CS319 Object Oriented Software Engineering

TX-T11 Software Quartet | D5

Class Diagram and Design Patterns

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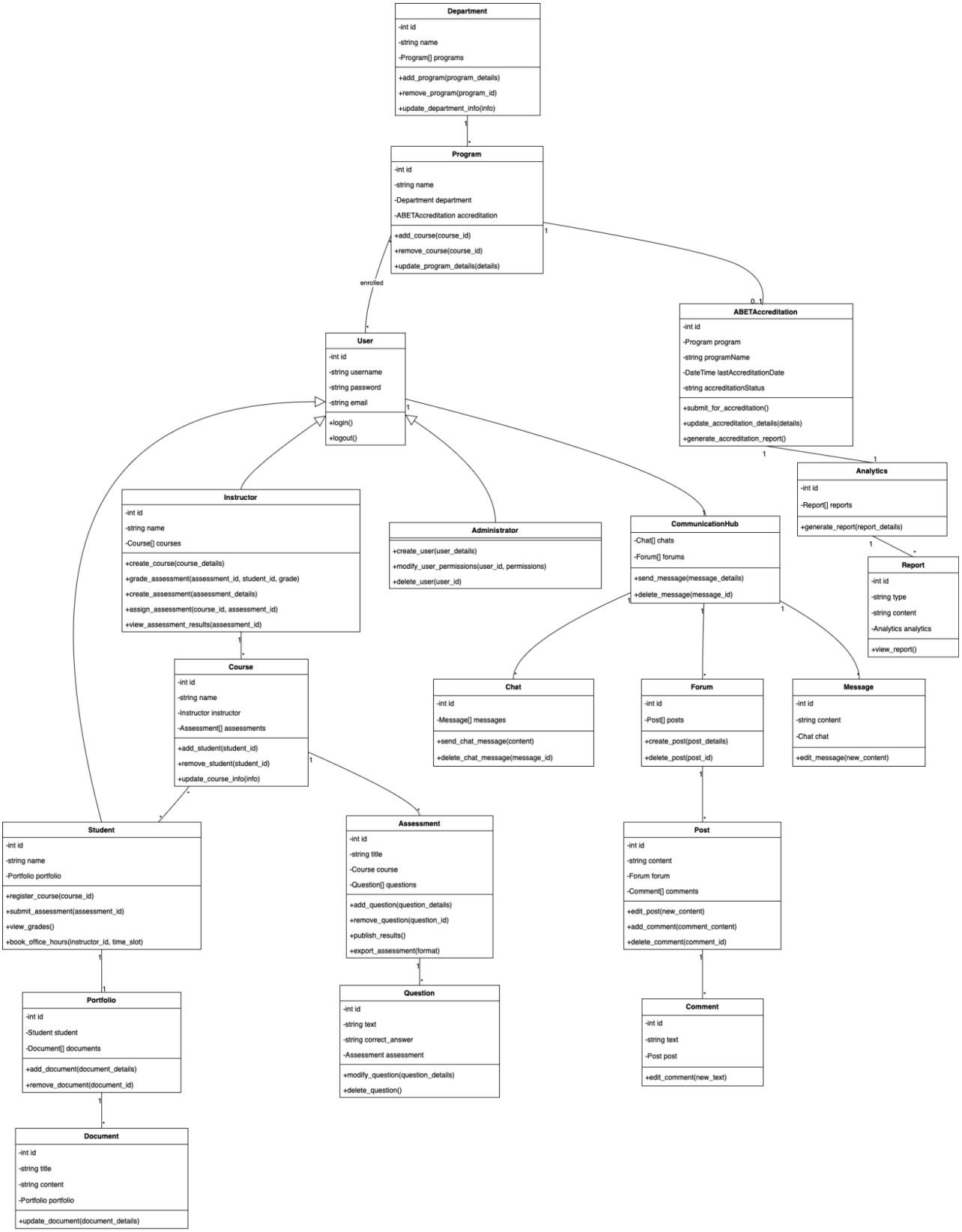
1) Class Diagram



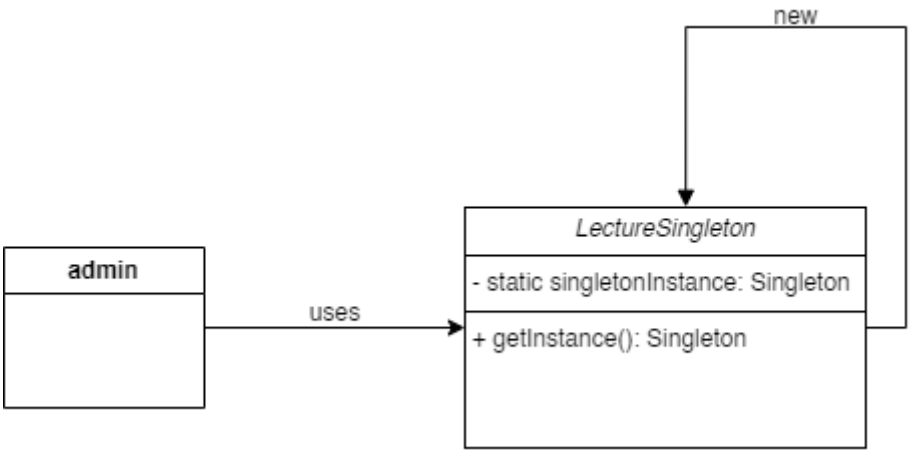
for more readable version:

https://drive.google.com/file/d/1kZLHlDG-mcM1eNbgxEetKdlikOsieTjB/view?usp=share_link

2) Design Patterns

Singleton Pattern

The Singleton pattern ensures that a class has only one instance and provides a global point of access to it. This pattern is particularly useful in scenarios where consistent state and global access are necessary. In the context of your application, utilizing the Singleton pattern can be advantageous for managing central components, like configuration settings or a central logging service, which are essential to maintain uniformity and coherence across the entire application's lifecycle.



Observer Pattern

The Observer pattern is a behavioral design pattern where an object, known as the subject, maintains a list of its dependents, called observers, and notifies them automatically of any state changes, usually by calling one of their methods. It's particularly valuable for your application in cases such as notifying users about changes in course material, new assessment postings, or even changes in user profile settings. It ensures that the components are loosely coupled and the system is scalable.