Treader – A GUI-based MP3 Tag Reader

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Modules used:

* Databases: SQLite
* Multi-processing: multiprocessing
* MP3 tag reading: mutagen (http://mutagen.readthedocs.org/)
* GUI: Tkinter

Design:

The main file (application.py) contains an Application class. An Application is a subclass of Frame, a Tkinter object. An Application contains a references to both a DatabaseHelper object (defined in dbhelper.py) and a TagReader object (defined in tagreader.py). The TagReader uses the Mutagen package to read metadata from specified MP3 files and returns them in a dictionary. The DatabaseHelper is the interface to the SQLite database, reading and writing MP3 tags to the database.

Reading tags and writing them to the database is done in a different process than reading tags from the database. The GUI also runs in a separate process. I’m still unsure whether the GUI should run in the same process as reading tags from the database, as the GUI will need to read tags from the database to update itself, and the extra separation may not be necessary.

The database will have one table, songs. The columns will be title, album, artist, track, and length. The title and album columns will be a combined primary key. Artist, track, and length can be null. All columns are text except for the track, which is an integer, and specifies the track number on that song’s album.

To start up the GUI:

* Run “xinit &” in the Cygwin command-line
* Run python ./python-300/project/application.py in Cygwin command-line

Wireframe:



Multiprocess communication:

When the database writer finishes writing one row to the database it will add [something] to the Queue to alert the database reader that it should grab the next row.

To Do:

TEST SPEED AND PREPARE DEMO

* Have second version of GUI that isn’t multiprocessed (optimized as much as possible…)
  + Test the time it takes for each version to import a large amount of music
  + Come up with a nice demo for this
* See if I can get X running without needing its own window (make it cleaner for a demo at least)
* Change music to be demo-friendly