

Collaborators: 12110817张展玮 12110813刘圣鼎 12110714谢嘉楠

Topic selection

[proj200-Linux-0.11-x64](#)

Basic idea

The project aims to transplant Linux 0.11, a small operating system with a basic style that has influenced modern Linux operating systems, from its original x86 (32-bit) platform to the x86-64 (x64) platform. The goal is to create a functional version of Linux 0.11 that can run on x64 hardware. The project involves updating the kernel code and device drivers to work with x64 architecture and using cross-compilers to build the kernel and user-space applications for the new platform. The project also requires extensive testing on an emulator or virtual machine.

Plan

Week 1:

- Research and study the differences between x86 and x64 architecture.
- Familiarize ourselves with the Linux 0.11 kernel code and its structure.

Week 2:

- Start porting the kernel code to the x64 architecture, updating the instruction set and memory addressing modes, and other necessary details.
- Test the kernel code on an emulator or virtual machine.

Week 3:

- Continue porting the kernel and device drivers to x64 architecture, fixing any issues found during testing.
- Begin building user-space applications for the new platform.
- Test the kernel and user-space applications on an emulator or virtual machine.

Week 4:

- Complete the porting of the kernel and device drivers to x64 architecture.
- Complete the report of the project.