AquaOS
A 64-bit Hobby OS written in C++

Project Overview Document

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Note: This document is a Work-In-Progress, Items will be added at later points.
Note: AquaOS is written for x86.
Note: AquaOS is not a UNIX-like Operating System.

AquaBoot | a Custom UEFI Bootloader:

Setups the GOP, and gets Framebuffer.
Displays a Logo on start-up.
Retrieves Memory Map.
Grabs the RSDP.
Setups Virtual Memory and Page Tables to load Kernel
Load Kernel into a virtual memory address.
Parse the Framebuffer, MemoryMap, and RSDP to the Kernel.
Pass control to the Kernel.

AquaKernel | a Higher-half Microkernel:

Print text to the screen using the Framebuffer.
Setup the Interrupt Descriptor Table(IDT).
Setup Virtual Memory and Physical Memory for the Kernel.
Memory Management.
Page-Fault Detection.
Multitasking.
Scheduling.
Loading Kernel-Modules.
Perform System Checks.
Load the UserSpace.

UserSpace | AquaOS' Desktop Environment:

C Library.
C++ Library.
PNG parser.
Desktop Background.
Windowing System.
Date/Time.
Accounts.
Account Permissions.
Executing Programs.
Themes.

AquaDrivers | Drivers for AquaOS:

NVME Driver.
AHCI Driver.
XHCI Driver.
Filesystem (FAT32) Driver.
PS/2 Keyboard Driver.
Mouse Driver.
Audio Driver.

Programs | Programs for UserSpace.

Task Manager.
AquaShell(Terminal).
Files(Don't know what to call the program yet).
Notepad.
Shogi++(For fun).

Misc:

Port GCC & Binutils.
[Color] Screen of Death.
Installer.