

Lab 6 - Temporizadores, Tareas Periódicas y Sincronización Simple

IE3059 - Electrónica Digital 3

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Funciones Asociadas a Temporizadores y Propiedades de Escalonamiento

int timerfd_create(int *clockid*, int *flags*)

- This function creates a new timer object and returns a file descriptor that refers to that timer.
- The *clockid* argument specifies the clock that is used to mark the progress of the timer and must be either **CLOCK_REALTIME** or **CLOCK_MONOTONIC**.
- The *flags* argument should be set to **0**.

int timerfd_settime (int *fd*, int *flags*, const struct itimerspec **new_value*, struct itimerspec **old_value*)

- This function arms (starts) or disarms (stops) the timer referred to by the file descriptor *fd*.
- The *fd* argument specifies the file descriptor from timerfd_create().
- The *flags* argument should be set to **0**.
- The *new_value* argument specifies the initial expiration and interval for the timer, a *struct itimerspec*.
- The *old_value* argument should be set to NULL.

Funciones Asociadas a Temporizadores y Propiedades de Escalonamiento

int sched_setscheduler(pid_t pid, int policy, const struct sched_param *param)

- This function sets both the scheduling policy and the associated parameters for the process whose ID is specified in *pid*. If *pid* equals zero, the scheduling policy and parameters of the calling process will be set.
- The *policy* argument specifies the scheduling policy that the task should follow, possibilities are **SCHED_OTHER**, **SCHED_BATCH**, **SCHED_IDLE**, **SCHED_FIFO** (Realtime), and **SCHED_RR** (Realtime).
- The *param* argument specifies a *struct sched_param* with the correct *sched_priority* value.

ssize_t read(int fd, void *buf, ssize_t count)

- This function attempts to read up to *count* bytes from file descriptor *fd* into the buffer starting at *buf*.

Antes de crear su programa del Lab 6...

- Estudie, compile y ejecute el programa **Lab6_files_y_strings.c**.
- Estudie las funciones y estructuras mostradas en el archivo **Lab6_Timer_functions.c**.

Enlaces Útiles

- https://linux.die.net/man/2/timerfd_create
- https://linux.die.net/man/2/sched_setscheduler
- <https://linux.die.net/man/2/read>