

Czech University of Life Sciences Prague

Faculty of Economics and Management

Economics and Management

Department of Information Technologies



Ways of music distribution through the Internet

Diploma thesis

Author: Matěj Mareš

Supervisor: Ing. Miloš Ulman

Statutory declaration

I declare that I have completed my diploma thesis using all of the mentioned resources and after professional consultations with Ing. Miloš Ulman.

Prague,

.....
Matěj Mareš

Acknowledgement

I would like to thank to Ing. Miloš Ulman for his advice, comments and willingness that helped me with my diploma thesis. Furthermore my thanks belong to Aleš Pouzar for his technical help and support.

Způsob distribuce
hudebních souborů přes
Internet

Ways of music distribution
through the Internet

Summary

This thesis deals with the problem of downloading and sharing multimedia files on the Internet, which is an activity increasing in popularity and a topic discussed more frequently.

Audio files are one of the most popular and also one of the most abused type of files on the Internet because of their small size (usually size of tens of MB), their popularity, usage and constant supply of new trends.

First part of the thesis analyses the issue from a basic theoretical standpoint. The second part includes findings and pieces of knowledge from a practical project named PodporujiHudbu.com, which has been launched in order to get valuable information and experience from investigated field.

Key words: p2p, peer-to-peer, downloading, sharing, Internet, multimedia, Czech Republic, audio, mp3

Souhrn

Tato práce se zabývá problematikou stahování a sdílení multimediálních souborů na Internetové síti, což je aktivita stále rostoucí na popularitě a v médiích hojně diskutována.

Audio soubory jsou jeden z nejpoblárnějších typů souboru, které jsou na Internetu zneužívány. Je to hlavně dáno jejich relativně malou velikostí (řádově desítky MB), jejich popularitou, způsobem využití a neustále se obměňujícími trendy.

První část této práce analyzuje problematiku z teoretického hlediska. Druhá část obsahuje data a poznatky z projektu PodporujiHudbu.com, který byl spuštěn za účelem získání cenných informací a zkušeností ze zkoumané oblasti.

Klíčová slova: p2p, peer-to-peer, downloading, sharing, Internet, multimedia, Czech Republic, audio, mp3

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1. Introduction

The trend of downloading and sharing music files is nowadays very well known. We can find hundreds of articles discussing this topic, especially from the economical point of view, that is, how much money-publishing companies are losing thanks to the phenomena of the 21st century – thanks to the Internet.

“There are several ways that Internet can be abused: from bank account hacking to hoaxing (spreading false alerting information).

One of the most popular and widespread acts of Internet crime is that of sharing files protected by copyright laws. This type of crime has become so popular and so common that most of the participants do not even realize that it is a crime!”[20]

Internet has created huge communities, whose interests differ from one another. One of those communities and I think, we can say with confidence one major community, is concerning music.

There are hundreds of websites with bands profiles, with profiles of fans, websites allowing fans to communicate and be and stay in touch with bands and members of these bands. Furthermore - servers bringing news from the world of music and also websites allowing downloading the music either legally (www.illegalne.cz, www.itunes.com etc.) or illegally.

Music files are also the most popular files to download with a pie-share of almost 50% leaving movies, software files and games far behind. [6]

Producing companies are complaining, that downloading and sharing music files harms or even kills music and musicians. 85% of people do not think so. It is maybe harmful for commercial artists, but definitely not for artists from underground scene, whose primary goal is not to have music as a main income. Those artists have almost no income from their music, moreover, they are sometimes even in a loss. Project

PodporujiHudbu.com will try to change it and provide musicians at least little income.

2. Objectives of thesis and methodology

Problem of downloading and sharing music files on the Internet is a problem of recent years. And it is a problem developing so fast, that it is almost impossible to find relevant literature concerning this topic for one very simple reason. This problem is changing and developing very quickly. So quickly, that the time for getting, collecting, processing and printing data is too short. By the time the book is printed, data, trends and values will have been slightly or even completely different.

The main objective of this thesis is to describe the current situation of downloading and sharing music files either in a legal or in an illegal way, find possible solutions of this problem and prove or disprove them by the practical part of this thesis.

The practical part of this thesis is based on knowledge and data obtained from author's bachelor thesis "Analysis of multimedia content downloading and sharing on the Internet" (*it's task was to map a current situation in the Czech republic and bring some fresh data on the field of multimedia sharing and downloading*) and on the trend concerning music downloading and music distribution, which is very well-known (number of CDs sold is decreasing, number of people and amount of music data downloaded is increasing).¹

Project is called PodporujiHudbu.com. It is an e-shop selling music files based on different strategy than other shops. Music files are electronically only distributed, not sold. This process is enabled thanks to special unique vouchers, which replace the role of data medium (CD, DVD etc.). Ways of distribution is up to people involved in this system – either bands or independent people.

The run of the project has 3 main parts:

1) Preparations

- In this part the core of the websites has to be programmed, documents has to be prepared and some bands rated as a promo bands has to be negotiated. Also proper equipment such as printer, paper cutter, paper etc. has to be bought and websites matters (domain, server, hosting) solved.

2) Beta version (trial run)

- In this part the core will be done and some testing actions will happen.

3) Full run

- The final part will be focused on improving services, bringing up new special offers and spreading the service as much as possible.

A SWOT analysis will be implemented to be able to predict at least roughly about how the situation will be developing in the near future. SWOT analysis is a method focused on both internal parts of an object (**S**trengths and **W**eaknesses) and on external parts (**O**pportunities and **T**hreats) as well.

3. Legal and illegal ways of music distribution

As there exist many and many ways how to get (download) and spread (upload) music files, this part's purpose is to sum up some basic facts and give an overview and basic knowledge of the topic given.

3.1 History of the Internet in the Czech Republic

The history of the biggest net in the world began soon after the year 1989. After the Velvet revolution, Czech Republic started clearing the ground for a massive Internet expansion, which happened in the year 1995, and which had been almost impossible before the year 1989, because of the communist regime and its unwillingness to have something common with the western world and its trends.

Since that time, Internet has made a huge leap in the evolution. The number of Internet users has grown by 509% with the population penetration of almost 60%.

Current data valid for the Czech Republic are:

Number of inhabitants: 10 506 813 [3]

Number of Internet users: 6 027 700

Penetration (%): 58%

User Growth (2000-2009): 502,8%

% Users Europe: 1,4% [6]

Comparison of the situation in the world with the Czech Republic is written below.
(Numbers are rounded for increased readability)

Table 1 – Internet penetration in the world and in the Czech Republic (2007):

	Inhabitants	Internet users	Penetration
Czech Republic	10,212,000	4,991,300	48.9 %
U.S.A.	340,830,000	251,735,500	73.9 %
Europe	803,850,000	402,380,000	50.1 %
Asia	3,808,000,000	704,215,000	18.5 %
Africa	991,000,000	4,515,000	6.7 %
World	6,767,805,208	1,668,870,408	24.7 %

Resource: <http://www.internetworldstats.com/stats4.htm#Europe>

Table 2 – Internet penetration in the world and in the Czech Republic (2010):

	Inhabitants	Internet users	Penetration
Czech Republic	10 506 813	6,027,700	59.0 %
U.S.A.	340,830,000	259,561,000	76.2 %
Europe	803,850,000	425,774,000	53.0 %
Asia	3,808,000,000	764,435,900	20.1 %
Africa	991,000,000	86,217,900	8.7 %
World	6,767,805,208	1,802,330,457	26.6 %

Resource: <http://www.internetworldstats.com/stats4.htm#europe>

Before explaining the results, it is necessary to give some definitions of expressions used.

3.1.1 Internet user

To give the definition of an Internet user is very difficult issue. Different sources bring different definitions and different point of views, who is and under what conditions we can become Internet users.

Mostly there appear 2 main conditions:

- 1) age
- 2) regularity of using the Internet.

Putting all the definitions and conditions together, we can get very general definition:

Internet user is someone, who has particular knowledge of using computers and software, which allows him/her to browse the Internet, and uses the Internet with particular regularity, but at least once a month.

By this definition, we eliminate people such as babies (even they are able to switch on the computer, run a browser and visit a web page only by random clicking, it is not done on purpose, it is only a matter of doing something by accident and coincidence) or people using the Internet very rarely.

3.1.2 Internet growth

The ratio between particular year in the past and the current situation. In case of tables above it is a matter of comparing the year 2000 and 2009, expressed by a formula

$$IG = \frac{InternetUsers_t - InternetUsers_{t-n}}{InternetUsers_{t-n}} \times 100 (\%)$$

In our case (t=2009; n=9):

$$IG = \frac{InternetUsers_{2009} - InternetUsers_{2000}}{InternetUsers_{2000}} \times 100 (\%)$$

3.1.3 Internet penetration

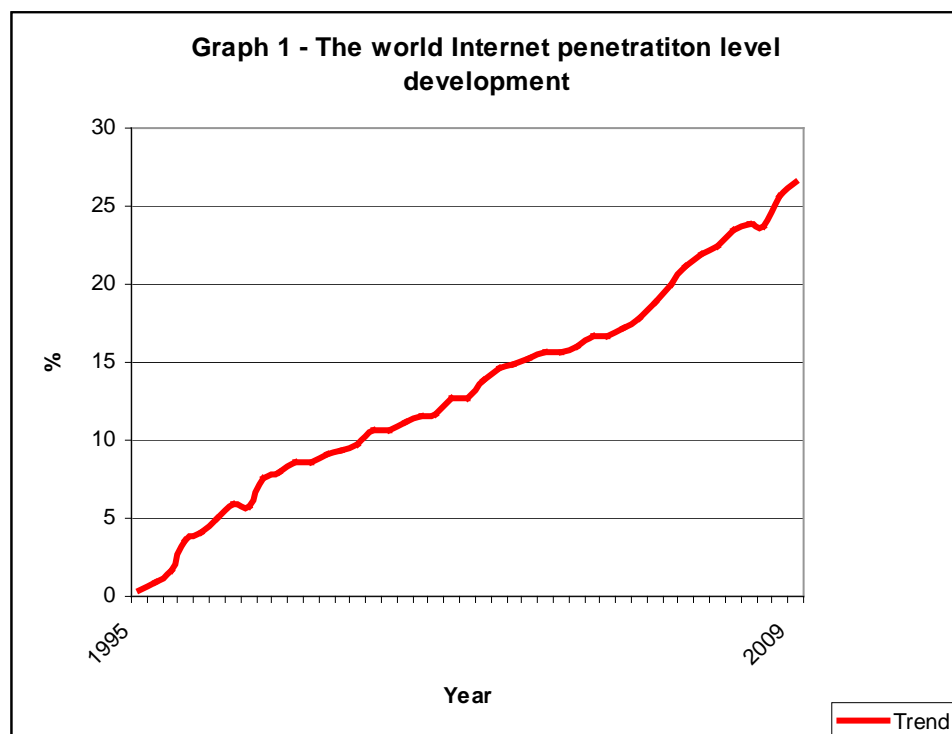
The ratio between number of people living in a particular area (region, country, state, continent) and Internet users.

$$Penetration = \frac{InternetUsers_t}{Inhab._t} \times 100$$

As there are all the people living in a particular area included in the equation (including infants and very old people), we can modify the equation to get the “real penetration” by choosing only a sample, which fulfils particular prerequisites. In this case it would be age. Only people being from 7-80 years old are chosen. The number will decrease from 10 506 813 to 9 429 659 and the result is changed from 59% to 64%.

The world penetration level is about 26% and it is still increasing, which is shown in the following graph.

Graph 1 – The world Internet penetration level development



Resource: <http://www.internetworldstats.com/stats4.htm#europe>

The Internet, as the most independent mass media in the world, is getting stronger and stronger. More and more people are online, which also increases the size of the e-market, number of potential customers but also number of crime acts breaking the copyright law. Very important role in this issue play big countries, esp. Russia (penetration 32%, user growth 2000-9 1400%, 45,5 mil Internet users), China (penetration 29%, user growth 2000-9 1600%, 390 mil. Internet users) and India (penetration only 7%, user growth 2000-9 1520%, 81 mil. Internet users).

3.2 Law

The problematic of Copyright law is very sensitive. The goal of it is of course to protect the author of the piece of work. Problem is that copyright laws are different in different countries. What is allowed in Germany does not have to be allowed in the Czech Republic and vice versa. When buying software, game or accepting EULA (End User Licence Agreement) significant differences might occur.

There are some examples: [24]

You cannot lend or sell the piece of work

Once you legally buy the piece of work, the author automatically lose the right to influence its (legal) distribution.

Authors are not responsible for damages caused by the piece of work (usually appears in case software).

Authors are responsible for the behaviour of their product (piece of work) if it is used in a proper way and it cannot be changed by one-side-agreement (statement, contract, agreement, ...)

You cannot check the source code or principles, on which is piece of work based

The Czech Copyright law says right the opposite. User can check whatever s/he wants.

User cannot sue developers, publishers or distributors.

Not true. Law says that statements in which the developer, publisher or distributor surrender all rights are not valid.

In case EULA is in foreign language and your language skills are not good enough to understand the document, EULA is not valid and everything is ordered by the Czech law (esp. by the Copyright law), which is very relevant, because even though EULA is written in the native language, there is no insurance, that user will understand it (because of specific expressions)

Main points can be summarized in few points:

- You **CAN** download for example mp3 file through Internet for your personal purposes but you cannot offer it further (except your family members), (§ 30 of an Author's law). It is illegal to share the files and not to download the file. User has no duty when downloading to check whether the file is offered legally or not.
- You **CAN** make a copy of music disc (CD or DVD), which was bought, for your own purposes (very similar case as with downloading the mp3 file). The copy of the disc has to be used only as a back-up copy in case, that the original disc is damaged by accident, stolen or whatever, and it cannot be offered further (except your family members).
- You **CANNOT** buy a CD or DVD, make a copy and give this copy to your friend. In this case you are the guilty person responsible for breaking the Author's law.
- You **CAN** borrow a CD or DVD from distributors and make a copy for your own purposes. And again – you have to use only this copy and are not allowed to offer this copy further (except your family members).

- You **CAN** rip CD or DVD to change the format (for example to rip DVD to .avi file or .cda to .mp3 file), but the new format has to be used only for your purposes and cannot be offered further (except your family members) for example through the Internet.
- You **CANNOT** buy CD or DVD and use it for a public campaign, because in this case, you do not use the disc for your own purposes.

But the law is different in different countries. In the USA even downloading a file can be classified as a crime, but it is not enough to trigger the attention of RIAA or company like that, because it is much more difficult to prove the guilt.

Situation in Canada is very similar to the situation in the Czech Republic. Users are not allowed to upload or share music files, but they can download it (if the music file is used for the personal purposes), but are not allowed to save it on CDs or DVDs. Ipods, hard-drives and personal mp3 players are allowed. The reason why is it like that is in the definition of “what is a medium on which can be file saved”.

3.2.1 Responsibility

Only in some cases it is easy to identify, who is responsible for the files on the Internet. It is usually in cases, when user uses some P2P software and share files through it. In this case:

- The user had to download particular P2P software
- Usually he had to create an account (not always needed, i.e. in case of torrents)
- Has to share in order to be able to download
- Sometimes downloaded files are automatically shared; user might not know it, which does not excuse him/her.

In case of direct downloading from servers, structure may look like this.



Picture 1 – Chain of upload and download

- 1) User has bought a CD of his favourite artist and has decided to grab it to the mp3 file, which is fully legal and CD owner has the right to do this.
- 2) As the CD is not new, s/he decides to upload it to a freefile hosting server, so other users can download it. At this time s/he breaks the law. When uploading the file, there was probably a tick-box „I agree with the rules of the server and using this service“. There is usually written, that server has no responsibility for uploaded files And user agrees, that uploading files do not break the copyright law and if so, person responsible for this is the uploader.[14]
- 3) Data is stored. Server knows who and when uploaded the file. It cannot ensure, that information about user is truthful, even though it is written in the terms of conditions, that information filled in by the user has to be truthful.
- 4) Music file is being downloaded, receiver has no obligation to check, whether the file has legal or illegal content and does not break the law (according to the Czech law system).

- 5) Music file has been downloaded and it is stored on the hard-drive. If this file is not offered further and it is used for personal purposes, nothing can happen to the downloader.

3.3. Software used for downloading and sharing files

3.3.1 DC++

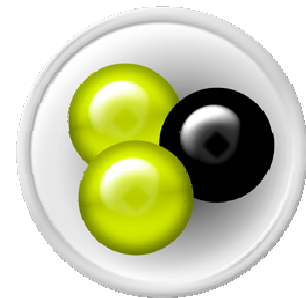
Homepage: <http://www.snail.pc.cz>

Official text: *DC++ announces the freedom to share!*

DC++ is an open source client for Windows for the Direct Connect / Advanced Direct Connect network. Direct Connect allows you to share files over the

Internet without restrictions or limits.

The client is completely free of advertisements and has a nice, easy to use interface. Firewall and router support is integrated and it is easy and convenient to use functionality like multi-hub connections, auto-connections and resuming of downloads.[12]



Picture 2: DC++ logo

Features: As there are no statistics about using P2P software, it is only a matter of estimation, how many people use DC++ (or its versions), but it is generally expected, that it is the most popular P2P software used in the Czech Republic and used by majority in the world. According to the research made in the 2008, about 31% from the whole number of downloaders were using DC++.[6]

Users download the files through so called “hubs”, which can be described as a meeting place for all the logged-in-members. Through the

hub you can connect to other people's computers, browse their shared-folders and download files.

Every user has limited number of slots – channels, through which can be data transferred. If user's slots are full, it is not possible to download the file and it is necessary either to wait or to find the file in another computer.

3.3.2 Napster

Homepage: www.napster.com

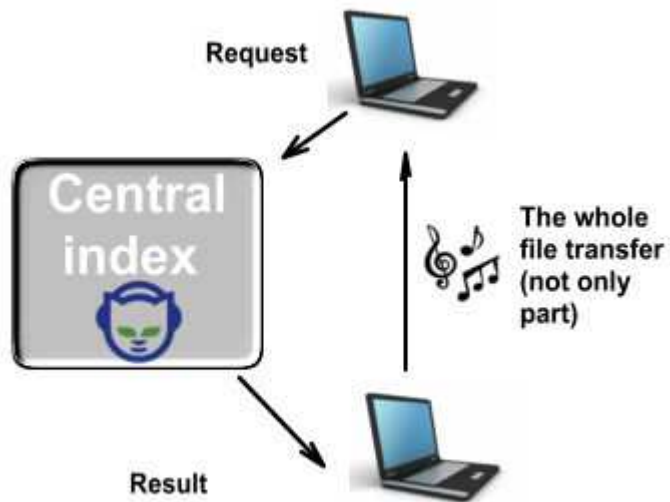
Official text: *Napster, the pioneer of digital music, offers the ultimate in interactive music experiences, creating better ways to discover, share,*

acquire and enjoy music - anytime, anywhere. The company's flagship service, Napster, is the ultimate digital music package, offering unlimited on-demand music streaming, via any PC or certain Internet connected TVs and home audio devices, as well as downloadable songs for one's permanent collection playable on any MP3 compatible device, including iPod®, iPhone®, and all music-enabled mobile phones. [21]



Picture 3: Napster logo

Features: Napster is maybe the most famous software/web page having something to do with music and the Internet in the world. Launching the original web page napster.com has changed the rules of the Internet and contributed to enormous increase in popularity of mp3 files and downloading multimedia files. After uncountable number of fines and judicial processes with RIAA, Napster was outlawed (5.3.2001).



Picture 25: Napster scheme

Today's Napster.com has almost nothing to do with the original version.

It is run by Best Buy, Inc. Headquatered in Los Angeles, USA.

3.3.3 Kazaa

Homepage: www.kazaa.com

Official text: *Kazaa is a subscription-based service brought to you by Brilliant Digital Entertainment (BDE) a leading online distributor of licensed digital content. BDE provides the means for record labels, film studios and software developers to market and sell their products to a worldwide audience of 70 million users. With the Kazaa*



Picture 4: KaZaa logo

service you get unlimited access to hundreds of thousands of CD-quality tracks for one low monthly fee. [19]

Features: Today's Kazaa is definitely not what Kazaa used to be. The only feature that stayed the same is only the name.

It was originally created by Niklas Fennstrom and Janis Friis (the very same authors of the very famous programme Skype), after the golden age of Napster, when much software such as Kazaa occurred. Moreover, in 2003 Kazaa was the most downloaded software ever. [21] Interesting matter of coincidence is, that Kazaa was introduced in the same month the Napster was outlawed – March 2001.

It is obvious, that after the Napster case, it was only the matter of time, when something similar would happen to Kazaa. And it really did.

After many fines in orders of millions of dollars, after many court sessions and suits, Kazaa has become the very same service as Napster – legal online shop with legal offer of music.

3.3.4 Torrent

Homepage: <http://www.bittorrent.com/>

Official text: *BitTorrent is the global standard for delivering high-quality files over the Internet. With*



Picture 5: BitTorrent logo

an installed base of over 160 million clients worldwide, BitTorrent technology has turned conventional distribution economics on its head. The more popular a large video, audio or software file, the faster and cheaper it can be transferred with BitTorrent. The result is a better digital entertainment experience for everyone. [15]

Question is, whether BitTorrent is P2P or not. Fact is, that it uses technology of P2P, but it doesn't offer "searching". User has to find a special file ending with ".torrent". This file is read by software, processed, and downloading can start.

The file itself is “chopped” into many pieces. Each piece can be downloaded individually from different parts of the world. In the end, all pieces are put together which creates a complete file.

There is several software, which can read .torrent files:

- uTorrent – very simple and probably the most popular software with size of only 600KB and very high lucidity
- Azureus – open source programme written in Java, very user-friendly
- BitCommet

When using torrents or any other p2p software/server (especially DC or torrents), it is necessary to know some expressions, that occur very often.

Seed – user, who has already downloaded the file and offers it further on to other users. The more seeders, the better for other users.

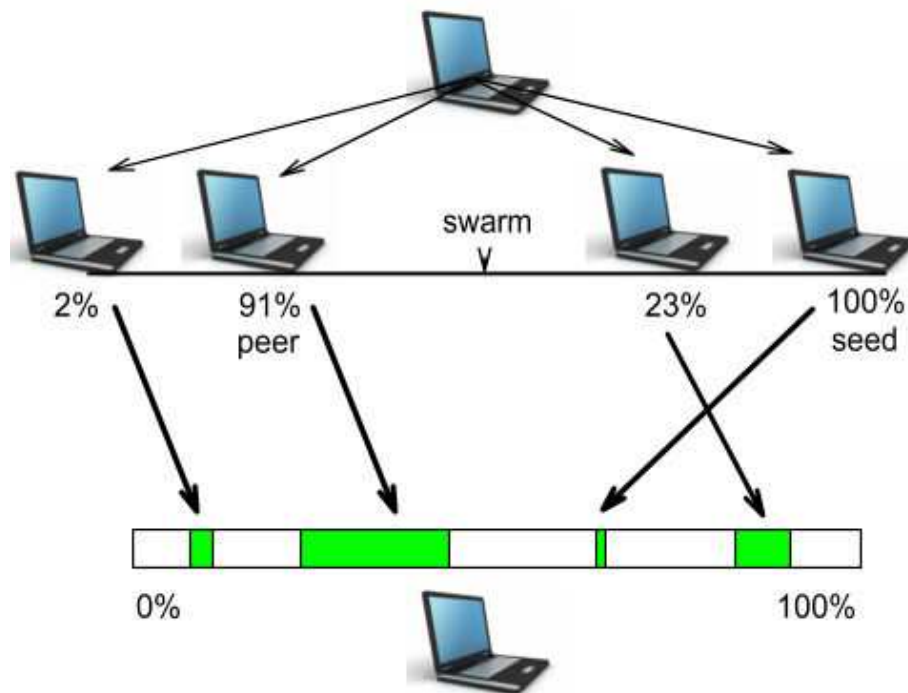
Peer – user, who has not downloaded the file yet, only some downloaded parts are offered to other users. After downloading the file, he/she becomes a seeder.

Leech – all in all it means the same as peer, sometimes it is used for an user having very low UD ratio.

UD ratio – ratio between amount of data **U**ploded and **D**ownloaded. There is a unwritten law, that user’s UD ratio should be about 1 (the same amount of data s/he downloads, the same amount of data s/he uploads).

Tracker – server, which controls the downloading processes of all users.

Swarm – seeds and peers all together (all users, no matter whether they are downloading or uploading files)



Picture 6 – Torrent scheme

How is it possible, that Torrent has not been outlawed yet? Kazaa and Napster has, so why not Torrent? The answer is, that the Torrent system is not centralized network. Despite the fact, that it still P2P, there is no server, who would be able to monitor all distribution channels. In case of Napster and Kazaa, there is/was a server responsible for these actions, which means, that the owner of this server is responsible for illegal sharing. What is more, it is possible to find this person and sue him. In comparison with Rapidshare – it is very difficult to sue Rapidshare, because rapidshare has no responsibilities for uploaded files. It primary works as a back-up service, so it's up to user's responsibility what they upload.

3.4 Webpages used for downloading music files

There are thousands and thousands of web pages offering song to download. It is enough to google „download mp3“ and soon you are given more than 190 million links. Some of them are offered on a legal base, some of them are uploaded illegally.

User from the Czech Republic doesn't have to worry, because downloading is not a crime.

3.4.1 i-legalne.cz

www: <http://www.i-legalne.cz>

Short description: I-legalne.cz is one of the most famous (not saying the most successful) servers for downloading music



Picture 7: i-legalne.cz logo

files for money. It's name is based on a slogan „Stahuj hudbu i legálně“ (in English – Download the music legally as well), which is catchy and sounds interesting to the user. The way of using „legally as well“ sounds the same as „illegally“ in Czech. But as we know, there is nothing like „illegal download“ in case of music.

Way of payments: i-legalne.cz uses method of virtual purse named GoPay, system very similar to PayPal. After registration user transfers some money from his or her bank account to the GoPay account. From this account s/he is allowed to pay for the music.

Prices: Some tracks are free to download, mostly user has to pay for them and according to prices, there is almost no difference between buying the cd in a shop and download it for money. One song usually costs about 30 CZK (in case of foreign artists even more), the whole album cost from 250-350 CZK.

Advantages: user-friendly interface
various artist, more than 1 mil. Songs
supported by Vodafone

Disadvantages: prices
ways of payment
features of a common e-shop

almost impossible for a band to use the systém (a lot of conditions which has to be fulfilled

3.4.2 Czmusic

www: <http://www.czmusic.cz>

Short description: CzMusic is a minor player in the music market. It used to offer music files in wav format, after recent



Picture 8: CzMusic.cz logo

upgrading it offers only mp3 files. The author can set the price of his product, almost no contract limitations and restrictions. It does not offer music files from the mainstream, but only from the underground and not well-known artists.

Way of payments: CZmusic is using the method of virtual money. It is enough to send money to a bank account of CZmusic.cz and your account will be credited with a particular amount of money.

Prices: Some tracks are free to download, mostly user has to pay for them. Prices are quite low, but artists are usually from underground. One song costs about 15 CZK, the whole album is available from 80 CZK to 150 CZK.

Advantages: Easy to use the system
Low prices

Disadvantages: Underground users
Unattractive files
Not user-friendly interface
Files are in WMA format

3.4.3 T-music

www: <http://www.t-music.cz>

Short description: Another big company playing an important role in the music market. T-mobile, as one of the biggest operator in Europe, supports world



Picture 9: T-music logo

well-known artists (Black Eyed Peas, DavidBowie, Green Day, Muse, etc), co-operates with other big companies (production companies, IT companies, banks, ...)

Way of payments: After buying an album or a music file, money is charged and specific amount of money appears on your invoice together with other costs.

Prices: Prices vary. If the user wants to download the track as a ring-tone, price is about 20-30 CZK. If you want to download an MP3 file, price is from 30-40 CZK (depends on artist)

Advantages: Service provided by big company
Professional interface

Disadvantages: Only for registred users (suprisingly not only for T-mobile customers)

Only main-stream artists

Prices

3.4.4 iTunes.com

www: <http://www.apple.com/itunes/>

Short description: Probably the most complex server offering many services regarding music. At the very beginning it is necessary to download the application iTunes (nowadays version 9 available) This application allows you to rip your CDs and to store them in

a media library,
to buy music, to
buy movies, to
play your own



music or to
watch some
music streams.

Picture 26: iTunes logo

Way of payments: You have to buy a credit (available in many shops all round the world, another possibility is to buy it directly on iTunes.com)

Prices: Prices vary a lot. It is possible to buy a music track from \$1, most movie titles start at \$10.

Advantages: Very complex
Thousands of options
International application
Professional interface
Cheap

Disadvantages: Necessity of downloading iTunes application

3.5 Organisations

3.5.1 RIAA

The Recording Industry Association of America (RIAA) is the trade organization that supports and promotes the creative and financial vitality of the major music companies. Its members are the music labels that comprise the most vibrant record industry in the world. RIAA® members create, manufacture and/or distribute approximately 85% of all legitimate recorded music produced and sold in the United States.[23]

All in all, RIAA is something like a police department taking care of the music industry and it is focused on the USA (unlike IFPI).

This organisation uniting major music companies and labels is very powerful and has recently changed it's tactic against people who are sharing illegal content P2P.

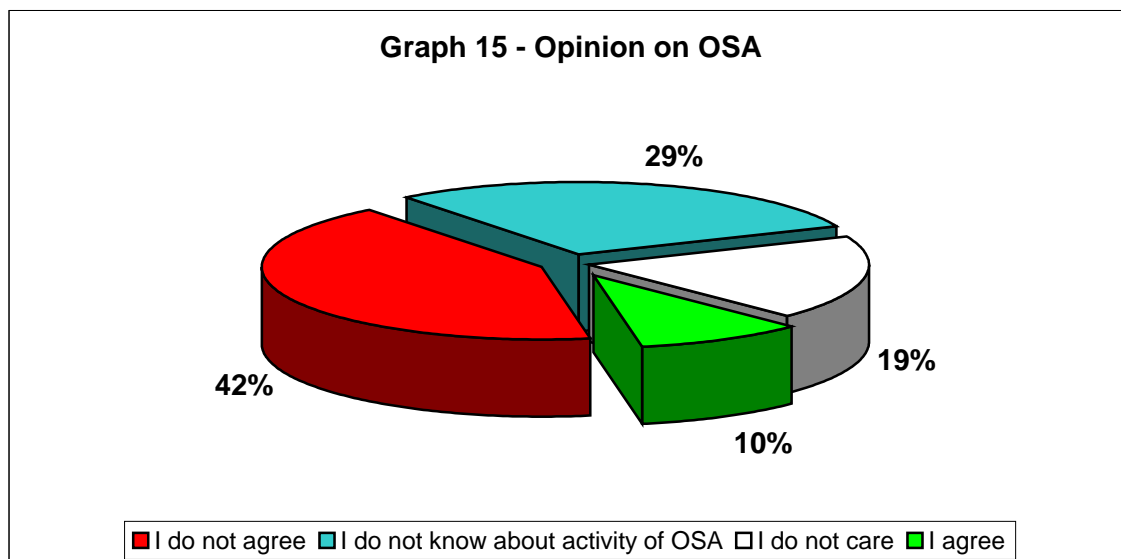
Situations were solved by taking matters to the court. New tactic is based on agreement between RIAA and Internet providers. People sharing multimedia files through P2P will be cut off from the Internet. On the other hand, hard to predict, how successful will be this method, because it is pretty easy to trick it.

3.5.2 OSA

OSA has as its primary activity the collective administration of authors' rights to musical works and lyrics set to music. In particular, its activities are primarily concerned with granting permits for the use of works and collecting and paying royalty fees to authors, their heirs and music publishers. Through OSA, people can obtain permission to perform all musical works of registered persons. Without OSA, it would be necessary for them to ask authors, heirs and music publishers individually for such permission.[22]

OSA is organisation such as IFPI or RIAA, but much less powerfull and operating only in the Czech Republic. OSA is in the eye of the Czech nation very negatively accepted. More than 40% of respondents do not agree with activities of OSA, ony 10% do.

Graph 2 – Opinion on OSA and it's activities



resource: MAREŠ, Matěj.²

3.5.3 IFPI

IFPI represents the recording industry worldwide, with a membership comprising some 1400 record companies in 66 countries and affiliated industry associations in 45 countries. IFPI's mission is to promote the value of recorded music, safeguard the rights of record producers and expand the commercial uses of recorded music in all markets where its members operate. [18]

IFPI, as an international company having HQ in Curych, Switzerland, it unites 25 international companies in order to protect their right. Among many others it is enough to mention:

- UNIVERSAL MUSIC
- EMI
- SONY
- BMG MUSIC ENTERTAINMENT
- WARNER MUSIC
- POPRON MUSIC
- SUPRAPHON
- ...

3.5.4 BSA

Business Software Alliance (BSA) is a nonprofit trade association created to advance the goals of the software industry and its hardware partners. It is the foremost organization dedicated to promoting a safe and legal digital world. Headquartered in Washington, DC, BSA is active in more than 80 countries, with dedicated staff in 11 offices around the globe: Brussels, London, Munich, Beijing, Delhi, Jakarta, Kuala Lumpur, Taipei, Tokyo, Singapore, and São Paulo. [16]

Business Software Alliance unites big software companies (Apple, Microsoft, IBM, ...) in order to fight against software pirates. It has very bad reputation in the Czech Republic. It takes care only about illegal usage of software, has nothing to do with sharing files, but still plays an important role as an organization on the market.

3.6 From the court, judicial cases

Court in Boston ordered young American student **Joel Tenenbaumov** to pay 675 000 \$ (12,2 mil. CZK) for illegal downloading and sharing of 30 music files. 25 years old student admitted, that he had downloaded and shared those music files. The fine could have been even higher, up to 4,5 mil \$ (81 mil CZK).

Joel Tenenbaumov was the secon person, who was taken to the court because of illegal downloading multimedia files (illegal downloading is possible due to US laws, in the Czech Republic expression such as „illegal downloading“ wouldn't exist).[8]

Probably the most famous law case is the one with RIAA vs **Jammie Thomas-Rasset**. Mrs Rasset was accused for sharing 24 music files (mostly from very famous artists such as Aerosmith, Def Leppard, Green Day and Gloria Estefan etc). The amount of money she was ordered to pay raised up to 1,92 mil. \$ (34,7 mil CZK). US laws allow companies to as for 750-30 000\$ per illegally downloaded track.

[2]

Typical example showing that even for sharing small number of mp3 files can someone be punished comes from Borås, Sweden. Local District Court fined him by 20,000 SEK (about 80,000 CZK) for sharing **four** tracks using file-sharing network.

3.7 Music files

Before defining each music files, it is necessary to define the terms **“bitrate”** and **“ID3 tag”**.

3.7.1 Bitrate

Bitrate is the amount of compression used to encode an MP3. The more compressed the file becomes, the lower the quality, hence a lower bitrate. As an example of what different bitrates will sound like here's a rough guide:

16kbps - Telephone

24kbps - Shortwave Radio

32kbps - AM Radio

64kbps - Voice

96kbps - FM Radio

128kbps - Tape Cassette

160kbps - Hi-Fi

192kbps - CD

256kbps – Studio

The less compression the larger the file.[14]

For example, the value 128kb/s means, that 1 second of a record needs a size of 128 kilobites on the hard-drive, which is equal to 16kByte (1 Byte = 8 bits).

Just to compare it to a real life situation to make it absolutely clear. Instead of kbps we will use „hints per minute“ when typing. The higher the value is, the more you are able to type, the more information you are able to express.

Being more specific – when you are able to make 16 hits/minute, you are able to write down: „There is an owl,“ in one minute.

If you were able to make 256 hits/minute, you would be able to describe the owl, to say something about owl in general, to describe the place and the time, etc, the higher quality the description has. And it is the same in case of music.

Of course, the higher bitrate, the the more space does the file need.

Table 3 – Comparison of size, quality and bitrate.

Bitrate	Quality	Kbyte/minute ¹	Size
1411	The highest quality	10584 Kbyte/s	41,3 MB
192	Perfect quality	1440 Kbyte/s	5,6 MB
160	Perfect quality	1200 Kbyte/s	4,7 MB
128	CD quality	960 Kbyte/s	3,8 MB
112	Almost CD quality	840 Kbyte/s	3,3 MB
96	Almost CD quality	720 Kbyte/s	2,8 MB
64	FM radio quality	480 Kbyte/s	1,9 MB
32	AM radio quality	240 Kbyte/s	0,9 MB
16	Very low quality	120 Kbyte/s	0,5 MB

Resource: NIČ, Pavel. *MP3 : Posloucháme, nahráváme, šíříme*. Brno : Computer Press, 2000. Principy formátu MP3, p. 4. ISBN 80-7226-326-9.

3.7.2 ID3 tag

ID3 tag is a description of the music file written directly in the file itself. It has a size of 128 bytes and is placed at the end of the record. The tag itself includes information about the artist, song, album, music genre, can include some comments etc. In order not to unclude the whole name of a genre, there has been set 150 music genres matched with particular numbers. The list of the first 100 genres is written below.

¹ Kbyte/minute = (Bitrate/8)*60

0 - Blues	28 - Vocal	56 - Southern Rock	84 - Fast Fusion
1 - Classic Rock	29 - Jazz+Funk	57 - Comedy	85 - Bebob
2 - Country	30 - Fusion	58 - Cult	86 - Latin
3 - Dance	31 - Trance	59 - Gangsta	87 - Revival
4 - Disco	32 - Classical	60 - Top 40	88 - Celtic
5 - Funk	33 - Instrumental	61 - Christian Rap	89 - Bluegrass
6 - Grunge	34 - Acid	62 - Pop/Funk	90 - Avantgarde
7 - Hip-Hop	35 - House	63 - Jungle	91 - Gothic Rock
8 - Jazz	36 - Game	64 - Native US	92 - Progress. Rock
9 - Metal	37 - Sound Clip	65 - Cabaret	93 - Psych. Rock
10 - New Age	38 - Gospel	66 - New Wave	94 - Symph. Rock
11 - Oldies	39 - Noise	67 - Psychadelic	95 - Slow Rock
12 - Other	40 - Alternat. Rock	68 - Rave	96 - Big Band
13 - Pop	41 - Bass	69 - Showtunes	97 - Chorus
14 - R&B	42 - Soul	70 - Trailer	98 - Easy Listening
15 - Rap	43 - Punk	71 - Lo-Fi	99 - Acoustic
16 - Reggae	44 - Space	72 - Tribal	100 - Humour
17 - Rock	45 - Meditative	73 - Acid Punk	
18 - Techno	46 - Instrum. Pop	74 - Acid Jazz	
19 - Industrial	47 - Instrum. Rock	75 - Polka	
20 - Alternative	48 - Ethnic	76 - Retro	
21 - Ska	49 - Gothic	77 - Musical	
22 - Death Metal	50 - Darkwave	78 - Rock & Roll	
23 - Pranks	51 - Techno-Indust.	79 - Hard Rock	
24 - Soundtrack	52 - Electronic	80 - Folk	
25 - Euro-Techno	53 - Pop-Folk	81 - Folk-Rock	
26 - Ambient	54 - Eurodance	82 - National Folk	
27 - Trip-Hop	55 - Dream	83 - Swing	

Source:

http://www.multimediasoft.com/amp3dj/help/index.html?amp3dj_00003e.htm

Advantage is, that almost every mp3 player is able to work with ID3 tags. It is only a matter of few seconds to sort the music by artist, genre or albums.

3.7.3 Mp3

This music format is definitely the most popular and most common one in the world. It's forerunners were MP1 and MP2, it's follower is MP4 (not music but video format). MP3 features are:

- 44 kHz
- stereo
- 16 bit.
- 128 kB/s

It's main advantages are very high "quality to size ratio" and it's popularity. Almost every media player (hi-fi, autoradio, DVD players, ...) are able to read this file and to reproduce the music, not talking about hundreds and thousands of shareware/freeware software programmes having different features and offering various ways of usage.

3.7.4 WAV

The very basic format of a music file. It is not compressed at all, from which comes the biggest disadvantage – it's size (an average song has size of about 50 MB, in case of MP3 file, it is only about 3,5 MB).

3.7.5 OGG

Format ogg vorbis is very similar to mp3. It has similar features, but needs less space than mp3 file with the same bitrate. It is not patented.

3.7.6 AIF, AIFF

The very same format as WAV having the same features, but it is used for Mackintosh PCs.

3.7.7 DRM (Digital rights management)

If you want to protect your house, you lock it. If you want to protect your car, you have some security elements installed in your car. If you want to protect your money,

you give it to bank. Question is, if there is a possibility to protect (somehow) these types of media files, something, you cannot touch. The solution should have been DRM system.

DRM was created in order to prevent copying multimedia files (games, movies, music, ...) and to prevent illegal distribution.

Thanks to DRM technology you can:

- limit the number of attempts to burn an audio CD using particular mp3
- set how many times can particular multimedia file be played
- set how many times can particular multimedia file be downloaded (for example when reinstalling system)
- limit the number of synchronizations with portable devices (mp3 players, iPods, ...)
- set the type of a portable device on which the file can be played

Unfortunately the effect was completely different. As DRM technology was applied only in cases of “legal” music, only fair users, who really bought the file, were limited. People downloading music files were still downloading files without DRM technology, so that there were no limits for them.

As a result – it was more advantageous to download the file, than to get it in an e-shop.

Current servers offering music files protected by DRM method are www.i-legalne.cz and www.hudba.vltava.cz.

4. Ways of music distribution through the Internet

4.1 PodporujiHudbu.com

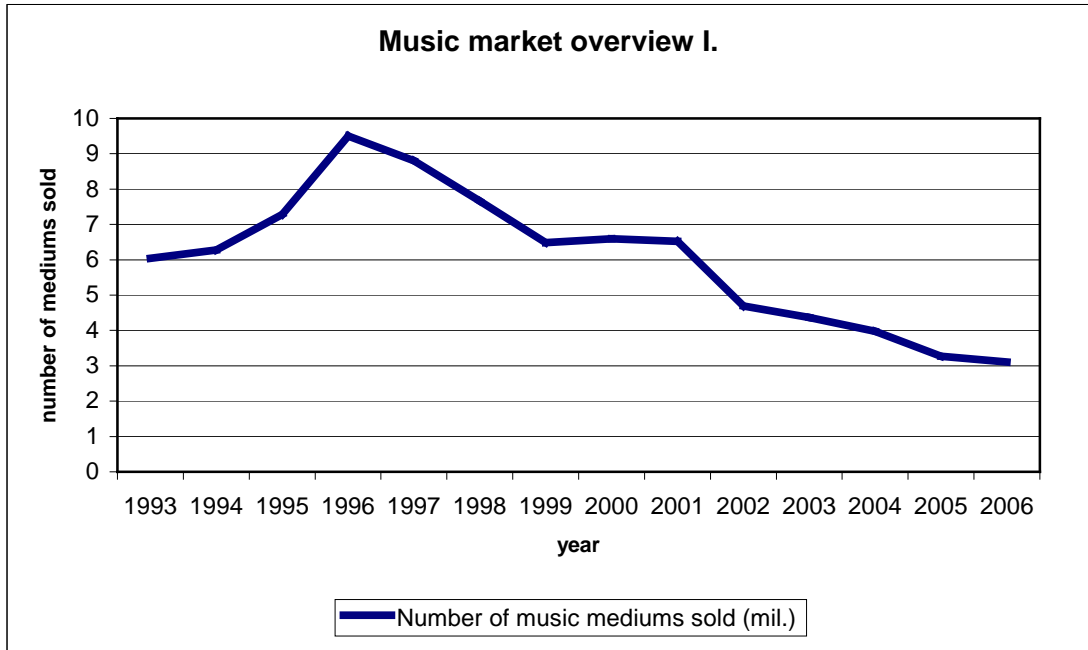
4.1.1 Introduction

Project PodporujiHudbu.com has been set up in order to fulfil the gap in the market and to help musicians to sell their works. It's principles are based on the combination of selling music "physically" and the power of the Internet. It has no limitations regarding the genre, popularity or location. Simply said, it is for all artists.

It is base on these facts:

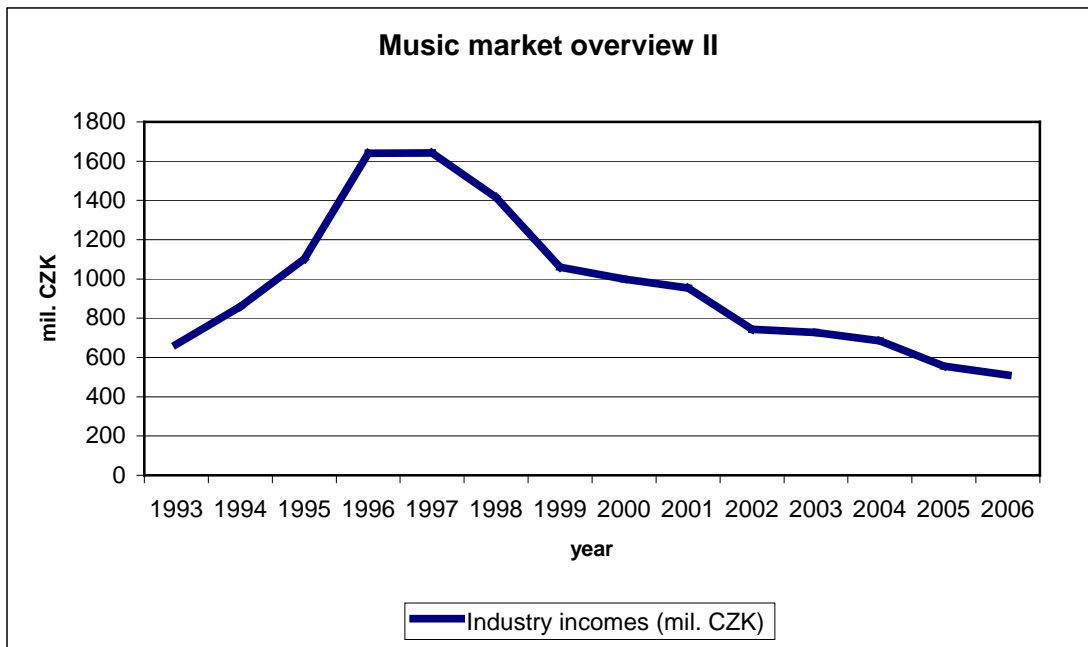
- Amount of CDs sold si still decreasing
 - This trend lasts more than 10 years. The biggest boom in the Czech market was in 1996 when the music industry earned more than 1,6 billion CZK. Nowadays it is less than 500 million CZK.

Graph 3: Czech music market development – number of mediums sold



Resource: <http://www.ifpicr.cz/?rubrika=1111&page=homepage>

Graph 4: Czech music market development – incomes in CZK



Resource: <http://www.ifpicr.cz/?rubrika=1111&page=homepage>

- Production costs are increasing
 - One hour in a usual recording studio costs about 500 CZK. An artist usually spends there days or even weeks. Moreover, s/he has to pay the designer of the booklet of a CD, CDs themselves, additional merchandise, etc. All these activities and procedures can easily cost an artist more than 100 000 CZK.

- Trend of downloading files is still increasing
 - After the year 1998 (the biggest Internet boom in the Czech Republic) mp3 files were getting more and more popular and it was getting easier to download them from the Internet. Reasons are obvious: user pays only for the Internet connection, it is fast, it is easy, and there were/are many devices in which the user can use downloaded mp3 file (mp3 players, dvd players, computers,)

- Popularity of mp3 files
 - It is almost impossible to see somebody in the street having a CD player (discman), cassette player (walkman) or other devices. Even music players in cars are ready to use memory cards (SD, MicroSD, XS, M2, ...) or USB flash disks.
On the other hand, small devices which are able to play different type of files (mp4, avi, ogg, mov) are more and more popular.

Running any server similar to PodporujiHudbu.com is very time-demanding. Especially in case there is no team and only one person to do it. Many hours of preparation and nobody to share ideas with or nobody, who would be able to come up with new ideas and with upgrades.

Very important chapter is „Contacts“. The field of activity wasn't/isn't mainstream, where commercials set what is important and what fails. Underground works on different basis. It is much more interconnected, it is based on friendship and doing

something for something. After losing many contacts from the scene it was very difficult to penetrate the scene once again, furthermore from the outside environment, not from inside as a band.

During this project several factors came up, which appeared to be very important when introducing new service on the Internet. It was several times mentioned factor – team. This brings many points of views, different and new ideas and more possibilities. On the other hand, in this case, it is very difficult to find people sharing the same opinion, the same vision, the same attitudes and willing to work for free or for minimum, because, as it has been proven, it is very time demanding activity.

Communication played a very important role and it has been limited by time and by the budget a lot. It was impossible to spend thousands of CZK in order to get in touch with band via phone. So the main communication channel was mail having advantages of possibility to attach additional files (usually pdf documents). But you never know whether the mail was delivered without problems or not, to the addressee.

Very surprising finding was the way of communication from the band-side. Despite offering something, which would be contributing for free and having future potential, they even did not let know, that they are not interested, or were not able to follow some simple rules, which had been set in advance.

Of course, significant role played the lack of continuous media push. Once the service has been mentioned, the number of www visitors increased immediately.

4.1.2 Fans are potential customers

Every artist has to have fans, otherwise his pursuit is nonsense. There are different types of fans, different types of people who like music.

- True fans

- These people are key for an artist, because they go to see a band/an artist in a club, they buy CDs or DVDs and other merchandise. They play really important role in the market.
- Fans
 - They go to see a band occasionally, they sometimes buy something, but generally they don't spend too much money for the stuff sold by an artist.
- Accidental fans
 - They do not go to see an artist on purpose. It is just a big coincidence they are in a club. There is also very low probability that they will buy something.
- Downloaders
 - They do not go to see an artist live at all. They just sit in front of their computers and downloading as many music files as possible. Those people are useless or even harmful for an artist.

Based on this classification we can establish a very simple equation:

The more people from group 1 and group 2 (True fans and fans) a band/an artist have, the more successful it is.

(In case of underground scene it is a matter of number of shows and familiarity of the band, which is difficult to measure, but charts of CDs sold has no value here.)

4.1.3 How does it work?

The main product of this service is so called "voucher". This voucher replaces the function of a CD or any other similar multimedia.

The procedure is briefly:

- Band/Artist registration
- Negotiation
- Printing out vouchers
- Vouchers distribution

After registration on the webpage www.podporujihudbu.com the administrator receives the very basic information about an artist or a band (name, genre, contact). After that, he gets in touch with the band and negotiates conditions of a co-operation. Matters, which has to be negotiated are:

- Number of vouchers
- Delivery conditions
- Payment conditions
- Content of a multimedia package
- Further co-operation

After the negotiation part, artist or band uploads the file to the server. It is up to band, what type of file will put up for download. It could be a complete discography, record album, demo, pictures, etc.

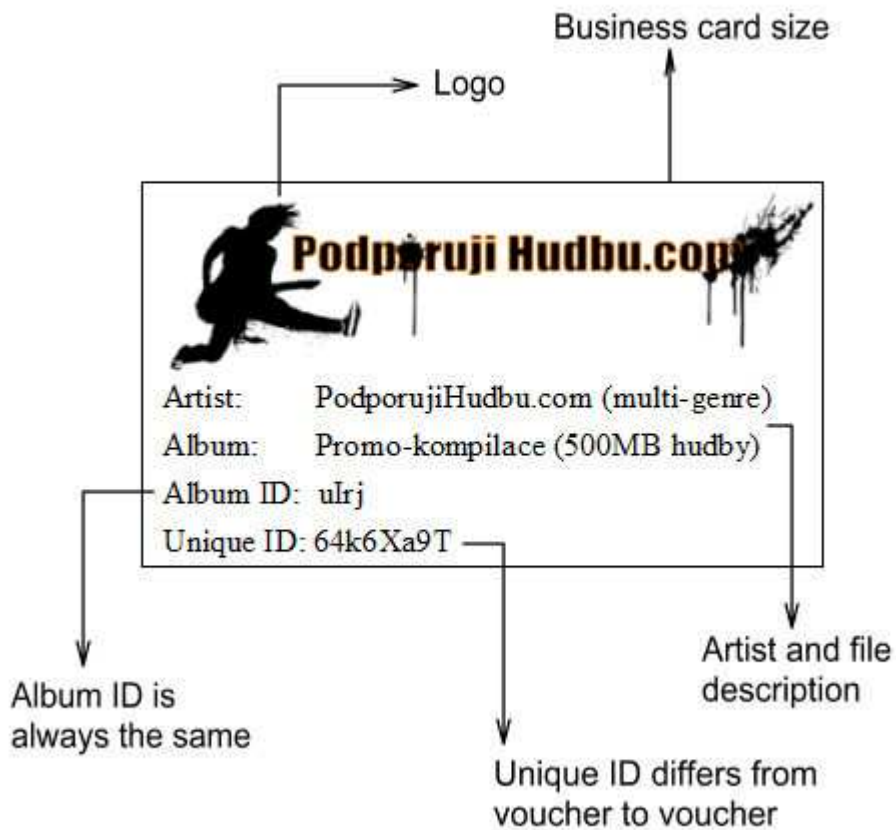
The administrator checks whether the content is all right and uploads it to the server under a unique name through the administrator interface.

This file is given a special code, so called Album ID, which will appear later on on the voucher. Album ID is a four-figure code (combination of letters and digits), which is for a particular record album (multimedia file) unchanging.

According to negotiations also Unique codes are made. These codes are eight-figure combinations of letters and numbers. Every single voucher has its Unique ID, which makes every voucher special.

4.1.4 Voucher

Voucher description



Picture 10 – Voucher description

After printing voucher out, they have to be cut, packed and sent to the customer.

Some extra vouchers are always made for the purposes of PodporujiHudbu.com (e.g. promo, contests for prizes, etc.).

After receiving vouchers, it is fully up to the artist what to do with them and for what price.

4.1.4.1 Prices of vouchers

Prices were not fixed, they were dependent on various factors and conditions.

- Size of the file
 - The more MB the file has, the more space on server it needs
- Type of file
 - It was necessary to distinguish video files, music files, documents or pictures
- Number of vouchers ordered
 - The more vouchers, the lower costs
- Kindliness of customers
 - Even this fact played important role when setting up a price of vouchers

Usually the price was about 2-3 CZK per voucher. Comparing the distribution through vouchers in comparison with distribution through CDs, the final price is significantly lower.

CD Burning and CD pressing

Pressing CDs/DVDs is of course cheaper than burning them, but only in case of order exceeding 1000 copies.

4.1.5 Conventional way vs PodporujiHudbu.com

This is the comparison between costs when producing CD in a conventional way and through PodporujiHudbu.com

Table 4 – Comparison of costs between ordinary way and PH.com

	CD/DVD	PodporujiHudbu.com
Studio (recording, mastering)	15 000 CZK	15 000 CZK
Graphics	2 000 CZK	2 000 CZK
2000 pieces (CDs or vouchers)	At least 56 000 CZK	Max. 4 500 CZK
Capacity	700 MB	Unlimited
Format	cda	Mp3, ogg, avi, doc, jpg, ...
Extra costs (transportation, costs of time,)	1 000 CZK	300 CZK
Total costs	72 000 CZK	21 800 CZK
Usual selling price	50-150 CZK	5-50 CZK

Resource: Prices were taken as a weighted average of prices available from various shops on the Internet or from author's experience

Voucher production costs:

Paper: 300 CZK/package (250 papers, format A4, 200g/m²)

Number of vouchers/paper: 10

Number of vouchers/package: 2500

Cartidge: 1400 CZK/1500 pages

0,93 CZK/page

0,1 CZK/voucher

Price per voucher – $(300/2500)+(1400/1500) = 0,22$ CZK/voucher

Of course more initial costs appeared at the very beginning of the project:

Paper cutter – 500 CZK

Printer – 1800 CZK

Server – 950 CZK/year

Domain – 150 CZK/year

Resource: Prices were taken as a weighted average of prices available from various shops on the Internet or from author's experience

4.1.6 Downloading procedure

When user gets the voucher and wants to download the file, user has to visit www.podporujihudbu.com and click on the “download” button. After that it is necessary to type in Album ID and Unique ID. If the Unique ID fits to the Album ID, multimedia file is put up for download. Unique ID is frozen and it cannot be used anymore.

In case a problem occurs during the downloading procedure, there is a 30 minutes limit in which it is possible to start the downloading again.

In case the downloaded file is deleted by accident, user either knows the approximate date and time of downloading the file and it can be easily checked, that he is the owner of the file and then re-activate the voucher, or has bad luck (if you lose your favourite DVD nobody gives you a new one only because you have a receipt).

Download and Registration buttons



Picture 11: Download and Registration buttons

4.1.7 Law

It is very important to mention, that it is not possible to buy music online through PodporujiHudbu.com. One can only download the files through the webpage. Therefore, the classification is not “online shop” but “distribution channel”. It is very important, because of that, server PodporujiHudbu.com has nothing to do with organisations like OSA. The whole responsibility is up the artist, because s/he is selling the music and has main incomes.

4.1.8 Terms of a contract

Every artist has to agree to terms and conditions. Ticking a box is a necessary part of a registration procedure. Without agreement, the registration cannot be fulfilled.

Main points of this document are:

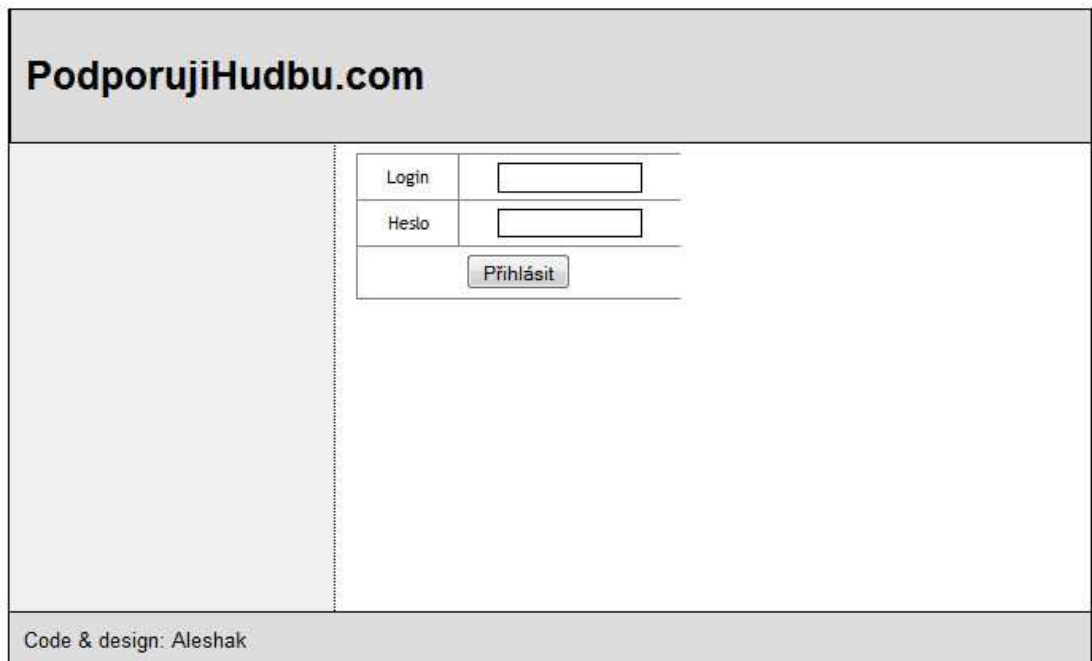
- Definition what is the document about
- Definition of important/key terms
 - Voucher
 - Download
 - Account activation
 - Data package/Multimedia package
- PodporujiHudbu.com's responsibilities
- User's responsibilities
- Artist's responsibilities
- Description of a service
- Copyright matters
- Payment conditions

4.1.9 Admin's interface

Admin's interface was hidden in the directory "admin", secured by Javascript password and by PHP script.

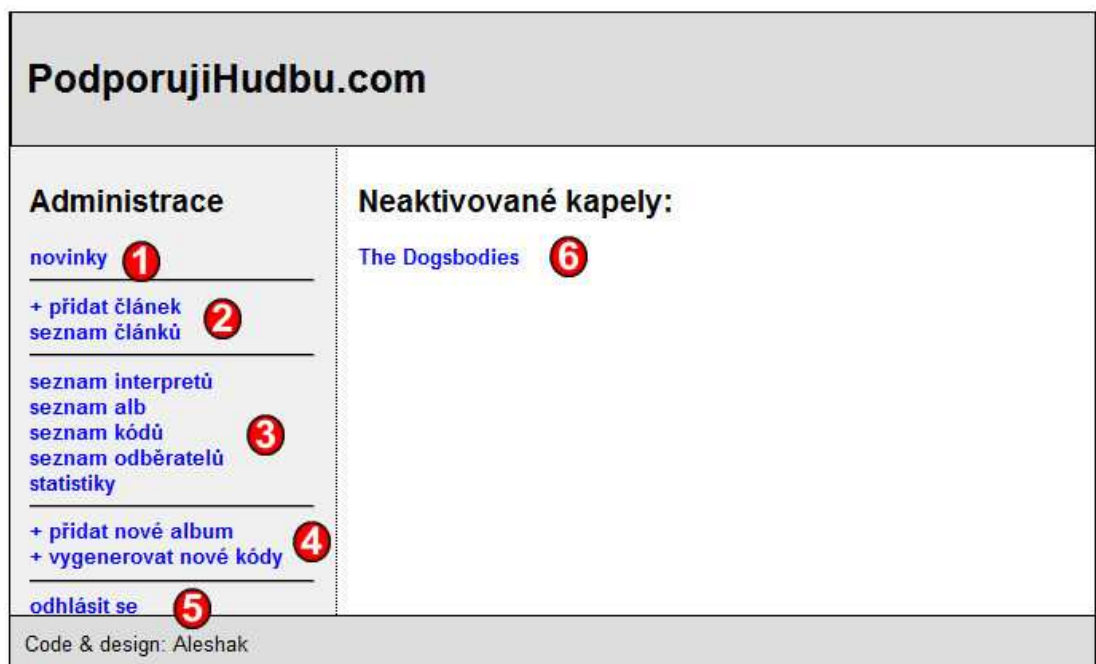
When visiting the admin's section, first appears an extra pop-up window asking for user name and password. As this script is written in Java, it is not possible to save the password for further purposes.

After typing in the username and password a welcome page of admin's interface is loaded. Another username and password has to be filled in in order to log in.



Picture 12: Admin's interface (login page)

After logging in a very simple menu appears on the left side of the page. In the main part of the page, new bands/artists are displayed.



Picture 13: Admin's interface (after login)

The structure is as follows:

- 1) News
 - List of not-activated bands/artist appears
- 2) Articles
 - Section for adding, adjusting, editing or deleting articles from the “News” section. It is possible to use HTML to adjust the writing/article (`
` `` `<i>` `` etc.). Every article can be retrospectively edited or deleted.
- 3) Lists
 - List of interprests, record albums, codes, people who signed for recieving news
- 4) Adding new Albums and Codes
 - Section, through wich is possible to upload a new album and generate new codes
- 5) Log off
- 6) List of New or Not-activated bands/artists

Procedure of adding a new album

After negotiations about basic matters an artist or a band sends a file for downloading purposes. Admin has to check, whether the file is ok and does not contain any harmful files (viruses) and create a .rar file having the name of an album record (for example Album.rar). This file is uploaded to the server into the “temp” folder.

Later it is enough to click on “add album” (number 4) and fill in appropriate information.

PodporujiHudbu.com

Administrace

[novinky](#)

[+ přidat článek](#)
[seznam článků](#)

[seznam interpretů](#)
[seznam alb](#)
[seznam kódů](#)
[seznam odběratelů](#)
[statistiky](#)

[+ přidat nové album](#)
[+ vygenerovat nové kódy](#)

[odhlásit se](#)

Přidat nové album

Název alba 1	<input style="width: 90%;" type="text"/>
Interpret	--interpret-- 2
Rok 3	<input style="width: 90%;" type="text"/>
Soubor 4	<input style="width: 90%;" type="text"/>

5

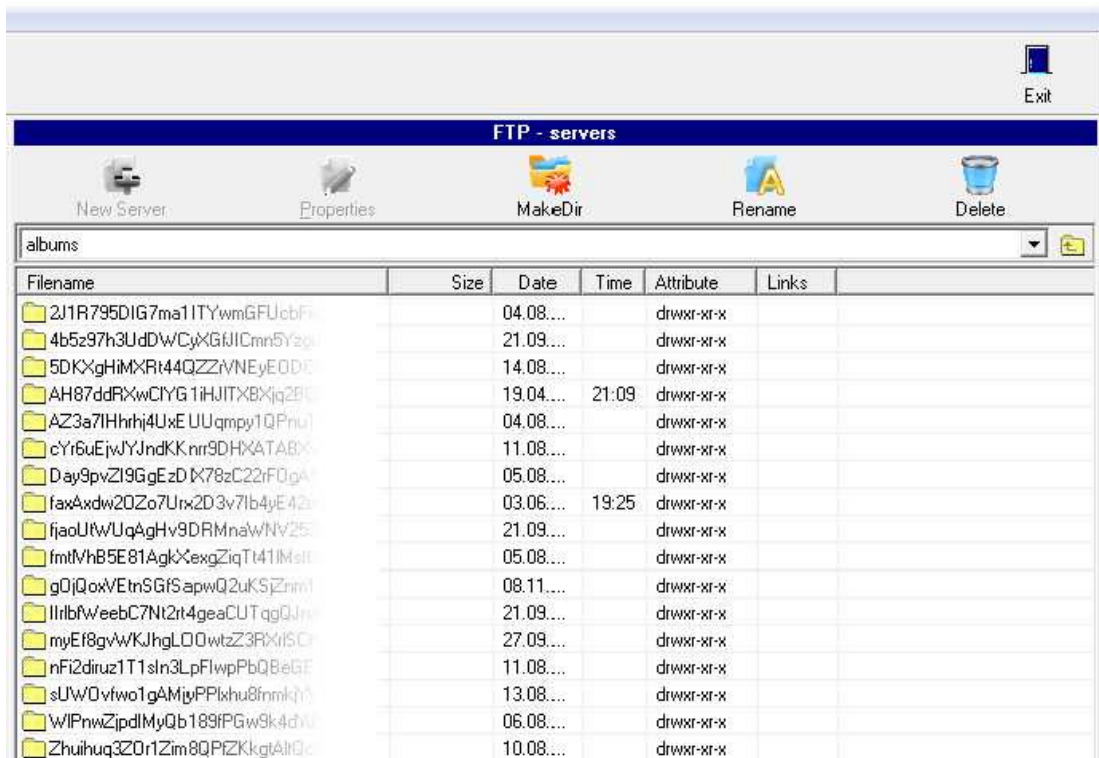
Poznámka: Do pole Soubor se zadává pouze jméno souboru, který musí být předem nahraný ve složce TEMP (např. Zavis-syn-vojaka.zip). Tento soubor bude překopírován do nové vygenerované složky.

Code & design: Aleshak

Picture 14: Admin's interface (adding new album)

- 1) Name of a particular album, which doesn't have to be the same as the name of the file already uploaded to the "temp" directory (e.g. – My first album).
- 2) Chose an interpret from the list of registred artists.
- 3) Type in the year of releasing the album
- 4) Type in the name of the file already uploaded to the "temp" directory (in our case it is Album.rar)
- 5) Add

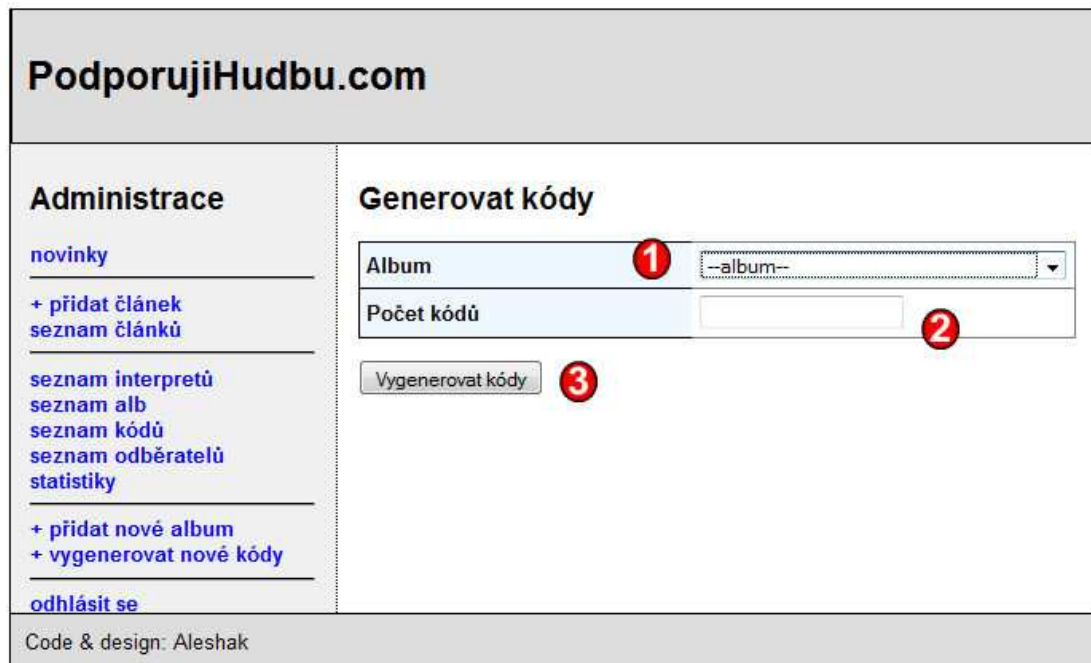
After clicking on the button, the file "Album.rar" is transferred to a new created folder having a random name. This is done for security purposes. External user is not able to find the particular album according to the name, because the file is a sub-folder in a folder having a nonsense name.



Picture 15: FTP commander, examples of directories

Procedure of generating codes

When the album is uploaded in the security folder, it is time to generate codes.



Picture 16: Admin's interface (codes generation)

It is enough to choose from the list of albums (1), type in the number of codes demanded (2) and click on “generate” (3).

A list of generated codes is generated in a second. Every single code is unique and is never repeated again. The complete list of codes is called “certificate”.

There is always possibility of adding new codes to the old album that means – Album ID will remain the same, only more Unique IDs will be generated.

4.1.10 User's interface

Current version of PodporujiHudbu.com is 2.0. It is picture based interface, which means, that on the index page is only minimum text and mainly pictures, which help people to orientate themselves very easily.



Picture 17: User's interface

- 1) Logo
- 2) Download
- 3) Registration
- 4) Menu
- 5) Sub-menu

Logo

The logo of PodporujiHudbu.com has changed slightly several times, but it always had the same elements (ink spots, font, the newest version has no guitar player on it)



Picture 18, 19, 20: Different logos of PH.com

Smudges should express flippancy, casualness and rawness with a jumping guitar-player as a symbol of energy hidden in any kind music.

Below that is written a slogan “It’s an exertion to have a band” (“Mít kapelu je velká dřina”) expressing the thought, that having a band is a very expensive and time-demanding hobby, which many poeple do not realize.

How is the user allowed to download the file?



Picture 21: User's interface (downloading page)

There appear only several points, which are needed for downloading the file.

- Very short definition of terms Album ID and Unique ID
- What to do if any kind of problem occurs
- Columns to be filled in
- Conditions of using the service (hyperlink)
- Download button

4.1.11 Competition analysis

Fortunately there is no service similar to PodporujiHudbu.com. On the other hand, there are several pages having a strong a stable position in the market. It wouldn't be a problem for them to adjust their offer of service and add a very similar service to PodporujiHudbu.com.

Bandzone.cz

The most popular website on the Internet gathering fans and bands together. It has been created for promotion purposes (working on very similar bases as for example MySpace.com) of bands, DJs and other artists. It is very user-friendly and co-operates with some big companies (kytary.cz).

Every artist/band registered is given a webpage with a playlist, mp3 flash player, list of fans, chat-board, list of shows coming and other useful information.

i-legalne.cz

Probably the most famous Czech e-shop with mp3 files. Prices are quite high, so it makes almost no difference to buy mp3 file or usual CD online.

4.1.12 Customer analysis

Goals definition:

The main goal of PodporujiHudbu.com is to try to refresh the atmosphere in the underground and try to offer a reasonable choice for bands and their fans. For bands to earn some money and to help them. For their fans to get the music for a reasonable price.

It's system is designed to help artists, of course. But on the other hand it is supposed to help customers - fans. There is possibility of supporting band, getting music for reasonable price, even though the person is just an accidental fan, who appeared in a club by accident.

People sometimes think that paying the entrance money is a sufficient support, that the band is just not worth spending extra money for posters, CDs or even DVDs. It is very difficult to measure the successfulness of a band, because in no statistics number of people attending the show is mentioned. Number of vouchers sold or number of downloads could be a measurable factor and an equivalent of a successfulness.

4.1.13 Statistics

For getting statistical data I have used two services. Google Analytics and TOPlist. Both of them works on the same basis. After pasting generated code I was able to get specific statistical data about the web.

TOPlist.cz statistics

The main statistical data offered are:

- Pageviews per day
- Pageviews per month
- Pageviews per year
- List of visitors according to time
- Web browsers they use
- Operational system they use
- Where do the come to the web from
- Where do they come from (nationality)
- ... and many more!



■ - Návštěvy za den ... ■ - Zhlédnutí za den ... ■ - Návštěvy dnes
Pokud Vás zajímá konkrétní hodnota, tak najedte myší na příslušný sloupec a po chvíli se ukáže v malém okénku.

Picture 27: Toplist statistics

It is important to distinguish the difference between visitors per day (blue column) and page viewed per day (red column). Red column is always as high as the blue column, because every single visitor has to visit at least one page (index page).

Google analytics

This service offered by the Internet giant gives specific and accurate data about what is happening on your website. The very first step goes through registration and getting an mailbox. After that you are allowed to use all google services.

To make the Google analytics working, you have to insert a special code (so called tracking code) into the code of your webpage (this is typical for services similar to Google analytics). There are some special instructions how to do it and it is not a matter of wasting time, it is very easy and it is based on copying and pasting to the right part of your HTML code.

After adding the code to your webpage, Google can start measuring almost everything what is happening on your webpage.

For presenting the results only data from april 2010 to august 2010 has been chosen. This is how the index page of Google analytics looks like:



Picture 22: Google analytics, index page

1) Time-line

In this part it is possible to choose the time period you want data from. It could be the last week, it could be the whole year. Data will always be recalculated according to the time period you set up. There are several options how to do it:

- a) callendar – just filling the date by clicking on the dates in a pop-up callendar
- b) filling the dates directly
- c) click and drag – you are given the whole period you are using Google analytics and by clicking and dragging (like people are used to do when working with Windows) you select a time-period you want to get data from.

After selecting the time borders, you are given Visitors Overview graphically showing peaks and saddles of selected time period.

- 2) Time period shown graphically
- 3) Statistics in details

Showing (definitions were taken directly from Google analytics website):

- a) Visits
 - The number of visits your site receives is the most basic measure of how effectively you promote your site. Starting and stopping ads, changing your keyword buys, viral marketing events and search rank are some examples of factors that influence the number of visits your site receives.
- b) Absolute unique visits
 - How many people came to your site? This report graphs people instead of visits.
- c) Pageviews
 - Pageviews is the total number of pages viewed on your site and is a general measure of how much your site is used. It is more useful as a basic indicator of the traffic load on your site and server rather than as a marketing measure.
- d) Average pageviews
 - Average Pageviews is one way of measuring visit quality. A high Average Pageviews number suggests that visitors interact extensively with your site. A high Average Pageviews results from one or both of the following factors: (1) Appropriately targeted traffic (i.e. visitors who are interested in what your site offers and (2) High quality content effectively presented on the site. Conversely, a low Average Pageviews indicates that the traffic coming to the site has not been appropriately targeted to what the site offers or that the site does not deliver what was promised to the visitor.
- e) Time on site
 - Time on Site is one way of measuring visit quality. If visitors spend a long time visiting your site, they may be interacting extensively with it. However, Time on Site can be misleading because visitors often leave browser windows open when they are not actually viewing or using your site.
- f) Bounce rate

- Bounce Rate is the percentage of single-page visits (i.e. visits in which the person left your site from the entrance page). Bounce Rate is a measure of visit quality and a high Bounce Rate generally indicates that site entrance (landing) pages aren't relevant to your visitors. You can minimise Bounce Rates by tailoring landing pages to each keyword and ad that you run. Landing pages should provide the information and services that were promised in the ad copy.

Being specific and analyse numbers related to PodporujiHudbu.com website:

1) Visits – 1233

At the very beginning of the project, no impressive numbers regarding visitors were assumed. This type of webpage is not bringing people hot news and fresh date. This page was designed for downloading files (not for free downloads).

It can be easily seen on the Czech e-market. If any page provides „legal“ downloads (let's call it legal download despite the fact that, all in all, every single download is legal), they are not focused only on downloads. Number of visitors would be much lower, they have to have high „return rate“ – number of people who are visiting particular webpage regularly. That is why to provide some hot news together with possibility of downloading some music files. Giving an example – www.i-legalne.cz, www.t-zones.cz, etc. On the other hand, there are some pages having high number of visitors, but they're allowing to download files shared illegally, e.g. www.uloz.to.

2) Absolute unique visitors – 791 people

This number was highly influenced by „campaigns“ – mails send to bands directly. If this procedure would be constant, much higher numbers would appear in statistics.

3) Page views – 3871

This is also closely related to the characteristics of the webpage. People (visitors) do not want to and they are simply not allowed to search for some information and browse the webpage deeply. It is enough the user to visit (in this case) 3 webpages. The most visited ones were:

- a) Index page – the very first page that appears after typing the name of the webpage into the browser bar.
- b) List of registred bands
- c) List of top downloaded files
- d) Page describing PodporujiHudbu.com
- e) ...

4) Average pageviews - 3,14

Again shown, that content is missing. No need for visitors to stay for a long time.

5) Average time on site – 1:56

When reading some news or searching for information, you have to stay for a longer time. Nearly two minutes is absolutely expected time for this type of website.

6) Bounce rate 37,06%

As it measures number of people who enter the webpage and after visiting only one page they leave. The lower number, the better.

7) New visits 63,91%

Two possibilities: Visitor can be either new visitor or returning visitor. Put together they make 100%. About 36% of people came back to PodporujiHudbu.com. 64% were newcomers caught by campaigns.

Summary of statistics:

Table 5 – Summary of statistics

Visits	1233
Absolute unique visitors	791
Page views	3871
Average pageviews	3,14
Average time on site	1:56
Bounce rate	37,06%
New visits	63,91%

4.1.14 Advertising, PR

Articles, interviews

At the very beginning of PodporujiHudbu.com several servers were informed about this new service usually with sending an interview presenting PodporujiHudbu.com giving some basic information and answering some basic questions (usually what is this service about and what does it offer).

Servers used: www.kvakpunkrock.cz, www.ipunk.cz, www.punk.cz, www.superbeat.cz and more.

This tactique brought immediate influx of people but only for several days.

Leaflets

When coming to see a band live, some leaflets were left in the club with some vouchers for free.

500 MB OF MUSIC
for **FREE!!!**

This is the promo-compilation file of PodporujiHudbu.com

More than 50 artists of
various genres (ska, punk, hc, post-metal, ...)

More than 100 songs

Pure music - 100% free
★ ★ ★

What you have to do is:

- go to www.isupportmusic.wz.cz
- you'll be automatically diverted to www.PodporujiHudbu.com (or you'll be given a link)
- type in the Album ID and Unique ID
- download the file and throw away your voucher
- enjoy the music

★ ★ ★

[iSupportMusic.wz.cz](http://www.isupportmusic.wz.cz) [Bandzone.cz](http://www.Bandzone.cz) [Podporuji Hudbu.com](http://www.PodporujiHudbu.com)

www.podporujihudbu.com info@podporujihudbu.com

(c) 2009 PodporujiHudbu.com - all rights reserved

Picture 23: Example of a leaflet used

Banners

Every single band that signed up and got vouchers had to fulfill some agreements. One of them was to put a banner on their website and inform about the membership. Actually they do not put a banner on their websites, but only an HTML code, which uploads a banner from PH.com server. Through this code webmaster can easily change the content of the banner by re-uploading a new banner to the server, actually a new banner with the same name as the previous one's.

```
<a href="http://www.podporujihudbu.com"></a>
```

Banner works as a hyperlink

```
<a href="http://www.podporujihudbu.com">...</a>
```

Where is the picture located

```
<img src=http://www.podporujihudbu.com/img/banners/banner_kapely.gif
```

- in case of change, it is enough to change the banner_kapely.gif file

What appears when user's cursor goes over the banner

```
alt="Internetová distribuce hudebních souborů"
```

Picture description

```
border="0" width="468" height="60">
```

Banner consisted only 2 pictures



Picture 24 – Banner for bands

Promo compilation

Promo compilation was the initial file distributed through PH.com. Various artists from the Czech republic were asked to release from 1-4 mp3 files, which would be distributed through PH.com for free. The final file (multimedia package) has more than 500MB, more than 50 artists participated with more than 100 songs.

Quizes

Some vouchers were given to various servers as a prize, which was done for the benefits of the band.

4.2 4P analysis

4P analysis is one of the basic and very well-known tool which helps to define the marketing options in terms of product, place, price and promotion. It was developed in 1953 by Neil Borden and since that time more „P“s were added (people, processes and physical layout decisions). This analysis is then called 7P.

Product – Voucher carrying important information needed to download the file. It is made of paper (200 or 220g/m² carton) and it has a size of a business card (approximately 9x5 cm). It is possible to place 10 vouchers on one paper A4. Vouchers are easy to manipulate, transport and cut.

Price – Production price of one voucher is very low (approximately 0,2 CZK/voucher). One voucher is sold for 2-4 CZK (depends on the content and number of vouchers). Further on, it is not problem for an artist, to sell the voucher for 20 CZK.

Promotion – Interviews, banners, leaflets, vouchers for free, cooperation with other projects or organizations, radio discussions.

Placement - As those vouchers are very easy to transport, it is no problem to send them by post, if the customer is from Prague, personal delivery is also possible.

4.3 SWOT analysis

SWOT analysis allows us to make a rough prediction about how the situation will be developing in the future. SWOT analysis is a method focused on both internal parts of an object (**Strengths** and **Weaknesses**) and on external parts (**Opportunities** and **Threats**) as well.

Strengths

Direct band support

- The distribution chain (PH.com, artist/band, fan) is as short as possible. No extra costs are added.

Low price

- In comparison with CDs or buying mp3 files online, music from PH.com is incomparably cheaper.

Simplicity of the system

- The whole procedure from registering a band to getting vouchers is very simple and easy.

Availability of the product

Uniqueness

- There is no other similar service on the market

Many different types of distribution

- Since it is just a piece of paper, voucher has many ways of usage

Weaknesses

Low cost project

- The key problem. Amount of money invested was kept at lowest possible level. Therefore almost no external co-operation with „experts“ was done.

Lack of team

- The whole project is done by one person, which brings some motivation problems and it does not allow the possibility of sharing and dividing a work

Lack of professionalism

- Closely related to the previous problem. There were no people who were good at graphics, programming or marketing.

Opportunities

Many bands, many artists

- According to www.bandzone.cz, there are about 25 000 bands/artists in the Czech Republic, 25 000 potential customers.

Many albums to be distributed and still new are coming.

Trend of Mp3 file

- All in all mp3 file is responsible for the revolution in the entertainment market, it is one of the most popular files on the Internet. Almost every child knows, what it is.

Production costs of CDs

- To record and produce a CD is a very costly and expensive issue, the final sum of money can easily exceed 50 000 CZK

Current price of CDs

- Despite the decreasing popularity of CDs prices are not decreasing at the same rate and are still expensive.

Possibility of merching/cooperation with other projects

Threats

Mentality of fans

- As the system PodporujiHudbu.com is something completely new, it is hard to predict the behaviour of bands and their fans. Whether they will accept it or not.

Possibility of another project run by a bigger company

- Successful projects have always their copies. The very first broadcasting server YouTube has many and many mutations and versions.

Low distribution channels - distribution is directed by bands

- As vouchers are distributed mainly by bands, PH.com has almost no control over it and has no idea what is happening with vouchers sold

Mistrust of bands and fans

Unreliabilty of server

The whole project is hosted on a server provided by Banan.cz. As PodporujiHudbu.com has no chance to influence server procedures, an unexpected server error might occur (problems with databases, downloads, ...)

4.4 Possible development and near future

For the near future there will be necessary steps to take.

The first one will be to find a team. At least 2 or 3 more people who would help with spreading the service. One will be needed as an IT support, because optimization (especially CSS and HTML) and professionalism will be needed in order to attract more people. This will be a crucial step, because PH.com is a low cost project and will not be able to hire someone full time or to pay someone for this matter.

Other position which would be possible to hold and which would be really needed could be PR. As in this sphere contacts play a very important role, it should help PH.com a lot.

Further cooperation with media will also be needed in order to make this service successful. Radios, online radios, magazines, blogs, zines and many more channels through which can be vouchers distributed.

Many people wanted to cooperate with PH.com, but mostly their conception, ideas and visions were different in many points. The original idea of PH.com would be (in case of acceptance) deformed or thoroughly changed.

5 Conclusion

Trend in the Czech Republic is very similar to trend in Europe. Number of CDs sold is still decreasing and incomes from selling mp3 files are not high enough and are also decreasing. Prices of mp3 files, which are possible to be bought on the Internet, are still quite high and after some simple countings we can reach the result, that the price of a CD in digital format is not so cheap in comparison with ordinary CD bought in ordinary shop.

Solution seems to be so easy and obvious – decrease the price, which will be compensated by the amount of mp3 files sold/downloaded. But...

As in every market, there are some competitors, not counting various companies producing/selling/distributing music. The biggest competitor for all of these firms are people themselves and the possibility of downloading the file for free. The easiest, the fastest and of course the cheapest way how to get a music file causing huge losses to music companies.

As a practical part and also as a proof that it is possible to distribute music through modern distribution channels was a website PodporujiHudbu.com – combination of downloading music from the internet and conventional music distribution.

All in all, PodporujiHudbu.com showed, that there is another possibility how to spread music files legally and bring some money to the author. Of course initial investments are necessary. Comments on this were during the run positive.

PH.com definitely has not become a major player in the music distribution market, not even a well-known server for distributing multimedia files in a different way.

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