



mufin white label solutions

White paper

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mufin technology overview

mufin is a leading provider of advanced music recommendation and music identification solutions. Our solutions power music services and music applications all over the world.

audioid music identification 	<ul style="list-style-type: none">• retrieve metadata for unknown tracks• repair tag information• identify music on mobile platforms• find duplicates in music collections
audioid broadcast monitoring 	<ul style="list-style-type: none">• track radio streams• observe advertisements• analyse music charts
audiogen offline solutions 	<ul style="list-style-type: none">• generate music attributes (auto-tags)• analyse song similarity• generate mufin vision coordinates
audioscout online webservice 	<ul style="list-style-type: none">• search music• retrieve editorial metadata• retrieve music attributes (auto-tags)• get song similarity• get artist similarity• retrieve mufin vision coordinates
mufin white label solutions 	<ul style="list-style-type: none">• utilize desktop player• access music cloud storage• utilize web-based player• utilize mobile player
unified media database 	<ul style="list-style-type: none">• contains editorial metadata (tracks, artists, labels, etc.)• contains rich metadata(fingerprints, visualization, cover-art, shop-links, etc.)• powers other mufin services such as audioscout webservice or audioid



mufin white label solutions

The mufin white label portfolio builds around the mufin player and the music online storage solution „mufin.drive“ offering a variety of use cases and licensing options. In addition to features known from other music players such as iTunes or Windows Media Player, the mufin player incorporates the audioid, audiogen and audioscout technologies as well as online music storage and streaming services.

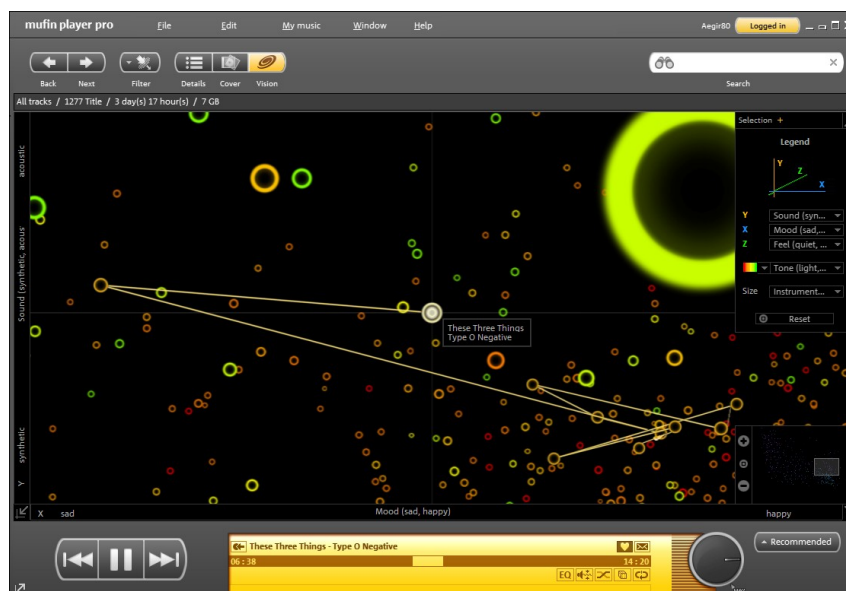
Hence, the incorporation of mufin’s proprietary solutions results in some of the following features:

- Acoustic analysis to enable music discovery and management based on sound and mood
- Music visualization for an intuitive and visual approach to music discovery
- Auto metadata tagging for unknown songs
- Soundbased auto playlist generation
- Recommendation engine using a database of 8m songs.

With its special features the mufin service is a unique tool to find, manage and sell music as well as create a "music ecosystem" and consequently prevent churn.

Use cases and licensing models

mufin player stand-alone



Picture 1: mufin player 1.5 in vision mode



The mufin player is the world's first music player to know the sound of your music. With the incorporated acoustic fingerprinting technology, the mufin player enables music discovery and management based on sound.

As a stand-alone music player, the mufin player is a comprehensive music player with all mufin technologies built-in.

Moreover, the mufin player depicts the music collection as a sound universe as it displays every song of a collection as a dot in a coordinate system. The two or three axes can be assigned with a range of musical attributes. This affords the user to interactively explore his music collection and provides him with an immediate and comprehensive overview. Thus, mufin vision simplifies the handling of large music collections, irrespective of the size of the screen.

mufin player functions

- Music recommendations
 - get soundbased music recommendations from mufin.com's database containing 8 million tracks
- Auto-playlists
 - create automatic playlists with songs that go great together
- Auto-tagging
 - automatically replace wrong or set missing tags in song files
- Music visualization
 - visual music navigation
- Multitouch enabled interface
 - support for Windows 7
 - navigate through mufin vision using gestures, e.g. pinch, drag
 - create playlists with drag'n'drop
- Social Music
 - Tweet/ post songs to Twitter or Facebook
 - supports Last.fm scrobbling
- Connection to the mufin.drive online storage
- Integrated webbrowser
- Available languages: English, German, French, Dutch, Italian, Greek, Finnish, Swedish, Polish, Turkish, Portugese, Spanish, Japanese, Chinese, Taiwanese, Czech, Danish, Korean, Norwegian, Russian and Hungarian
- Portable sync, CD burning, show cover artwork, 10-band graphic equalizer, normalizing feature, support of DirectX-compatible sound effects
- Playlist import and export
- Supported formats: MP3, WAV, CD-Audio, WMA, OGG Forbis, FLAC, M4A

System requirements

- Operating system: Microsoft® Windows® XP, Vista™ or 7
- Computer Processor: 1 GHz or better
- Computer Memory: 512 MB or more, 80 MB free hard disk space
- Screen Resolution: 1024x768 pixels or higher
- Graphics Card: DirectX 9.0c or higher, 128 MB or more graphic memory, Pixel Shader 2.0, e.g., ATI X300 or better, NVIDIA GeForce 6600 or better

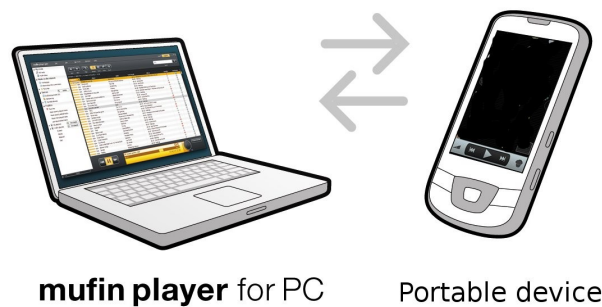


- Some features require an Internet connection, e.g., online music recommendations from www.mufin.com

Customization

The mufin player is available as a white label solution with a variety of customisable components. The player's skin is easily adaptable to the licensee's brand requirements, for example. Furthermore, the connection to the mufin.drive cloud storage is flexible in matters of storage space, integrated features and syncing options amongst others.

mufin player to fuel portables

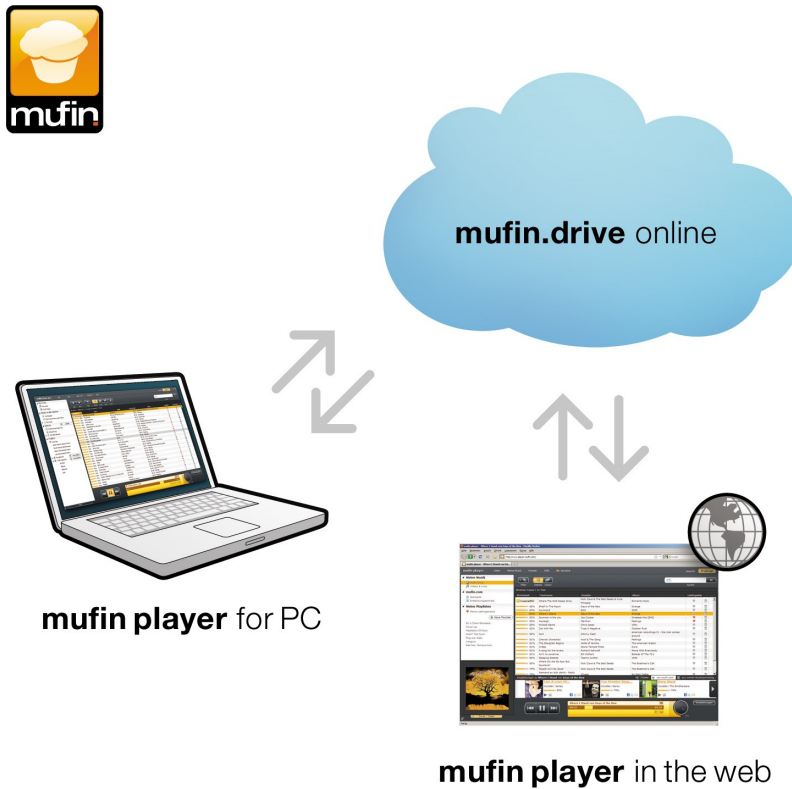


The mufin player brings the mufin audiogen functionality to portable music devices allowing mobile phones, mufin-enabled mp3 players and other mobile music devices to create automatic playlists with similar songs. Especially on music devices with limited size of the screens and buttons, the mufin feature works as an easy to use and intuitive and intelligent shuffle modus.

When filling the portable device with music via the mufin player, all necessary mufin data are automatically being transferred to the devices alongside the music files. This allows to create automatic playlists on portables with low CPU and memory resources.



mufin player + mufin.drive



The mufin player additionally connects to the online storage „mufin.drive“ which allows users to store, download and stream tracks from anywhere and backup important tracks in the mufin.drive keeping them safe from harm caused by data loss.

Besides the actual infrastructure of an online storage, the mufin.drive integrates all mufin technologies and allows for an enriched music experience which goes beyond the sole storage option.

The cloud storage can be accessed via the mufin player or from the web by logging into the web based mufin player. The web mufin player shows all uploaded music and syncs with the desktop mufin player.

Through the upload via the mufin player, necessary information for using the mufin technologies is being synced simultaneously. Thus, the web player offers visual navigation through all music stored in the virtual cloud, gives relevant music recommendations either from the online music collection or from more than 8m tracks on mufin.com and creates automatic playlists according to mood.

The cloud can store all audio formats. However, the web player currently supports the MP3 format



only.

The mufin.drive online storage works irrespective of the platform. In order to fuel the storage with music files, the mufin player is necessary to ensure the implementation of all mufin technologies.

Customization and licensing

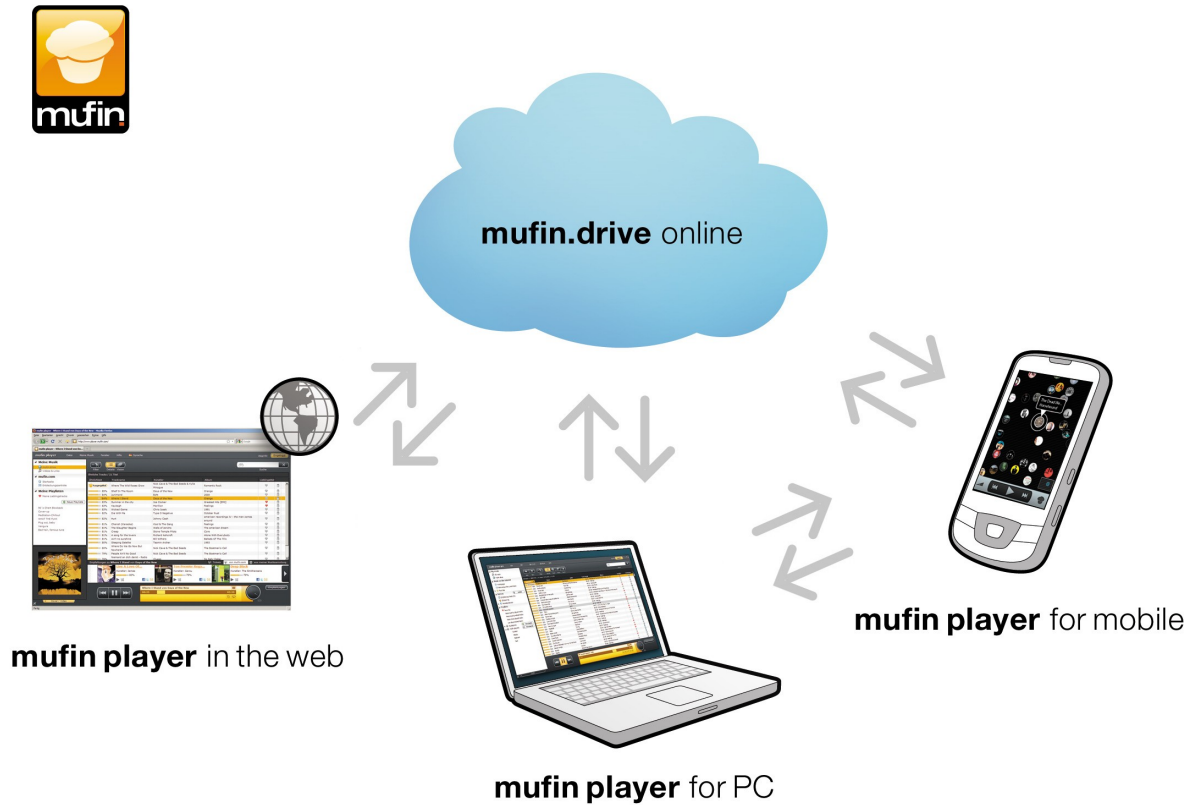
There is a variety of customizable options including changeable skins and storage space. Licensees can either license the whole package consisting of the mufin player, the storage as well as a mobile app in the near future, or they can decide to pick certain white label products only.

The storage system is capable of handling a separate customer database for each licensee.

Moreover, its infrastructure is easily scalable. The internal architecture uses a sharding mechanism to distribute data between multiple internal storage spaces and create backups. Additionally, external storage spaces can be integrated via WebDAV.



Mobile access to the cloud storage



Access of the mufin.drive online storage is available through the mufin player, the web player and through apps for mobile device. The first supported platform is Android. Similar to the desktop and web applications, the mobile client incorporates all mufin technologies. The visual navigation through a multidimensional coordinate system is optimized for a small screen making easy navigation even easier and intuitive. Automatic playlist generation and relevant music recommendations is also integrated into the application.

Please check back on <http://business.mufin.com> for more information.



About mufin

Company background

mufin is the leading expert for content protection services and audio retrieval solutions based on the most advanced fingerprinting technology for the purpose of

“identifying and filtering copyrighted content on behalf of the right holders to enforce the copyright policy”

while

“adding value to music applications and devices plus stimulating music sales anywhere and anytime”.

In August 2005, mufin exclusively acquired the associated patents for audioid technology, which is an innovative system for extracting audio fingerprints from digital files and identifying them. mufin is a 100% subsidiary of MAGIX with its headquarters in Berlin, Germany.

mufin’s technology has been developed with the music consumer in mind. Our music identification and music recommendation technologies enable consumers to enjoy music anytime and anywhere.

Benefits

Our solutions help consumers

- Discover new music they might enjoy
- Listen to music that matches their mood
- Build playlists with one touch
- Navigate music libraries visually

Helping consumers directly benefits your business, since

- Newly discovered music presents new purchase options
- Engaging music experiences increase customer browsing time and repeat visits



References (Selection)



Music recommendation for ringtones and full-track music downloads on mobile portal



Audio recognition of user uploads to avoid copyright infringements with audioid on a German music platform



Audio recognition of user uploads to avoid copyright infringements with audioid on a German video portal



Ad monitoring in Australia with mufin audioid technology



Ad monitoring in Kenya with mufin audioid technology

In the press



'I was very impressed by Vision and spent quite some time playing around with it.'



'Mufin: An Automated Music Recommendation Engine That Actually Works'



'Mufin brings better music recommendations to iTunes'