Decoupling Level: A New Metric for Architectural Maintenance Complexity

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- This paper proposes a new software metric called Decoupling Level which measures capability of a software to decouple into independent modules rather than measuring the level of coupling between modules.
- As mentioned by Author Decoupling Level is directly proportional to the quality of architecture of the software.
- Study was performed on 108 open source projects and 21 industrial projects.
- Results showed that DL can Indicate major architectural degradation or Improvements.
- Two level of evaluation was performed
    1. Horizontal Evaluation- Comparing multiple projects
    2. Vertical Evaluation – Comparing multiple versions of same project

Critical Points

1. Only few languages were considered for the projects used for evaluation such as C, C++, C# and java
2. Author also declared that maintenance measures used may not reflect the true maintenance effort.
3. For better Evaluation DL should have been collected at the beginning of a release and then it should have been measured for subsequent maintenance effort until DL gets changed significantly.
4. Author made a claim that commercial projects generally have lower DL in general without backing the said claim.
5. Even though the main motivation behind using DL is to measure the architectural quality but however author also mentioned this that high DL doesn't always mean that the architecture is high quality.