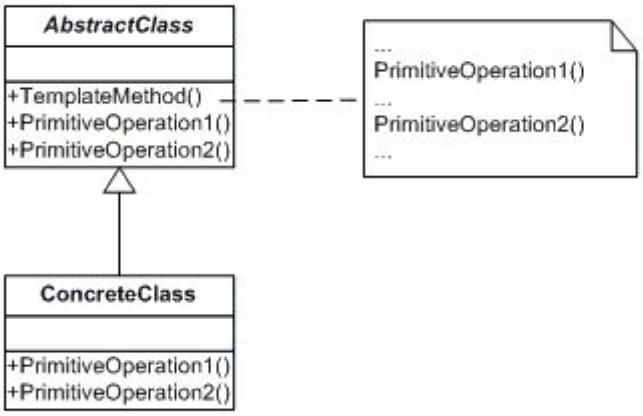
Two Patterns

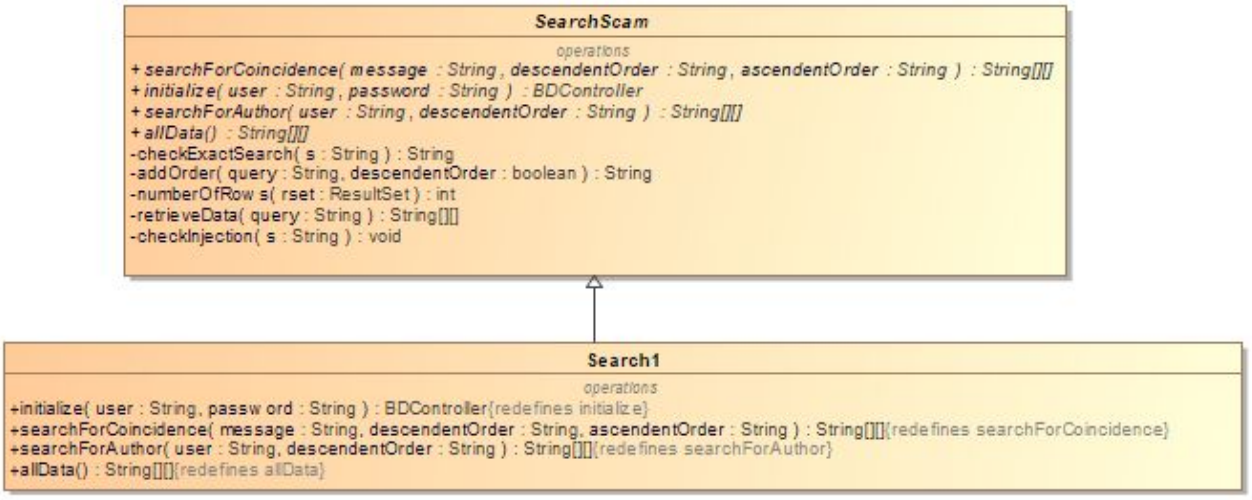
Template Pattern.

The template method pattern is a behavioural design pattern which defines the skeleton of an algorithm deferring the steps into subclasses.
This pattern is one of the 23 well-known patterns described in the Gang of Four book.
It implements an abstract class which contains shared code and parts of the overall algorithm which are invariant, it ensures that the algorithm is always followed.
Classes which extend from the abstract one perform the overall algorithm in the same steps every time, but the details of some steps depend on which subclass was instantiated.



UML example of the template pattern.

And thus, putting it into our project, the search algorithm is implemented by means of this pattern, our first approach on searching follows the standards of an abstract class called SearchScam. It inherits the steps which all search algorithms should follow and also adds some distinctive aspects.



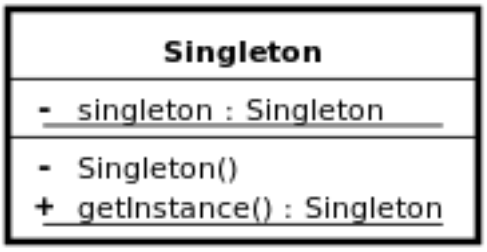
SearchScam template pattern.

The Singleton Pattern

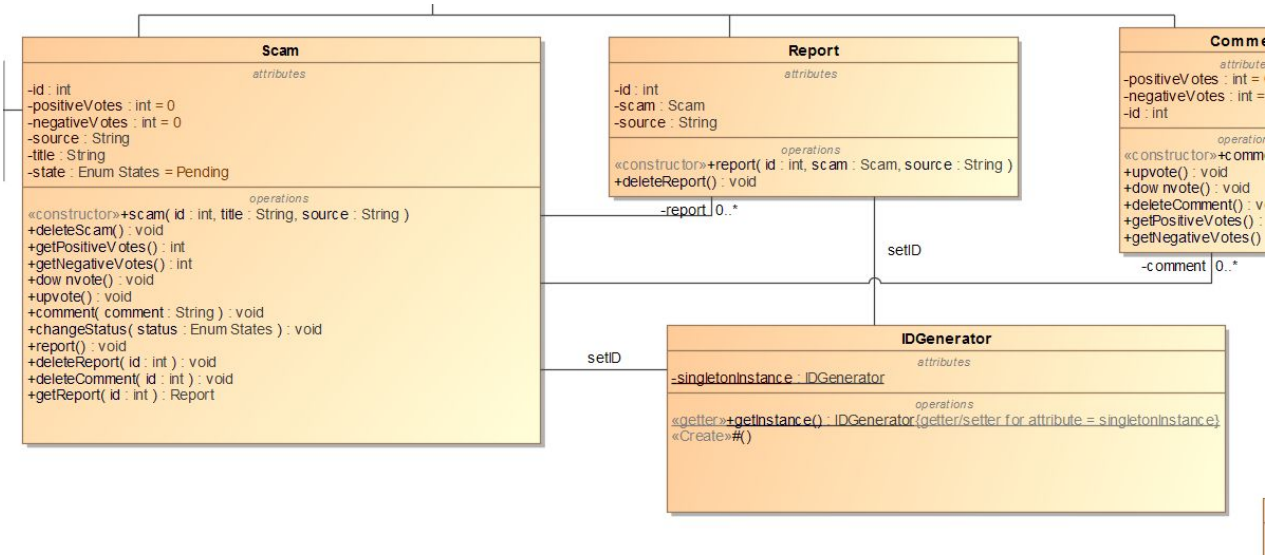
The singleton pattern consists of generating a one-instance class with a global access point. We use this pattern when different clients make references to the same element and we want to be sure that no more instances of the element are created. It is an answer to the following questions:

- How can it be ensured that a class has only one instance?
- How can the sole instance of a class be accessed easily?
- How can a class control its instantiation?
- How can the number of instances of a class be restricted?

To solve this problems, we hide the class constructor and define a public static operation *getInstance* that allows us to access the singleton.



And how can we use this pattern in our project? The main feature of White Wise Weasel is to allow users to search scams through our scam database, therefore we will need an unique ID for each of the posts. This IDs can be generated with an IDGenerator class, that is in fact an implementation of the singleton pattern. The advantages of using an ID generator are a better organization of the information and a safer system, because it assures us that no two objects will share the same id.



In our model, the IDGenerator class is used to set and ID to each Scam and Report through the method setID.