# Final Progress Report

## Challenges and difficulties

The object creation in the factory pattern is complex. This design pattern requires a good level of abstraction. So, the client program faces problems when the factory design pattern is used. The object of the factory design pattern is difficult to instantiate and this problem can be solved by using the interface and the factory classes can access the object by using the implemented interface. The interface specifically implements the object and it gives the flexibility to implement classes to decide on the classes to be instantiated. The decorator design pattern can be used to add extra features to the instance of the class and it will not modify the behavior of the other instances of the same class. This pattern can be used to provide good alternative sub-classes for the additional functionality. In this design pattern, I have faced complexity when allocating functionality for the object as decorating. This problem was solved by assigning the new responsibility for the specified class. The component, decorator, and concrete decorator are the solution I have applied to solve the problem.