally entitling them to file-share music. Only 5.2 percent of respondents stated that a subscription of this kind was of absolutely no interest. Those expressing the greatest interest of all were users who already had a large digital music collection and the third of respondents who have paid for less than 10 percent of the music in their collection, i.e. users who today are likely to be obtaining via the Internet by illegal means and to a considerable extent.

- File-sharers want to do the right thing. People share files because it is free and simple and because they can transfer the files where they want. The points (i) that it is illegal and (ii) that the creators of music are not paid are said to be disadvantages by two thirds of respondents - 66.3 and 65.3 percent - respectively.
- When the respondents were asked themselves to state how much they would be willing to pay for a subscription entitling them to file-share music on the Internet, a majority - 51.8 percent - replied that they would consider paying between SEK 50 and 150 per month. One in five people - 18.8 percent - would consider paying between SEK 150 and 300, while 21.7 percent would consider paying less than SEK 50. Only 7.6 percent of the respondents would not consider paying anything at all.
- Streaming of music via services such as Spotify or Last.fm offers many advantages, but is not thought to offer the potential to replace file-sharing totally. Eight out of ten respondents - 80.5 percent - state that it is important to be able to collect music and have it accessible without being on-line. According to nine out of ten - 90.3 percent - it is important to be able to transfer the music from their computer and listen to it somewhere else.

The favourable reception for STIM's proposed special file-sharing subscription accords closely with the results of a public opinion survey that STIM commissioned Synovate to conduct in autumn 2008. In that survey, seven out of ten were in favour of STIM's file-sharing proposal and three out of four - 75 percent - replied that the creators of music should receive financial compensation when his or her music is distributed via the Internet.

STIM has also had the technical possibilities investigated for measuring reliably the music that Internet users are listening to on their computer. The objective is to be able to distribute revenue to songwriters and artists accurately, while respecting the personal integrity of the Internet user. The conclusion was that effective technology exists that could be used for the purpose, and that is already being used on a large scale by various existing music services. The technology is stable and functions without disturbing the user.

Up to the present, the main result of the debate on file-sharing and copyright has been that two irreconcilable camps have become ever more deeply entrenched: on the one side, a single-track policy to pursue illegal file-sharing by legal means, in the form of increasingly stringent control procedures, and on the other a total lack of respect for the work that lies behind every song that is downloaded. At the same time, the Internet Service Providers (ISPs) have adopted a passive stance and have totally shifted the problem on to the ideological and legal tug-of-war between on one side a vociferous clique of its file-sharing customers and on the other the huge record and media companies.

The results of this survey should help to break the deadlock, as it shows that the music users on the Net are calling for a subscription that allows for legal sharing of music files. STIM's proposed licensing system remains on offer to the ISPs - the ones who can develop and offer a subscription of this type to their customers.

The ball has for a long time been in the court of the ISPs. It is now high time that they start working seriously to offer their customers what they are calling for. Whoever first produces a commercial subscription product and shows the way, will at the same time be accepting their responsibility for diversity and breadth in the music industry of the future.

Kenth Muldin, CEO, STIM

Part I: Questionnaire-based survey

Methodology and execution

In the period 30 December 2008 – 15 January 2009, STIM advertised on 250 different Internet sites of various kinds for people willing to take part in a survey.

Answers could be given in total anonymity. The respondents were also offered the chance to enter a competition to win a mobile music player. To participate, entrants had to write a short account of why music is important, giving their e-mail address.

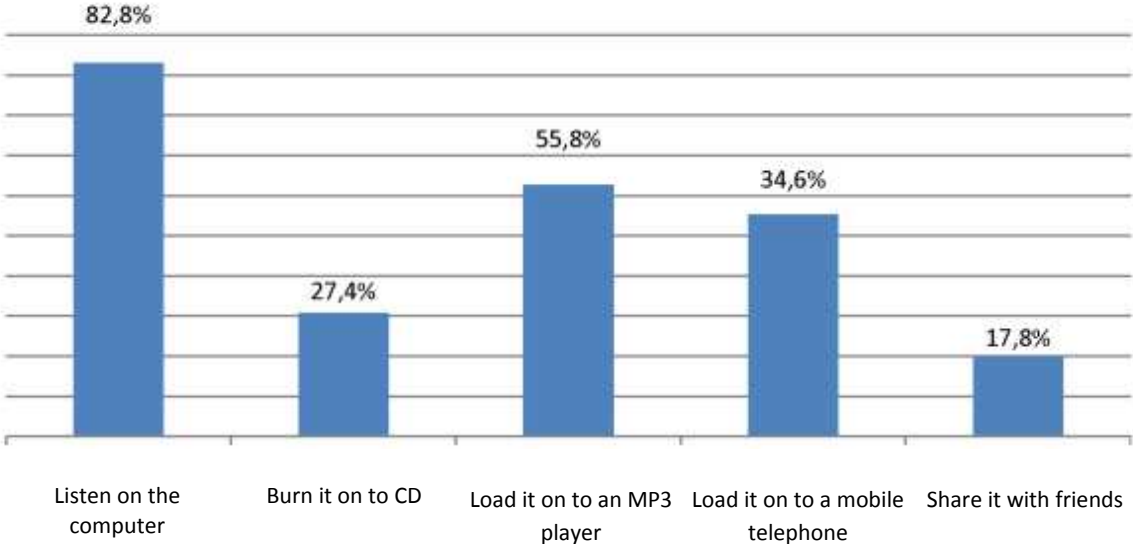
During the period of the survey, 1,123 people completed the survey. Because no controls were applied to the selection, it cannot with certainty be regarded as representative of the entire group of music users on the Internet.

Background facts on the respondents

- 33 percent are women and 67 percent men.
- 18 percent are aged less than 18 years, 35 percent are aged 18-29 years and 47 percent are aged 30 years or more.
- 56 percent state that they listen to music on the computer very often. On their mobile: 19 percent. On an iPod or other MP3 player: 25 percent.
- 25 percent have more than 5,000 songs in their digital music collection. 33 percent have 1,000-5,000 songs and 41 percent have fewer than 1,000 songs in their digital music collection.
- 33 percent have paid for less than one tenth of their digital music collection. 25 percent have paid for between 10 and 50 percent of their music collection, while 42 percent have paid for more than half of their digital music collection.
- In reply to the question asking which streaming services the respondents have tried, 44 percent say they have not tried any service of this kind. 34 percent have tested Spotify and 32 percent Last.fm. Of the other streaming services listed, none account for more than 6 percent of the respondents: Deezer, iMeem, Tunerec, Chilirec, Hypem, Seeqpod.

How do you use music that you have downloaded into your computer from the Internet?

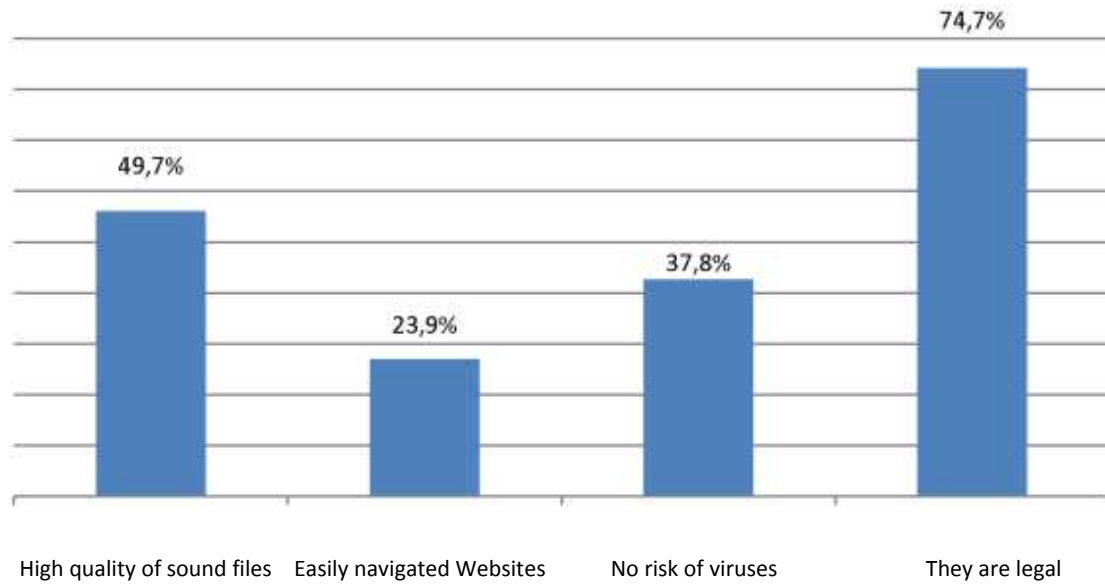
Eight out of ten people listen to their downloaded music on their computer. More than half load it on to an MP3 player or equivalent. Somewhat fewer - 34.6 percent- load the music on to their mobile telephone. One in four replies that they burn the music on to a CD. Only 17.8 reply that they share the music with friends.



Respondents were able to choose one or more reply options.

What advantages do Webshops have in digital music?

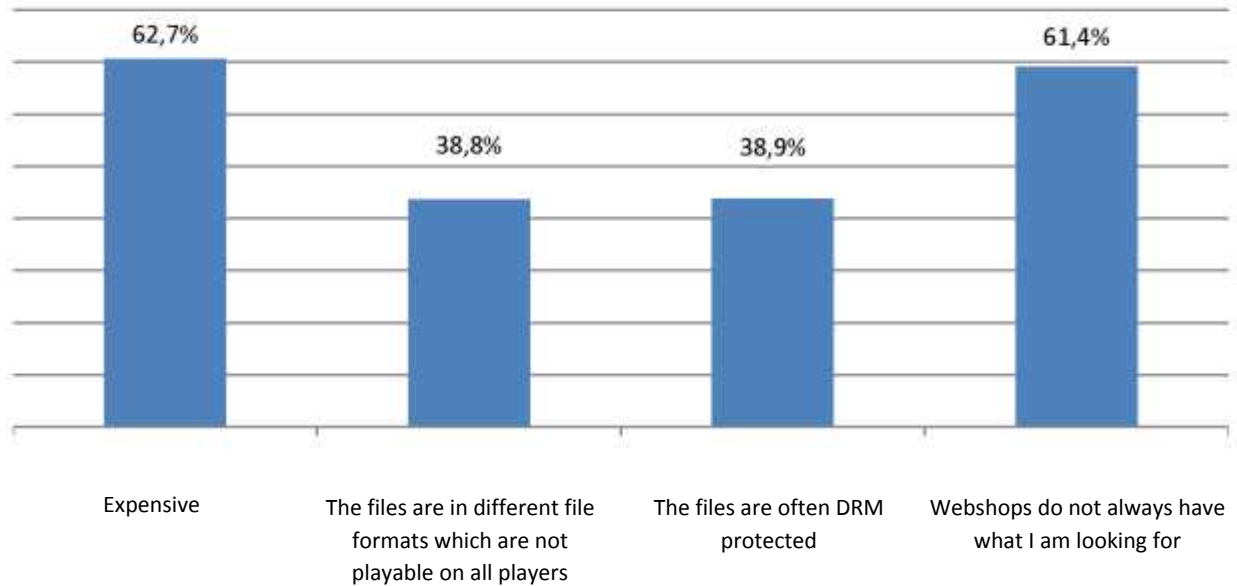
Three out of four reply that an advantage of Webshops is that they are legal. One in two replies that high quality is an advantage. Fewer reply that there is no risk of viruses and that Websites are easily navigated.



Respondents were able to choose one or more reply options.

What disadvantages do Webshops have in digital music?

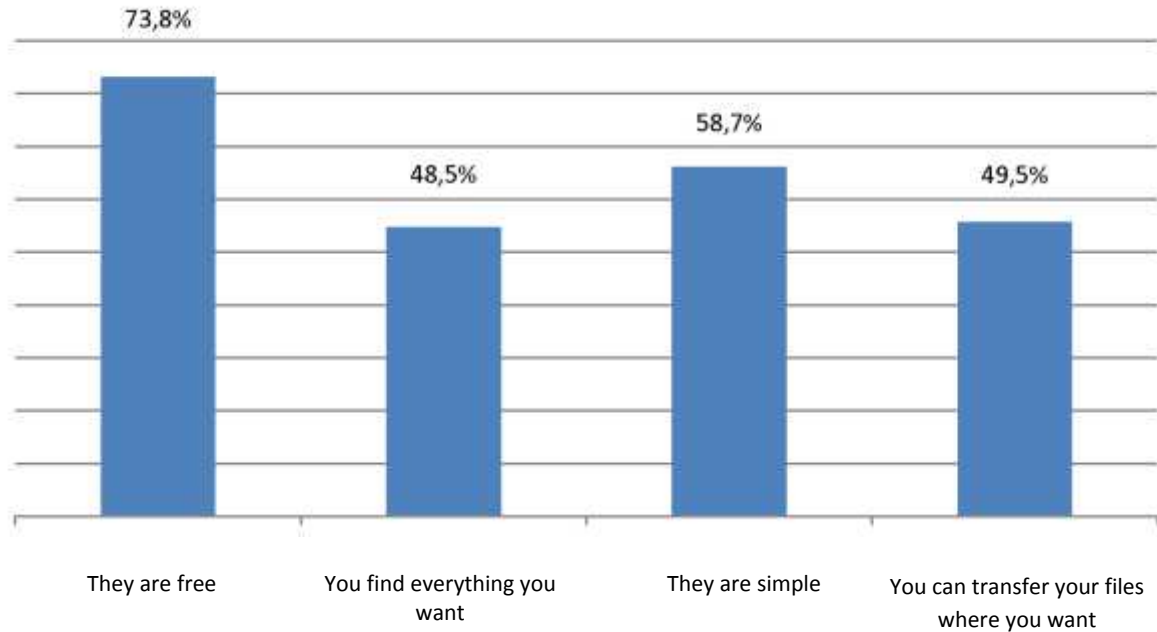
Six out of ten state that a disadvantage of Webshops is that buying music is expensive. A similar number say that a disadvantage of Webshops is that the range of music on offer is not comprehensive. Four out of ten reply that a disadvantage is that the files are often DRM-protected and that they have different file formats, which means that they cannot be played on all types of player.



Respondents were able to choose one or more reply options.

What are the advantages of file-sharing networks?

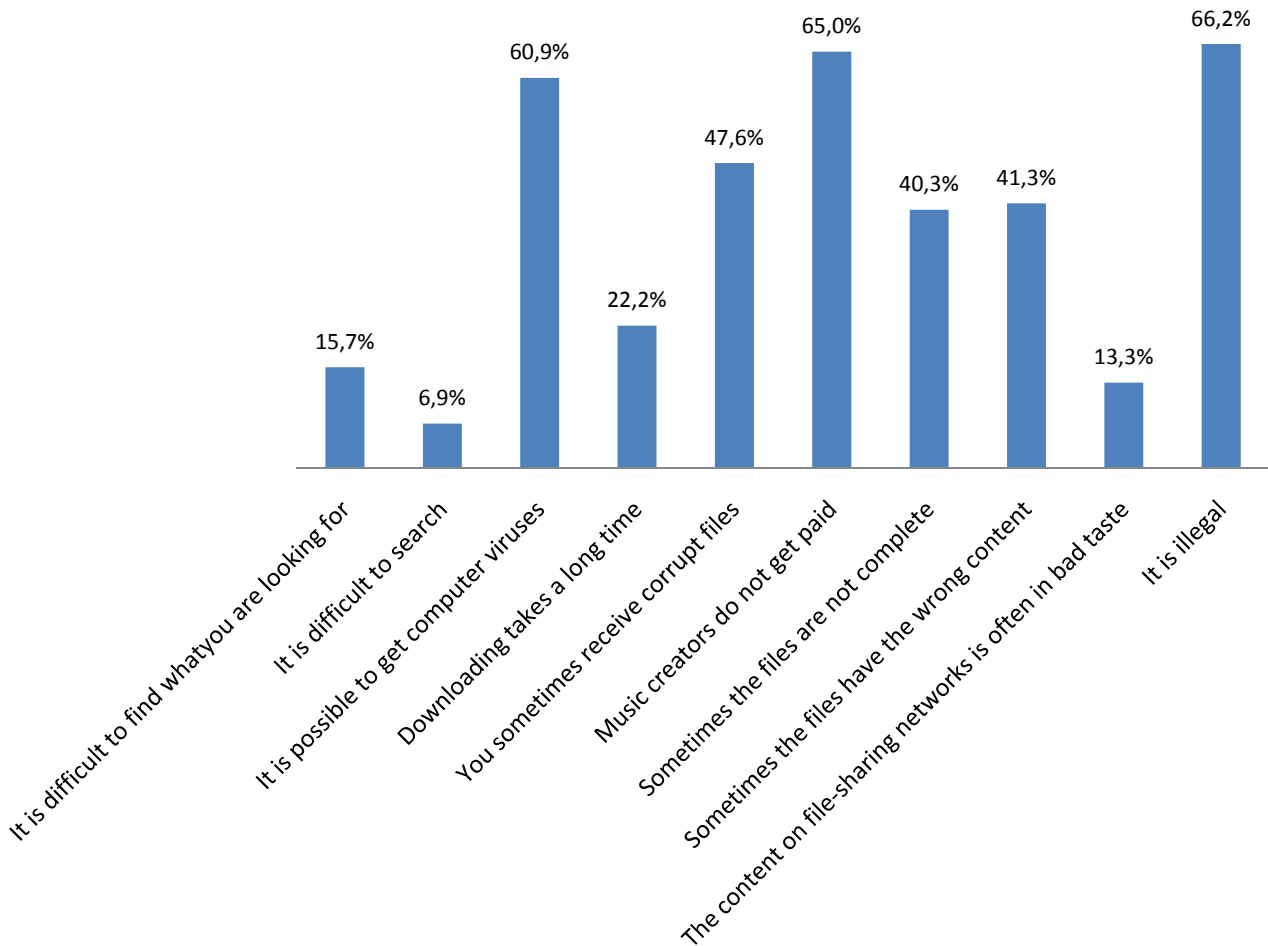
More than seven out of ten reply that an advantage of file-sharing networks is that they are free, while nearly six out of ten reply that they are simple. One in two respondents reply that one advantage is that through file-sharing networks they can find everything they are looking for and that they can transfer their files wherever they want, including on to MP3-players or mobiles, or they can burn them on to CDs.



Respondents were able to choose one or more reply options.

What are the disadvantages of file-sharing networks?

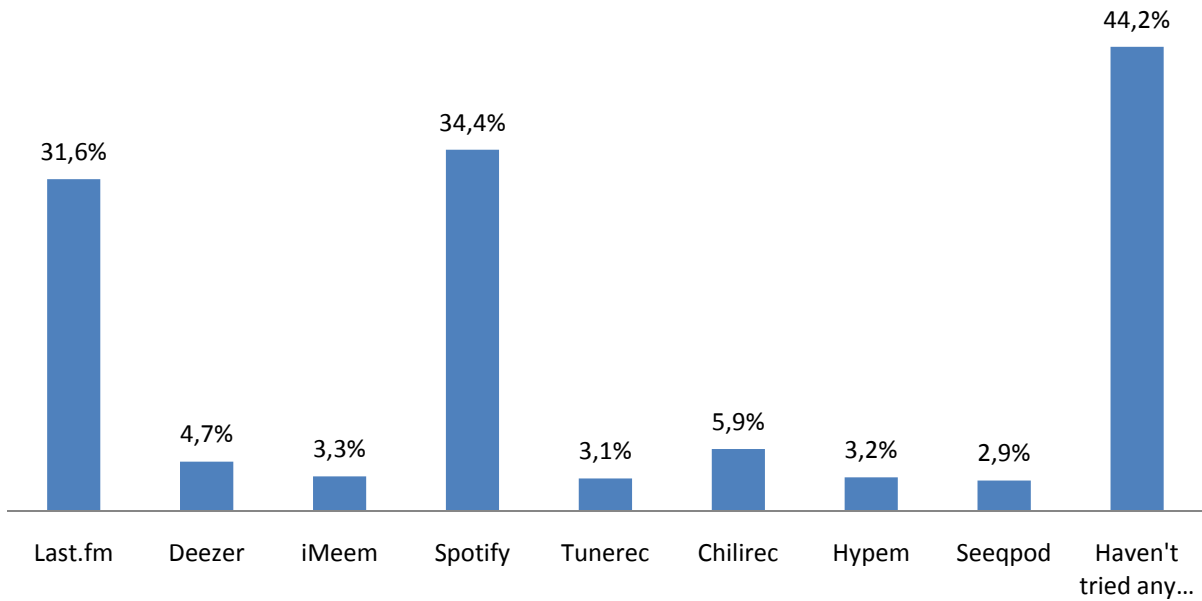
Out of the three reply options, three stood out with high outcomes: that it is illegal, that creators of music do not get paid and that there is a risk of computer viruses. Other reply options with high outcomes are that it is possible to receive incomplete or corrupt files, or files with the wrong content.



Respondents were able to choose one or more reply options.

What streaming services have you tried?

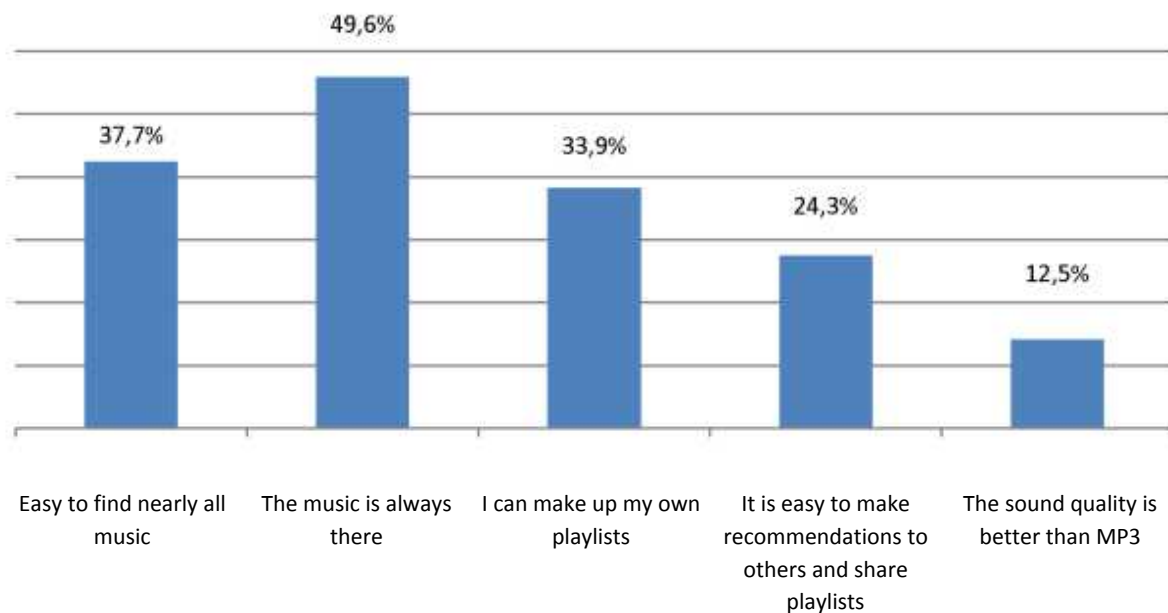
More than four out of ten have not tried any streaming service at all. Of those who have tried streaming service, roughly the same number has used Spotify and Last.fm. Other streaming services mentioned were Chilirec, Deezer, iMeem, Hypem, Seeqpod and Tunerec.



Respondents were able to choose one or more reply options.

What do you think the advantages of streaming are?

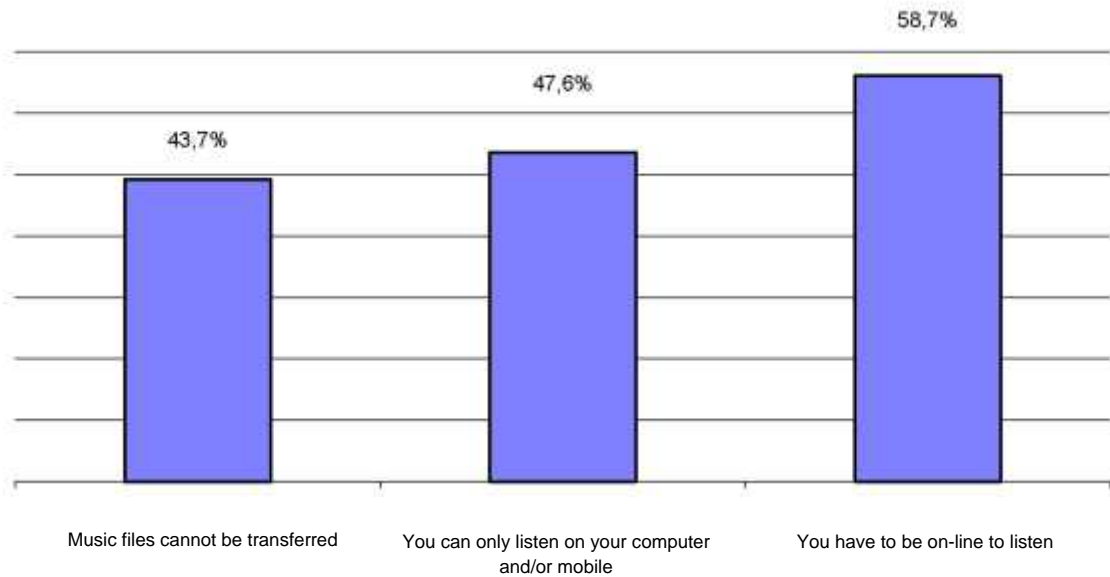
One in two replies that the biggest advantage of streaming is that the music is always there. Nearly four out of ten reply that it is easy to find nearly all music and one in three says an advantage is the ability to make your own playlists.



Respondents were able to choose one or more reply options.

What are the disadvantages of streaming?

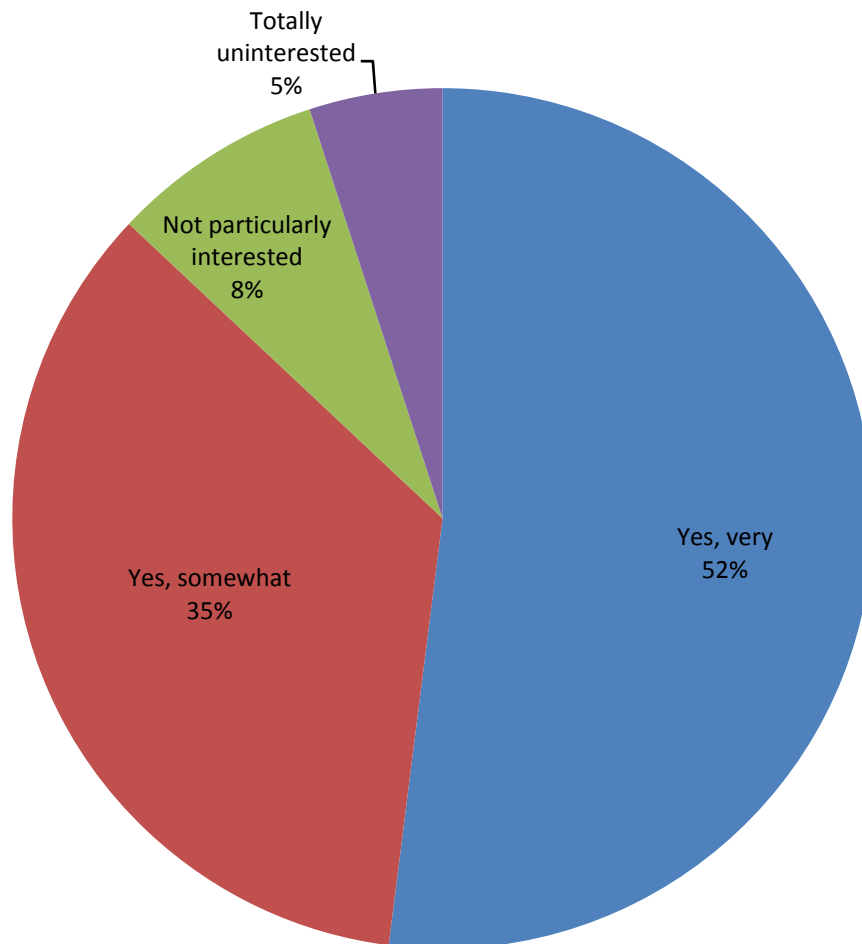
Six out of ten say that one of the disadvantages of streaming is that you have to be on-line to be able to listen. One in two feels that it is a disadvantage that you can only listen on your computer and/or your mobile, while four out of ten say it is a disadvantage that you cannot transfer your music files, for example to an MP3 player or burn them to CD.



Respondents were able to choose one or more reply options.

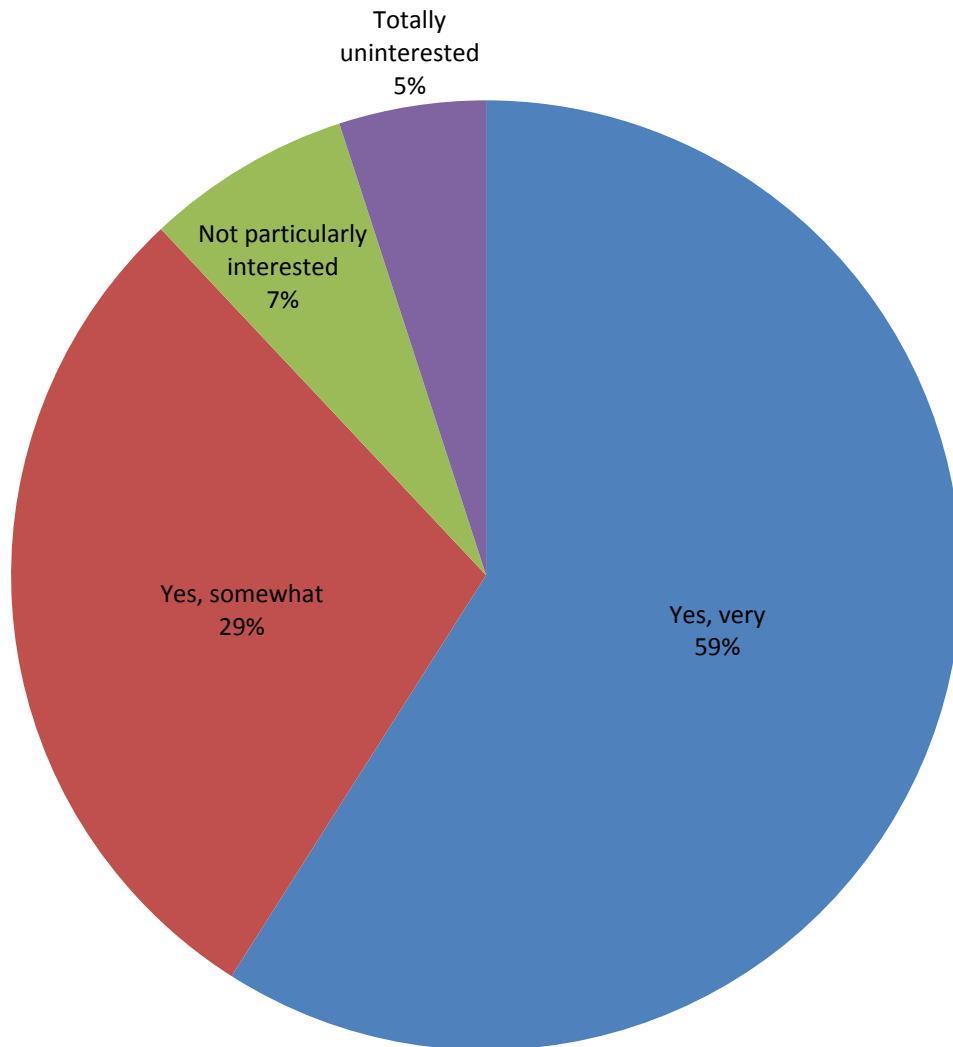
If you could take out a voluntary subscription that entitled you to file-share music, would you be interested?

Nearly nine out of ten - 87 percent - say they would be interested in a voluntary subscription entitling them to file-share music. Only 5 percent reply that they would be totally uninterested.



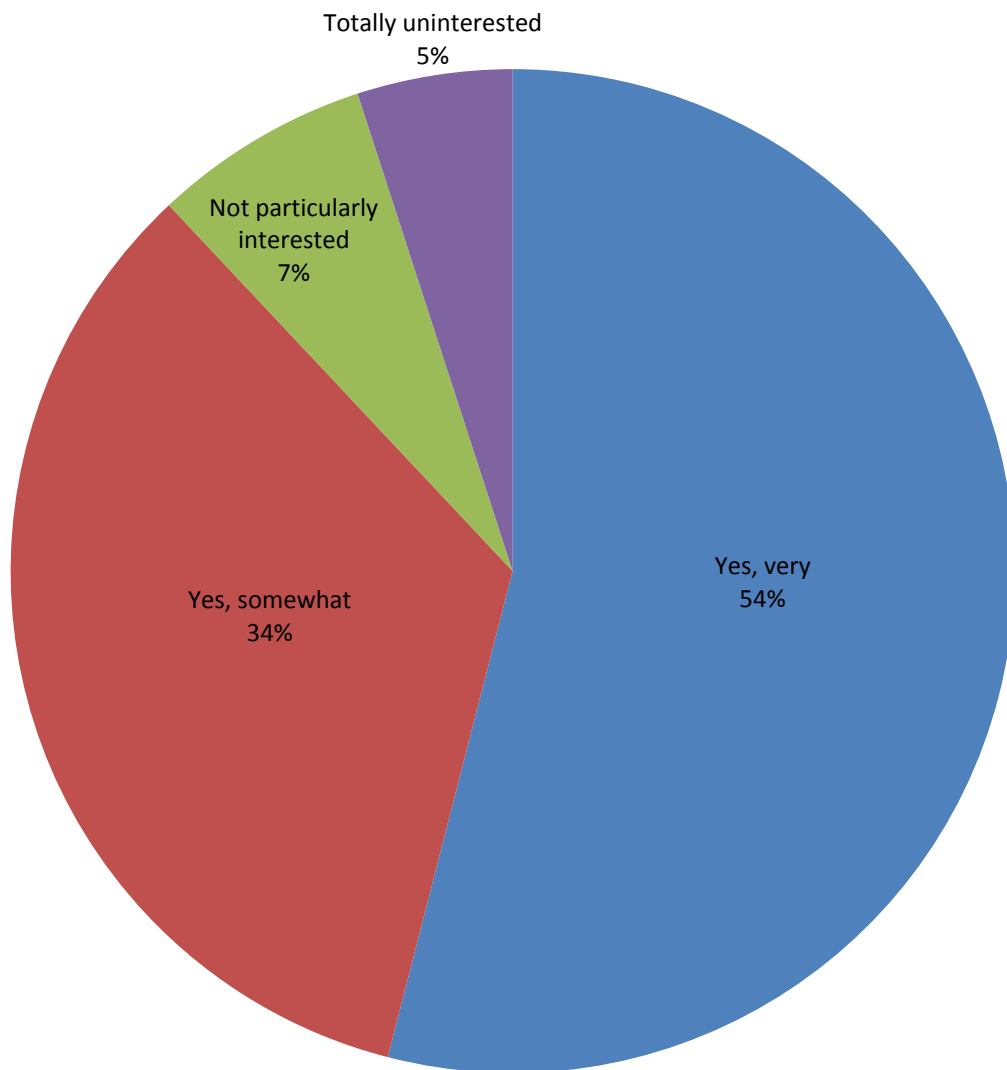
Interest in file-sharing subscription among respondents with more than 5,000 songs in their digital music collection

The biggest music collectors are also the ones who are most in favour of a file-sharing subscription. Of those with more than 5,000 songs in their digital music collection, six out of ten - 59 percent - are very interested in a file-sharing subscription, as against 52 percent of all respondents.



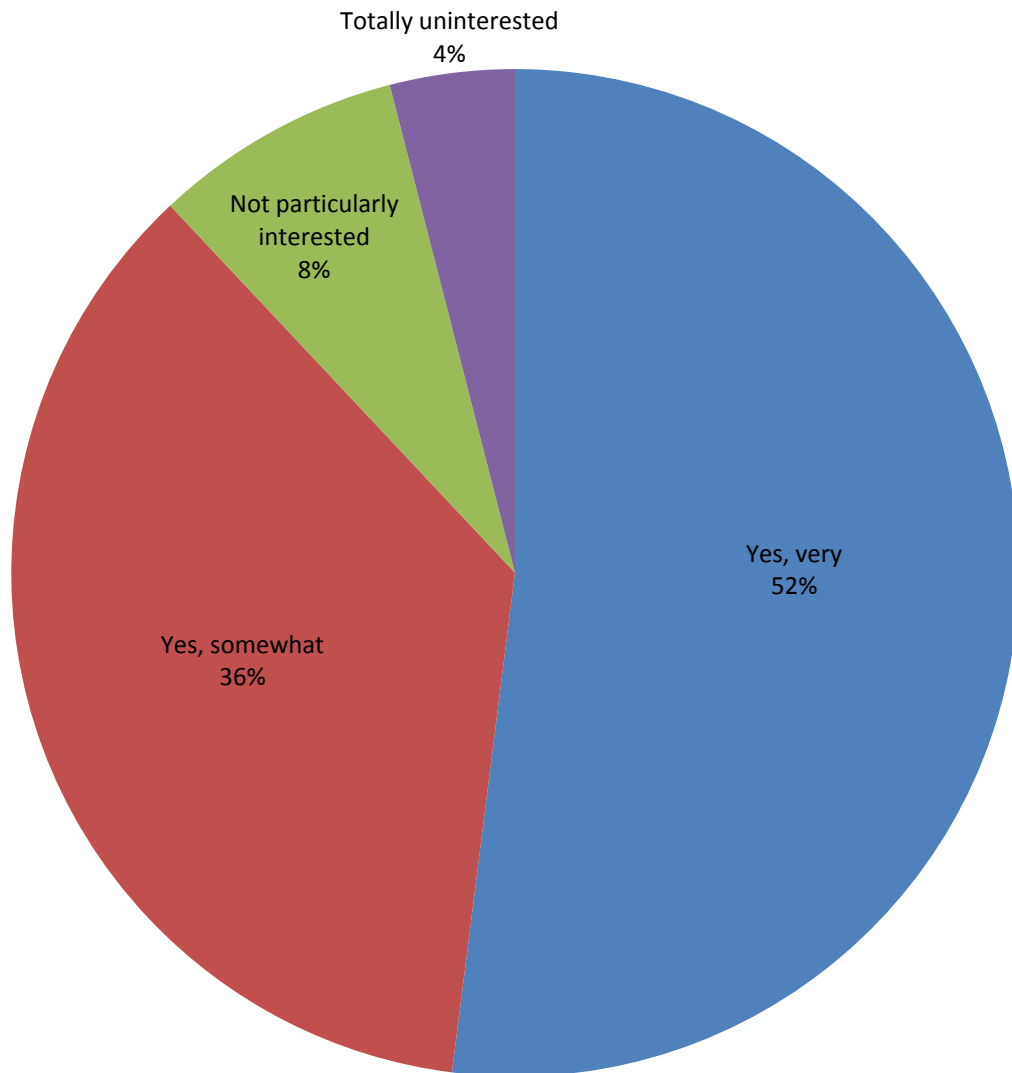
Interest in file-sharing subscription among respondents who have paid for less than 10 percent of their digital music collection

Those who have paid for less than 10 percent of their digital music collection are somewhat more in favour of a file-sharing subscription than other respondents. Within this group, 87 percent are interested in a subscription of this kind, while only 5 percent were totally uninterested.



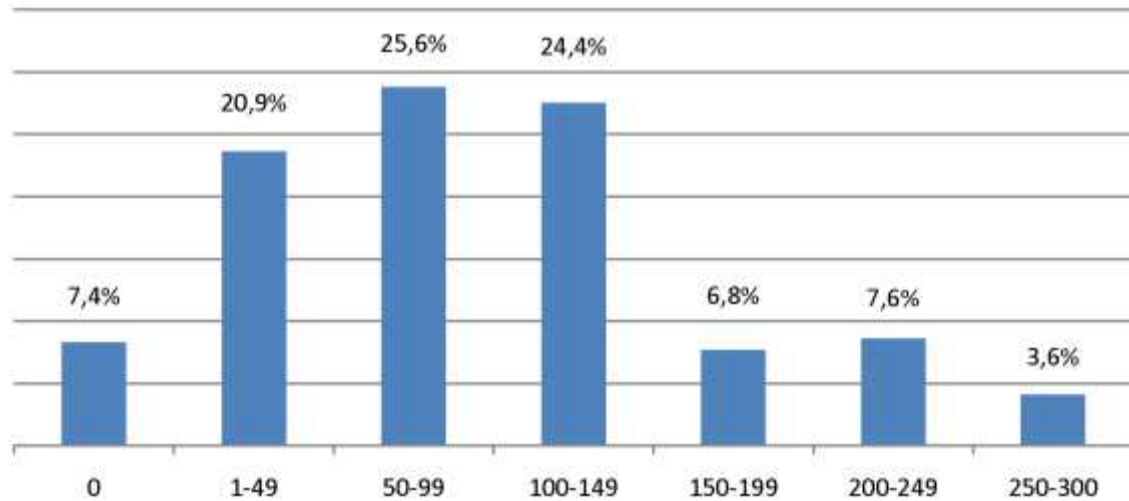
Interest in file-sharing subscription among those to whom the biggest advantage of file-sharing is that it is free of charge

Even among those to whom an advantage of file-sharing networks is that they are free, a majority would be interested. 52 percent of this group state that they would be very interested in an arrangement of this kind, the same percentage as among all respondents.



How much would you be interested in paying for a subscription that would entitle you to file-share music on the Internet?

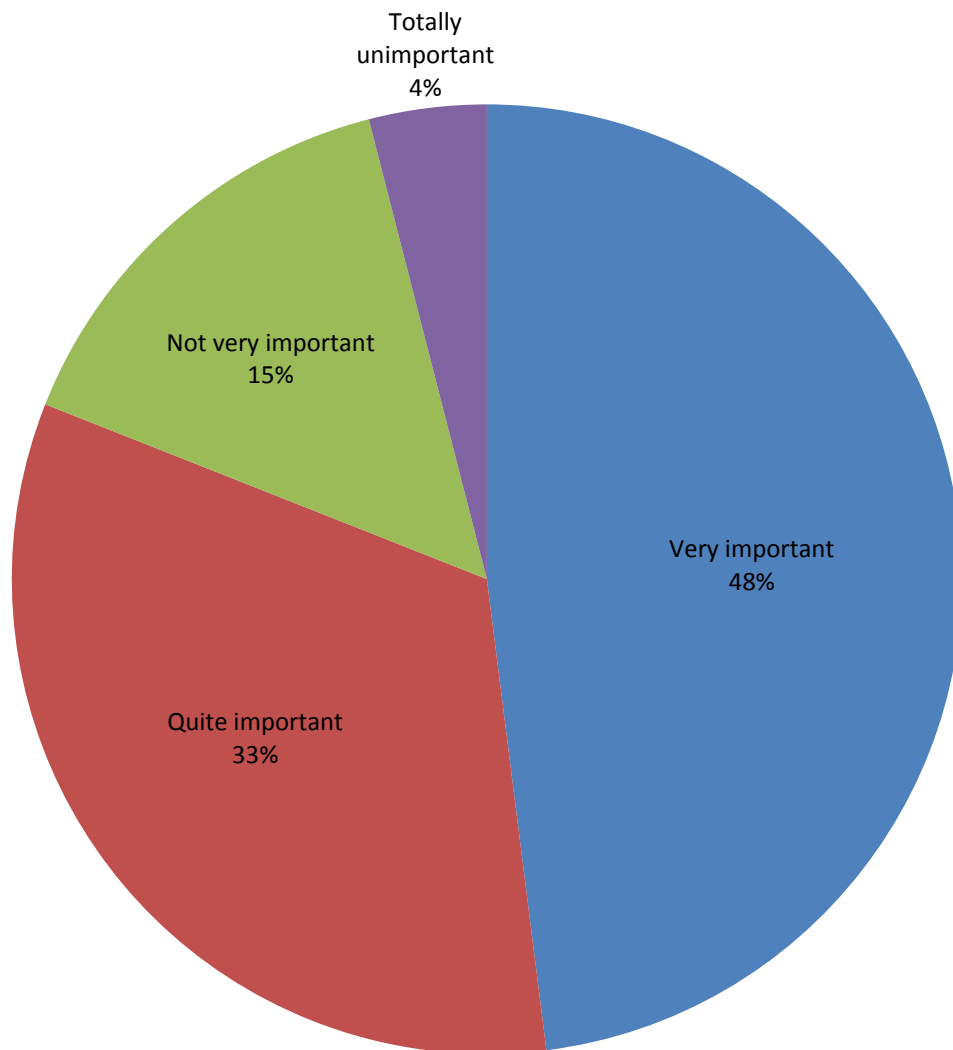
A majority, 51.8 percent, reply that they would consider paying between SEK 50 and 150 per month. One in five people - 18.8 percent - would consider paying between SEK 150 and 300, while 21.7 percent would consider paying less than SEK 50. Only 7.6 percent of the respondents would not consider paying anything at all.



Respondents were able to state any amount they chose.

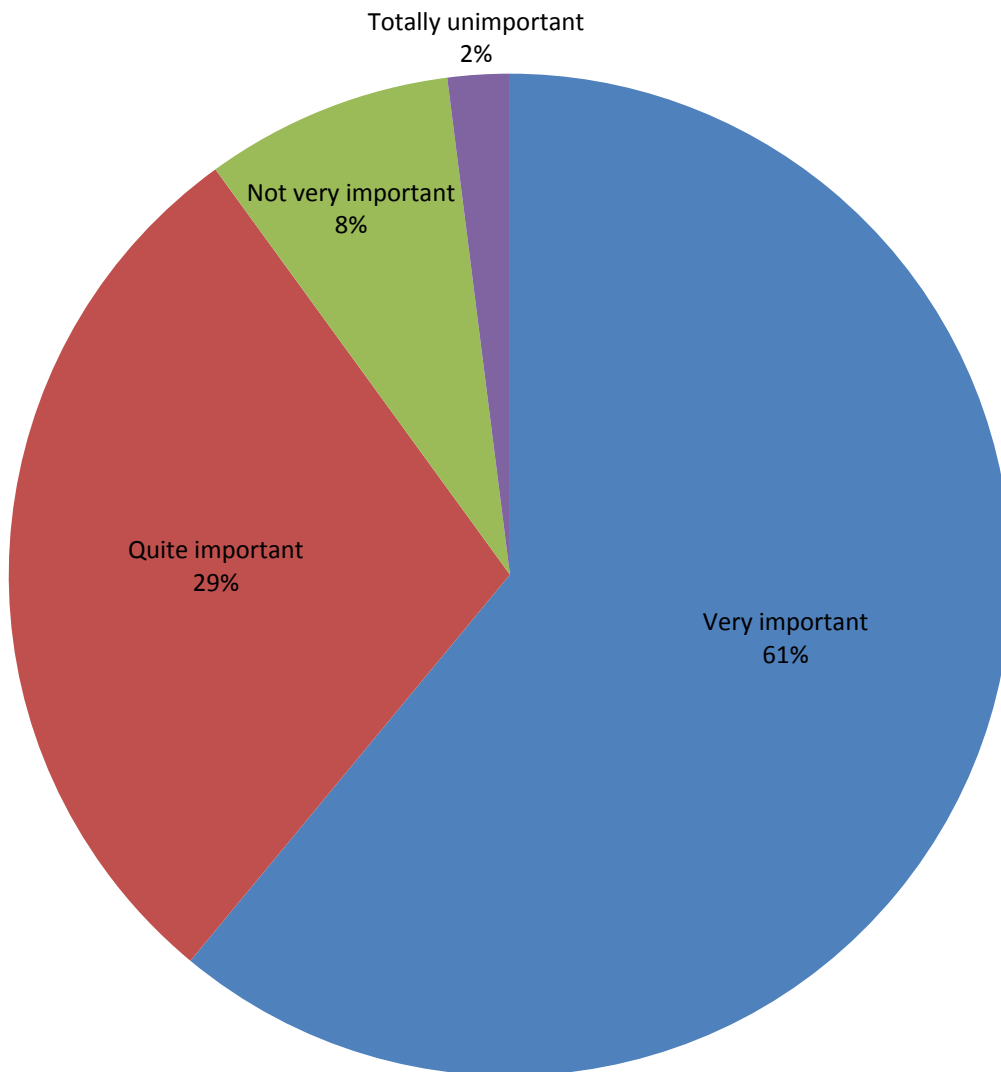
How important is it to you to collect music and have it available without being on-line?

Eight out of ten - 81 percent - state that it is important to be able to collect music and have it accessible without being on-line. Only 4 percent reply that it is totally unimportant.



How important is it to be able to transfer the music from your computer and listen to it somewhere else?

According to nine out of ten - 90 percent - it is important to be able to transfer the music from their computer and listen to it somewhere else. Only 2 percent reply that it is totally unimportant.

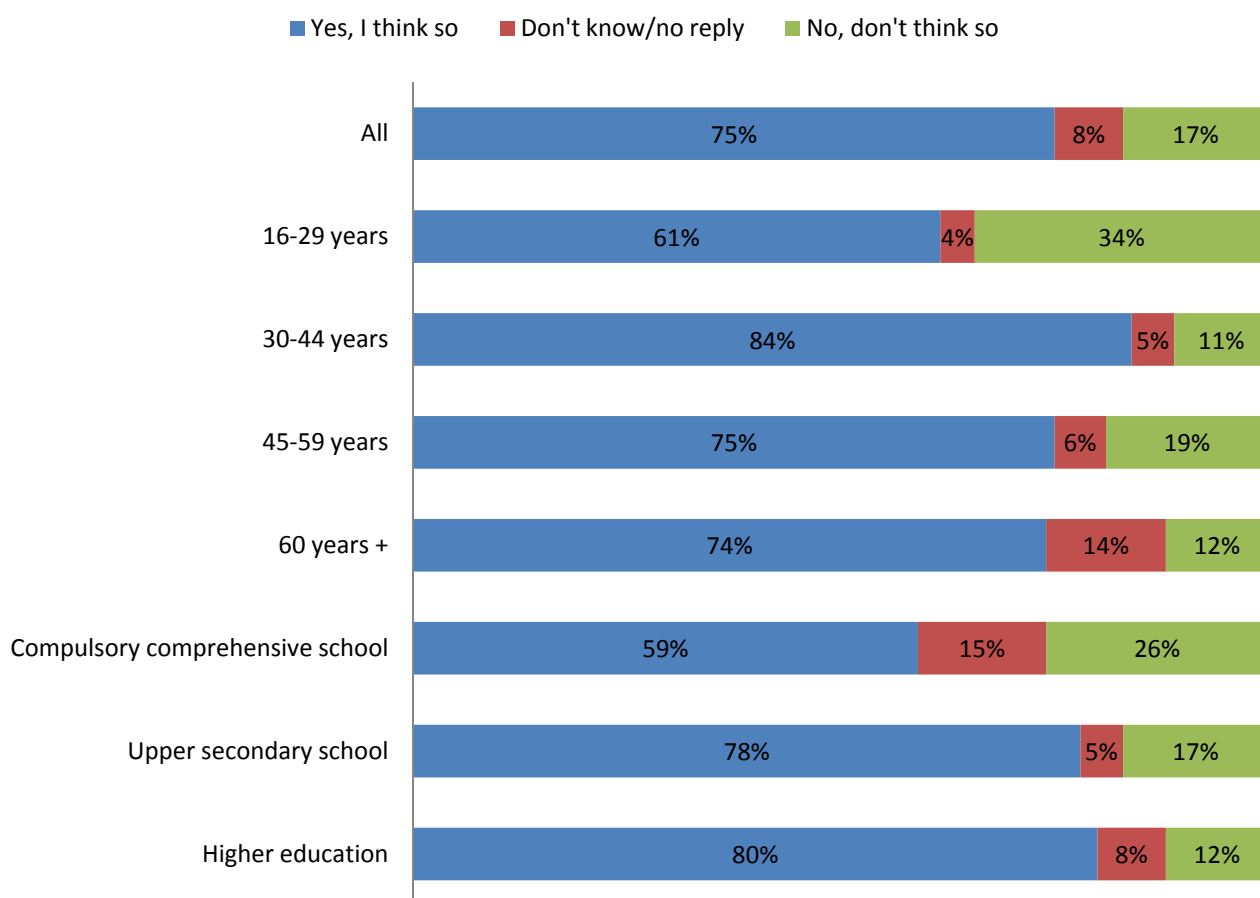


Part II: Public attitudes to file-sharing

In autumn 2008 STIM also commissioned Synovate to survey public attitudes towards file-sharing. 1,025 interviews were conducted in the period 22-25 September.

Do you think that those who create music should be paid when their music is distributed via the Internet, or do you think they should not?

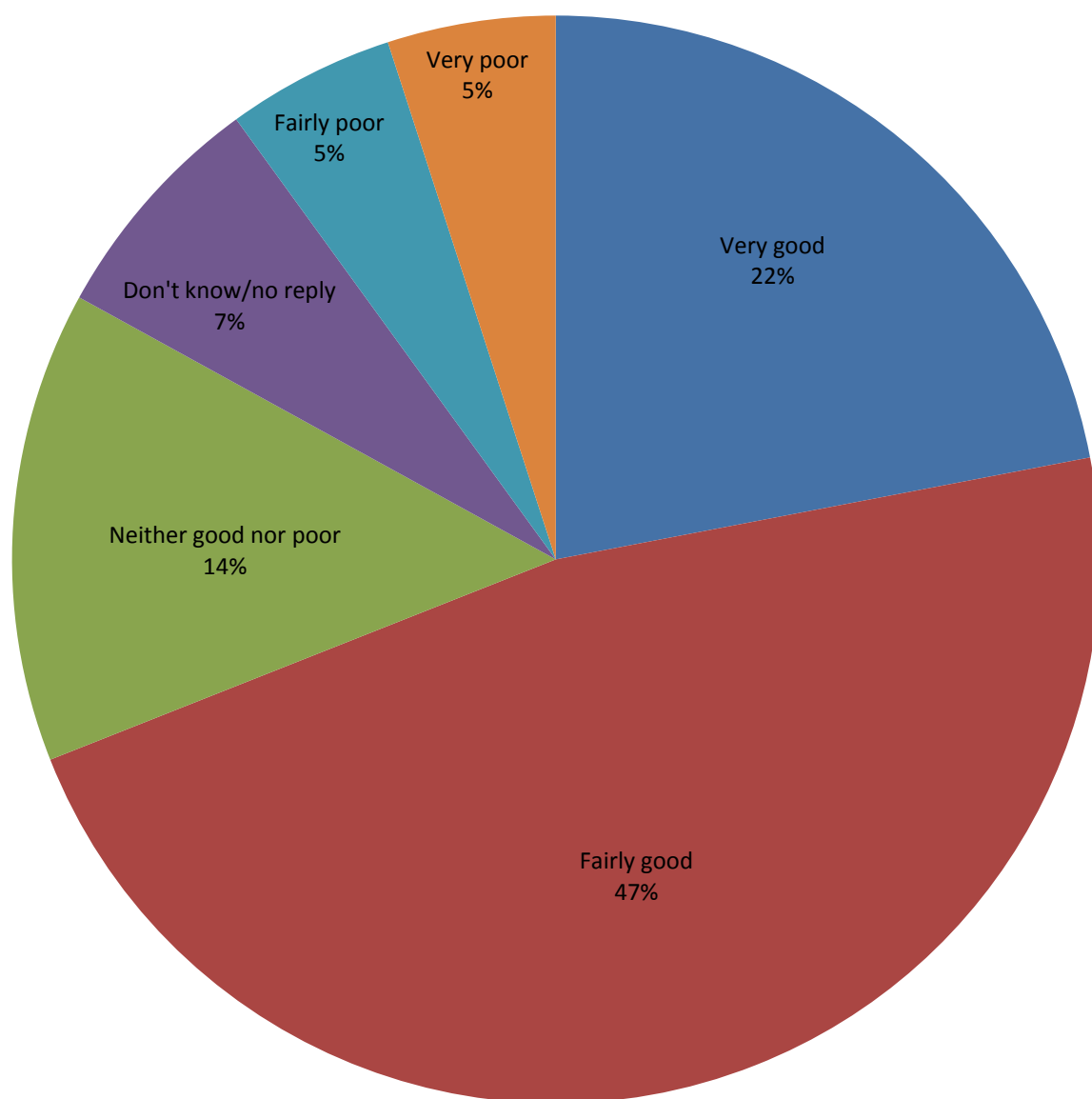
Three out of four say that creators of music should be paid when their music is distributed via the Internet.



What do you think about STIM's proposal on file-sharing?

The full question was worded thus: "Today, illegal distribution of music takes place on a huge scale via the Internet, but the music creator is not paid when his or her music is played. There is now a suggestion that Internet Service Providers (ISPs), such as Telia and ComHem, should offer their customers the possibility - on their customers' behalf - to make a proportional payment to music creators and other rightholders based on the amount of their music distributed. The proposal will not need any change in current legislation, but will require ISPs to offer their customers the possibility of subscribing to an expanded service. What do you think of the suggestion? Do you think it is...?"

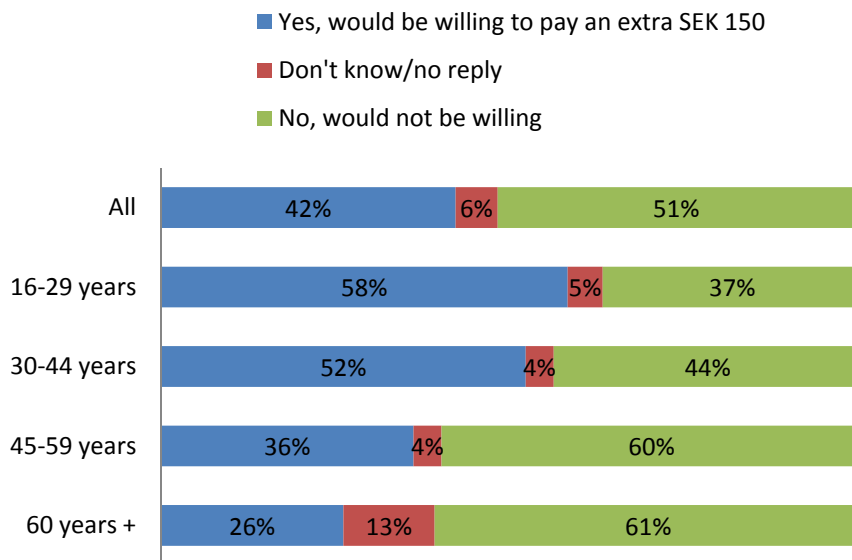
Seven out of ten were in favour of the suggestion.



Willing to pay SEK 150 for legal file-sharing?

Would you yourself be willing to pay an extra SEK 150 per month for access to the Internet if it meant you were legally able to download unlimited music, while at the same time music creators and other rightholders would be paid for what you download?

Four out of ten people are themselves willing to pay an extra SEK 150 per month for unlimited music downloads while at the same time music creators would be paid. More young people than those in other categories reply that they are willing to pay an extra SEK 150.



Part III: Technical test of reporting function - audioscrobbling

Introduction

As music use among consumers is shifting from traditional media such as CDs and the radio to on-line use and playing of digital music files on mobile telephones and DAP 1, it is becoming increasingly necessary for copyright societies to devise new methods for collecting and distributing monies due in connection with the use of music that they represent.

On STIM's behalf a technical test was carried out in the period 1 December 2008 - 3 January 2009 to investigate the possibilities of using software installed at end-user level in order to register music use. The test was performed by Daniel Johansson, postgraduate in computer sciences, working with twenty students from the University College of Kalmar.

The principal objective of the test was to trial existing technology for registering music use and to look into the possibilities of using this technology in conjunction with the file-sharing licence proposed by STIM. Instead of basing a distribution model on the number of downloaded copies, as is the case today with distribution to authors from à la carte downloading via digital music services, the kind of distribution model envisaged here would be based on actual use by the music listener.

Audioscrobbler

The test platform selected was Audioscrobbler, i.e. the same technology as used by Last.fm to collect data on the music used by their registered members.

The application, which is installed in the user's local computer, reads the ID3 tags in MP3 files, i.e. the metadata that accompanies the music files.

ID3 is supported by iTunes, Windows Media Player, Real Player, Winamp and most other music players. Hardware players such as the iPod, Zen and mobile telephones also support the format. ID3 was developed separately from the MP3 format itself and is "hooked" on to the music file.

The software installed on the computer identifies an MP3 file as soon as it starts playing on any of the music players on the computer, for example Winamp or Windows Media Player. When half of a song has played on the local music player, or when four minutes of the song has played, information is sent to the Last.fm database. If a song is less than 30 seconds long, no information is sent. When the user is off-line, the information is buffered and uploaded next time the application makes contact with the server.

The software is released under GNU GPL (GNU General Public License), an open licensing format established by Richard Stallman in the 1980s.

The licensing format may be said to be based on the following four principles: 1) Freedom to use the software for any purpose whatsoever. 2) Freedom to analyze the software in order to understand how it works and to use this knowledge for the user's own purposes. 3) Freedom to redistribute copies to help others. 4) Freedom to improve the software, to adapt it to the user's own requirements and to distribute the improvements to enable others to benefit from the modifications.

As a result, many applications based on the technology used in audioscrobbling have been created and posted on the Web. It is important to note that GNU GPL represents a further development of the source code and the software cannot be transferred into another licensing format, but must continue to be distributed under the same licence in the future.

The data that is collected from the local computer is added to the profile that the user has registered with Last.fm. The information on the music is then presented in various ways, for example in the form of charts, while users can also find other users who listen to similar music.

The music played on the local computer is listed on the user's profile page.

Alternative technologies

There are a number of other operators and services that track and register music plays, both locally and online, in a similar way to Last.fm. The German company Twones has developed technology that registers music use automatically on a large number of services, including Last.fm. This is currently in the beta-testing stage, but the technology itself could be used to create more detailed distribution systems.

Services similar to Last.fm include. Anywhere.fm, Batanga, deezer.com, iLike, Imeem, Live365, Jamendo, MOG, Musicoverly and Pandora. However, these are not based primarily on plays of MP3 files on the user's computer but rather on plays of music via streaming or progressive downloading, which in fact Spotify also employs.

Methodology and execution

The test was conducted in the period 1 December 2008 - 28 February 2009. It was arranged basically in three parts:

- a) Collection and analysis of data from the computers of test participants
- b) Questionnaire-based survey
- c) Desktop research on audioscrobbling

The collection and analysis of data from the computers of test participants took place as follows:

- 1) The test participants registered new accounts, or profiles, at Last.fm and installed the application available via the service.
- 2) The applications were installed without any listening history being imported; a facility that is available to enable the user to store his or her listening chronologically. The reason why no listening history was imported was that the participants were to be "clear" at the start of the test in order to determine best how data could be collected. The participants were also encouraged not to export data from other music services, such as Spotify, since the purpose of the test was specifically to collect data about plays of MP3 files on the user's own computer.
- 3) Data was collected in the period 1 December 2008 - 31 January 2009 and compiled by importing listening data from Last.fm's open APIs, i.e. the open XML flows that are provided for each user. On completion of the technical test, a questionnaire-based survey of the test participants was carried out.

Limitations of the study

The participants who completed the test are not representative of the public; they were students on a music industry course entitled Music Management. As a result, the participants were probably more interested in music than the average person, and this is likely to be reflected in the results. However, this is not especially important, as the main purpose of the study was to determine how well audioscrobbling worked from a technical and user perspective. The test group was limited in scope because the main purpose of the test was above all to investigate the technical capabilities of audioscrobbling in reporting music use from end-users.

Music utilization

Of the 20 individuals expressing an interest in carrying out the test, 14 completed it, meaning that they had the application installed for the whole of the period, with user data automatically being sent to Last.fm. The main reason why six users did not complete the test was that they changed from MP3 files to using Spotify. Even among the participants who completed the test, the launch of Spotify affected use, with several of them mentioning this in their questionnaire replies.

For the 14 users who completed the test, in all 14,906 MP3 file plays during the period were registered. On average this represented around 17 plays per person per day. During December, a larger number of plays were registered than in January. The data collected was easily processed and music use was monitored continuously, as every play lasting more than 30 seconds is registered.

An analysis of which music was played most indicates that current music was played most, a not-unsurprising finding in view of the demographic composition of the test group. Fleet Foxes showed the most number of plays during the test period, mainly because of two users, who quite clearly love that particular group. The fact that Christmas fell within the test period also had a clear impact on the music played. However, the differences between the test participants were very considerable, as illustrated in the table below.

Total number of musical works played during the test period, per user

	Total number of plays	Average (app.)/day
User 1	2,605	42
User 2	2,170	35
User 3	1,998	32
User 4	1,717	27
User 5	1,622	26
User 6	1,212	20
User 7	881	14
User 8	734	12
User 9	687	11
User 10	645	10
User 11	298	5
User 12	184	3
User 13	79	1
User 14	74	1

The 50 most played songs during the test period

1 Fleet Foxes Oliver James	74
2 Fleet Foxes Sun It Rises	72
3 Fleet Foxes He Doesn't Know Why	71
4 Fleet Foxes White Winter Hymnal	70
5 Fleet Foxes Ragged Wood	68
6 Fleet Foxes Blue Ridge Mountains	67
7 Fleet Foxes Heard Them Stirring	67
8 Fleet Foxes Quiet Houses	67
9 Fleet Foxes Your Protector	66
10 Fleet Foxes Tiger Mountain Peasant Song	65
11 Fleet Foxes Meadowlarks	64
12 Darkest Hour An Ethereal Drain	55
13 Elvis Presley Blue Christmas	39
14 Sia Breathe Me	36
15 Elvis Presley Santa Bring My Baby Back	30
16 The Sound of Arrows M.A.G.I.C.	26
17 Elvis Presley White Christmas	26
18 Elvis Presley Be Home on Christmas Day	26
19 Elvis Presley Silent Night	26
20 The Fray You Found Me	25
21 Elvis Presley It Won't Seem Like Christmas	25
22 Guns N' Roses Civil War	24
23 Queens of the Stone Age Make It Wit Chu	23
24 Franz Ferdinand Ulysses	23
25 Elvis Presley Santa Claus Is Back in Town	23
26 Andrea Doria vs. LXR beauty of silence	23
27 SoKo I'll Kill Her	22
28 Ram Di Dam Flashbacks	22
29 Radiohead Street Spirit	22
30 Nine Inch Nails Right Where It Belongs	22
31 Jack Johnson Angel	22
32 Hoobastank More Than a Memory	22
33 Eskimo Joe London Bombs	22
34 Elvis Presley Be Home For Christmas	22
35 Elvis Presley Holly Leaves And Christmas Tree	22
36 Slipknot Vermillion Pt.2 (Bloodstone Mix)	21
37 Marilyn Manson They Said Hell's Not Hot	21
38 Britney Spears Trouble	21
39 Slipknot Snuff	20
40 Seether Fade Away	20
41 Maria Mena Our Battles	20
42 Jack Johnson All At Once	20
43 HIM For You	20
44 Avenged Sevenfold Dear God	20
45 Andy McKee Rylenn	20
46 Abraham Magpie (Morgan Geist remix)	20
47 The Fray Little House	19
48 Stone Sour ZZYXZ Rd	19
49 Katatonia My Twin	19
50 Guns N' Roses November Rain	19

Survey result

Most of the participants in this study had used Last.fm previously. The participants report that they have not had any technical problems, apart from one whose computer ran more slowly. Generally, it is seen as a positive that their data was being used for distributing revenue to the appropriate rightholder, but at the same time it is emphasized that their anonymity is important.

Technical results

The main objective of the test was to investigate these issues:

- a) As a technology, is audioscrobbling sufficiently stable to use as the framework of a distribution model based on the music played by end-users?
- b) How do end-users react to an application being installed on their computer and information being sent from the computer and used for distributions to music creators?

The open XML flows delivered by Last.fm from the individual user's profile page are limited to the 51 most played musical works for the particular user. The reason for this is to limit the volume of data distributed from Last.fm's databases. A highly active user of MP3 files may have tens of thousands of recordings, and considering that Last.fm has 21 million users, a comprehensive data flow would place a huge strain on its databases and servers. However, works played are listed in detail on the individual profile pages, right down to the user's least-played work.

For the purposes of this test, this limitation is not of any importance since sufficient data was collected to establish a good idea of the functionality and stability of the system.

In the test conducted, no actual errors were detected in the data collected. However, around twenty duplications were identified. Even though Last.fm incorporates functions to screen out and compile metadata from the ID3 tags, data will inevitably sometimes creep in from two files that are different but include the same musical work. However, developing a solution to deal with duplications should not be a problem. In this test, duplications were handled by filtering in Excel and a certain amount of manual input.

Even if there are a number of potential problems with the limitation to 30 characters in most ID3 tags, it should be possible to use the information to create a distribution model for the revenue that a file-sharing licence on the lines of the model proposed by STIM would generate. It is unlikely ever to be possible to achieve 100 percent accurate information on all the millions of works played in a decentralized way on computers and mobile telephones, but all the same the information that can be collected is sufficiently comprehensive and detailed.

Summary

The conclusion from the test conducted in the period 1 December 2008 - 31 January 2009 is that audioscrobbing, because it is Open Source and because Last.fm is today already using the technology on a large scale with a large volume of members, could be used for managing the collection of data on music use by users who buy a file-sharing subscription from their ISP.

The technology is stable and operates seamlessly, without the user needing to bother with the application. On the basis of this test, my judgement is that the possibilities for using the audioscrobbler technology in conjunction with the "STIM model" are very good.