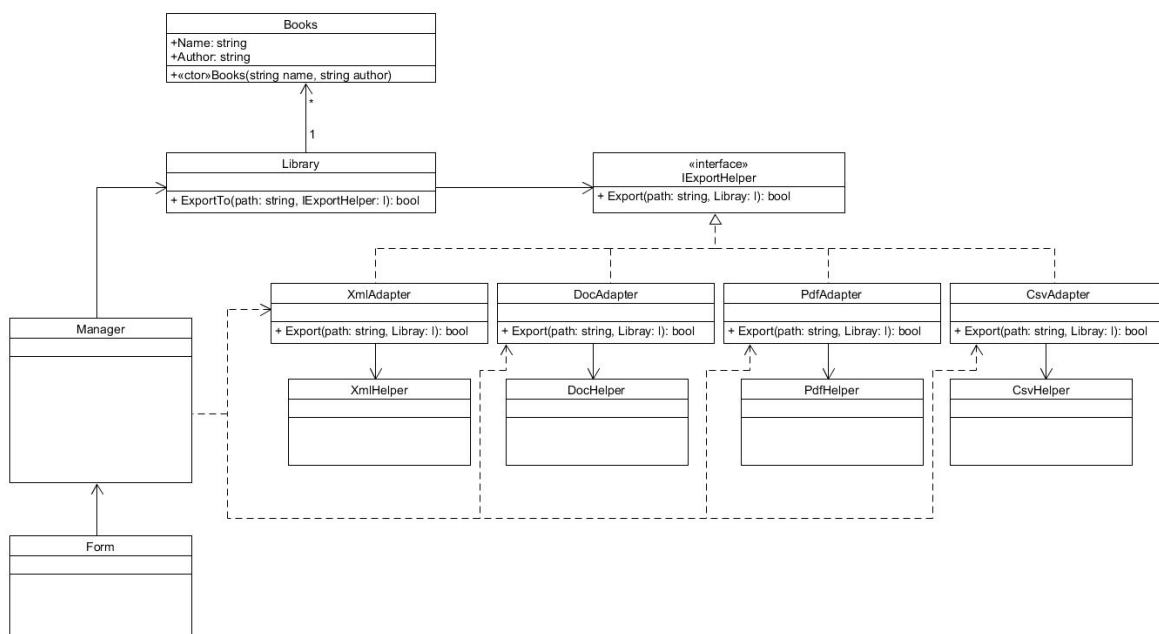


Adapter Pattern

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Application Description: The application is to convert Books to different text formats. Eg:- Book are converted to .pdf, .docx, .txt, .xml, etc. The Form has an object of the Manager, Manager has information about all the FileHelpers and the Library. Adapters are the links to combine file helpers with the library. The adapter inherit all the methods from the interface.



Maintainability, Reusability, Extensibility.

When you want to reuse existing class, but its interface is not compatible with the rest of application's code.

The Adapter pattern creates a middle layer class that translates application calls to the form that the existing class understands.

You need to reuse several existing classes, but they lack some common functionality. And you can not add it to the superclass because it is either closed or used in other code.

You could put the missing functionality into a new adapter class. It will connect your app's code and the classes you are interested in. This solution looks very similar to the Visitor pattern.

Pros

1. Hides from the client code unnecessary implementation details of interface & data conversion.
2. Only the manager has an instance of the adapters, so if a new adaptee is added, there must be an instance in the manager
3. Client does not have to be aware of all the different interfaces in use
4. Adapter can use multiple adaptees, without exposing the complexity to the client
5. When adaptee changes only the adapter needs to be updated

Cons

1. Increases overall code complexity by creating additional classes. Communication overhead