# clamm Documentation

*Release 0.1*

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**Dec 28, 2017**

# Contents

*the classical music manager you never knew you needed, until now...*

`clamm` is a python command line program for managing (and growing) a library of classical music.

- efficiently maps the tags of classical music audio files to sane structures.
- provides tools for working with raw audio streams of (you guessed it!) classical music
- generate playlists using iTunes-like combination logic.

# CHAPTER 1

# INSTALLATION

Most (if not all) of the software listed below can be installed using common package managers like brew, apt, pacman, yum, ...

`clamm` functionality is broken into two main categories, Managing and Adding.

The dependencies for organizing and building a library are

1. ffmpeg for audio stream conversion and other low-level audio utilities
2. flac for `metaflac` which enables tagging FLAC files

The dependencies for adding to a library require macOS first of all. Also,

1. shairport-sync for capturing raw PCM data from iTunes
2. osascript for controlling iTunes

CHAPTER 2

# FAQ

## Aren't there libraries that do this already?

There are already several good music library tools on the market. The best I am aware of is probably is beets. `beets` has great support for interfacing with the open-source tag database musicbrainz as well a host of library management functionality and a rich plugin ecosphere. Indeed, `clamm` aspires to be like `beets` when it grows up.

I tried beets and still have a use for it, but it didn't have the support for classical music tags I wanted. In fairness, beets relies heavily on musicbrainz, and musicbrainz reflects all other audio file tag schemas in skewing toward popular music.

CHAPTER 3

# tagging scheme

The basic strategy is create a tag library consisting of representative entries for each tag entity. The library (or database) serves as the definitive representation of a COMPOSER/ARTIST. When new files are synchronized to the library, a matching entry is sought within the existing entries. If a match is found the tags of each audio file are updated to match the representation in the database. If a match can't be found, the entity is added to the database.

An audio file can be characterized by a number of tag fields

## Composer

A COMPOSER composes a piece of music. Classical music generally differs from most genres of popular music in that the performer (ARTIST) is not the same person(s) as the COMPOSER. Example entry:

```
"Isaac Albéniz": {
    "nationality": "Spanish",
    "period": "Classical/Spanish Folk",
    "full_name": "Isaac Albéniz",
    "abbreviated": "Albéniz",
    "sort": "Albéniz, Isaac",
    "borndied": "1860-1909",
    "permutations": [
        "Albéniz, Isaac",
        "Isaac Albéniz",
        "Albeniz, arr. Christopher Parkening",
        "Albéniz",
        "Albéniz, Isaac (1860-1909)"
    ]
}
```

### Field summary

A few of the notable fields, along with their tag file mappings, are

#### `full_name` ==> COMPOSER

The name to display

#### `nationality` ==> COMPOSER_NATIONALITY

Where the composer was born and/or lived during their active years.

#### `period` ==> COMPOSER_PERIOD

A description of the primary sub-genre associated with the composer.

#### *borndied* ==> COMPOSER_DATES

The vital dates of the composer's life.

## Artist

ARTIST performs the music of the audio file and generally presents more of a challenge than does the COMPOSERs. Often a piece will list multiple performers. For example:

CHAPTER 4

# audiolib module

CHAPTER 5

# streams module

The streams module provides two programs for working with raw audio streams.

. The second processes a stream into an album.

## listing2streams

The first use case automates generating raw `pcm` files from iTunes using a listing of album/artist pairs in `json` format. Example:

```
"A2": {
    "artist": "Richard Egarr, Academy of Ancient Music & Andrew Manze",
    "album": "Bach: Harpsichord Concertos - Triple Concerto"
}
```

See also batch_album_listing under the `templates` directory.

# CHAPTER 6

## notes

By *classical*, I mean any piece of music characterized by having an associated

- composer
- performer (artist)
- arrangement

Which, for my library, includes traditional classical composers, like J.S. Bach and Beethoven, as well as newer, harder to categorize composers, like Max Richter and Steve Reich.

CHAPTER 7

# Indices and tables

- genindex
- modindex
- search