Martin packaging metrics

This metric is used to measure interrelationships between classes.

It enables us to measure the vulnerability of the package to changes in packages on which it depends.

It is divided in five parts:

->Afferent couplings(Ca):The number of classes in other packages that depend upon classes within the package is an indicator of the package's responsibility.

Who depends on you.

Measure of how many other packages use a specific package.

Incoming dependencies.

->Efferent couplings (Ce):The number of classes in other packages that the classes in a package depend upon is an indicator of the package's dependence on externalities.

Efferent couplings signal outward.

->Abstractness (A):The ratio of the number of abstract classes (and interfaces) in the analyzed package to the total number of classes in the analyzed package.

The range for this metric is 0 to 1, with A=0 indicating a completely concrete package and A=1 indicating a completely abstract package.

->Instability (I): The ratio of efferent coupling (Ce) to total coupling (Ce + Ca) such that I = Ce / (Ce + Ca).

This metric is an indicator of the package's resilience to change.

The range for this metric is 0 to 1, with I=0 indicating a completely stable package and I=1 indicating a completely unstable package.

->Distance from the main sequence (D):The perpendicular distance of a package from the idealized line A + I = 1.

D is calculated as D = | A + I - 1 |.

This metric is an indicator of the package's balance between abstractness and stability.

A package squarely on the main sequence is optimally balanced with respect to its abstractness and stability.

Ideal packages are either completely abstract and stable (I=0, A=1) or completely concrete and unstable (I=1, A=0).

The range for this metric is 0 to 1, with D=0 indicating a package that is coincident with the main sequence and D=1 indicating a package that is as far from the main sequence as possible.

Related to our source code, we conclude that:

