

The Future of Digital Music in the Peer-to-Peer Web

Position Paper

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ABSTRACT

After the music industry's restrictive future vision for the digital millennium failed to gain customer acceptance, the solution space is now wide open again. Building on recent fieldwork with students on their use of illegal file-sharing networks and their attitude on file-sharing I will argue that there is value in file sharing and present two scenarios, which capture the value instead of trying to prevent the free flow of data. I will outline the choice we face between a fragmented landscape of privatized music spaces walled within social networks and a shared public infrastructure based on the blanket licensing approach. I will conclude that the power of the market will most likely bring about the first scenario, but that we as an economy and a society may be better off by choosing the second option.

Categories and Subject Descriptors

D.4.1 [Computer and Society]: Public Policy Issues – *Intellectual Property Rights, Regulation*

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Economics, Human Factors, Legal Aspects

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Predictions about the future of the Web, the Web ecosystem, Web economics, Digital music distribution, Compulsory blanket license, Social networks, Privatization of public spaces

1. INTRODUCTION

1.1 A short history of the future of digital music

Predictions about the future of the Web as a platform to distribute digital media have a long history in the terms of the rapid time scale of the Web. In the late 1990s the music industry agreed on a particular vision of the Web as a trusted space for the distribution of digital music. The vision relied on Digital Rights Management (DRM) systems supported by a revision of copyright law. But the new regime was designed to be far more restrictive than the previous analog environment. It intended to curtail the ability of users to pursue established social practices like copying songs for private use, and rearranging ("remixing") and sharing them with their friends. Even transferring a song to a portable music player was restricted to certain formats and players. Instead of striking a

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balance of interests between content owners and consumers, this future vision tried to tilt the balance towards a system of control.

At the same time, illegal file sharing continued to flourish on the Web, despite aggressive legal enforcement of copyright law against users in the US and some European countries. [5] The music files distributed over the illegal networks came without technical restrictions and therefore provided higher value to the users, who could easily create copies of these songs or transfer the files to their media players. The disadvantage in user convenience and the wide-spread availability of illegal copies prevented the industry's vision from gaining wider customer acceptance. Finally, in late 2007 the first major music label decided to drop the technical restrictions and started experimenting with new models.

Why do I start my vision on the future of digital music with an account of a failed vision? Because there is something to be learnt from this failure: A feasible future vision has to be based on a solid understanding of both technical realities and user expectations. In order to avoid the same mistake the music industry made a decade ago, i.e. envisioning a future driven by law and technology and not by social reality, I will base my argument on the results of fieldwork I conducted with university students in China, where illegal file sharing is rampant and enforcement of copyright law for music virtually unheard of. I assume that in this environment, the social practice of file sharing is not influenced by the threat of legal action and therefore reflects more accurately consumers' actual preferences and the corresponding economic willingness to pay for media products and services.

2. MYTHS ABOUT PEER-TO-PEER FILE SHARING

2.1 Myth 1: Consumers do not want to pay for the music they obtain online

It has been argued that in the absence of effective enforcement mechanisms citizens prefer to avoid laws they do not support. [6] Hence in the absence of a credible risk of getting caught, consumers should prefer to obtain music online for free over paying for it. But recent fieldwork with students in China has shown that they are indeed paying for some mobile music services and that they see value in using music as a means of socialization. [1] Also, students do understand the "cost" associated with illegal file sharing in terms of poor quality of files, focus on mainstream music, and slow download rates, which are all related to the unmanaged nature of illegal file-sharing networks.

2.1.1 Mobile music as a signaling tool

China Mobile CEO Wang Jianzhou announced that mobile music services generated more revenue than the entire music industry in China in 2005. This is not to say that this stream of revenue covered up for the losses the industry incurred through illegal file sharing and the sale of illegal CDs, but it shows that consumers, including students, are prepared to pay for music under the right circumstances. Particularly interesting are "Ring Back Tones" (RBT), which are widely popular in China. A mobile phone subscriber can buy a song as a RBT from his mobile phone provider. If somebody calls, the caller listens to the song while she waits for the other person to answer the phone. Installing a RBT serves as a "business card", by which the subscriber introduces his taste or even his current mood to the calling party. But it is also a signal that the subscriber cares about the callers by replacing the dial tone with a - for some tastes - more agreeable song. According to industry expert Eric Priest "people [in China] are only willing to pay for music they never listen to themselves" [personal communication]. What consumers are really valuing is not the physical possession of the song, but its use as a signaling tool to the environment.

2.1.2 Music sharing as a means of socialization

In China's permissive environment with regards to illegal file sharing, we found that students were using the same tools for file sharing with their friends as they do for their day-to-day communication. While peer-to-peer networks and campus ftp-servers are popular to obtain new files, students share files with their friends through the file transmission function of chat clients like "QQ" or by email. We also found that students posted music files to the personal profiles they maintain on the Web (similar to the MySpace profiles in the English-speaking world) or their blogs to let their friends know what music they currently listen to and give them the chance to enjoy it as well. [1] Students use file sharing as a means for socializing with their friends. The full value of a song is not realized by possessing it in solitude, but by sharing its enjoyment with others. Concluding that consumers see value in the sharing of digital music for signaling and socialization, I will in the following investigate mechanisms for capturing this value.

While the architecture of the mobile phone network was designed to easily monetize consumers' willingness to pay through the micropayment system of mobile phones, the value inherent in file sharing over the Web is still widely uncaptured. The social networking site Facebook has at least for the US market shown that some users are prepared to pay 1 USD for "sending" a digital representation of a stuffed animal or another symbol of affection to other users. While this is no evidence that users are also willing to pay 1 USD for sending a song to their friends, it shows that understanding consumers' perception of the value of a transaction allows one to design services, which users are happy to pay for. In the next section I will address the myth that the Web does not provide points of control to capture the value of file sharing.

2.2 Myth 2: The architecture of the Web defies attempts to capture the value of file sharing

At many levels of the Internet stack, there are gatekeepers logically or physically providing or facilitating access to the Web for consumers. Internet Service Providers (ISPs) provide access at the network layer. Search engines are nowadays the main point of entry for Internet users to get access to information. [2] As an

emerging application, social networks are "walled-garden" platforms within the "free" Web, allowing users to create profile sites and share thoughts, pictures, and many other things with their friends in a highly controlled and proprietary environment.

Every gatekeeper plays a pivotal role in helping consumers to access and navigate the Web and find both legal and illegal digital media online. Recent proposals for stricter anti-file-sharing legislation in the UK recognize this role and threaten repeated offenders with termination of their ISP contract. Several law suits have been brought against search engine providers for facilitation of file sharing, including a case in China against the leading search engine Baidu.cn. The gatekeepers are not only physically present in a given jurisdiction, they are also silently benefitting from the wide range of material available on the Web: ISPs by selling more and higher bandwidth Internet connections, search engine providers by selling ad space on their pages, which are at least in China in high demand to locate illegal music files.

The two scenarios I will discuss in the following section follow a similar logic: While producers of music are no longer able to monetize their content directly, partnering with an appropriate gatekeeper will allow them to enjoy some of the value generated by the attention created with their content and captured by the gatekeeper through various mechanisms like ad-revenue, subscription fees, or individual transactions.

3. TWO SCENARIOS FOR THE FUTURE OF DIGITAL MUSIC ON THE WEB

3.1 Scenario 1: Content providers partner with gatekeepers to create legal spaces of digital music

The recent deal between search engine provider Google, the content portal top100.cn, and several major music labels to provide consumers in China with free legal music downloads shows that companies are starting to understand the value potential of teaming up. The details of the planned model are still opaque at the time of this writing, but the principles are known: The download will seem "free" for consumers. Value will be captured by selling high-value advertising space, which allows the communication of targeted messages adjusted to the expected tastes of the fans of a particular band or even a particular song.

Social networking platforms will be in an even better position to generate value by embracing file-sharing functionality. The design of social networks addresses some of the perceived "deficits" in the design of the Web as a tool of marketing: Social networking platforms are in the process of creating the identity layer that the original Internet lacked. Even if a person does not provide her real name or address, her online profile becomes her identity on the net. Creating a new identity in a social network costs significant time and effort and is therefore unlikely to happen. Therefore marketers know reasonably well who they are dealing with.

Users seem to like social networks, because they provide a controlled environment, designed to maximize customer convenience and shield them from the "evils" of the public Internet like email spam, viruses, or malicious applications. Social networking platforms have this power, because they control the applications running in their environment and track the flow of data between users.

Users will like social networks even more if they can enjoy their music and share their experience with their friends. The recent partnership between iLike and Facebook showcases the potential, although the offered possibilities are still limited: A user can post songs to her profile, share them, or dedicate them to friends. Many songs are only available as 30 second samples, others are linked in from YouTube videos of varying quality. The music from iLike cannot be downloaded, transferred to a portable media player, or otherwise be removed from the Facebook environment.

The recent economic success of social networking platforms has filled their pockets with sufficient money to offer lucrative deals to the music industry and expand the current limited services. In the beginning, these partnerships will allow individual social networks to differentiate themselves from their competitors, but with increasing competition users will expect to find a reasonable selection of digital media on their favorite social networking site.

The walled-garden architecture of social networks enables several mechanisms to capture significant value. In the end, customer acceptance will decide which one is the most appropriate:

- Provide music download "for free" in unrestricted MP3 format and monetize the attention through advertising. Watermarking technology could be used in addition to prevent wider spread without imposing undue inconvenience on the legitimate user
- Charge users for value-added services, e.g. for "sending" songs to other users as gifts or dedicating songs to friends, etc.
- Provide free streaming services and offer subscription deals to download a certain number of songs for a flat monthly fee, e.g. as part of a premium package
- Charge users for each downloaded song through a convenient and established infrastructure like Paypal or the social network's virtual currency

This list is not exhaustive and reflects current models rather than real innovation in business models. The highly skilled marketing and product development teams of the social networking providers will for sure come up with more innovative models, which better understand and reflect consumers' expectations.

But more importantly, content partnerships between music labels and social networking providers raise a couple of issues:

Social networks are high controlled and proprietary environments. Relying on social networks as the primary channel for online music distribution privatizes a so far public space on the Web. Music distributed over social networks can be easily filtered. Data mining of user's listening habits and preferences will result in the collection and aggregation of private and potentially sensitive data, which puts users' privacy at risk.

Social networks are characterized by large network effects and customer lock-in. In the absence of a mechanism to provide interoperability between social networks, the social network market is at high risk of forming monopolies. Anecdotal evidence from Oxford University shows a Facebook coverage of 97% among students. Many, although not all users are deterred from joining a second network because of the additional effort to maintain and update two profiles without an increase in reach among their peers.

It also remains unclear if this scenario will actually decrease the amount of illegal file sharing. The data from our fieldwork suggests so if and only if the music industry and the social

networks will succeed in providing users with a superior media experience. Given the perceived quality deficits of current illegal file-sharing networks mentioned above, this should not be too difficult. But in order to gain customer acceptance, music rights holders must not repeat the same mistake they made with DRM and create an "extreme" scenario, which insufficiently takes into consideration consumer expectations.

3.2 Scenario 2: A compulsory blanket license for digital music

Long before the emergence of social networking platforms, the introduction of a compulsory blanket license for digital media has been proposed to bridge the gap between social practice and the legal situation, and to provide creators with remuneration. [3] In the analog environment, blanket licenses have proven to be an effective means to collectively exploit individually unenforceable rights, e.g. for public performances on radio and TV.

Under the proposed compulsory blanket license approach, every subscriber of a broadband connection would pay a monthly content fee together with the regular subscription fee. In exchange, it would be legal to share files over the network. Copyright owners would receive remuneration from the collected content fees based on the popularity of their songs on the network. Either a state organization, for example the Copyright Office, or a collecting society founded by music labels or ISPs could administer the collection and distribution of the license fee. While the approach has initially been supported by a significant group of academics and several artist groups, the movement seems to have lost momentum in recent years, in particular after an attempt to introduce a compulsory license in France failed. But in view of the problems identified in scenario 1, it seems worthwhile to reconsider this approach.

The blanket license approach, and in particular its compulsory variant, has been criticized as being anti-market and stifling innovation. [4] Under the blanket license regime, the price for a song is not determined by the market. Instead, the central administrative organization allocates the amount each right holder receives based on the distribution formula. Experience with existing collecting societies shows that this process is potentially inefficient and prone to lobbying and political exercise of influence. But given that the market price for a song on a peer-to-peer network is currently set to zero, which reflects a market failure, the efficiency of the market argument is little convincing. Instead I will argue that the blanket license will create a highly competitive market for digital music services, even more than the one outlined in scenario 1.

The blanket license is not a business model by itself. On the contrary, it is an infrastructure to capture and distribute value, which is business model neutral. Building on this infrastructure, all sorts of business models seem possible, including the music services integrated in social networks I have described above. Having the legal possibility to share music does not by itself solve the quality issues of illegal file-sharing networks identified in our fieldwork: Poor quality of files, difficult to find songs, slow download speeds. These deficits provide opportunities for entrepreneurs to offer value adding services. Because file sharing would be legal under the blanket license, these entrepreneurs can build their business on facilitating file sharing without risking a law suit. The blanket license will lower the barriers of entry for new entrants into the market. Currently only major market players like Google, Apple, or potentially Facebook have sufficient power

to negotiate with the music labels and close deals. As a result, the market for digital music services is little competitive with Apple setting the price for pay-per-download services and Google potentially setting the price for the ad-revenue sharing model. A blanket license would enable small players to offer new products and services without burdening entrepreneurs with the transaction cost of negotiating licenses with the still reluctant music industry. Because under the blanket license music to share is readily available to all, the platform that creates the highest attention and provides the highest value to its customers will win the innovation race and not the one with the highest market capitalization.

Many users are enjoying the "remixing" of media, for example the stereotypical lip-synch artists, who video tape themselves singing and dancing while a song plays in the background. The large success of platforms for user generated content like YouTube has proven the popularity and demand for such creative activity. A blanket license, which covered the permission to produce derivative works, would remove such activity from the grey area of copyright's fair use and provide the artists on whose original creation the remix is based with additional remuneration from the blanket license fee. The current legal situation imposes the burden of screening user generated submissions for copyright law infringements on the intermediary platforms like YouTube. Under a blanket license regime, the platforms could actively encourage the production and distribution of derivate works and focus on designing models to capture the value users see in producing, sharing, and consuming such content.

The blanket license approach also addresses some of the problems identified in scenario 1 by providing a public shared infrastructure, which is not controlled by a single organization or company. On the other side, the design of the revenue distribution key requires an accounting mechanism, which collects massive usage data to determine the popularity of a particular song. Depending on one's level of trust in the state or a public co-op to administer the blanket license versus a private company running a social networking platform, one may favor one scenario over the other with respect to freedom of speech or privacy.

Table 1. Two scenarios for the future of digital music

Option 1: The market creates privatized digital music spaces	Option 2: Regulatory intervention introduces a Compulsory Blanket License
Music becomes a commodity to draw attention and drive the demand for services	Music files are valued based on their popularity
Privatized, highly controlled media space	Public shared infrastructure
Prone to censorship	No central control of content flow
Monopolistic	Low barriers of entry create competitive market
High transaction cost foster dominance of large players	Open for innovation by small players, which can tap into existing pool of content
High risk of consumer lock-in	Low risk of consumer lock-in

4. Conclusion

In this brief position paper I have outlined two possible futures for the Web as a space for the distribution of digital music. Both visions are taking consumers' perception of value as a starting point and rely on mechanisms to capture the value in ways that do not lessen the user experience. In contrast to previous future visions created by the music industry, both scenarios are therefore realistic and feasible with regards to customer acceptance.

Without intervention, the first scenario is likely to materialize by itself because of the compelling economic benefits for all parties involved. It is only a question of time for the music industry to entirely overcome the ideological cling to DRM as the leading paradigm and to master the complex contractual negotiations required to strike the deals between the music labels and the social networking providers.

I have also discussed the problems with this development and the benefits of the alternative approach of introducing a compulsory blanket license. While the identified deficits of the blanket licensing model persist, these disadvantages are put into perspective by the benefits the blanket license will bring in creating a highly competitive market for media services on the Web.

At least one project attempting to introduce a blanket license in an entrepreneurial way is currently underway (Harvard University's Noank Media project). Still, it is too early to conclude that a blanket license can be successfully introduced without relying on state intervention. I consider it therefore as our decision as a society to determine, which model we wish to pursue.

Should the privatization fail or no critical mass support the introduction of a blanket license, unlicensed peer-to-peer networks would continue to impair the revenues of the music industry. Peer-to-peer network providers would still be unable to monetize the value of file sharing because of the illegal nature of the activity. Therefore, there would be value left on the table. The consumers may be happy about the free music in the short run, but we as an economy and a society will not be better off in the long run if this "third scenario" persists.

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