

**ASSIGNMENT COVER SHEET**

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**Course: Bachelor of Science (Honours) in Computing**

**Year: 3rd Year**

**Lecturer: Orla McMahon**

**Title of Assignment: Assignment 2**

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The material contained in this assignment is the authors original work, except where work quoted is duly acknowledged in the text. No aspect of this assignment has been previously submitted for assessment in any other unit or course.

Signed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_/\_\_\_\_\_\_/\_\_\_\_\_\_

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# **Introduction**

The Four design patterns we decided to implement within our project is as follows:

* The Singleton design pattern.
* The Abstract Factory design pattern.
* The Adapter design pattern.
* The Command design pattern.

We had made our choice based with the design patter we had thought would suit our purpose for the Assignment. We had also considered the Builder design pattern instead of the command just down to the command creating a few more classes but we had both wanted to look at the command in more detail. The group had also decided to make use of github for this assignment just down to the bulk of the time we had to complete was over the Easter break our repo can be seen at:

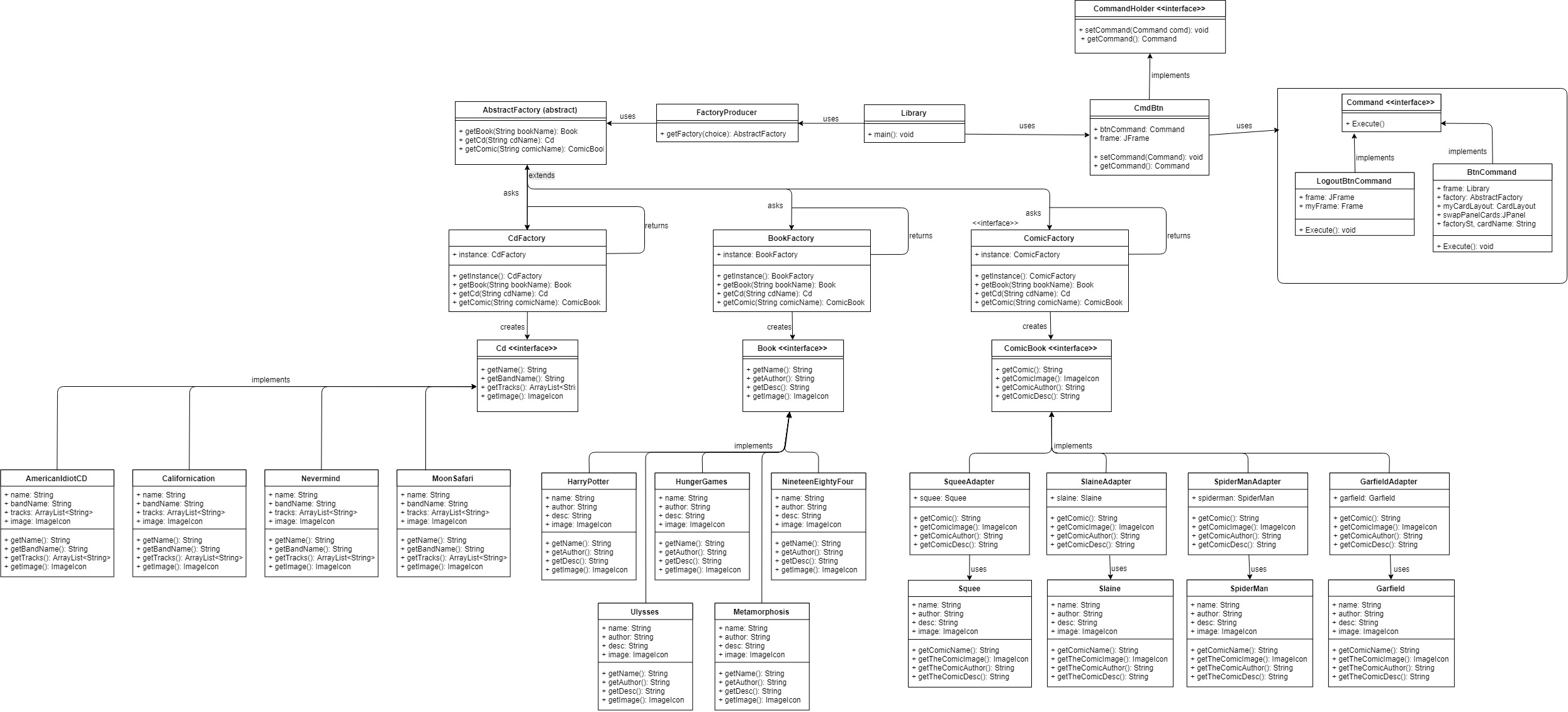
<https://github.com/KenKilmartin/oodpAssignment2>

# **Methodology**

We had decided to build a program for a library to use this was chosen down the abstract factory and singleton design patterns we had thought it would be a good program to try using these design patterns and then had thought if the library then was donated a bunch of comics we could try making an adapter for the comics to fit in.

We used the abstract factory to … ?

Each of the comics then has use an adapter design pattern to make it fit into the library program.

The command design pattern is used in the library when you are deciding on which product you want to rent be it Book Cd Comic or Logout.  
  
The singleton design pattern was used on each of the factories (Book, CD, Comic). We did this first by making it a private static variable ensuring that there was a single instance of the factory being made 

# **UML**

# **Bibliography**

*Design Pattern - Abstract Factory Pattern*. (2018). Retrieved 3 12, 2018, from Source Making: https://sourcemaking.com/design\_patterns/abstract\_factory

*Design Pattern - Adapter Pattern*. (2018). Retrieved 3 12, 2018, from Source Making: https://sourcemaking.com/design\_patterns/adapter

*Design Pattern - Command Patern*. (2018). Retrieved 3 12, 2018, from Source Making: https://sourcemaking.com/design\_patterns/command

*Design Pattern - Singleton Pattern*. (2018). Retrieved 3 12, 2018, from Source Making: https://sourcemaking.com/design\_patterns/singleton