Real-Time Operating Systems

As any other computer application, embedded systems must be tailored to the operating system they are running on. Furthermore the, usually quite specific, environment in which these systems will execute often require them to be adapted to their hardware environment.

ac6-trainingprovides trainings to help you create embedded systems using a Real-Time Operating System (RTOS) but also to tailor this RTOS to your needs if you have to.

IOT1 - Internet of Things (IOT) on Microcontrollers - This course introduce the IoT ecosystem, describe the most used IoT Edge to Cloud Protocols (MQTT, MQTT-SN and CoAP), explore particularly heinous IoT focused attacks and security provisions at each level of stack (physical devices, communication systems and networks). This course explains how to configure the LwIP (with MQTT), FreeRTOS and MbedTLS for a microcontroller-based IoT application. It requires previous knowledge of FreeRTOS. 3 days **Inquiry**

STG - STM32 + FreeRTOS + LwIP - 5 days **Inquiry**

lightweight real-time operating system (RTOS) designed to efficiently manage tasks in embedded applications. The Real-Time Programming with FreeRTOS course delves into the design and implementation of real-time applications using FreeRTOS. Covering essential topics such as task scheduling, synchronization, and memory management, this course equips professionals with the skills necessary to develop reliable and efficient real-time systems. Ideal for developers with a basic understanding of real-time systems and programming concepts, it provides a solid foundation in FreeRTOS development, enabling participants to design, implement, and debug robust embedded applications. 3 days **Inquiry**

RT3 - FreeRTOS Real-Time Programming - FreeRTOS is a lightweight, real-time operating system (RTOS) designed to efficiently manage tasks in embedded applications. The Real-Time Programming with FreeRTOS course delves into the design and implementation of real-time applications using FreeRTOS. Covering essential topics such as task scheduling, synchronization, and memory management, this course equips professionals with the skills necessary to develop reliable and efficient real-time systems. Ideal for developers with a basic understanding of real-time systems and programming concepts, it provides a solid foundation in FreeRTOS development, enabling participants to design, implement, and debug robust embedded applications. 3 days **Inquiry**

Zephyr RTOS Programming - Zephyr RTOS *course* explore its ecosystem for embedded systems, build system and West tool, configure Device Tree and Kconfig, create custom modules and drivers, and master GPIO, I2C, power management, memory analysis, user mode, threading, synchronization, mailboxes, Zous, and interrupts. 5 days **Inquiry**

RT6 - Real-Time Programming with Eclipse Threadx - 3 days **Inquiry**

RT3 - Cortex M4 Texas Instruments - Implementation and TI-RTOS - This course describes the Texas Instruments ARM Cortex M4F implementation and TI-RTOS real-time programming. 4 days **Inquiry**