

## Documentation of iSoccer Refactored

- **Design Patterns Applied**

1. **Singleton** - The **motivation** to use Singleton in refactoring this project fell like a glove for a class of extreme importance in the System, this class was the Admin. Note we need just one instance of this class on the program and we instance this just one time. So using the Singleton pattern i have a guarantee that my Administrator is not instantiated elsewhere in my code, only on the begin.
2. **Observer** - The application of this pattern occurred in the Resource Class and consequently in all others that inherit from it (Bus, Stadium and Training\_Camp). Two **interfaces** were implemented, one called **Subject** and the other **Observer**. The **Subject** interface in the Observer pattern application is responsible for defining the methods for adding or removing states (in this case the total number of features) of the object. Is it that traverses the class resource commands the behavior of the object. In the case of **Interface** Observer, it exists to update the states of other objects as they change, and it does so in relation to the total number of resources.