HelenOS is an operating system that originated as a software project at the Faculty of Mathematics and Physics. So far it lacks support for dynamically linked libraries as well as support for process tracing and debugging.

Dynamically linked libraries enable developing individual parts of large software systems independently and linking them later together without recompilation. The linking is carried out at load-time or run-time by the dynamic linker. The linker must nd all libraries used by the program, map them into memory and relocate them. Then it must resolve external (symbolic) references between the program and libraries.

A debugger and a system-call tracer are essential development tools. They use a special system interface for their operation enabling them to suspend an application when certain events occur (such as a breakpoint or a trap). Then they may examine or change the application's memory contents and resume its execution.

The main goal of this thesis is to implement support for dynamically linked libraries in HelenOS, namely the dynamic linker, and also a system API for debugging and tracing processes, including a demo application.