Kairos

KairOS is a new operating system written in C#, x86 Assembly and a hybrid language called XSharp.

Kernel Architecture Information Relay Operating System

KairOS, the Kernel Architecture Information Relay Operating System is a new operating system written in C# that runs x86 PCs, targeting low-powered and embedded systems to provide a toolset for hardware & software engineers to interact and communicate with various devices connected via serial, parallel, USB and ethernet.

Written in C# and x86 assembly, KairOS is also written in a hybrid language called XSharp, which allows low-level x86 assembly to be written in a similar fashion to C# and other high-level languages.

KairOS aims to be a low-level operating system that can be used by engineers and programmers to interact with both remote servers and embedded systems via serial, telnet, ssh, sftp/ftp and other protocols without having major overhead and bloatware compared to other operating systems. To achieve this, we are targeting the Cosmos (C# Open Source Managed Operating System) platform to enable us to write a lot of the high-level application layers using .NET, while still being able to call low-level hardware functions in assembly and a mid-layer programming language called X#, which is also provided by Cosmos. The C# written components of the operating system are compiled to machine language by Cosmos’s in-house compiler called IL2CPU. IL2CPU uses the Common Intermediate Language (CIL) which is what .NET languages also target when being ran on the host operating system. IL2CPU “translates” code from CIL to human readable x86 assembly, which is then compiled by YASM into binary-format machine language.