

## **COMP 303 – Software Design**

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The design satisfies the basic requirements as described in the project description. 7 classes were used in the design (including the Client class used for testing). Along with Library, Movie, and Watchlist classes, an Information class was used to store a required piece of information and a custom piece of information for a specific movie. These 2 information pieces were in themselves class objects. Enums were used to specify video formats. Copy constructors implementing deep copies were used to prevent information leaking of reference objects. Encapsulation was ensured by specifying appropriate visibility types (i.e. protected) and by implementing the required getter methods. The “final” keyword was used for some attributes that remain unchanged once assigned, and copies to reference type objects were used to prevent information leaking. A trade-off in the presence of numerous classes (like ReqdInfo and CustomInfo) is that the code is more modular but arguably less readable. Also, with the information classes, one would have to create those information objects before properly instantiating a Movie class object. Thus, the client procedure includes an extra step.

On the next page are the attached UML object diagrams (without main).

