

This dissertation investigates the semantic integrity of an open source project called ArgoUML. In order to achieve this, a number of files are randomly selected and searched for methods that we believe may cause semantic errors. For each of the found methods a contract was constructed using reverse engineering. To evaluate the semantic integrity of ArgoUML, each client of said methods were examined in order to determine if the constructed contract were respected. The number of clients not respecting the contracts is the number of semantic errors found. If extrapolating the results of the case study to the whole of ArgoUML, the system would contain approximately 36 semantic errors. This result, coupled with our other findings, indicates that our method of investigation is unsatisfactory for detecting semantic errors. Our conclusion is that although the case study did not show signs of serious problems with the semantic integrity, we believe that ArgoUML could benefit from adopting contracts to obtain a more structured documentation.