

This thesis contains analysis of currently available Objective-C run-time libraries (GCC, Apple and Étouilé run-times), their prerequisites and dependencies on the particular platform and operating system. The result of the analysis is a design of a modular run-time library that allows dynamic configuration of each component for the particular need (e.g. disabling run-time locks in a single-threaded environment). The resulting design can also be easily ported to other atypical platforms (e.g. kernel, or an experimental OS) and extended feature-wise (e.g. adding support for Objective-C categories, or associated objects).

A prototype implementation of such a modular run-time for Objective-C also is included.