

Master's Thesis

An Android App for Tagging Music Collections

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Music collections on a smartphone usually consist of albums, which in turn consist of music pieces. When the collection becomes large, one can easily get lost and therefore would like to organize the collection according to certain criteria. A simple idea is to tag the albums with one or several user-defined tags, e.g.:

album A: piano; classic; Beethoven
album B: jazz; piano; Cicero
album C: classic; piano; Gulda
album D: classic; vocal; Pavarotti

Users can then filter the collection for all available tags:

Beethoven, Cicero, classic, Gulda, jazz, Pavarotti, piano, vocal

If one filters for *piano*, say, all albums that are tagged with *piano* should be displayed:

*album A: **piano**; classic; Beethoven*
*album B: jazz; **piano**; Cicero*
*album C: classic; **piano**; Gulda*

This list now contains the following tags (except *piano*):

Beethoven, Cicero, classic, Gulda, jazz

By refining the filter by selecting of these tags (e.g., *classic*) the result should show the albums that are tagged with *piano* and *classic*:

*album A: **piano**; **classic**; Beethoven*
*album C: **classic**; **piano**; Gulda*

The remaining tags (except *piano* and *classic*) are now

Beethoven, Gulda

which can again be used to narrow the search. From the list of displayed albums, users should finally be able to play one.

The goal of this thesis is to develop an Android app (preferably under Kotlin) that has the functionality described above. Only MP3 is to be supported as a music format. The list of selected albums should be displayed in a compact grid showing the covers and the titles of the albums.

As albums themselves cannot be tagged, the tags of the first music piece of an album should be used as the tags of the album. The tags could be entered using a tag editor (e.g., Mp3Tag), but it should also be possible to edit them directly in the app. Tags can be any text in the "genre" field of a piece's metadata. Multiple tags should be separated by semicolons.

The progress of the project should be discussed at least every two weeks with the supervisor. A time schedule and a milestone plan must be set up within the first 3 weeks. It should be continuously refined and monitored to make sure that the thesis will be completed in time.

The final version of the thesis should be submitted not later than 28.02.2025.