YourTunes File System

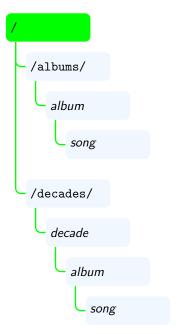
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1 Introduction

The **YourTunes File System** is a FUSE-based implementation of a filesystem tailored towards music files. It is built on top of a remote backend server, which stores file data and metadata on a database server with a RESTful web server frontend. The client is responsible for transparently querying the remote server for resident files and constructing a metadata-based abstraction based on the parsed server response.

1.1 Directory structure

The directory structure on the local filesystem is based on audio metadata - specifically, the Album, Title, Track, and Year ID3 fields.



Each song is placed as a leaf in two separate directory trees: one based on albums directly, and one based on albums categorized by the decade that they were released in (parsed from the Year field). In the case of missing metadata, a song is placed in a "Unknown" folder for both cases (/albums/Unknown/file). Files with no metadata are also put into these buckets.

Given the same metadata, the file pointers through both directory hierarchies are pointers to the same file data.

1.2 Example

Given a audio file with the following metadata:

| Track | 4 |
|--------|-----------------------|
| Title | Jesus, Take the Wheel |
| Artist | Carrie Underwood |
| Album | Some Hearts |
| Year | 2005 |

The filesystem will present the following abstraction:

```
/ albums/
__Some Hearts/
__4-Jesus, Take the Wheel
__decades/
__2000s/
__Some Hearts/
__4-Jesus, Take the Wheel
```

2 Setup

3 Server