The aim of this project is to build a Real Time Kernel in a Rasperry Pi 3 (in my case a Rasperry Pi 3 model B rev1.2).

This Kernel will be able to schedule tasks (with freeRTOS), to work with serial line, GPIO’s ports and to receive instructions through the Ethernet RJ45 connection. In “Sistemes Operatius 2”, we built a similar operating system in C, based in Linux Kernel. For that reason, I consider it will be affordable to implement a Real Time Kernel in a Rasperry Pi 3. I also want to create a tool to measure the expected time of execution of a program in function of the assembly code. For testing, I can use an Arduino Uno as an oscyloscope to watch over the time.

I am a motivated and eager student who is willing to work with ARM architecture inside the raspberry Pi, because in the future I want to build a raspberry cluster at home with 2 or 3 raspberry.