**MOOD metrics**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Project** | AHF | AIF | CF | MHF | MIF | PF |
| **project** | 78,33% | 23,20% | 0,68% | 36,93% | 18,28% | 49,59% |

**Legend:**

AHF – Attribute hiding factor

AIF – Attribute inheritance factor

CF – Coupling factor

MHF – Method hiding factor

MIF – Method inheritance factor

PF – Polymorphism factor

Analysis of the collected metrics:

MOOD metrics are designed to provide a summary of the overall quality of a project.

In an ideal world all the attributes would be hidden and AHF = 100% would be the perfect percentage. Observing the AHF percentage (78,33%) we may conclude that it is in acceptable values.

Regarding the MIF and the AIF:

* MIF = inherited methods / total methods available in classes
* AIF = inherited attributes / total attributes available in classes

A class that inherits lots of methods (attributes) from its ancestor classes contributes to a high MIF (AIF). A child class that redefines its ancestors' methods (attributes) and adds new ones contributes to a lower MIF (AIF). An independent class that does not inherit and has no children contributes to a lower MIF (AIF). The AIF and MIF values shouldn’t be too high or too low. The acceptable MIF range is 20% to 80% and the acceptable AIF range is 0% to 48%, according to research. AIF is between acceptable values. MIF is a bit lower than it should be. This may be a trouble spot in the code.

PF measures the degree of method overriding in the class inheritance tree. The Polymorphism factor has an average percentage.

Coupling Factor measures the actual couplings among classes in relation to the maximum number of possible couplings. Analyzing the chart, it is possible to assume that almost no classes are coupled in the project.

The number of visible methods is a measure of the class functionality. A low MHF indicates insufficiently abstracted implementation and a high MHF indicates very little functionality. The project has MHF = 36,93%, which isn’t too high but also not too low, so we may conclude that it is an acceptable percentage.

As for the code smells related to this metrics, we can identify the refused request regarding inheritance of classes and methods.