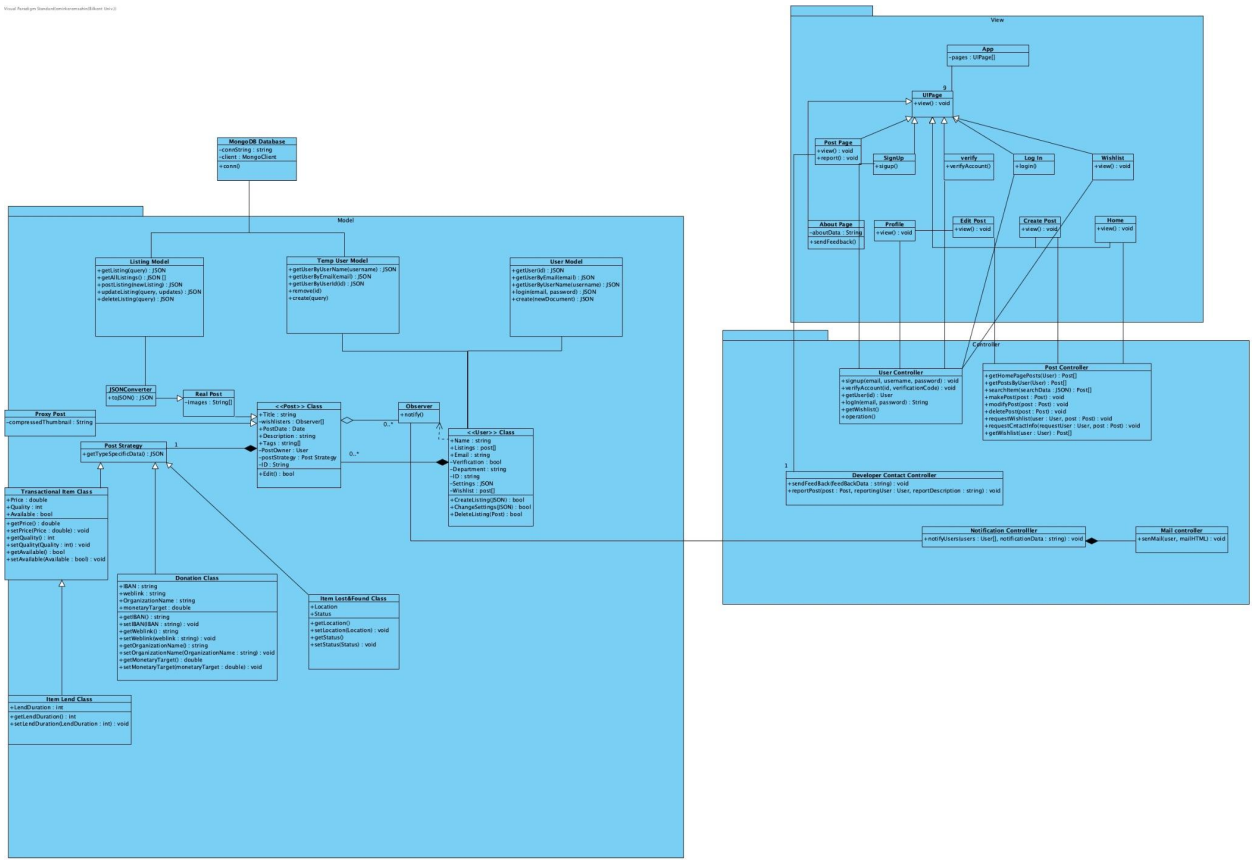
Class diagram



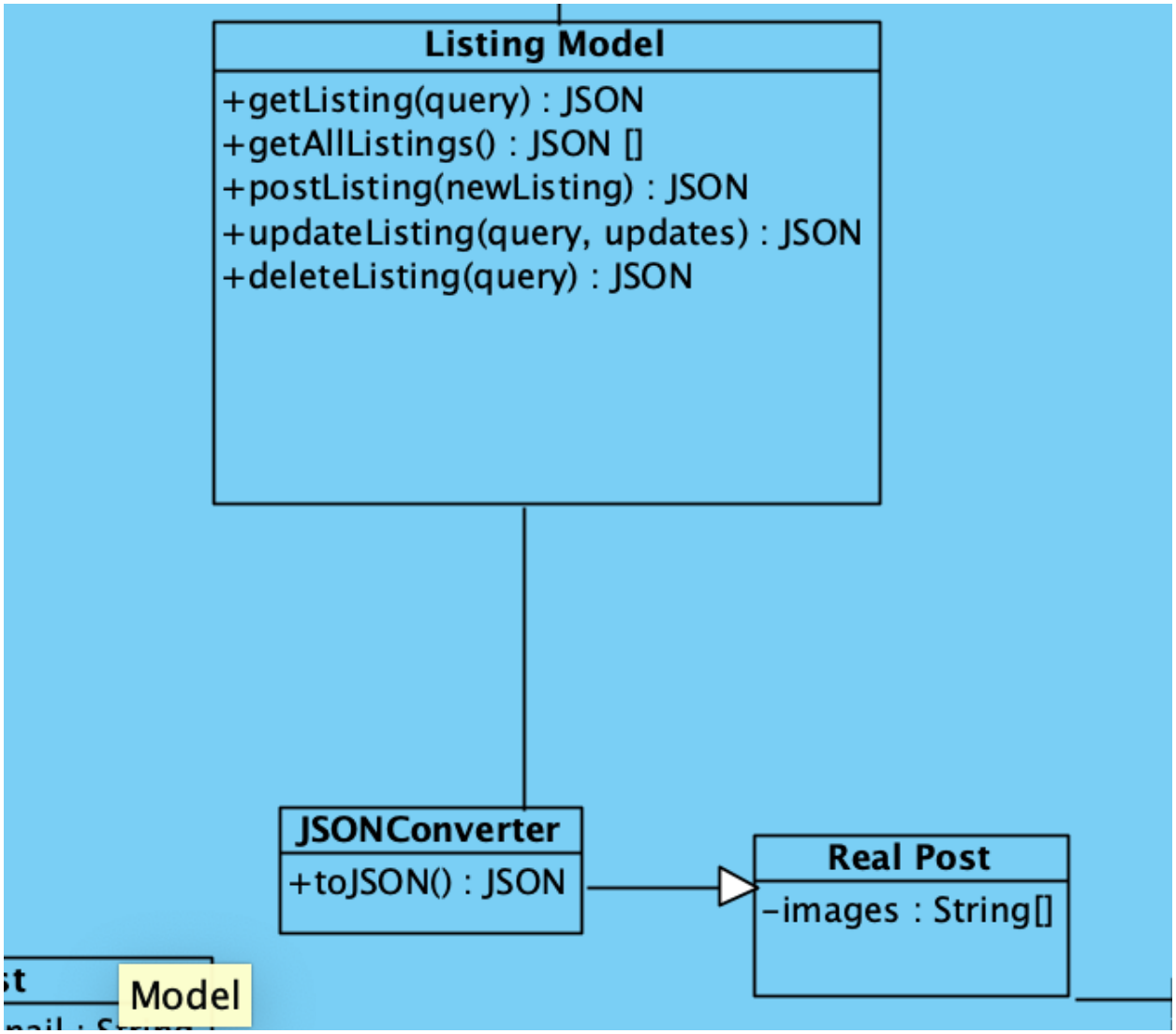
Design Patterns

Adapter pattern

In our website project, we encountered a scenario where we needed to integrate the Post class with a database. The Post class represents posts in the system, and the database is responsible for storing and retrieving posts. Thus, the JSON Converter adapter, database class, and posts class make up the components. In the diagram below, the adapter class (JSON Converter) is represented by a box connected to both the post-class and the database class. This illustrates the use of inheritance, where the adapter inherits from the post.

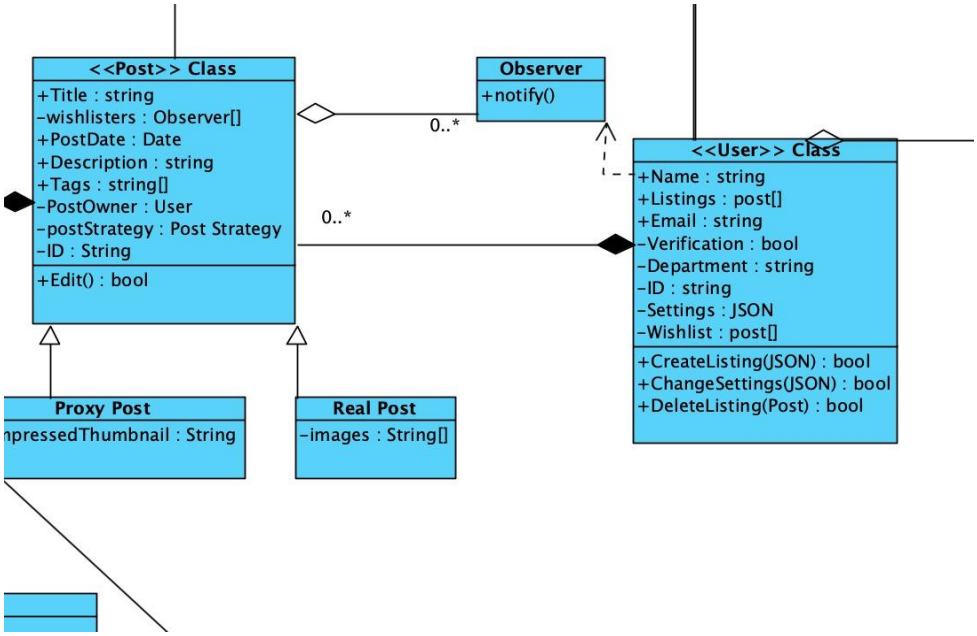
In this particular case, the adapter pattern makes use of delegation to communicate with the database and inheritance for the post-class.

By implementing this adapter pattern with inheritance and delegation, we achieve a cohesive interaction between the post-class, the database, and the JSON converter in our website project.



Observer pattern

In our website project, users will receive updates on posts that they have wishllisted. For example if the price of a 2nd hand sale item drops, users who were interested in the item will receive a notification with the discount information. To achieve this, we used observer pattern where each post holds the users who have wishlisted it so it can notify them when the post is updated.


<<Post>> Class
+Title : string
-wishlisters : Observer[]
+PostDate : Date
+Description : string
+Tags : string[]
-PostOwner : User
-postStrategy : Post Strategy
-ID : String
+Edit() : bool
Observer
+notify()
0..*
0..*
<<User>> Class
+Name : string
+Listings : post[]
+Email : string
-Verification : bool
-Department : string
-ID : string
-Settings : JSON
-Wishlist : post[]
+CreateListing(JSON) : bool
+ChangeSettings(JSON) : bool
+DeleteListing(Post) : bool
Proxy Post
npressedThumbnail : String
Real Post
-images : String[]