

RQ2: Type Inconsistency

This experiment is in the [Section V-C Inconsistency of Binding Calls](#) of our paper. The goal of this experiment is to

1. compare the type information of Adobe Reader inferred by TYPEORACLE with the type information inferred by Adobe API Manual;
2. compare the type information of Adobe Reader inferred by TYPEORACLE with the type information of Foxit Reader inferred by TYPEORACLE.

The result is shown in the [Fig. 6: Systematic study of binding call inconsistency](#) in our paper. We can see from Figure 6a that only 53% of Adobe Reader's binding calls are documented, 21% of which have type inconsistency with the documentation. Further inspection reveals that the inconsistency comes from ambiguous description and incomplete parameter list in the documentation. Figure 6b says that Foxit Reader shares 42% of binding calls with Adobe Reader, 36% of which differ in either the number of parameters or the type of certain parameters.

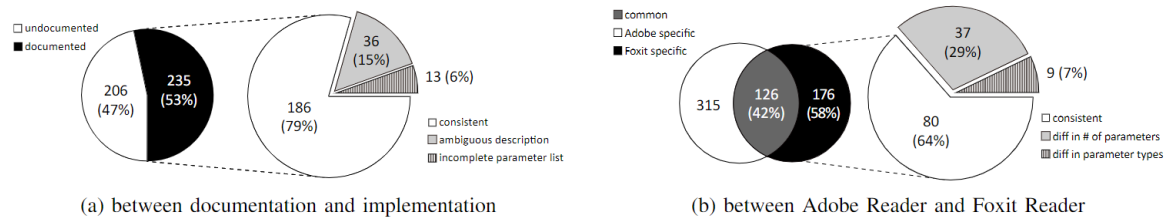


Fig. 6: Systematic study of binding call inconsistency.

folder structure

The following are the file names and their descriptions.

`adobe_doc.txt`: APIs present in Adobe API Manual

`adobe_undoc.txt`: APIs not present in Adobe API Manual

`difference_adobe_foxit.txt`: the different APIs in Adobe Reader and Foxit Reader, including APIs that are different in parameters and APIs that are different in parameters' types

`difference_manual.txt`: the different APIs in TypeOracle and Adobe Manual in Adobe's API list, including APIs that have ambiguous description and incomplete parameter

`foxit_specific_api.txt`: APIs that only implemented in Foxit Reader

`share_api.txt`: APIs that both implemented in Adobe Reader and Foxit Reader