
Software Requirements Specification

for

digimezzo/dopamine 2

Version 2.0.10

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September 2024

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Revision History

Name	Date	Version
Dopamine	11/8/2024	2.0.10
Dopamine	10/8/2024	2.0.9
Dopamine	10/4/2021	2.0.8
Dopamine	5/4/2021	2.0.7
Dopamine	3/4/2021	2.0.6
Dopamine	22/9/2020	2.0.5
Dopamine	5/9/2020	2.0.4
Dopamine	11/7/2020	2.0.3
Dopamine	17/6/2020	2.0.2
Dopamine	14/1/2020	2.0.1
.....
Dopamine	9/9/2016	1.1



Dopamine 2

Audio player which tries to make organizing and listening to music
as simple and pretty as possible.

1. Introduction

1.1 Purpose

The purpose of this document is to present, through a detailed description, the open-source software digimezzo/dopamine. It will explain the purpose of its creation and provide a detailed description of the software's functionalities, the capabilities of its offered options, its interfaces, what one can expect from the program, and the possible limitations under which it should operate.

This documentation is intended for every user of the software and also for interested developers who would like to contribute to its further development in collaboration with the development team.

1.2 Document Conventions

This documentation was created based on the IEEE standard for System Requirements Specification documents.

1.3 Intended Audience and Reading Suggestions

- Typical users who need an easy-to-use and reliable music player.
- Developers who are interested in working on the project, contributing to its further evolution with new ideas, improving its functionality, or identifying and fixing potential bugs.

1.4 Product Scope

Dopamine is an audio player that any user can easily use. It stands out for its simplicity and offers several basic options for organizing and managing audio files, as well as optimizing playback.

1.5 References

Dopamine's website:

<https://digimezzo.github.io/site/>

Dopamine's GitHub page:

<https://github.com/digimezzo/dopamine-windows>

IEEE Template for System Requirement Specification Documents:

<https://goo.gl/nsUFwy>

2. Overall Description

2.1 Product Perspective

Dopamine was created for anyone looking for an easy-to-use audio player. It stands out for its reliability, user-friendliness, and the capabilities it offers for organizing and managing the user's audio collections, without its settings causing confusion or doubt for the average user.

It is distinguished by its simplicity and aesthetic appeal. The goal from the beginning was to deliver functional and user-friendly software.

It is an open-source project and has a very active development team supporting it and providing feedback, updates, and assistance to the user.

It supports files: MP3, WMA, OGG, M4A (AAC), AAC, WAV, OPUS, AIFF, APE.

It was developed to run on Windows.

There is another member in the Dopamine team, the Dopamine 3 pre-release, which is intended to run on Windows, GNU/Linux (Ubuntu, Manjaro), or Mac.

2.2 Product Functions

- *Artists*
- *Genres*
- *Albums*
- *Songs*
- *Playlists*
 - *New playlist*
 - *Import playlists*
- *Folders*
- *Menu:*
 - *Manage collection*
 - *Settings*
 - *Information*
- *Equalizer*

2.3 User Classes and Characteristics

☐ Typical users who need an easy-to-use and reliable music player.

☐ Developers who are interested in working on the project, contributing to its further evolution with new ideas, improving its functionality, or identifying and fixing potential bugs.

2.4 Operating Environment

Windows 7

Windows 8

Windows 8.1

Windows 10

Windows 11

2.5 Design and Implementation Constraints

Dopamine uses code of [FFmpeg](#) licensed under the [LGPLv2.1](#)

It is written in C# and is powered by the [CSCore sound library](#).

2.6 User Documentation

READ ME for Dopamine 2

<https://github.com/digimezzo/dopamine-windows/blob/master/README.md>

F.A.Q. for Dopamine 2

<https://digimezzo.github.io/site/dopamine-faq>

2.7 Assumptions and Dependencies – Compile Instructions

The Dopamine source code has a dependency to file **Windows.winmd**, which is provided by the Windows 10 SDK (for the system notifications). Install the Windows 10 SDK for your version of Windows 10. For Windows 10 10.0.17134.0, Windows.winmd can be found in the folder **C:\Program Files (x86)\Windows Kits\10\UnionMetadata\10.0.17134.0**. You'll have to copy this file to its parent folder. So it is available in this path: **C:\Program Files (x86)\Windows Kits\10\UnionMetadata\Windows.winmd**.

The Dopamine source code also has a dependency to file **C:\Program Files (x86)\Reference Assemblies\Microsoft\Framework.NETCore\v4.5\System.Runtime.WindowsRuntime.dll**. Make sure it is available on your computer.

If both dependencies are met, Dopamine should compile without issues on Windows 7, 8, 8.1 and 10.

If you are still unable to find assembly **Windows** after following these steps, please check issue [#836](#) for more help finding it.

(instructions from the “README”)

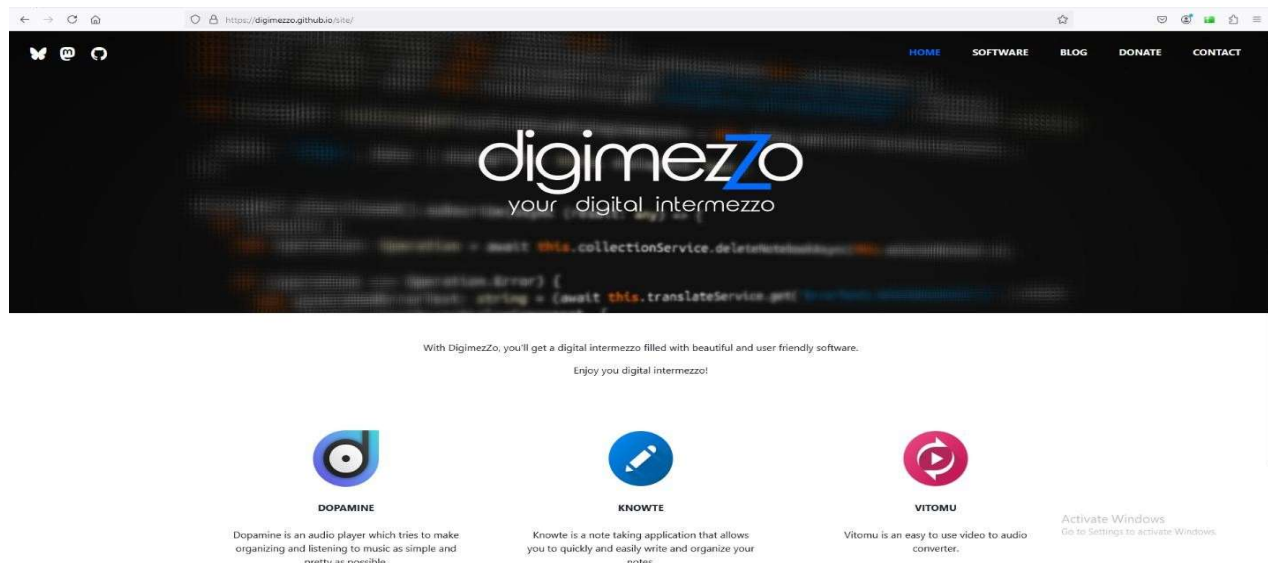
3. External Interface Requirements – System Features

3.1 Download and Set up

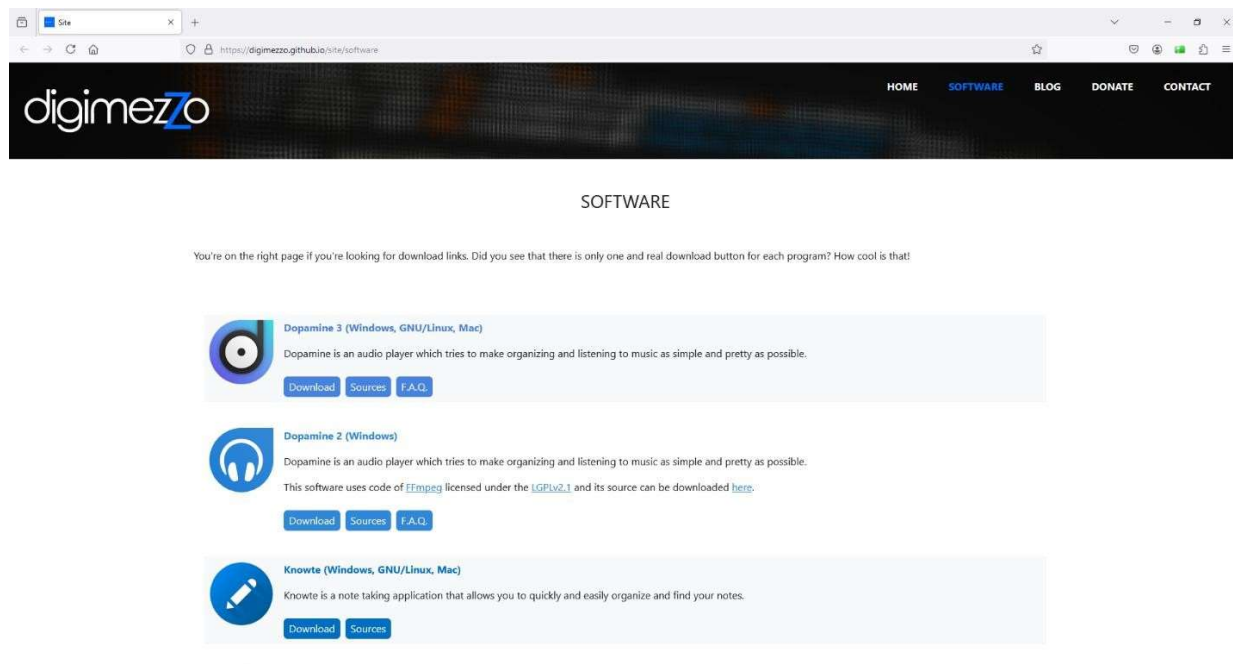
3.1.1 Download

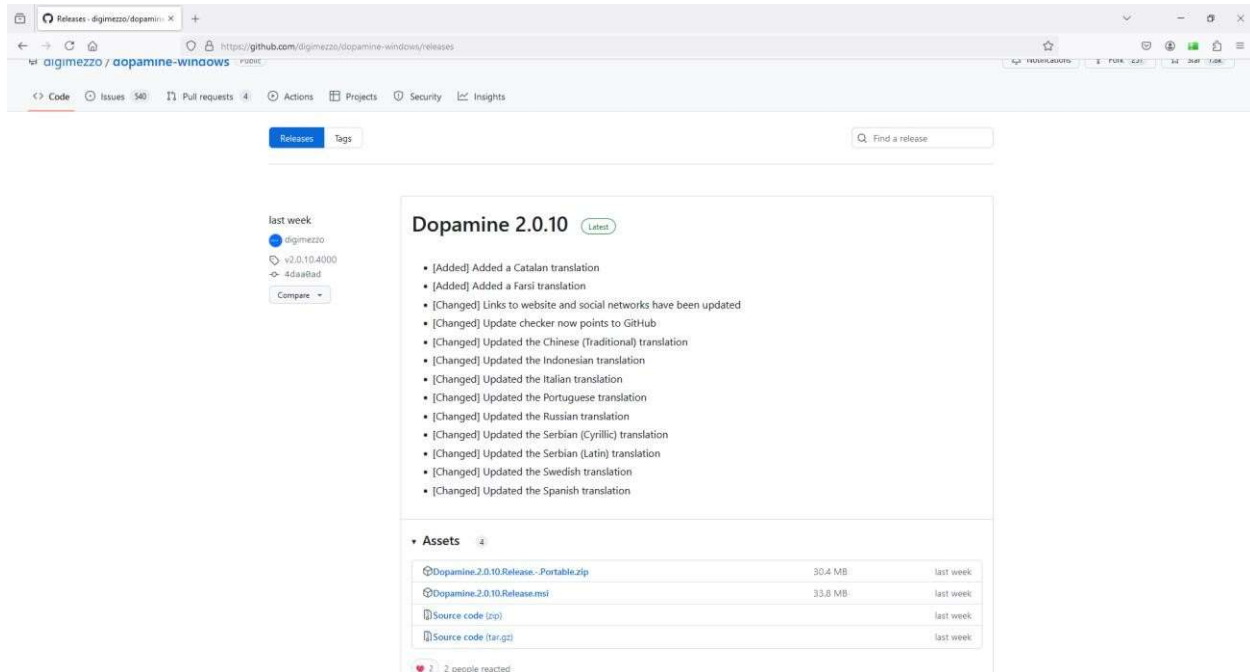
Visit digimezzo

<https://digimezzo.github.io/site/>



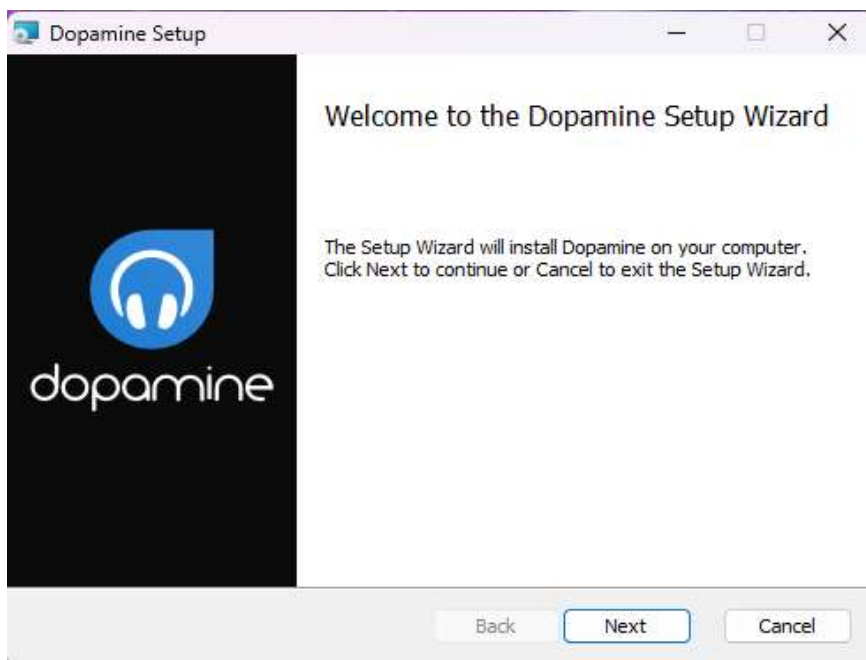
And then you click on the “Download” option under Dopamine 2 (Windows).



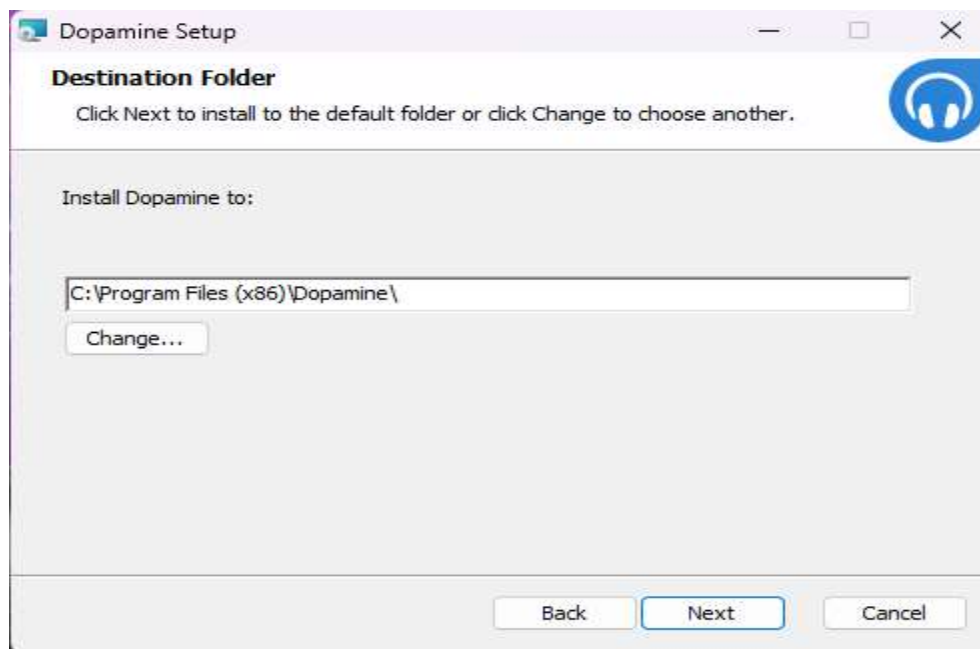


Here you select the latest released Dopamine version which currently is 2.0.10 and click the msi file under “Assets”. Now the installer of the app will start to download.

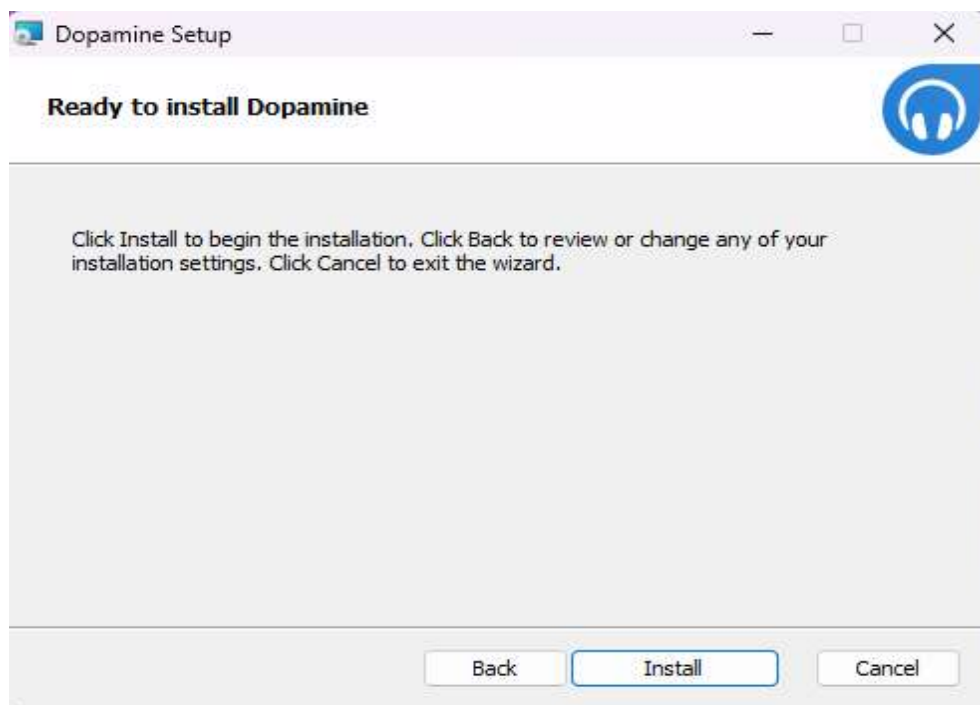
After download is complete you run the installer.



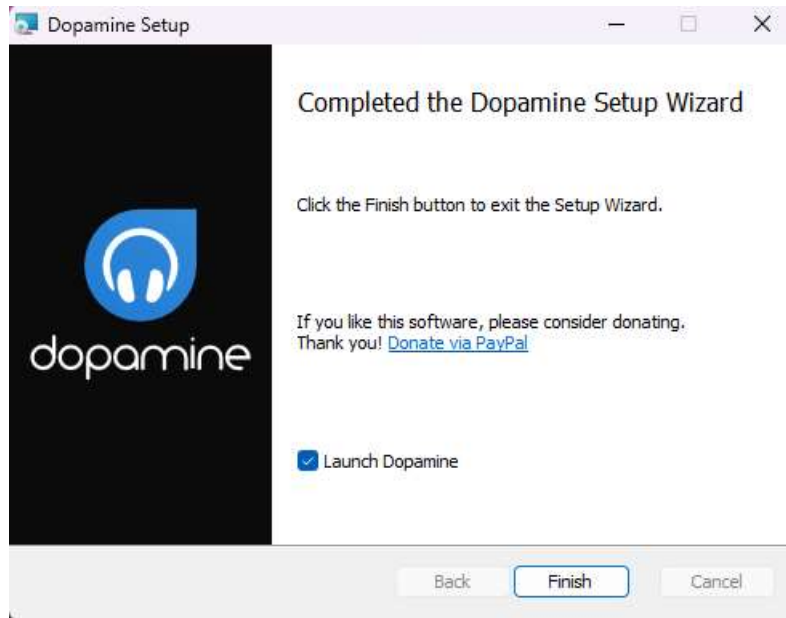
Click “Next”.



Click "Next". (Or if you want you may change destination folder)



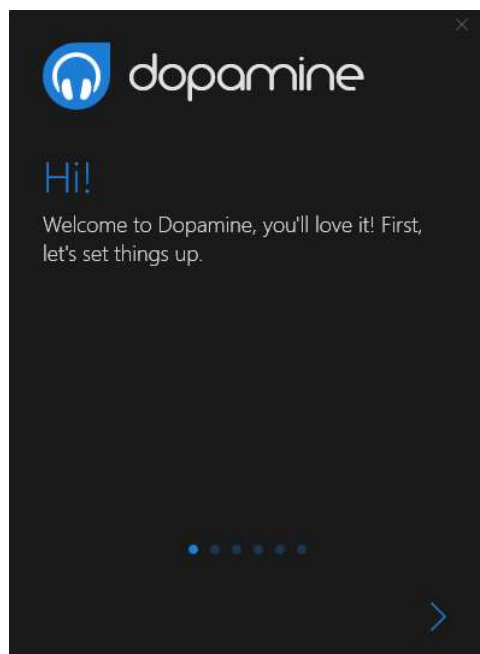
Click "Install".



Click "Finish". And the installation is now complete.

3.1.2 SETUP

After you run the app, you will be prompted to complete the setup.

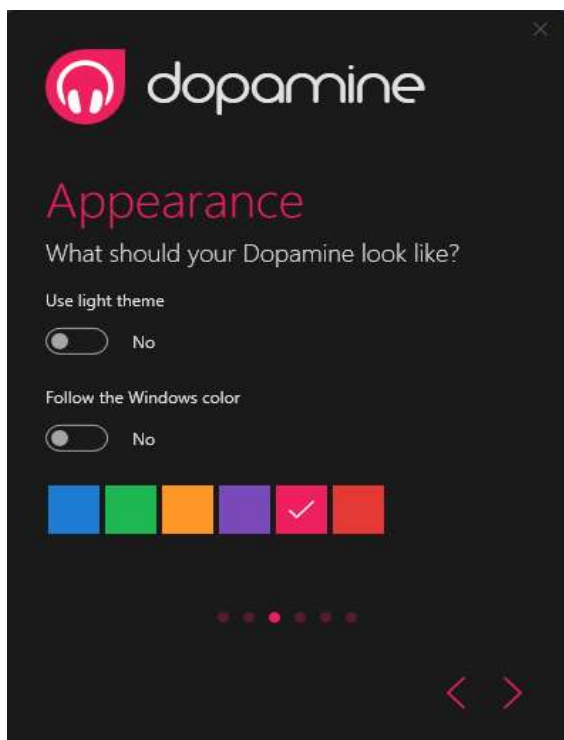


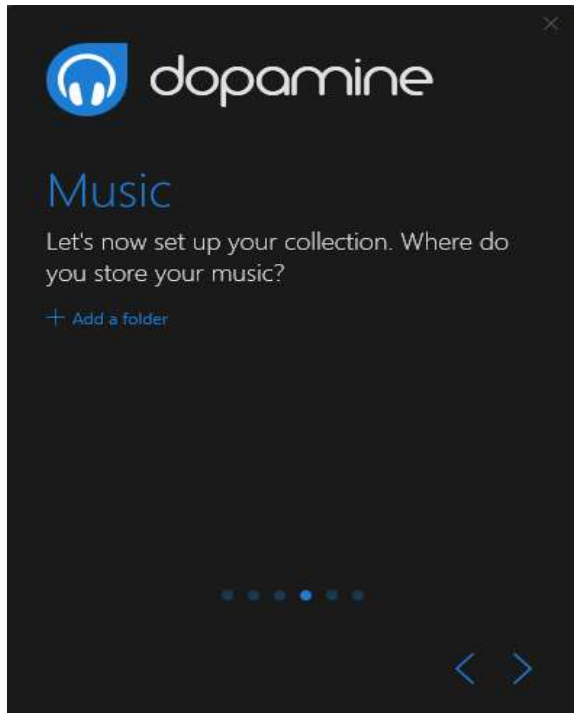


You may choose your preferred language from a wide variety. (Here we choose English)




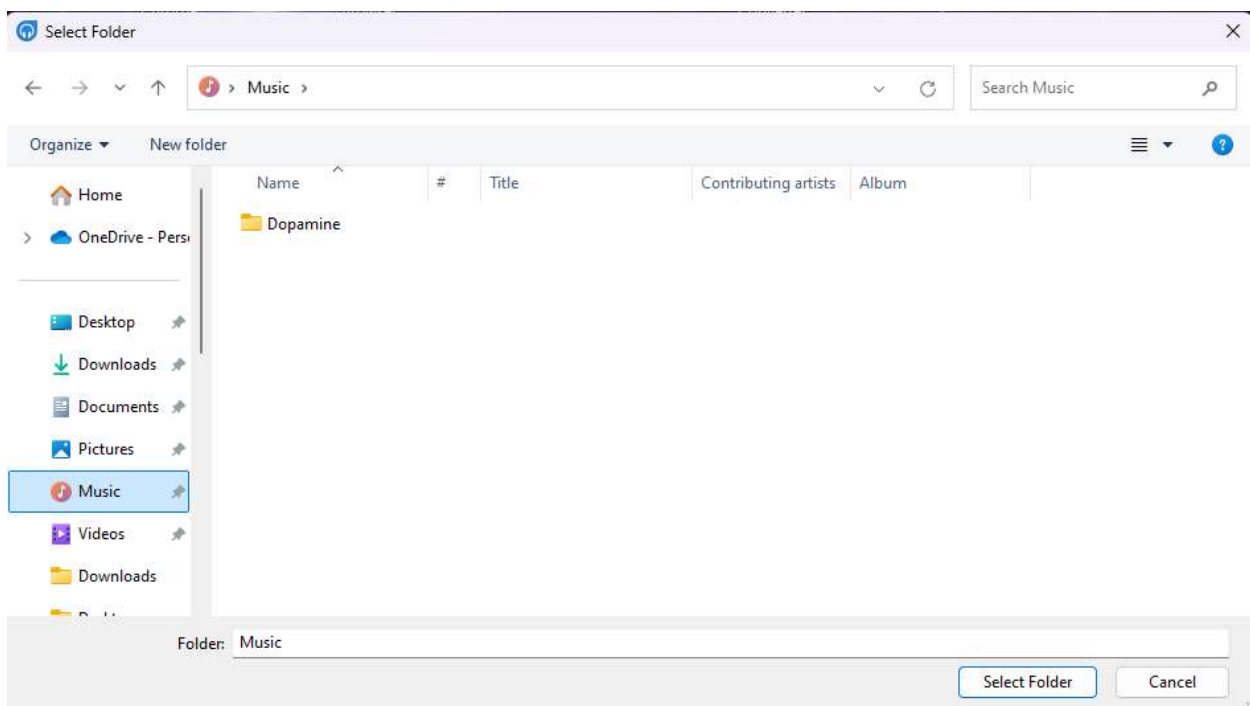
Next you can choose your preferred theme (light/dark) and color (You can also choose to follow Windows color).

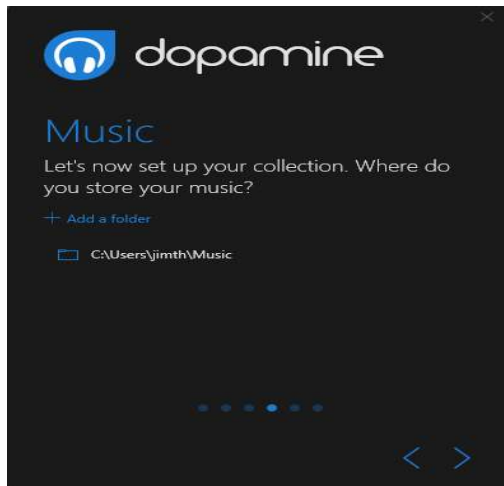




Afterwards you will be asked to indicate where you store your music so that Dopamine can draw from there for its library.

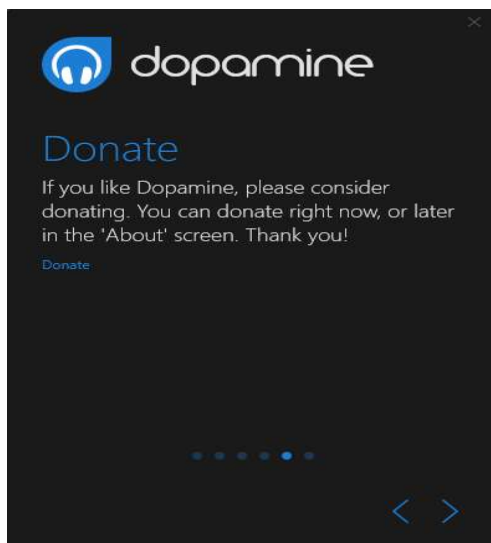
To do so you click on: . You will be taken to File explorer from where you will select your preferred folder.



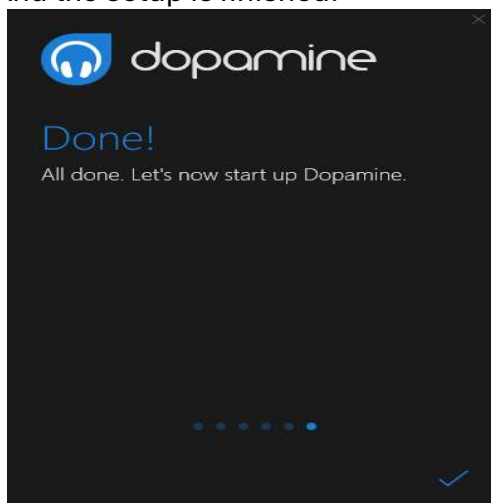


Here we see the already added folder. If you wish you may add another folder following the same process.

Next you will be asked for a donation.



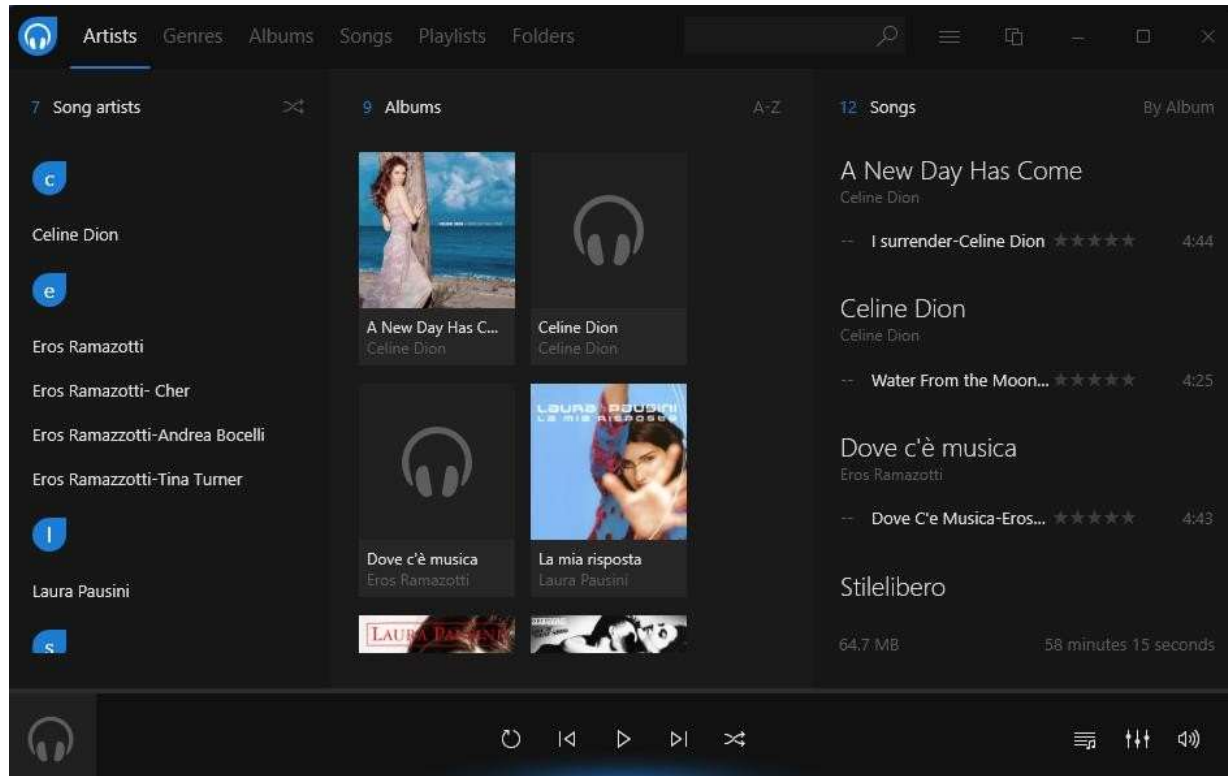
And the setup is finished.



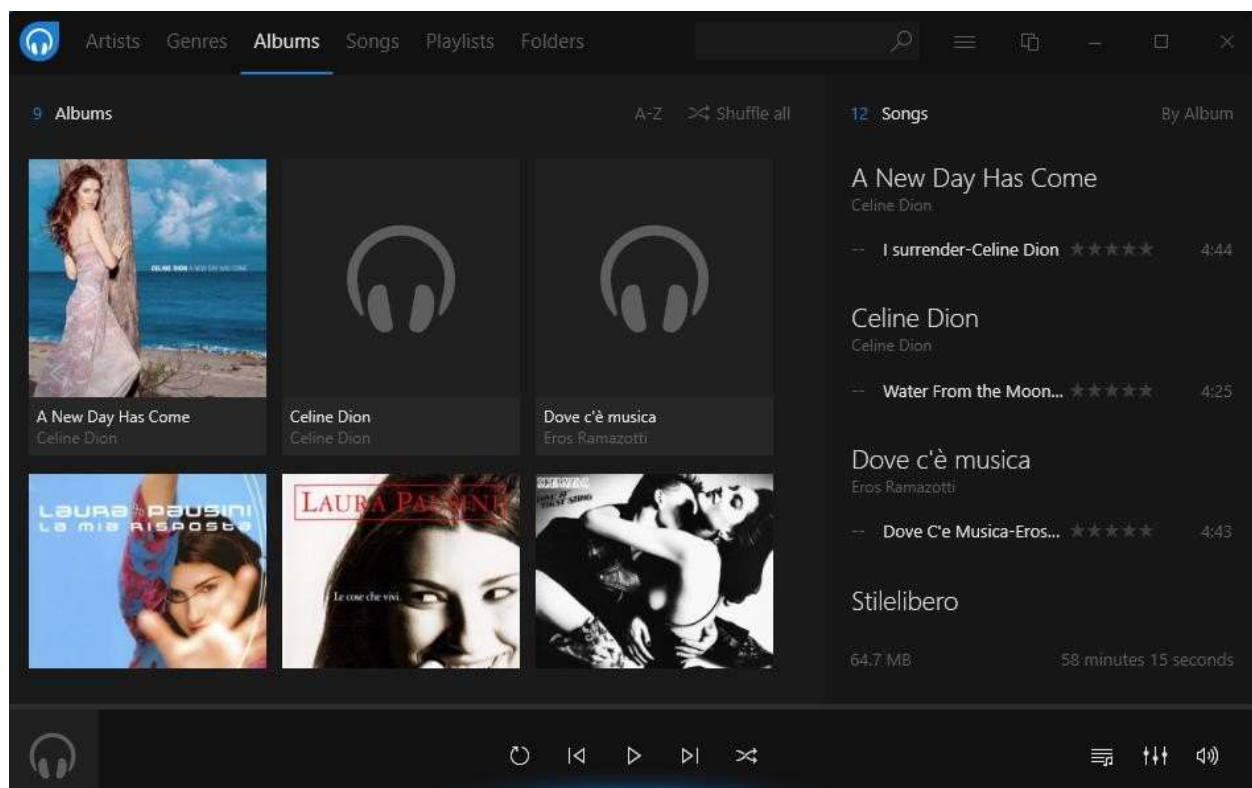
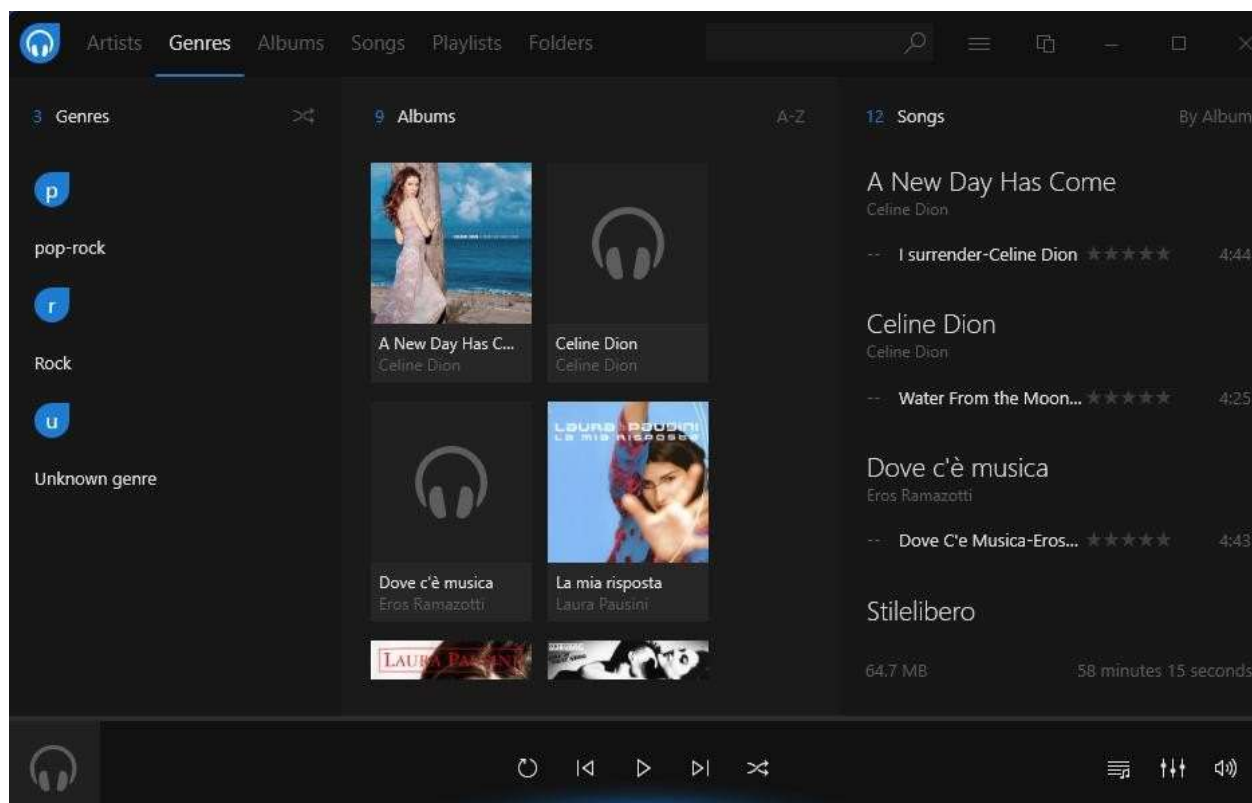
3.2 User Interfaces


3.2.1 Artists – Genres – Albums - Songs


When you start the app, you will be taken to this screen.



Here the songs of the folders you have added are displayed. They are categorized by artist, genre or album.



By clicking on this symbol  you Shuffle all songs and start playing.

Furthermore, by clicking on this symbol  on top of where the albums are you can change the way the albums are ordered. The other options are:

By date created

By album artist

By year ascending

By year descending

Likewise, by clicking the same symbol on top of where the songs are you gain more options to order them. Namely:

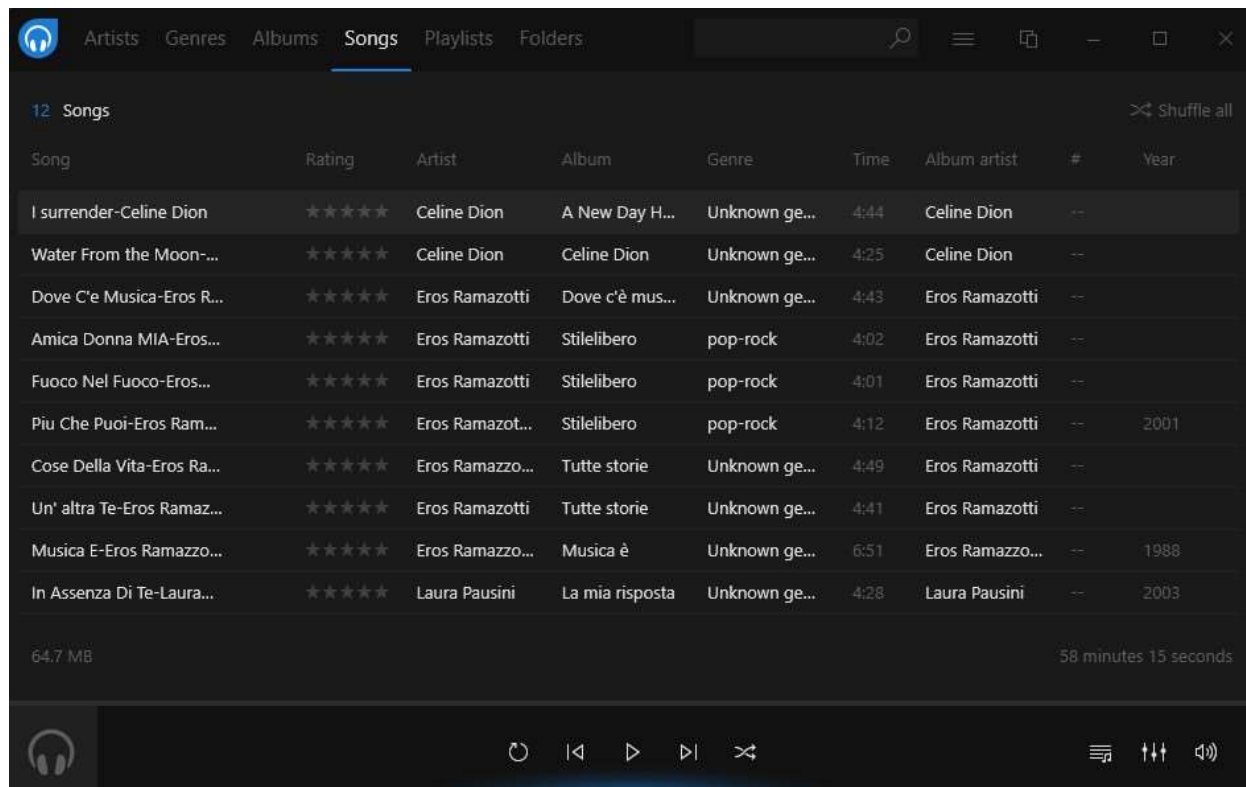
Z-A

By Album

By rating

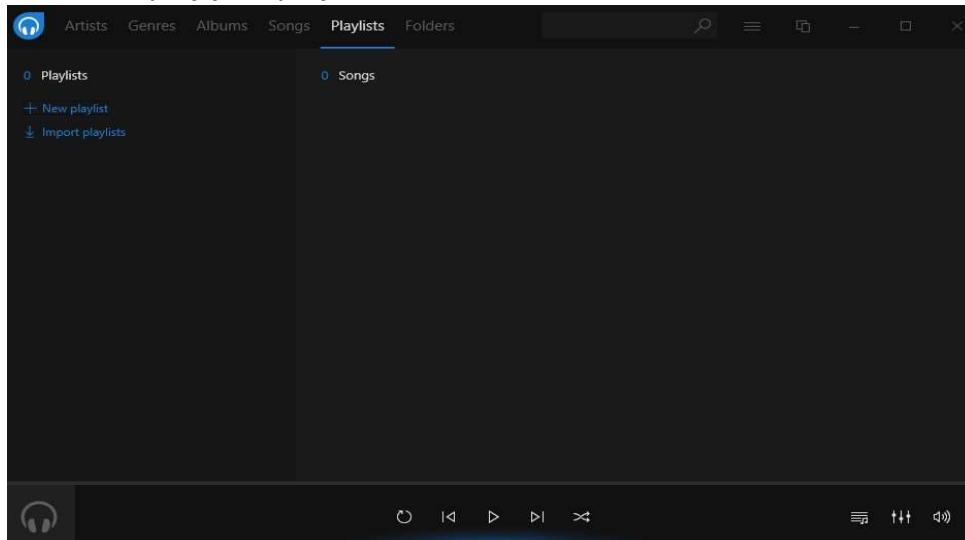
You can also choose to display all your songs.


(Further options that appear when right-clicking on a song will be analyzed on the settings section)



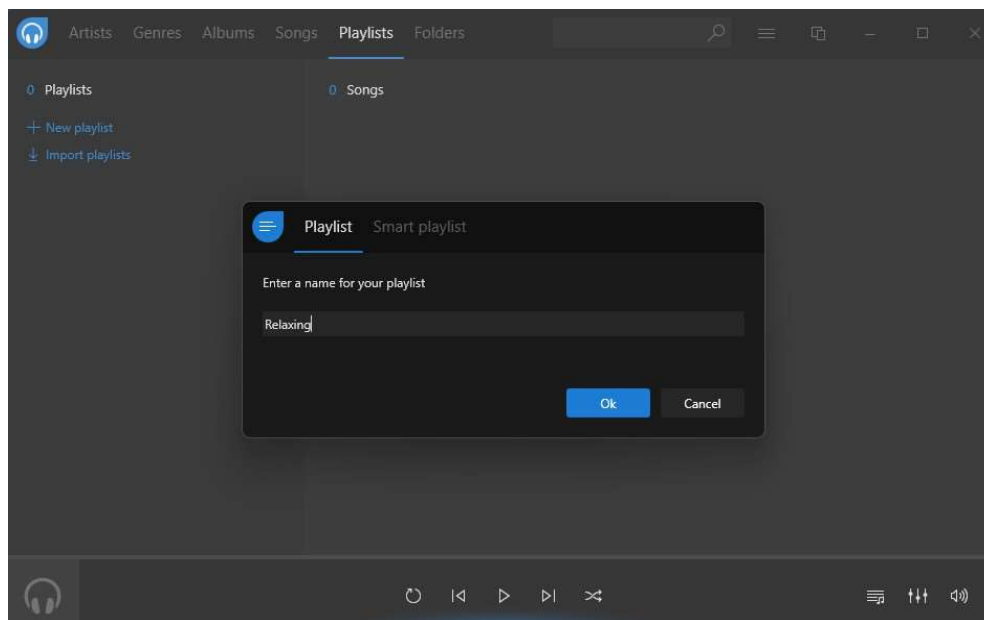
3.2.2 Playlists

You can display your playlists:



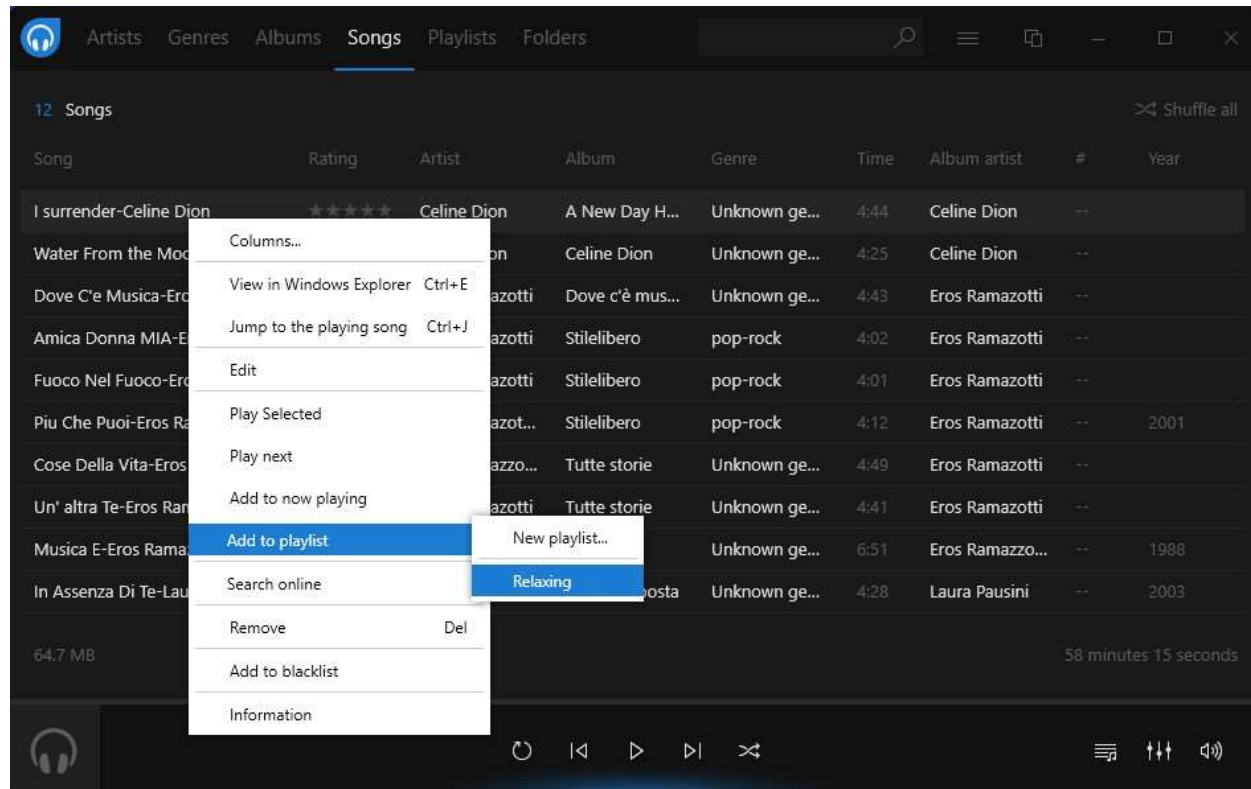
You can import older playlist from file explorer by pressing  or create new

playlists the following way: You click on 

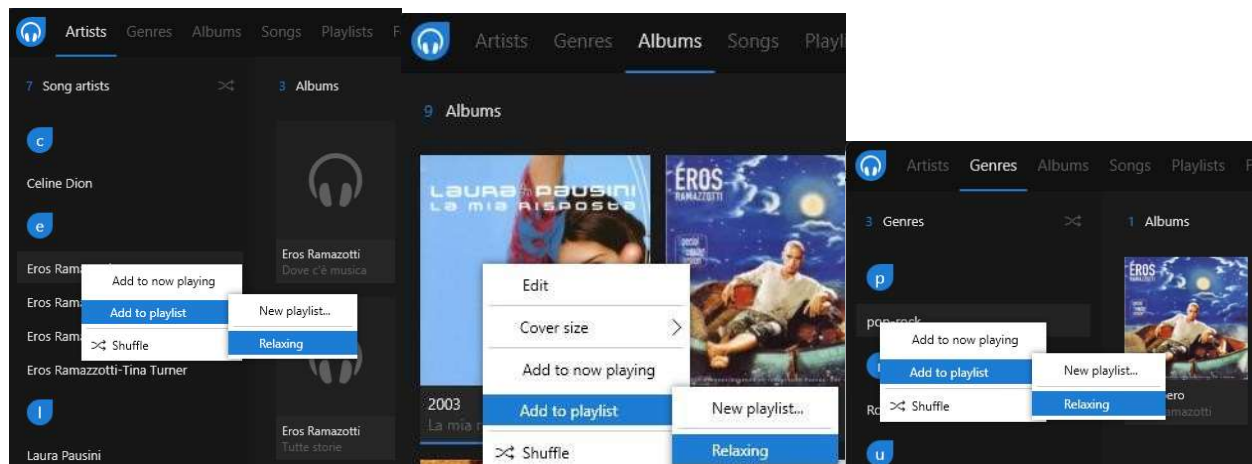


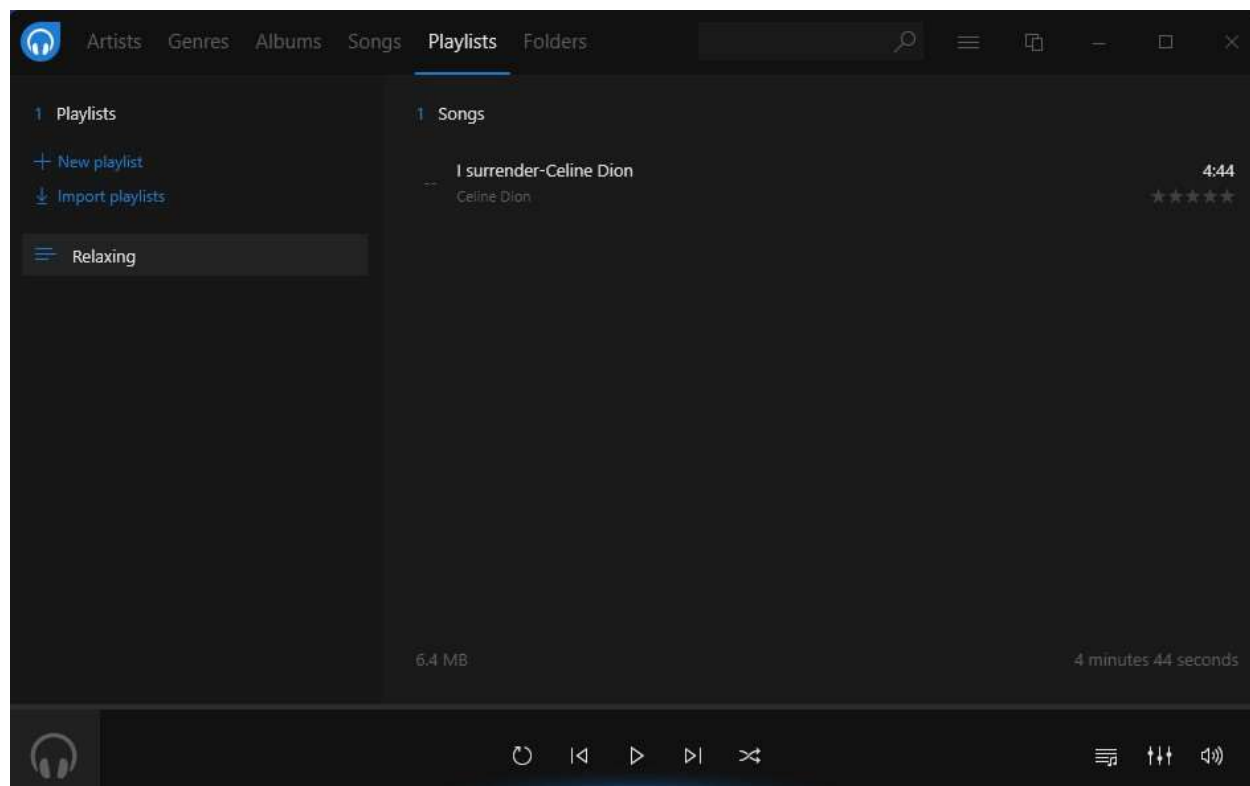
Give it a name and click "Ok".

Next you need to add songs to the playlist you created. You go to “Songs”, right click on the one you wish to add and add it to the playlist or if you wish to a new one. You can also select and add multiple songs simultaneously.

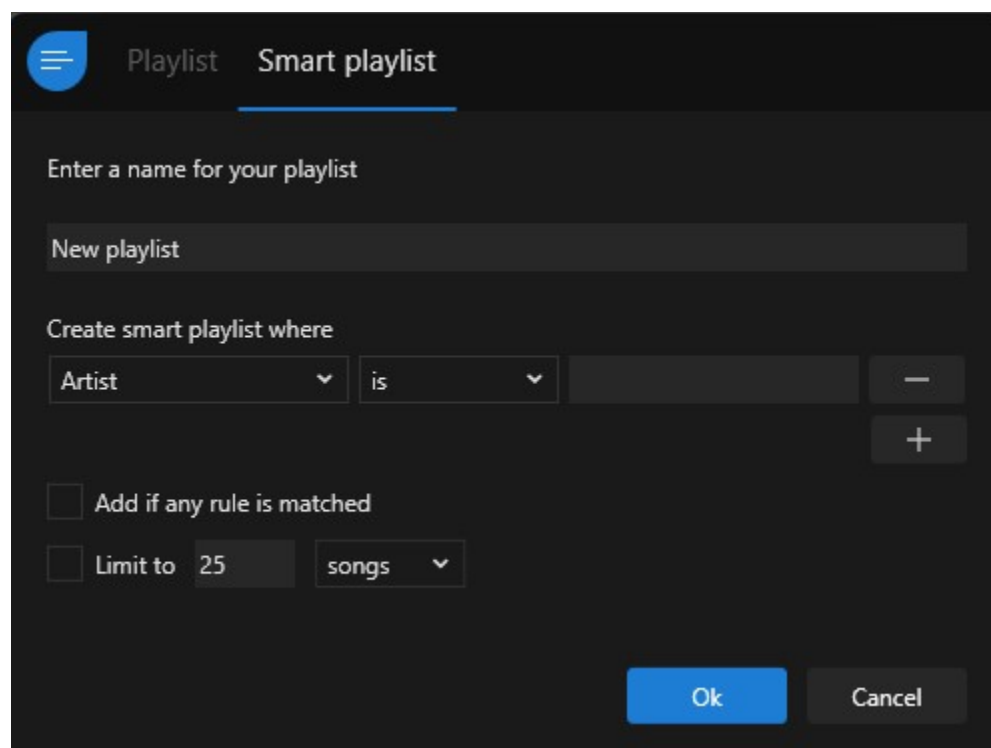


The same way you can also add all songs from artists, albums or genres:

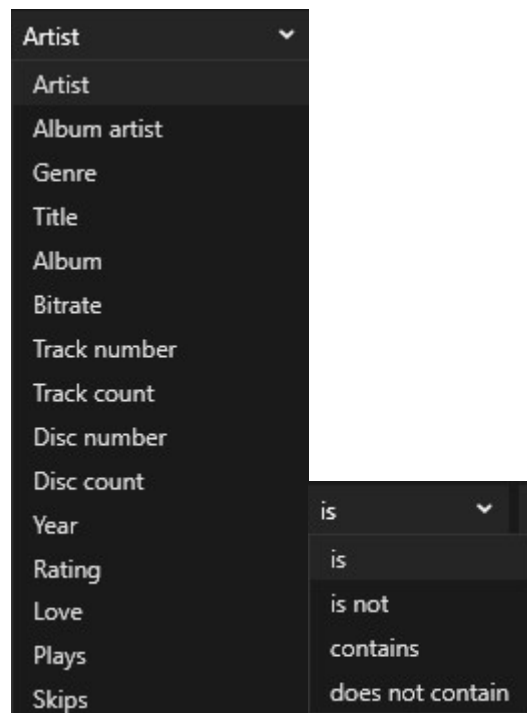




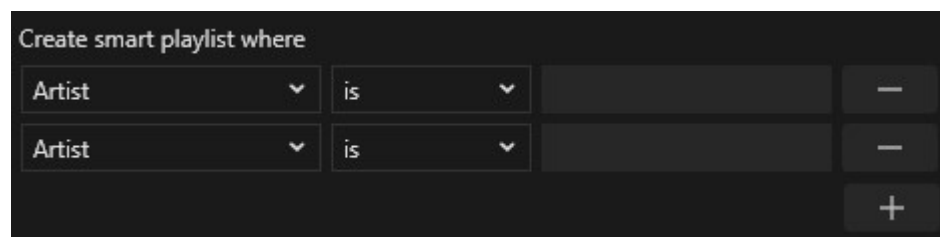
You can also create a smart playlist:



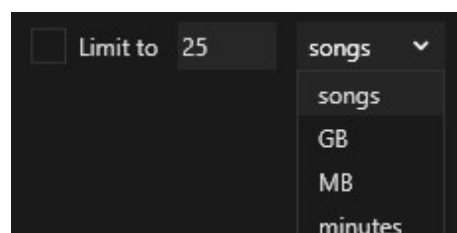
Here you may use a variety of filters to automatically add songs to the playlist instead of doing it manually. Such filters are:



You may also add a second or third filter by pressing +

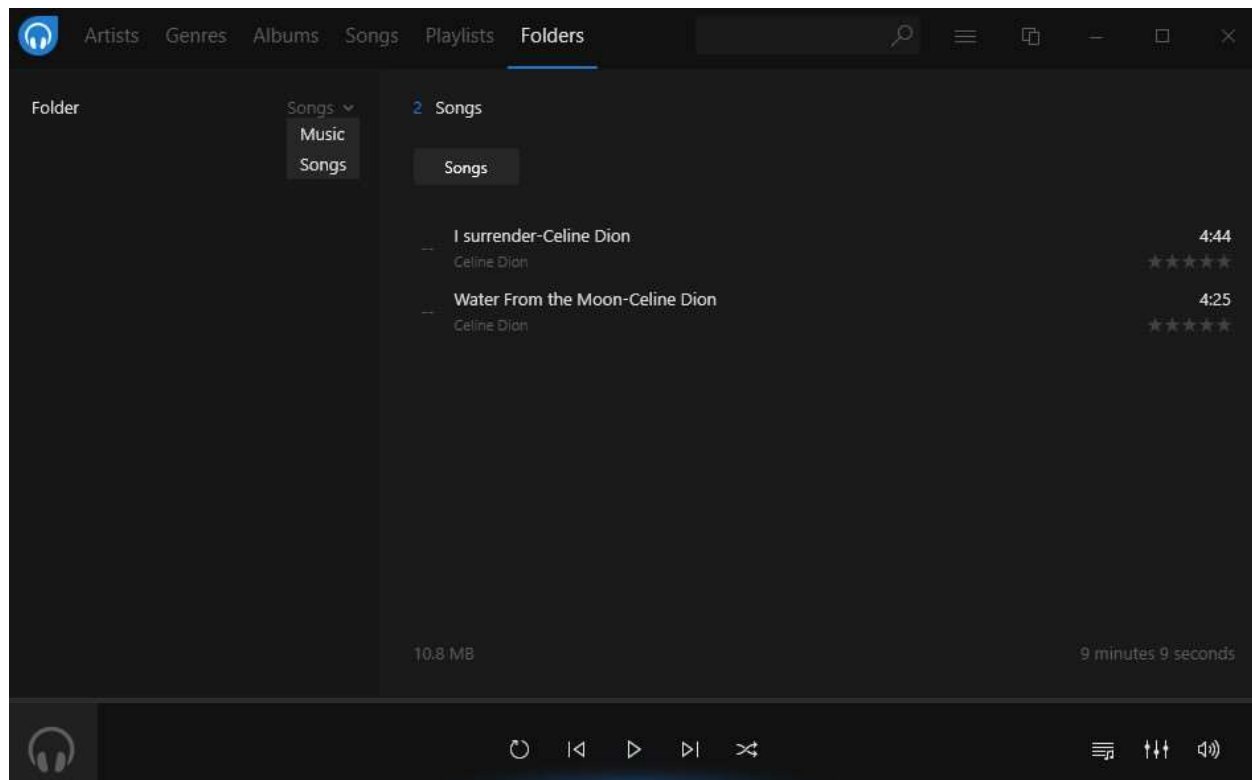
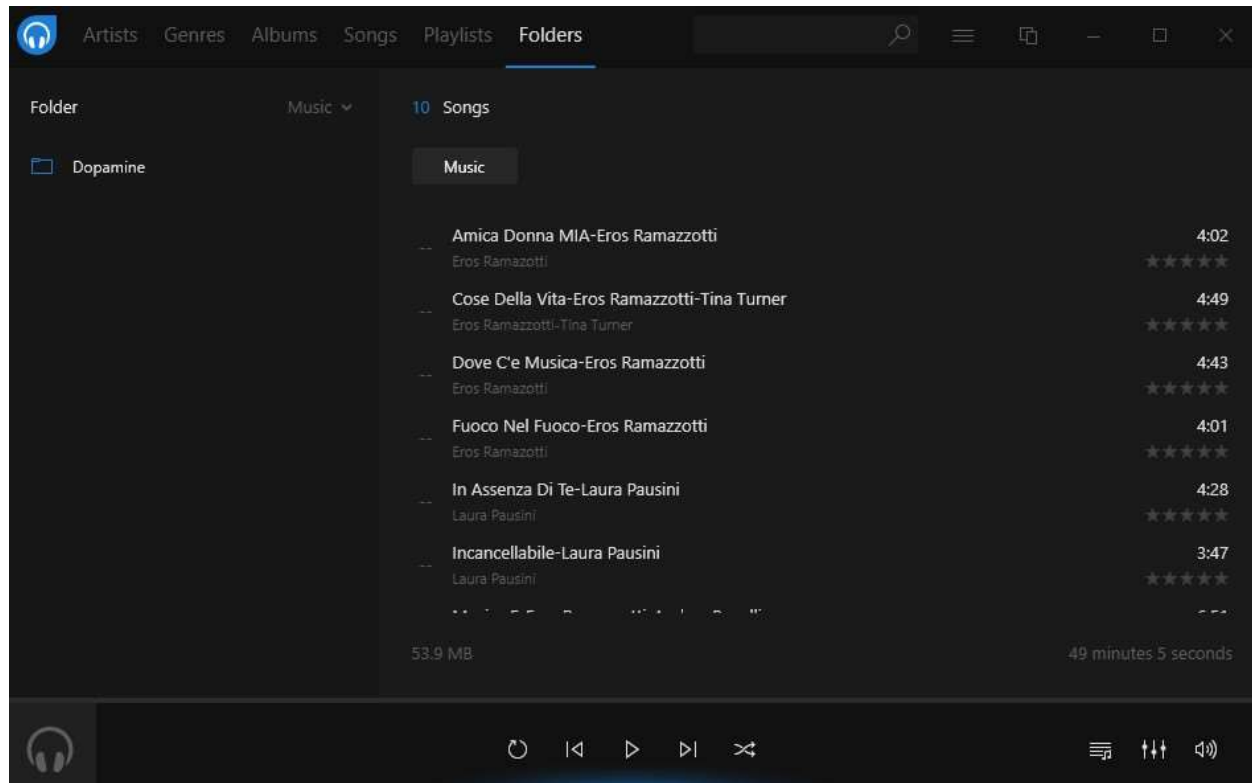


And impose limits:

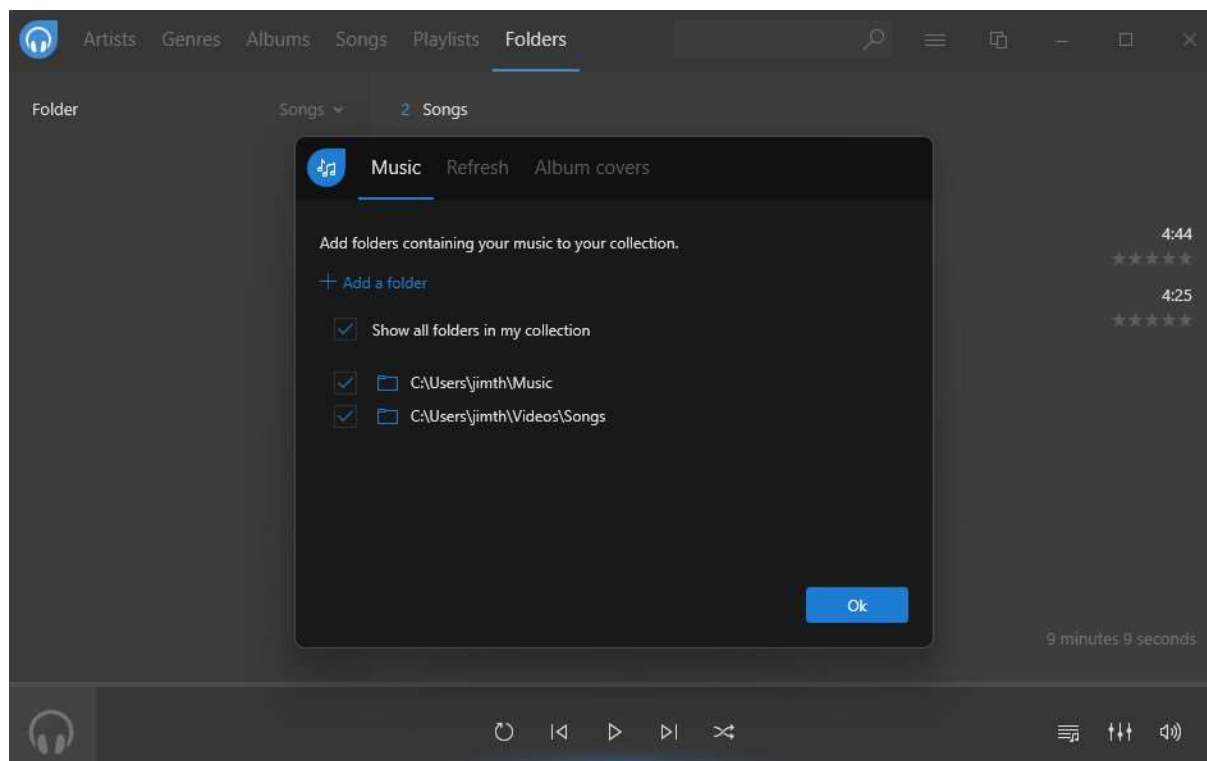
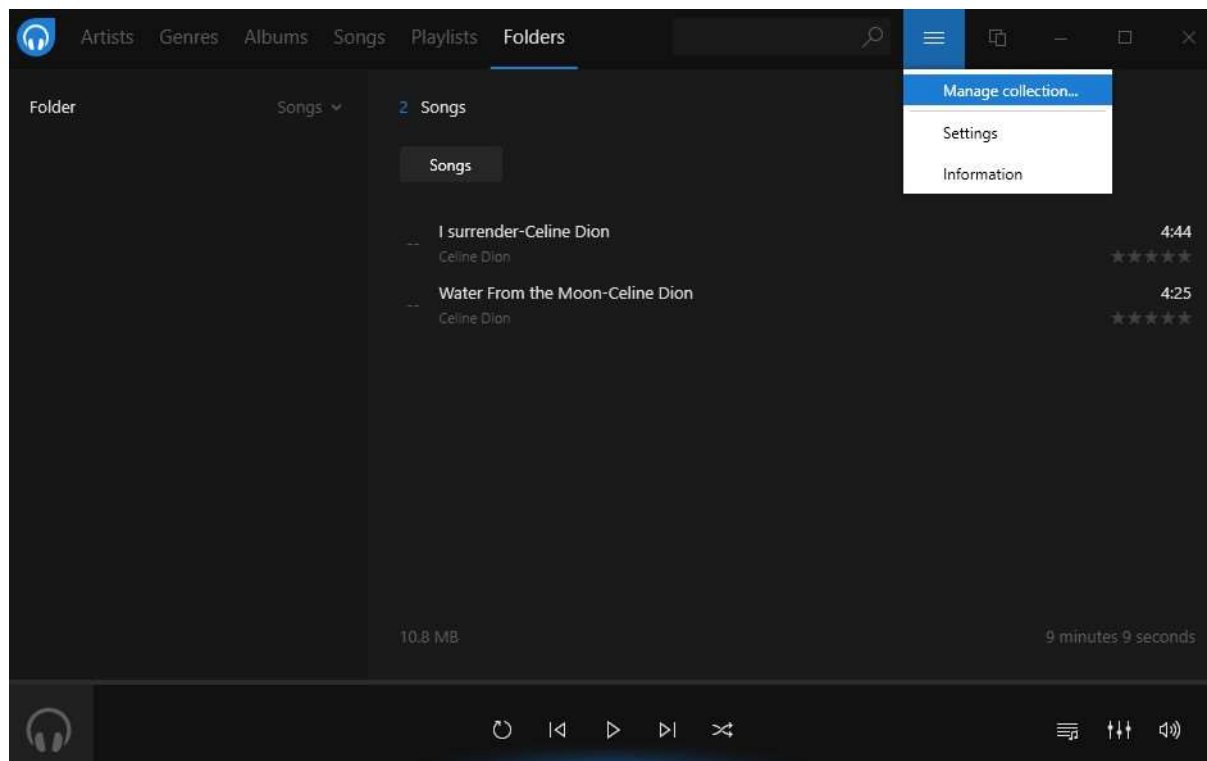


3.2.3 Folders

Under Folders you can view the folders you have added along with their included songs:

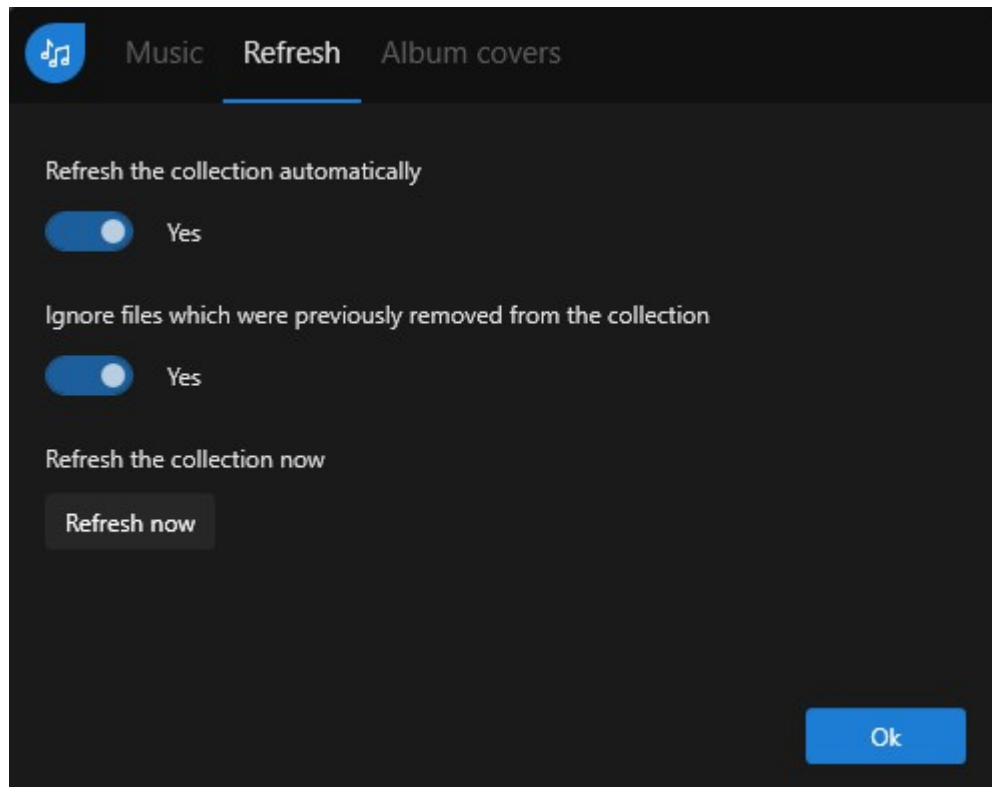


Add new folders by clicking on the Menu and then “Manage collection”

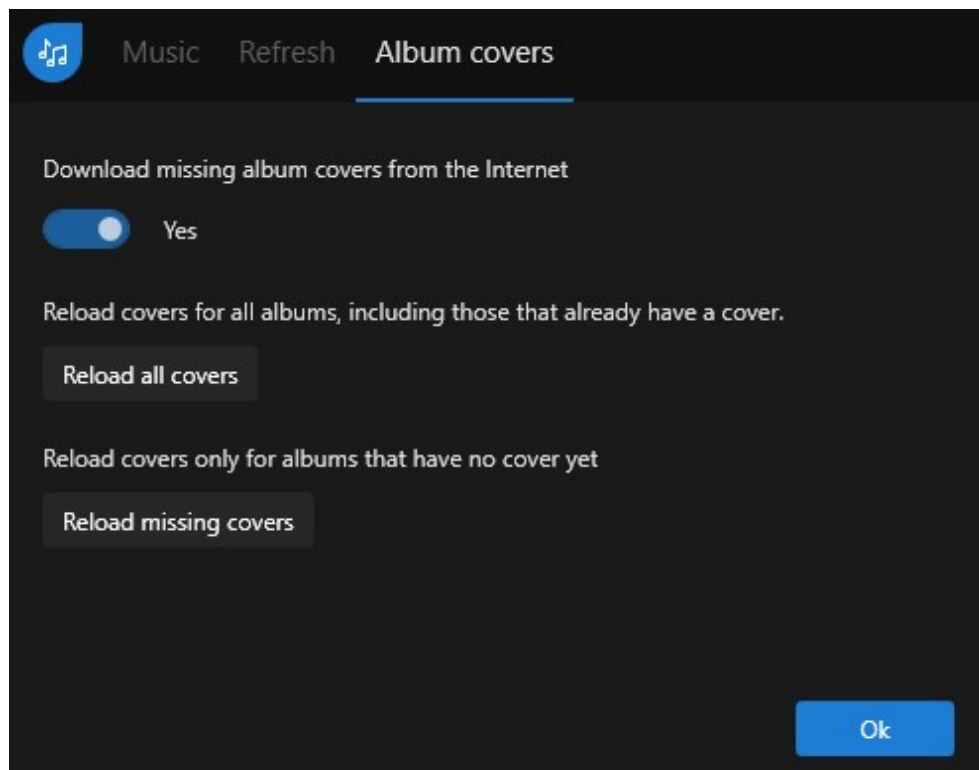


Here you can see the already added folders and click: [+ Add a folder](#) to add more.

Here you can also access the settings regarding the refreshing of the collection



Or Album covers:



3.2.4 Search tool

Right next to the Menu, on the left, there is a search tool with which you can search your collection for things such as your desired song name, artist or album.

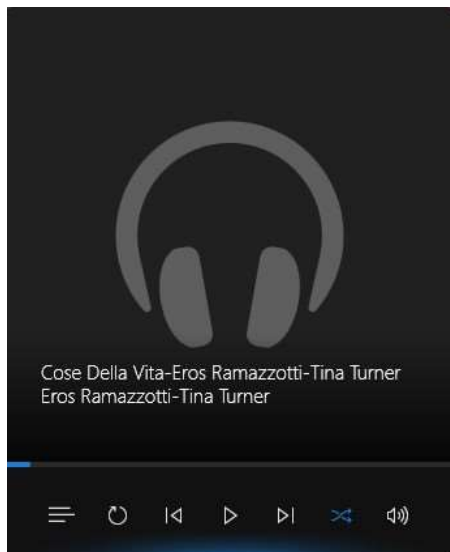







3.2.5 Mini player

On the right of the menu there is an option with which you may switch to mini player function.



When pressed Dopamine turns into this form:



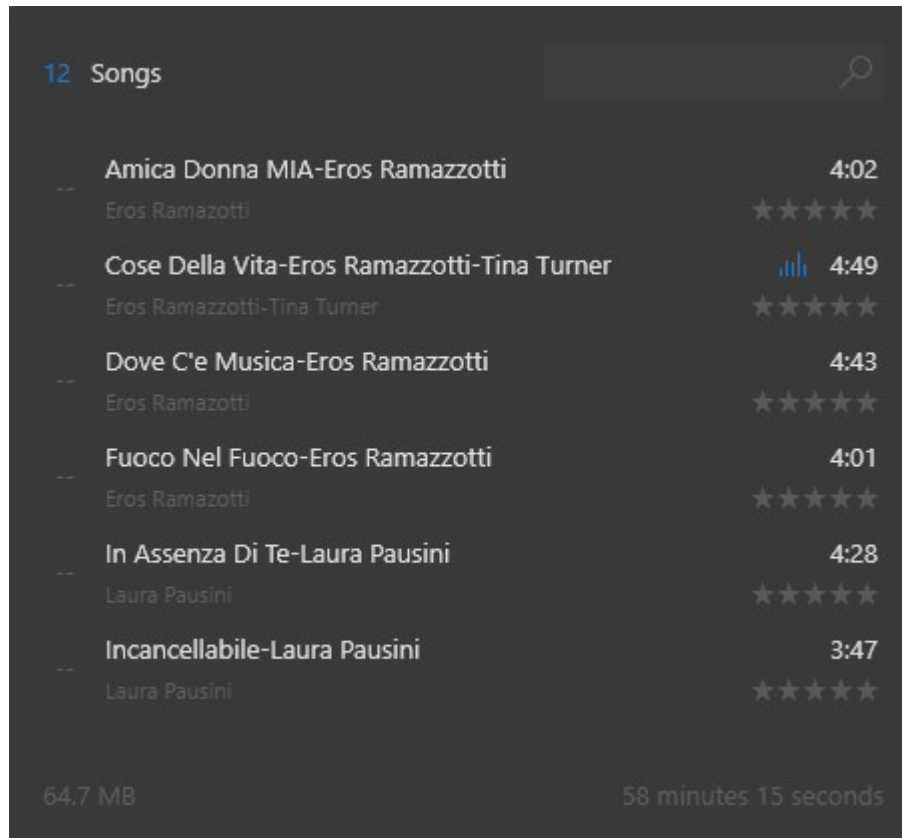
You can see a Pause/Play button , next/previous song button , a loop option: , a shuffle option  and a volume controller: 



Also, a button that shows the playlist currently playing:



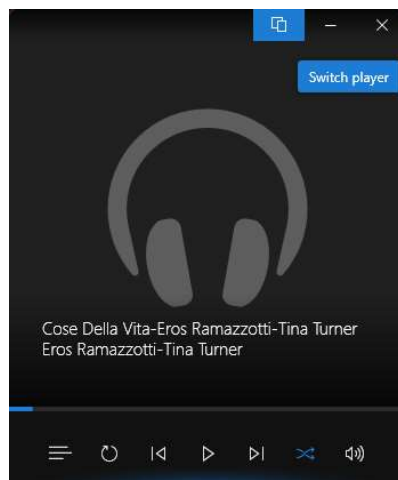
When pressed:



It shows the song currently playing, those in line to play, their size in MB the total length of music in minutes/hours. There is also a search function. Exit here by pressing this button again:



To switch player again you need to press here:



3.2.6 Minimize – Maximize - Close

In the top toolbar there are also a minimize button:



a maximize/restore button:

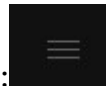


and a close button:

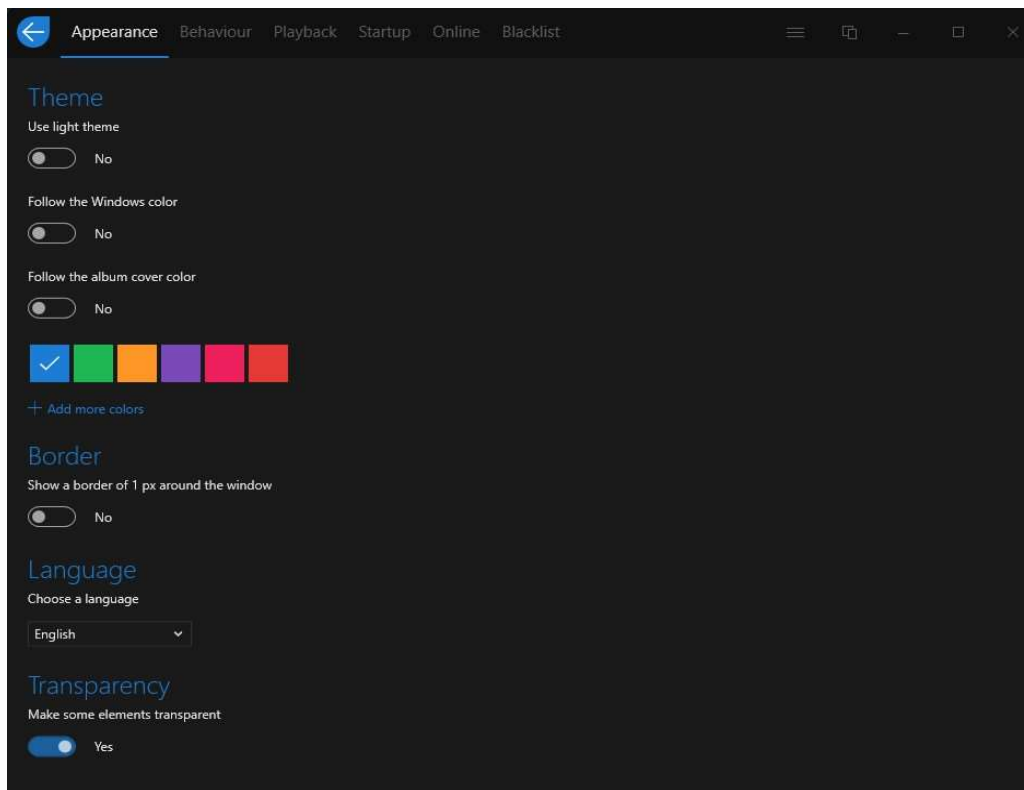
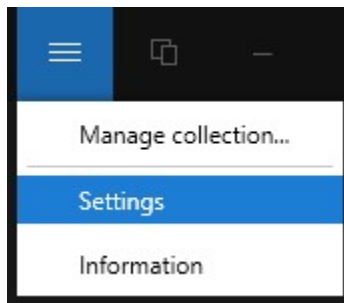


3.2.7 Settings

You may access app settings by clicking on Menu:

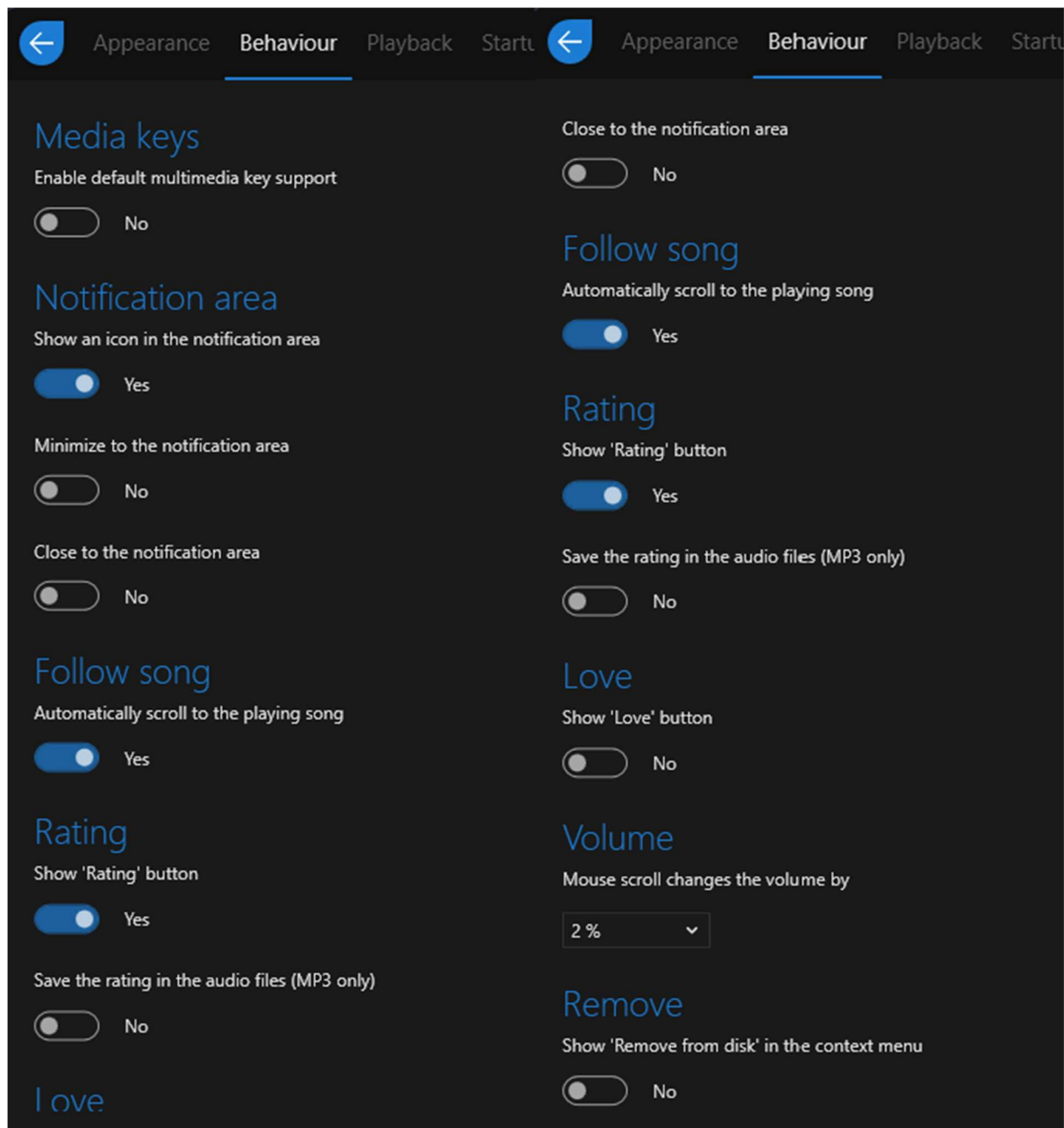


and then Settings:



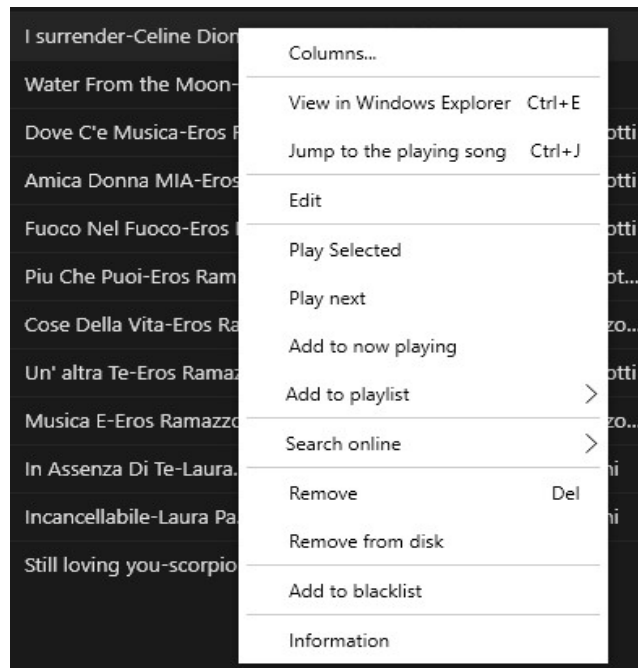
In Appearance you may change Theme, color, border, transparency or language.

Then in Behavior:



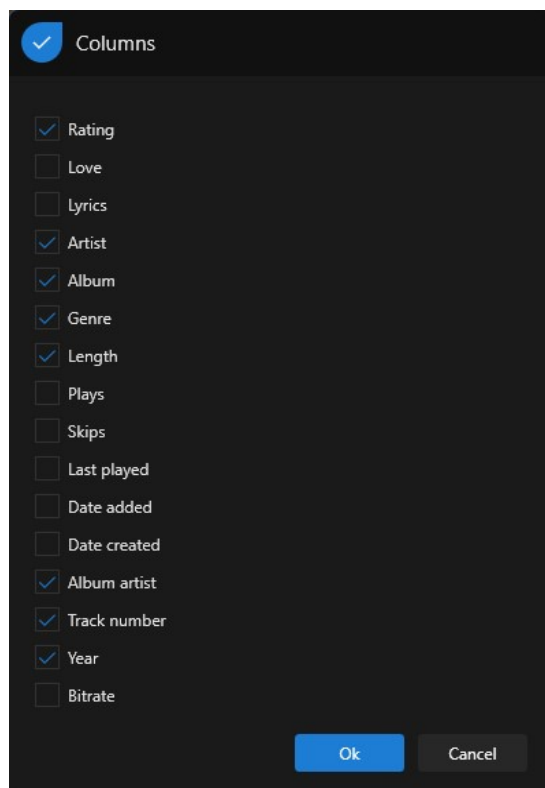
You may enable default multimedia support keys, change setting of the notification area, enable/disable automatically scrolling to playing song, show rating button:

In Assenza Di Te-Laura... ★★★★★ and even save the rating in the audio MP3 files. You can also make the love button appear: In Assenza Di Te-Laur... ★★★★★ ♡, alter the speed with which mouse scroll changes volume and make “Remove from disk” shown in context menu so that you may delete a song from your disk through the app.

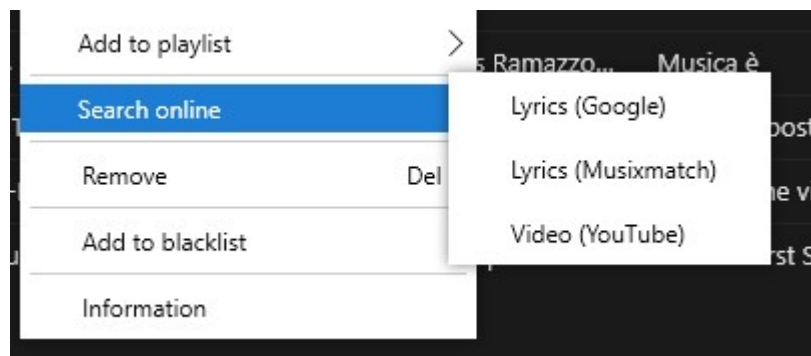


This option like many others can appear by right clicking a specific song (or after selecting multiple)

Other options that appear are to alter which columns appear by clicking Columns:



To search the song online:

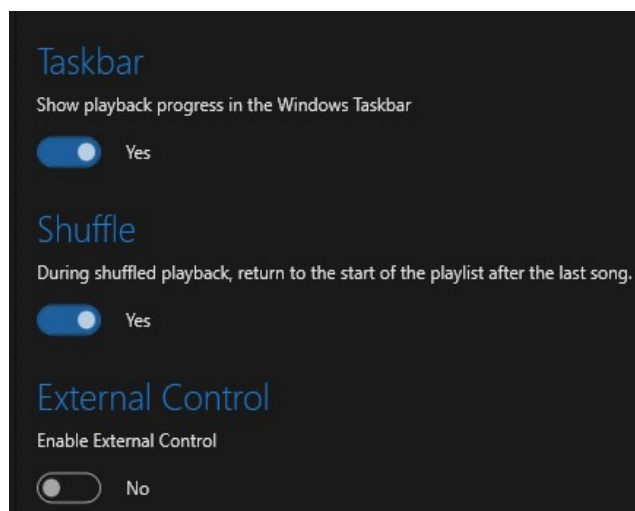
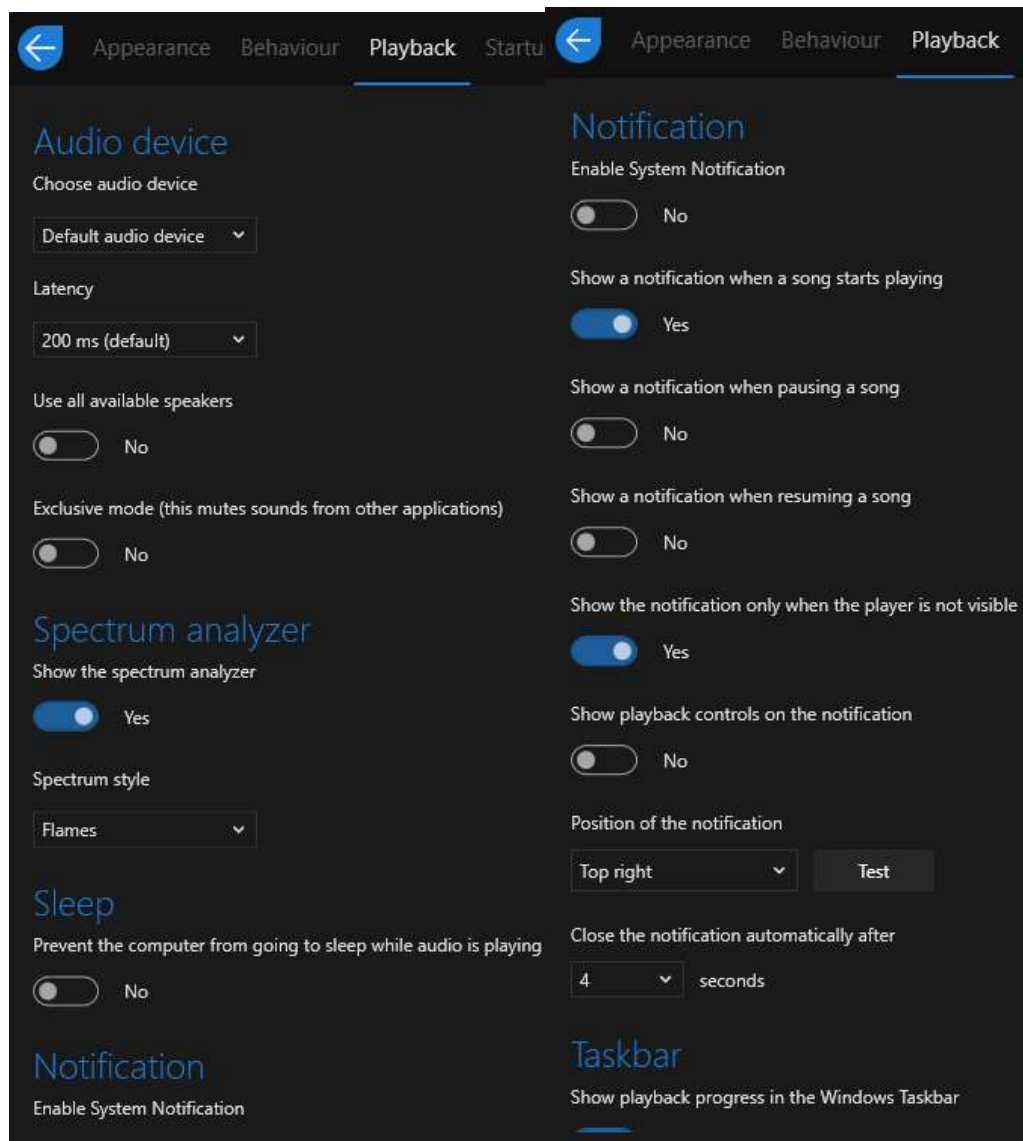


Or provide information for it:



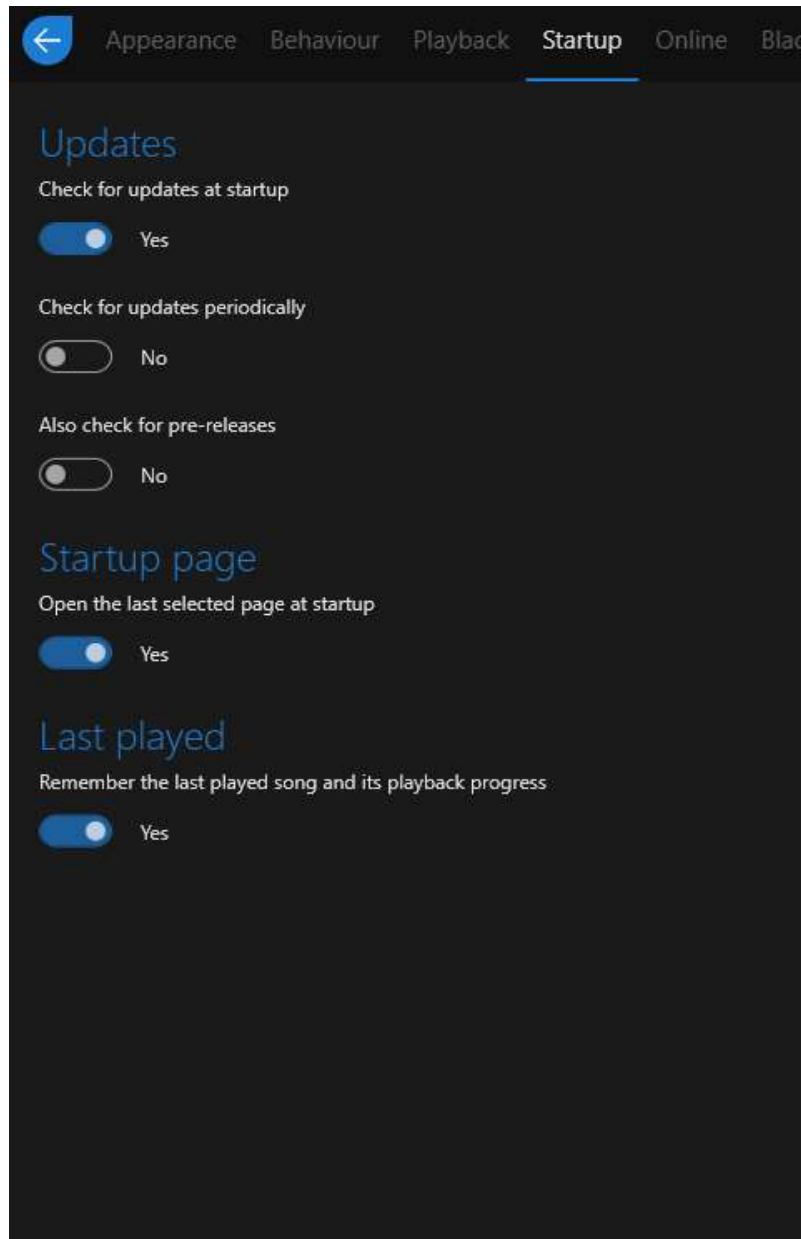
Or even edit or blacklist.

Regarding the Playback tab of the settings:

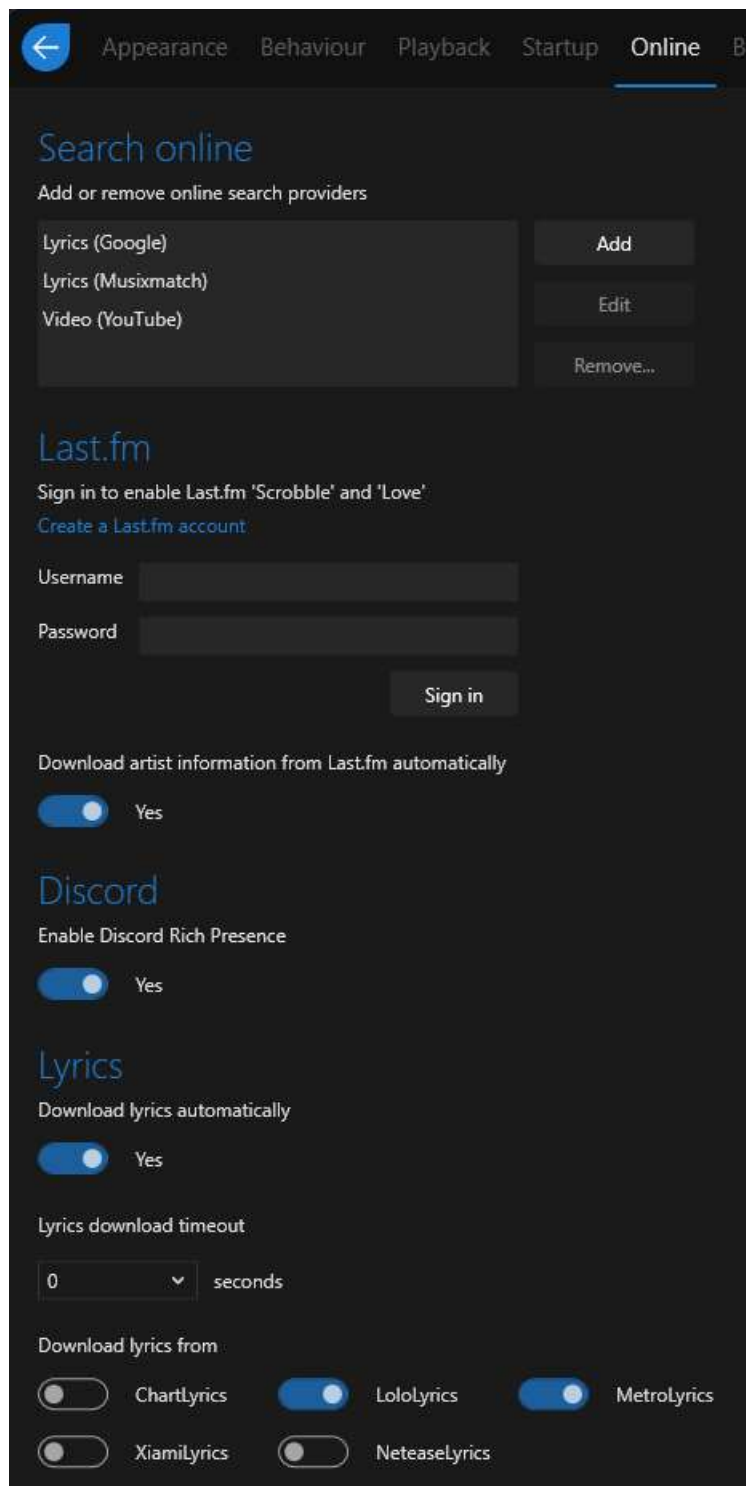


You may change setting regarding the audio device (plus speaker, latency, exclusive mode), alter the spectrum analyzer, prevent computer sleep mode while playing music, change notification settings, change taskbar and shuffle settings and enable/disable external control.

On the “Startup” tab you may change app update and startup settings as well as choose for the app to remember the last played song and playback process.

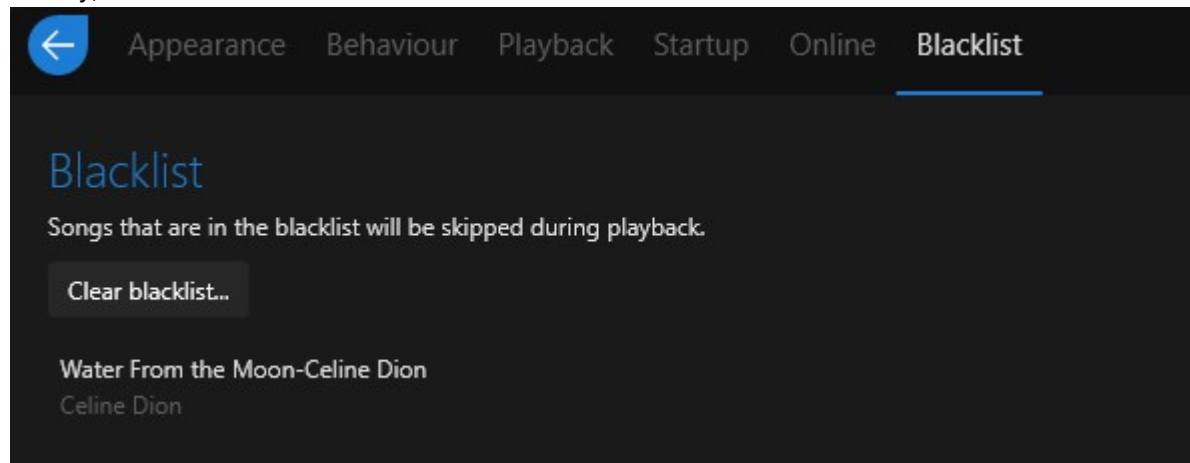


On the “Online” tab:



You may alter online search providers, log in to Last.fm for “Scrobble” and “Love” settings and to access artist information, enable discord rich presence and alter the lyrics download settings.

Finally, on the “Blacklist” tab:



You can see blacklisted songs and clear the blacklist by clicking:

A button with the text 'Clear blacklist...' in white on a dark background.

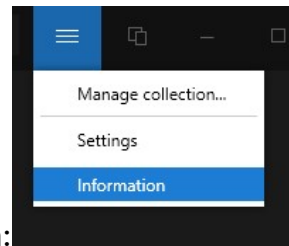
You

can exit Settings by clicking:

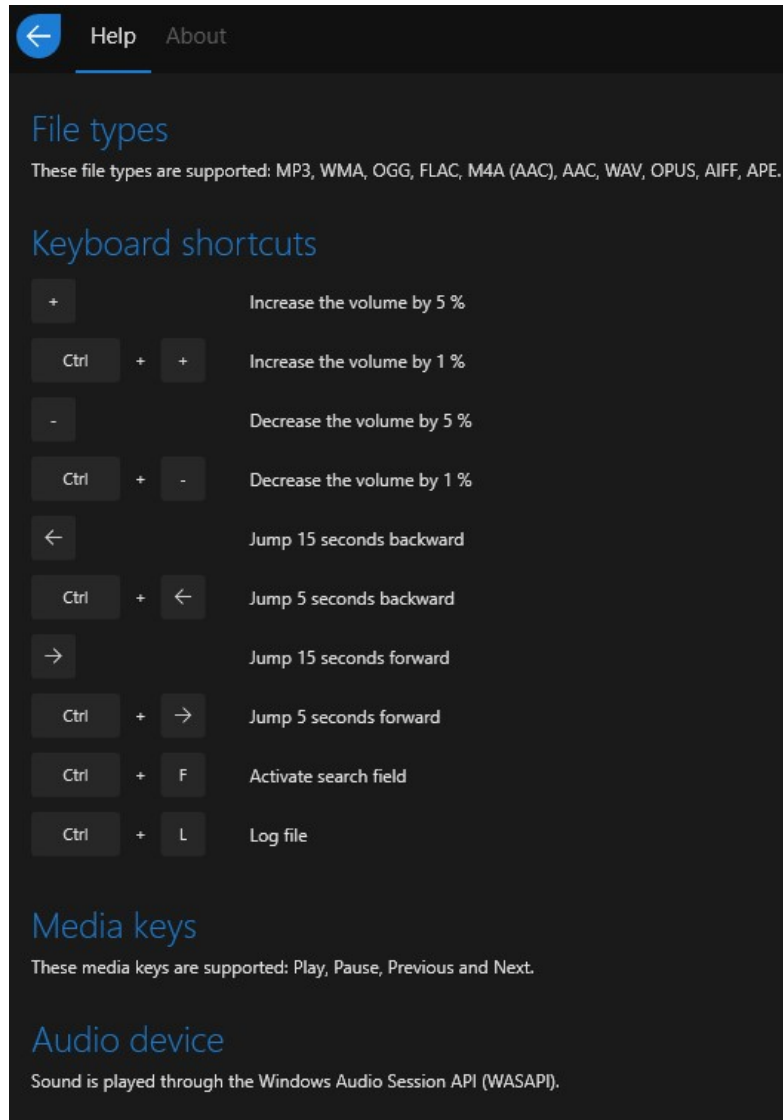


on the top left of the app.

3.2.8 App Information



From the Menu you may also access app Information:

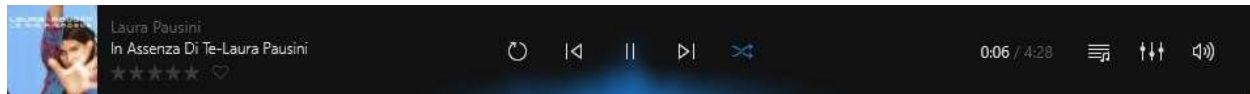


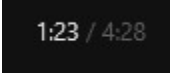





In the “Help” tab there is information regarding supported file types, keyboard shortcuts, media keys and audio device.

In the “About” tab there is information regarding app version, donation, contact and components.

3.2.9 Media player

Media player: The media player which is in the bottom of the app:



Contains the name of the song, the artist, album cover, rating/love buttons, timer: , pause/play button: , previous/next song buttons:  , a repeat button for the playlist with a single click:  or for the song playing with another click: . You may cancel the repetition with a third click.

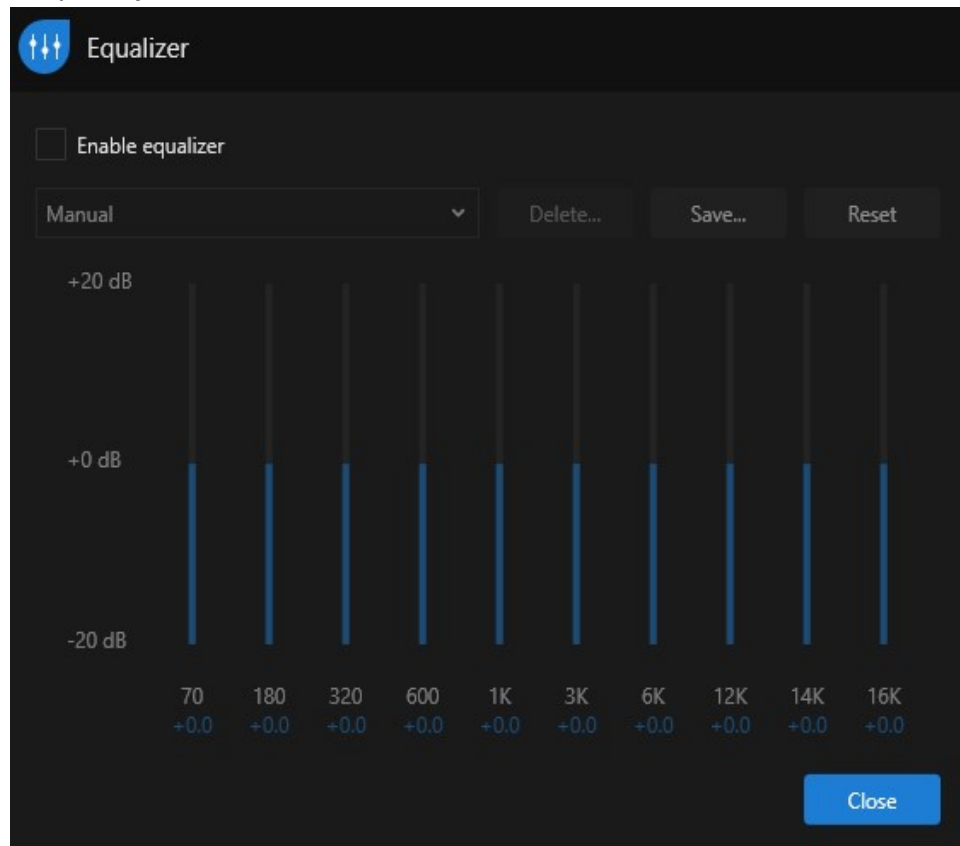
There is also a volume controller:



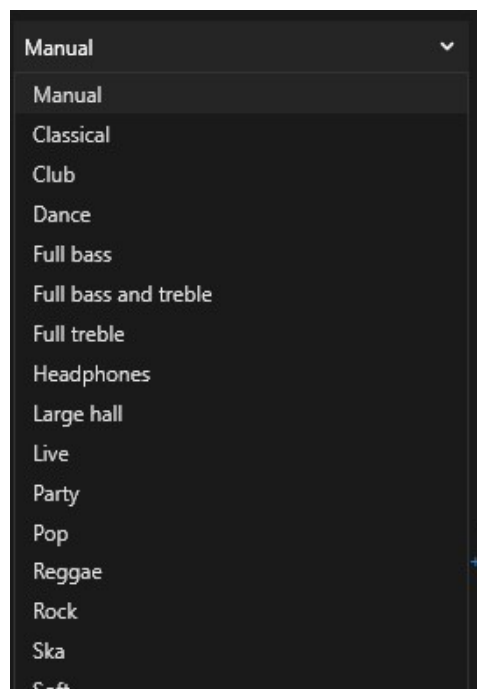
As well as an Equalizer:



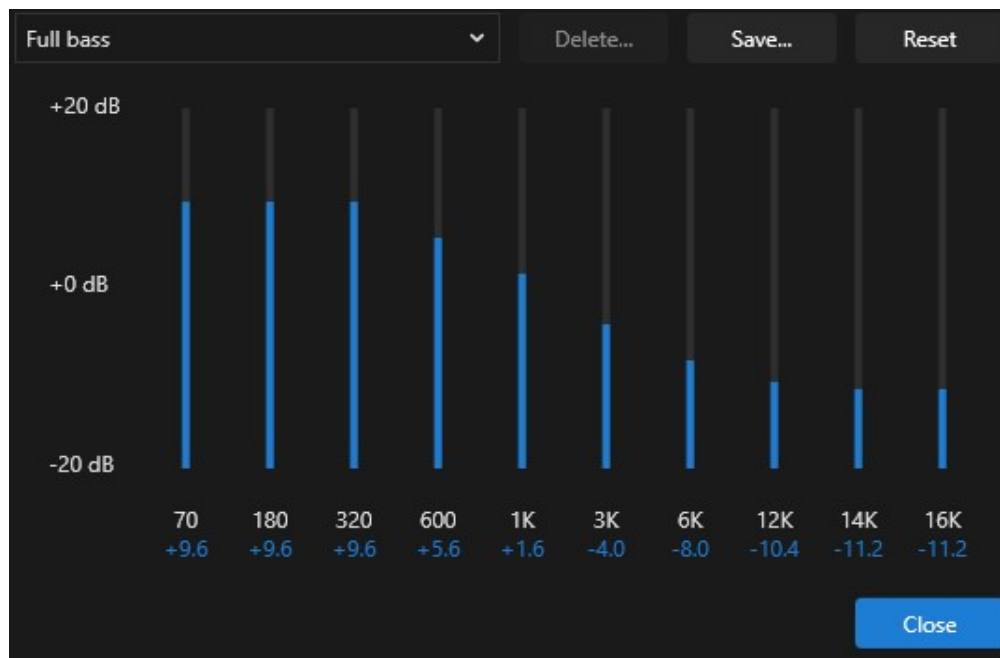
When clicking it you are taken to an equalizer with 10 bars with each having a respective sound frequency:



You may choose to enable the equalizer: ☒ Enable equalizer Then you may choose one from the many preset equalizers:



Like Full bass:



Or Rock:

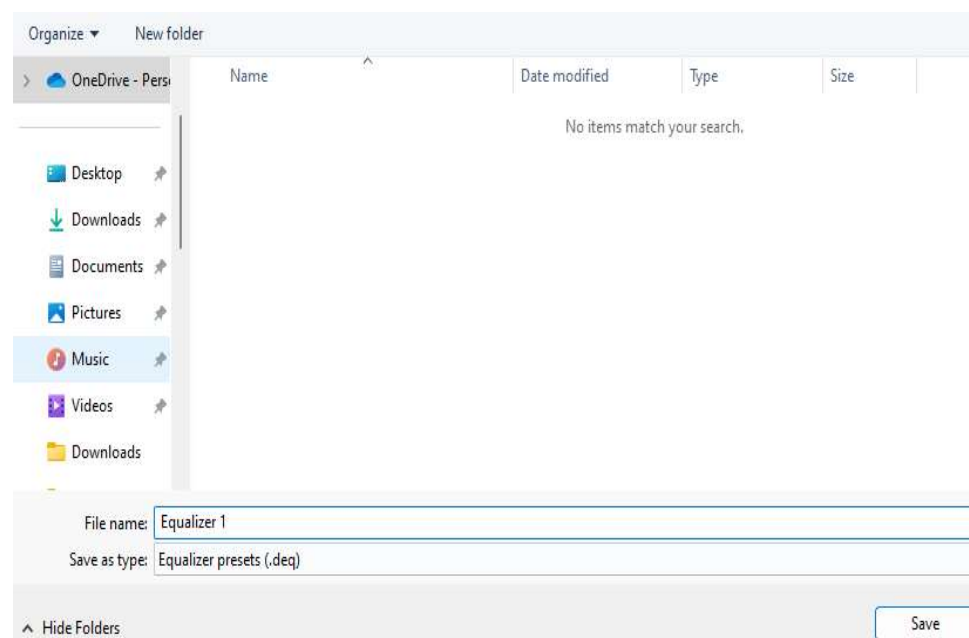


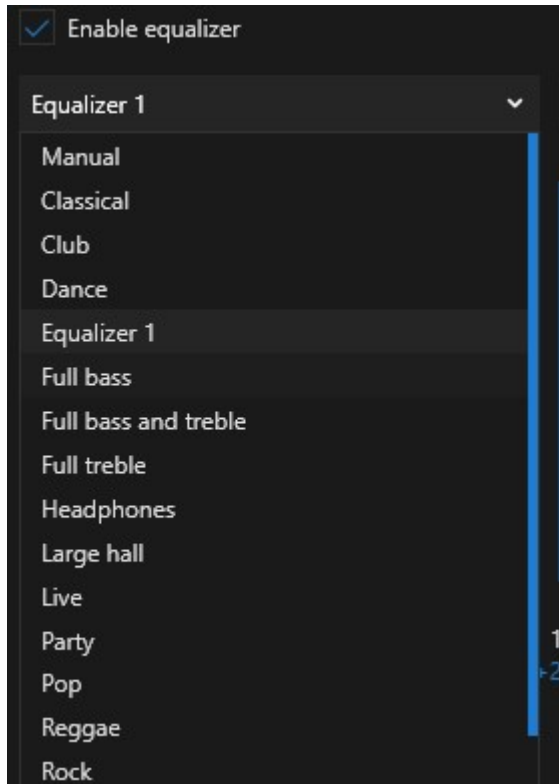
Or even manually create your own:



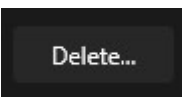
Save...

Which if you like you may save by clicking save:

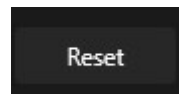




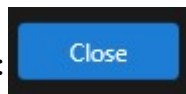
If you don't like it, you may delete it:




And of course, reset the equalizer by clicking:



You may exit the equalizer by clicking:

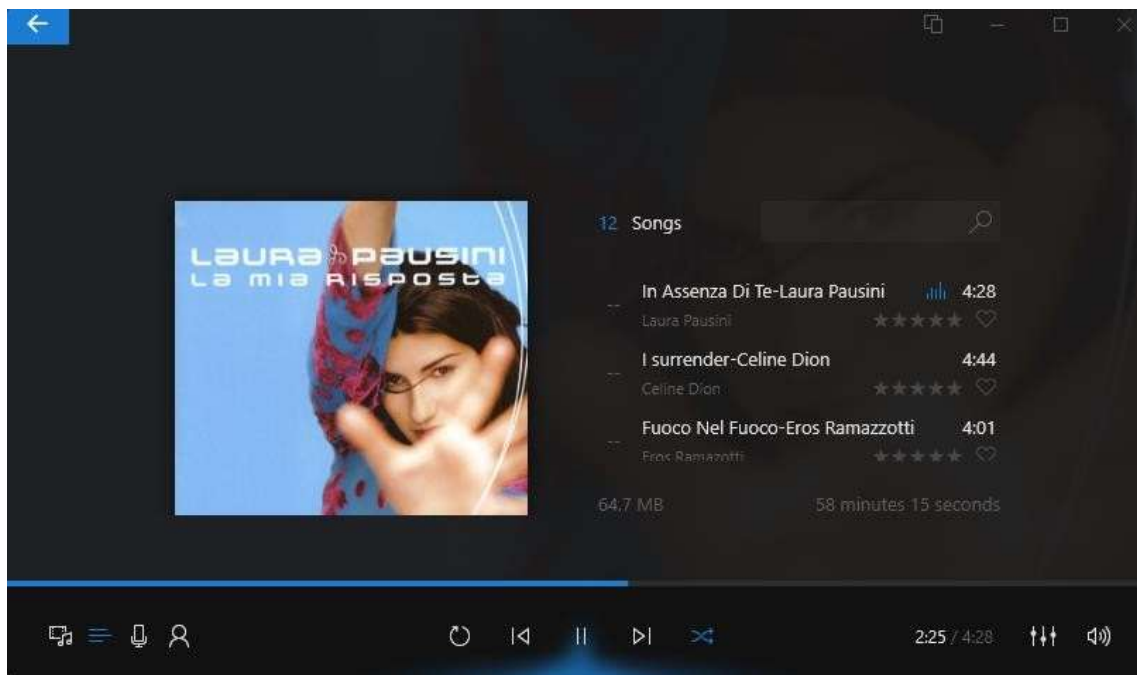


Finally, if you click:  you are taken to a screen which shows the song that is now playing:



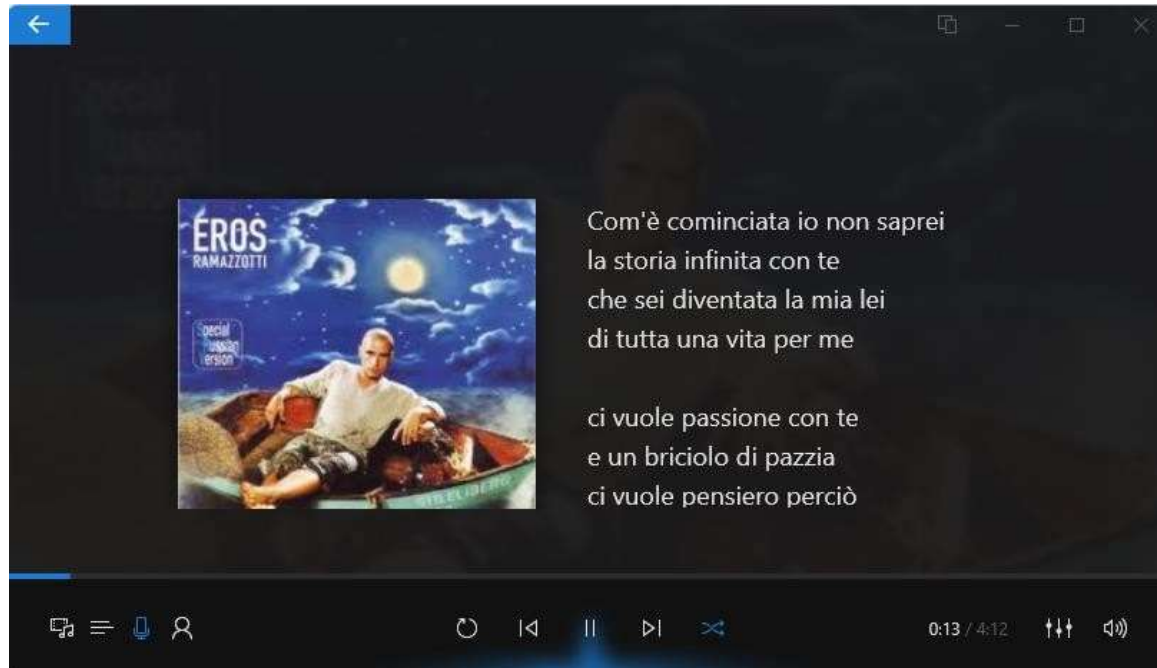
Which has the added functions:

1) A button that displays the playlist: 





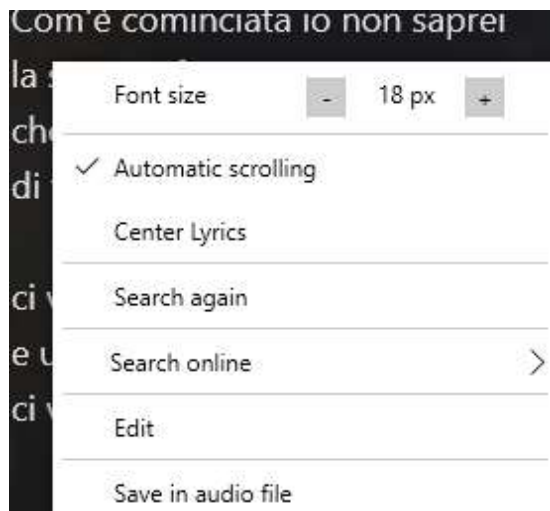
2) A button that shows the lyrics of the song currently playing when available online:



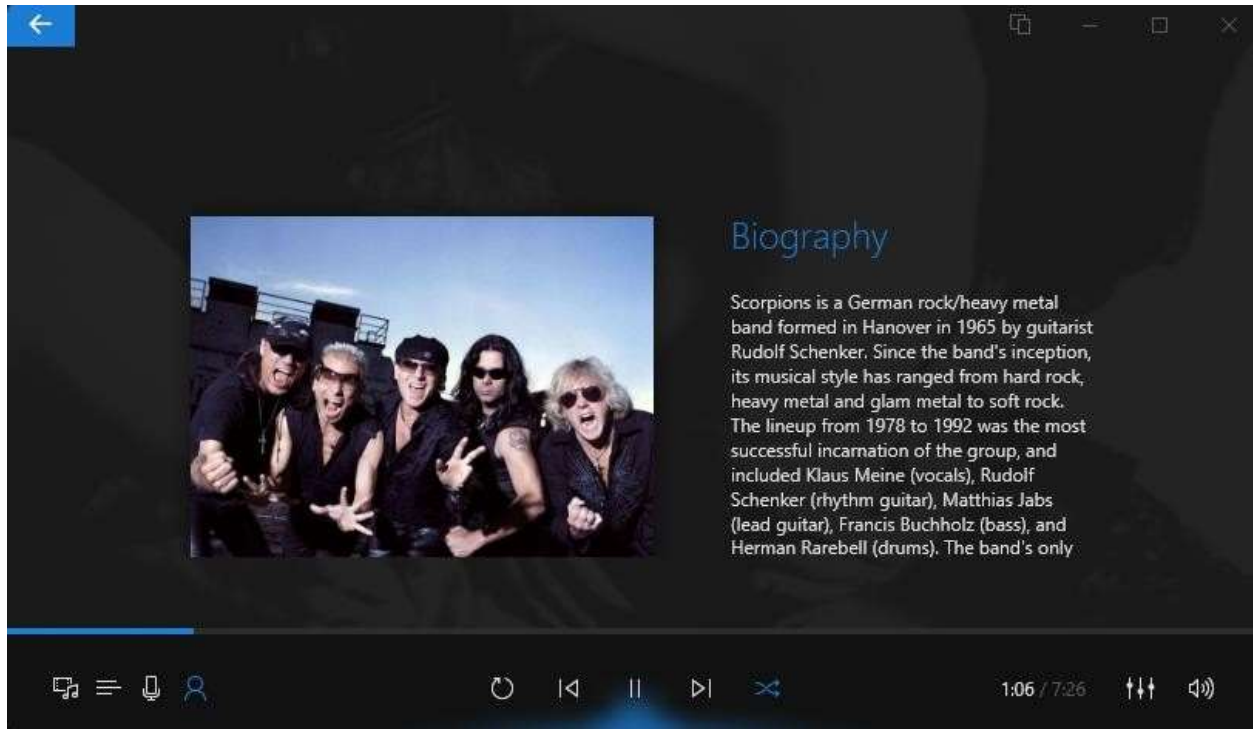
Or if none are available you may manually add some by clicking:

[Add lyrics](#)

Furthermore, by right clicking on the lyrics general position you can access their settings.



3) A button that shows information about the artist:



You may exit this by clicking:



on the top left of the app

3.3 Hardware Interfaces

Modern PC with sufficient processing power

3.4 Software Interfaces

Windows: 7 or later

4. Other Nonfunctional Requirements

4.1 Performance Requirements

There are no high or sophisticated requirements for the operation of Dopamine. The simplicity of its design and the stability of its operation ensure its smooth functioning on a modern PC.

4.2 Safety Requirements

To ensure the software operates safely, reliably, and efficiently, it is recommended to regularly update it with the latest versions. These updates include improvements and address any existing issues.

4.3 Security Requirements

Dopamine does not have any security requirements and thus any type of user can use it without any additional privileges.

4.4 Software Quality Attributes

Dopamine 2 is an easy-to-learn and easy-to-use audio player for everyday users, offering many interesting features.

This audio player is distinguished for:

- Simplicity
- Usability
- User-friendliness
- Reliability in its operation
- Flexibility
- An adequate number of settings for the average user
- Remarkable capability for organizing audio collections
- Stability in its operation
- Remarkable support from its developers