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/* SignalNotification.c - Compiled with SAS/C 5.10a
   lc -cfs -v -d0 -b0 -j73 SignalNotification.c
   blink from SignalNotification.o to SignalNotification.lib lib:amiga.lib
   quit
 */

#include <exec/types.h>
#include <exec/memory.h>
#include <dos/dos.h>
#include <dos/dosasl.h>
#include <dos/notify.h>
#include <dos/rdargs.h>

#include <clib/exec_protos.h>
#include <clib/dos_protos.h>

/* Use pragmas if you've got them */

static UBYTE *Verstrag = "\$VER: SignalNotification 37.1 (09.07.91)";
struct Library *DOSBase;
struct ExecBase *SysBase;

VOID
main(VOID);

VOID
main(VOID)
{
    struct RDargs *readargs;
    LONG rargsl[2];
    struct NotifyRequest *notifyrequest;
    UBYTE *filename;
    ULONG signr, signal;

    /* To appease amiga.lib */
    SysBase = (*(struct Library **) 4));

    /* Fail silently if < 37 */
    if (DOSBase = OpenLibrary("dos.library", 37))
    {
        /* See the DOS Autodocs for more information about ReadArgs() */
        if (readargs = ReadArgs("Filename/A", rargs, NULL))
        {
            filename = (UBYTE *) (rargsl[0]);

            /* Allocate a NotifyRequest structure */
            if (notifyrequest = AllocMem(sizeof(struct NotifyRequest), MEMF_CLEAR))
            {
                /* And allocate a signalbit */
                if ((signr = AllocSignal(-1)) != -1)
                {
                    /* Initialize notification request */
                    notifyrequest->nr_Name = filename;
                    notifyrequest->nr_Flags = NRF_SPND_SIGNAL | NRF_NOTIFY_INITIAL;
                    /* Signal this task */
                    notifyrequest->nr_stuff.nr_Signal.nr_Task =
                        (struct Task *) FindTask(NULL);
                    /* With this signal bit */
                    notifyrequest->nr_stuff.nr_Signal.nr_SignalNum = signr;
                    if ((StartNotify(notifyrequest)) == DOSTRUE)
                    {
                        /* Loop until Ctrl-C to exit */
                        for (;;)
                        {
                            signal = Wait(1L << signr | SIGBREAKF_CTRL_C);
                            if (signal & (1L << signr))
                                VPrintf(Output(), "Notification signal!\n", NULL);
                            if (signal & SIGBREAKF_CTRL_C)
                            {
                                EndNotify(notifyrequest);
                                PrintFault(ERROR_BREAK, NULL);
                                break;
                            }
                        }
                    }
                }
            }
        }
    }
}

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else
    PrintFault(ERROR_NOT_IMPLEMENTED, NULL); /* most logical */
}
FreeSignal(signr);
}
else
    VPrintf(Output(), "No signal available\n", NULL);
FreeMem(notifyrequest, sizeof(struct NotifyRequest));
}
else
    PrintFault(ERROR_NO_FREE_STORE, NULL);
FreeArgs(readargs);
}
else
    PrintFault(IoErr(), NULL);
CloseLibrary(DOSBase);
}
}

/* MessageNotification.c - Compiled with SAS/C 5.10a:
   lc -cfs -v -d0 -b0 -j73 MessageNotification.c
   blink from MessageNotification.o to MessageNotification.lib lib:amiga.lib
   quit
 */

#include <exec/types.h>
#include <exec/memory.h>
#include <exec/lists.h>
#include <exec/nodes.h>
#include <dos/dos.h>
#include <dos/dosasl.h>
#include <dos/notify.h>
#include <dos/rdargs.h>

#include <clib/alib_protos.h>
#include <clib/exec_protos.h>
#include <clib/dos_protos.h>

/* Use pragmas if you've got them */

static UBYTE *Verstrag = "\$VER: MessageNotification 37.1 (09.07.91)";
struct Library *DOSBase;
struct ExecBase *SysBase;

/* I'll keep track of the NotifyRequests in an Exec list */
struct NotifyNode
{
    struct Node nnode;
    struct NotifyRequest nr_NotifyRequest;
} /* and whatever is useful. Maybe a FileinfoBlock structure... */

VOID
main(VOID);

VOID
main(VOID)
{
    struct RDargs *readargs;
    LONG rargsl[2];
    struct NotifyRequest *notifyrequest;
    struct List *notifylist;
    struct MsgPort *notifyport;
    struct NotifyNode *nnode, *nextnode;
    UBYTE *filenames;
    ULONG signal, notifysignal;
}

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/* To appease amiga.lib */
SysBase = (*(struct Library **) 4));

/* Fail silently if < 37 */
if (DOSBase = OpenLibrary("dos.library", 37))
{
    /* See the DOS Autodocs for more information about ReadArgs() */
    if (readargs = ReadArgs("Filename/A/M", rargs, NULL))
    {
        /* Pointer to array of filenames */
        filenames = (UBYTE **) (rargs[0]);

        if (notifyport = CreateMsgPort())
        {
            if (notifylist = AllocMem(sizeof(struct List), MEMF_CLEAR))
            {
                /* initialize list */
                NewList(notifylist);

                /* The list of filenames is terminated with a NULL */
                while (*filenames)
                {
                    /* Get a NotifyNode */
                    if (nnode = AllocMem(sizeof(struct NotifyNode), MEMF_CLEAR))
                    {
                        /*
                         * Use ln_Name to store qualified filename to
                         * monitor. Note that I keep using that pointer to
                         * the command argument line here. In a real life
                         * application you're better off copying the
                         * string.
                         */
                        nnode->nn_Node.ln_Name = (UBYTE *) * filenames++;
                        notifyrequest = &(nnode->nn_NotifyRequest);

                        /* Initialize notification request */
                        notifyrequest->nr_Name = nnode->nn_Node.ln_Name;
                        notifyrequest->nr_Flags =
                            NRF_SEND_MESSAGE | NRF_WAIT_REPLY;
                        notifyrequest->nr_stuff.nr_Msg.nr_Port = notifyport;
                        /*
                         * I'm storing the address of the NotifyNode in
                         * nr_UserData. Not going to do anything with it
                         * here, but it would enable me to use the node
                         * immediately when I receive a NotifyMessage.
                         */
                        notifyrequest->nr_UserData = (ULONG) nnode;
                        /*
                         * only add the node to the list if notification is
                         * supported
                         */
                        if ((StartNotify(notifyrequest)) == DOSTRUE)
                        {
                            AddTail(notifylist, (struct Node *) nnode);
                            Printf("Notification on %s\n",
                                (LONG) nnode->nn_Node.ln_Name);
                        }
                        else
                        {
                            Printf("Notification failed on %s\n",
                                (LONG) nnode->nn_Node.ln_Name);
                            FreeMem(nnode, sizeof(struct NotifyNode));
                        }
                    }
                    else
                    {
                        PrintFault(ERROR_NO_FREE_STORE, NULL);
                        break;
                    }
                }
            }
        }

        /*
         * Is list empty? If so get out of here. (Macro defined in
         * <exec/lists.h>)
         */
        if (!IsListEmpty(notifylist))

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{
    /*
     * No empty, so we've got outstanding NotifyRequests.
     * Loop until Ctrl-C.
     */
    notifysignal = 1L << notifyport->mp_SigBit;
    for (;;)
    {
        /* Wait for message port signals and break */
        signal = Wait(notifysignal | SIGBREAKF_CTRL_C);

        if (signal & notifysignal)
        {
            while (notifysig =
                (struct NotifyMessage *) GetMsg(notifyport))
            {
                /*
                 * Here is that node again, stuffed in
                 * nr_UserData. Can immediately reference
                 * its data, like comparing filesize with
                 * stored filesize in node, or remove it
                 * (after an EndNotify() ofcourse).
                 */
                Printf(
                    "Notification message for %s, Node at 0x%x\n",
                    (LONG) notifysig->nm_NReq->nr_Name,
                    (LONG) notifysig->nm_NReq->nr_UserData);
                ReplyMsg((struct Message *) notifysig);
            }
        }

        if (signal & SIGBREAKF_CTRL_C)
        {
            /*
             * Walk down the list, remove all
             * NotifyRequests, free all nodes.
             */
            nnode = (struct NotifyNode *) notifylist->lh_Head;
            while (nextnode =
                (struct NotifyNode *) nnode->nn_Node.ln_Succ)
            {
                notifyrequest = &(nnode->nn_NotifyRequest);
                Printf("Removing notification for %s\n",
                    (LONG) notifyrequest->nr_Name);

                /*
                 * remove this request. EndNotify() will
                 * also remove any messages on the message
                 * port.
                 */
                EndNotify(notifyrequest);
                /*
                 * Not really needed to Remove() the node,
                 * never going to use this list again
                 */
                Remove((struct Node *) nnode);
                FreeMem(nnode, sizeof(struct NotifyNode));
                nnode = nextnode;
            }
            break;
        }
    }
    FreeMem(notifylist, sizeof(struct List));
    DeleteMsgPort(notifyport);
    FreeArgs(readargs);
}
else
    PrintFault(IoErr(), NULL);
CloseLibrary(DOSBase);
}
}

```

