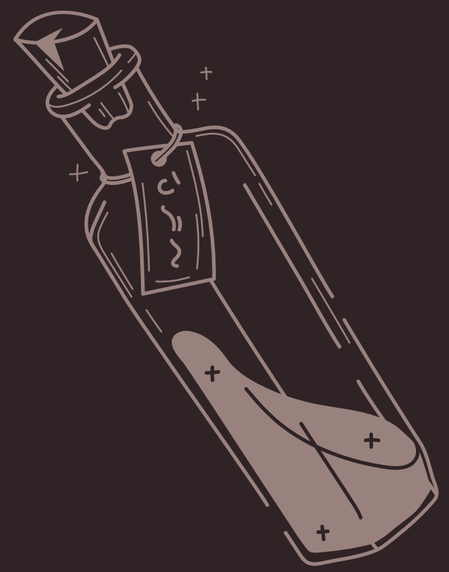
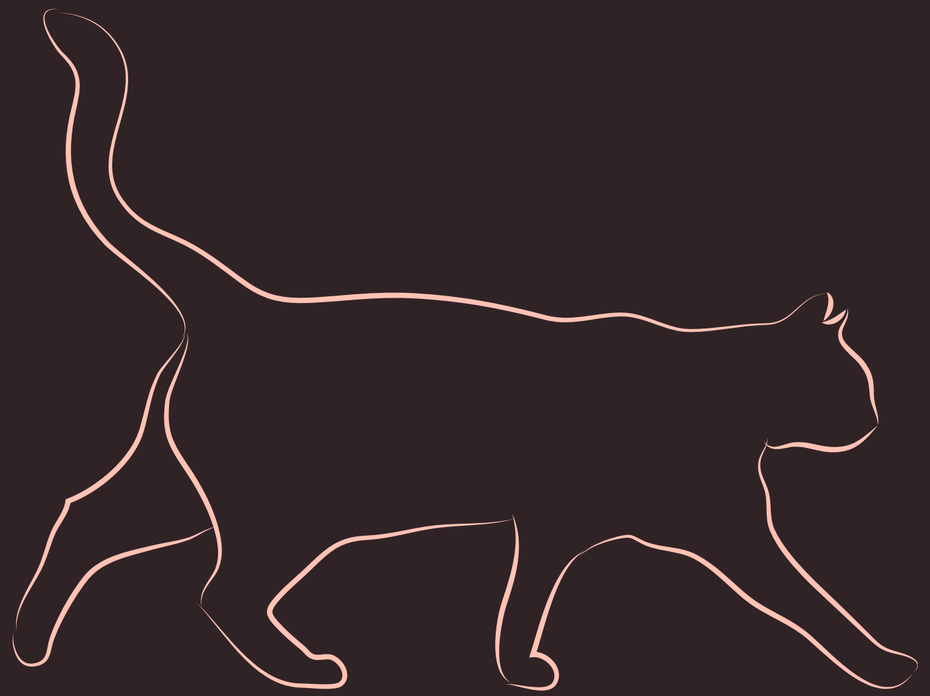
OS course project

INSTRUCTIONS FOR WRITING DRIVERS FOR MACOS

Daria Omelkina



PLAN



1. ABOUT PROJECT
2. INTRO
3. RESULTS: FIRST VERSION OF INSTRUCTION
5. FUTURE PLANS
6. SOURCES

ABOUT

Aim of the project

- Instruction(s) for macOS
- I/O kit
- DriverKit
- Studying and describing drivers
- Code example(s)

INTRO

Drivers

- Control
- Bridge
- Kernel space
  vs
- User space
- Device special files

Drivers

- Control
- Bridge
- Kernel space
  vs
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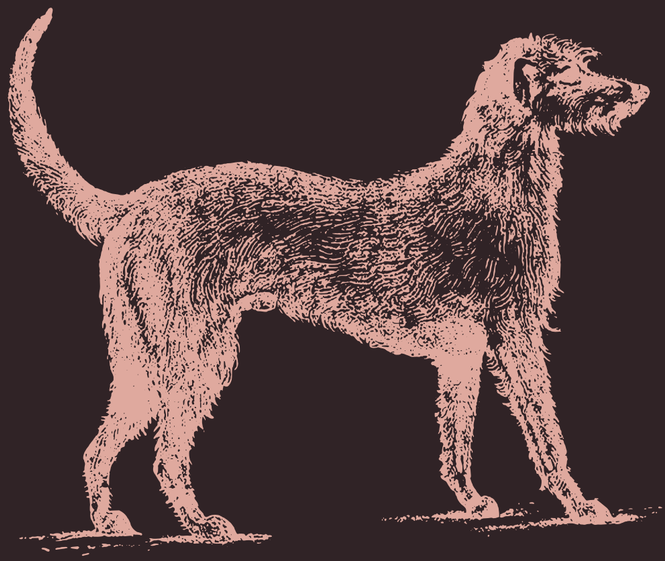
- Device special files

In macOS

- Dynamic management of device special files (not only for macOS)
- User space support
- Two kits for development: I/O Kit, DriverKit



FIRST VERSION

I/O KIT VS DRIVERKIT

I/O KIT VS DRIVERKIT

Writing drivers

- Xcode project
- DriverKit driver template
- Device families
- App requirement

Instruction link

FUTURE

1. INSTALLATION/USAGE
2. MORE DETAILS/ILLUSTRATIONS
3. MORE ABSTRACT EXAMPLES
5. WEB PAGE
6. I/O KIT COMPARISON
7. UKRAINIAN VERSION

SOURCES

1. "MAC OS X Internals: A Systems Approach" by Amit Singh https://www.oreilly.com/library/view/mac-os-x/0321278542/
2. Modern Operating Systems, Andrew S. Tanenbaum (mostly chapter 5) https://csc-knu.github.io/sys-prog/books/Andrew%20S.%20Tanenbaum%20-%20Modern%20Operating%20Systems.pdf
3. https://developer.apple.com/documentation/driverkit/creating_a_driver_using_the_driverkit_sdk
4. https://developer.apple.com/videos/play/wwdc2019/702/
5. https://developer.apple.com/documentation/hiddriverkit/handling_keyboard_events_from_a_human_interface_device
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7. https://developer.apple.com/documentation/driverkit
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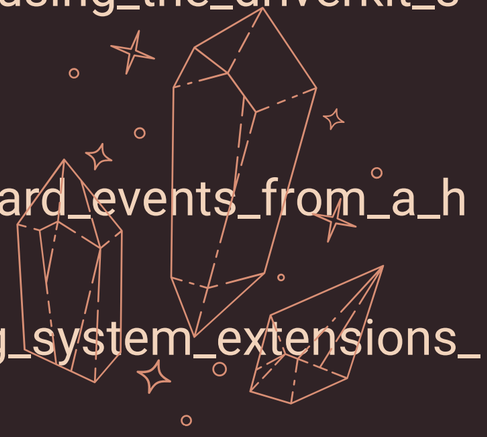
9. https://developer.apple.com/library/archive/documentation/DeviceDrivers/Conceptual/IOKitFundamentals/Introduction/Introduction.html



Thank you for your Attention!