Chidamber-Kemerer metrics

Coupling Between Objects (CBO)

Uma imagem com mesa

Descrição gerada automaticamenteCoupling is a measure of how dependent two or more classes are from one another. Heavy coupling is not advised as it may lead to various code smells.

After analyzing the Gantt Project with this metric, we reach a conclusion that about 70% of the classes are not tightly coupled between one another, only receiving a CBO score of up 10. However, about 30% is still a significant proportion of the project, meaning that this portion of the code might lead to code smells such as feature envy, inappropriate intimacy and message chain. One example being the GanttLanguage class, with a score of 133.0, which uses the Locale class too often.

Lack of cohesion methods (LCOM)

Cohesion measures how well the elements of a class are integrated in satisfying its goals, for example by sharing variable use, resulting in classes that are difficult to separate into smaller ones. The lack of cohesion is not recommended as it might be necessary to look in other parts of the code when modifying a method, in the long-term becomes difficult to maintain, test and reuse.

Uma imagem com mesa

Descrição gerada automaticamenteAs we can see in the image above, about 75% of the classes are tightly cohesive (with a maximum lack of cohesion score of 2.5), meaning that their methods are mostly all involved in satisfying their goals. However, 25% of the classes start to lack cohesion which might result in code smells, mainly divergent classes and shotgun surgery. A potential trouble spot is the GanttProjectBase Class with a score of 31.0, this might happen because it uses a lot of distinct objects to achieve different tasks independently from one another, causing a lack of cohesion.