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Documentation

IMDB Catalog

**OBJECTIVE**

**Prompt**

Movie catalog with features to create and manage a movie catalog using the IMDB database

**Requirements**

Load the lookup dataset into memory or create an in-memory index to the (unsorted) files. The lookup dataset cannot be advatangeously sorted.

There should be a catalog that a user can create, retrieve, update, and delete (CRUD) records. Multiple users are denoted by multiple datafiles (i.e. monica.log would be the log for user monica). Users should be allowed to select the appropriate data file to continue work at a later time.

The user interface can be ascii based. Make sure that you plan for input errors and provide command help. Curses can also be used.

**INSTALLATION**

**Install**

1. Open terminal in your environment and direct to the directory you wish to download the project.
2. Clone the repository with the command below

git clone <https://github.com/namitoyokota/imdb-catalog.git>

1. Once the cloning process is complete, change directory to the cloned repo with

cd imdb-catalog

1. Move to the set up page to run the project.

**Extras**

* It is recommended that you enter full screen mode in the terminal to get the best experience through the user interface.
* If ncurses is not installed in your environment, an error will occur. To fix this, run the command below and install ncurses

sudo apt-get install libncurses5-dev libncursesw5-dev

* It is also recommended that you have valgrind installed in your environment. If not, this can be easily achieved by the command below on linux

apt install valgrind

**SET UP**

**Download**

Downloading the dataset needed for the program to compile can be achieved by running a make command, make download. The downloaded file is now in ‘data’. Then go to compile step.

**Compile**

Compiling the program is done by running the command, make  in terminal. This create object files in ‘src’ and the main executable in ‘bin’. Now, go to run step.

**Run**

Finally, to run the program, simply enter make run and the user interface will be displayed in terminal.

**Valgrind**

If you have valgrind installed in your environment, make valgrind  command can help you with memory debugging, memory leak detection, and profiling.

**Clean**

After execution, it is always good to clean up outputted files. This can be done with a make command, make clean. This process is to remove object files and the executable

**Reset**

A make command make reset  cleans files so that the directory is in the identical state as before running any command. This process removes log files and datasets. Note that this required you to run the download command once again before compiling and running the project.

**USE CASES**

**Sort**

As one of the most basic features in this application, users can choose ways to sort the list of movies stored in the catalog. This makes it easier to view movies like the most up to date movie or the longest movie.

* Sort by index (increasing and decreasing)
* Sort by title (alphabetical)
* Sort by year (increasing and decreasing)
* Sort by runtime (increasing and decreasing)

**Filter**

Because sort tried to print the maximum number of movies in your terminal that fits, filter is a good option to shorten the list. When looking for movies with minimum length, filtering menu is a userful feature.

* Filter by year (set minimum or maximum)
* Filter by runtime (set minimum or maximum)

**Search**

This is arguably the best feature in this program. Searching menu allows you to simply earchi through the entire list to look for a movie or movies with the info provided from the user.

* By index
* By title
* By genre

**CRUD**

Through each of the menus above, user has an option to edit any record of the catalog at the end. To edit the catalog, the following operations are possible:

* Create
* Retrieve
* Update
* Retrieve

**DOCUMENTATION**

**Documentation**

This document is the documentation for this project.

**Explaining the Code**

As the title suggests, this document explains the code of the project. Topics from file strucutures, data structures and algorithms, and makefile scripting is covered.

**What I Learned**

This sums up the entire project with what I learned from working on this project. As I have some background from side project, I go over everything from the front-end to back-end and advantages and disadvantages for each topic.

**SOURCES**

**Required Sources**

*IMDB Dataset* – https://www.imdb.com/interfaces/

**Ncurse Sources**

*Ncurses Documentation* – <http://tldp.org/HOWTO/NCURSES-Programming-HOWTO/index.html>

*Ncurses YouTube Tutorial* – <https://www.youtube.com/playlist?list=PL2U2TQ__OrQ8jTf0_noNKtHMuYlyxQl4v>

**Makefile Sources**

*Makefile* – <https://www.cs.colostate.edu/~cs157/LectureMakefile.pdf>