Nika Prairie
Student ID: 260843183

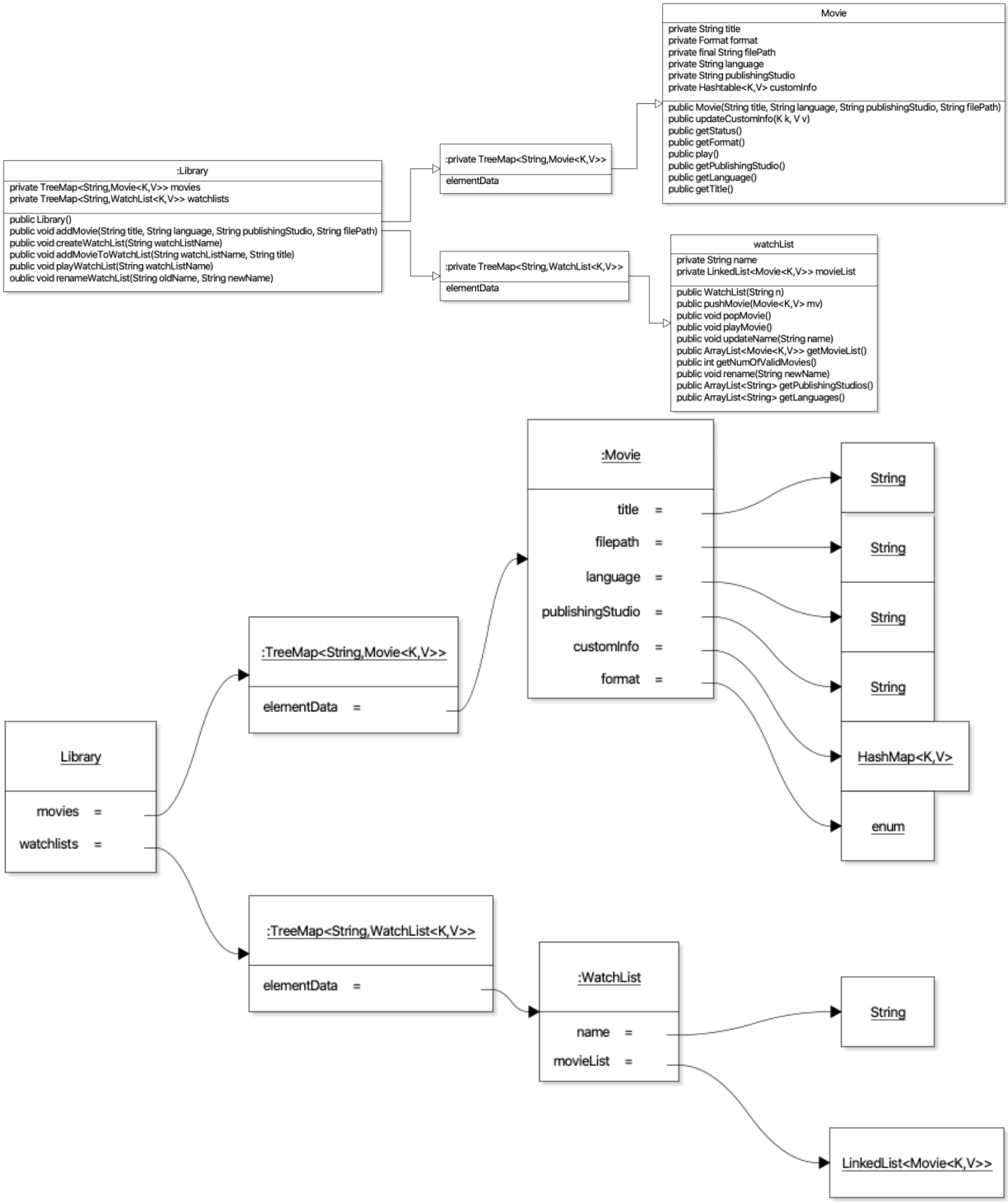
Description:

The 4 Classes, Library, Movie, WatchList and Format compose the solution.
Two data members make up the Library:

- ***movies***: All the movies
- ***watchLists***: All of the watchlists

A tree map was used for the above to ($O(\log(n))$) searching.
Encapsulation and information hiding was achieved using these design choices:

- All object data members are private
- Internal design choices, i.e. using tree maps, is not exposed to the user.
- The Format class/enumeration encapsulates the fixed movie formats supported.
- The objects are immutable unless required by the capabilities defined, ex: updating custom info or changing watch list names.
- Access to movie objects is provided without violating encapsulation by an extended interface where references to immutable Movie objects are returned.
- Design by contract was implemented through the use of assertion of pre and post conditions.
- The use of the overall framework is simplified by not requiring the use to manage individual objects, but can rather use conceptual notions of movie name and watchlists to perform operations.


Movie
private String title
private Format format
private final String filePath
private String language
private String publishingStudio
private Hashtable<K,V> customInfo
public Movie(String title, String language, String publishingStudio, String filePath)
public updateCustomInfo(K k, V v)
public getStatus()
public getFormat()
public play()
public getPublishingStudio()
public getLanguage()
public getTitle()
:Library
private TreeMap<String,Movie<K,V>> movies
private TreeMap<String,WatchList<K,V>> watchlists
public Library()
public void addMovie(String title, String language, String publishingStudio, String filePath)
public void createWatchList(String watchListName)
public void addMovieToWatchList(String watchListName, String title)
public void playWatchList(String watchListName)
oublic void renameWatchList(String oldName, String newName)
:private TreeMap<String,Movie<K,V>>
elementData
:private TreeMap<String,WatchList<K,V>>
elementData
watchList
private String name
private LinkedList<Movie<K,V>> movieList
public WatchList(String n)
public pushMovie(Movie<K,V> mv)
public void popMovie()
public void playMovie()
public void updateName(String name)
public ArrayList<Movie<K,V>> getMovieList()
public int getNumOfValidMovies()
public void rename(String newName)
public ArrayList<String> getPublishingStudios()
public ArrayList<String> getLanguages()
:Movie
title =
filepath =
language =
publishingStudio =
customInfo =
format =
String
String
String
String
HashMap<K,V>
enum
:TreeMap<String,Movie<K,V>>
elementData =
Library
movies =
watchlists =
:TreeMap<String,WatchList<K,V>>
elementData =
:WatchList
name =
movieList =
String
LinkedList<Movie<K,V>>