

## **Proposal of a Project Plan for Teamwork at Iran LED**

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New Atmel AVR 32bit families such as AT32AP7000 are suitable for designing very powerful tiny control systems. These tiny boards may support PC104 standard to communicate with extension boards and external devices. Such a great microcontroller would be much more elegant if an operating system manages its resources. There are quite a few operating systems developed to be run on Motorola, Microchip, Atmel AVR, and Intel microcontrollers. For instance, an open source project called “Real Time Operating System” (RTOS) is available supporting some of these chipsets.

Having an operating system instead of conventional programming approaches to manage microcontroller resources such as memory and I/O units could help a lot in parallel computing and ease of programming. A potential teamwork proposal in electronics and computer engineering could be designing a tiny motherboard for AT32AP7000. In addition, developing a user friendly RTOS for this microcontroller or any other member of Atmel AVR 8bit family is highly desirable. AvrX Real Time Kernel and  $\mu$ C/OS-II Kernel are other examples.

These potential research studies are highly respected for prospective MS/PhD students of computer / electronics engineering. Applying Semantic Web Technology at core functions of this embedded operating system is another research interest.