Rekordbox Export Structure Analysis

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Abstract

The files written to external media by rekordbox for use in player hardware contain a wealth of information that can be used in place of queries to the remotedb server on the players, which is important because they can be obtained from the players' NFS servers, even if there are four players in use sharing the same media. Under those circumstances, remotedb queries are impossible. This article documents what has been learned so far about the files, and how to interpret them.

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1 Database Exports

The starting point for finding track metadata from a player is the database export file, which can be found within rekordbox media at the path `PIONEER/rekordbox/export.pdb` (if you are using the Crate Digger `FileFetcher` to request this file, use that path as the `filePath` argument, and use a `mountPath` value of `/B/` if you want to read it from the SD slot, or `/C/` to obtain it from the USB slot).

The file consists of a series of fixed size pages. The first page contains a file header which defines the page size and the locations of database tables of different types, by the index of their first page. The rest of the pages consist of the data pages for all of the tables identified in the header. Each page contains rows of a single table, and links to the next page containing that type of rows.

1.1 File Header

2 Crate Digger

You can find a Java library that can parse the structures described in this research, and that can retrieve them from players' NFS servers, at: `https://github.com/deep-symmetry/crate-digger`

The project also contains Kaitai Struct specifications for the file structures, which were used to automatically generate Java classes to parse them, and which can be used to generate equivalent code for a variety of other programming languages.

There are also ONC RPC specification files which were similarly used to generate Java classes to communicate with the NFSv2 servers in the players, and which can likely be used to generate structures for other languages as well.

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`http://deepsymmetry.org`