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COMP 303: Software Design
27 March 2022

Assignment 4 Design Description

For the *Default Playable* I decided to use an **Optional<Playable>** field in the **Library** class. I made it **Optional** since the *Client* may not always specify the *Default Playable*. The appropriate Get and Set methods were made.

To allow *Client* to easily create a copy of this *Default Playable* without worrying about the classes, I implemented the Prototype Design Pattern. I made each **Playable** object implement the *Serializable interface* so *makeCopy()* could return a deep copy. This was a strategy I learned from

<https://www.avajava.com/tutorials/lessons/> where we can serialize the values of our desired object and then deserialize to create a new object.

For the Question 2, I implemented the Command Pattern as shown in class, which provides great flexibility when changing states.

Finally, for tests, I used *Reflection* to properly verify the changed state of an objects private fields.

