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/* SignalNotification.c - Compiled with SAS/C 5.10a
lc -cfls -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 *VersTag = "\0$VER: SignalNotification 37.1 (09.07.91)";
struct Library *DOSBase;
struct ExecBase *SysBase;

VOID
main(VOID);

VOID
main(VOID)
{
    struct RDArgs *readargs;
    LONG rargs[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 *) (rargs[0]);

            /* Allocate a NotifyRequest structure */
            if (notifyrequest = AllocMem(sizeof(struct NotifyRequest), MEMF_CLEAR))
            {
                /* And allocate a signalbit */
                if ((signr = AllocSignal(-1L)) != -1)
                {
                    /* Initialize notification request */
                    notifyrequest->nr_Name = filename;
                    notifyrequest->nr_Flags = NRF_SEND_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;
                            }
                        }
                    }
                }
            }
            else

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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 -cfls -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 *VersTag = "\0$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 nn Node;
    struct NotifyRequest nn NotifyRequest;
    /* and whatever is useful. Maybe a FileInfoBlock structure... */
};

VOID
main(VOID);

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

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

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/* 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
                    {
                        PrintfFault(ERROR_NO_FREE_STORE, NULL);
                        break;
                    }
                }
            }
            /*
             * Is list empty? If so get out of here. (Macro defined in
             * <exec/lists.h>)
             */
            if (!IsListEmpty(notifylist))
            {
                /*
                 * No empty, so we've got outstanding NotifyRequests.

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        * Loop until Ctrl-C.
        */
        notifyfsignal = 1L << notifyport->mp_SigBit;
        for (;;)
        {
            /* Wait for message port signals and break */
            signal = Wait(notifyfsignal | SIGBREAKF_CTRL_C);

            if (signal & notifyfsignal)
            {
                while (notifymsg =
                    (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%lx\n",
                        (LONG) notifymsg->nm_NReq->nr_Name,
                        (LONG) notifymsg->nm_NReq->nr_UserData);
                    ReplyMsg((struct Message *) notifymsg);
                }
            }

            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
        PrintfFault(IoErr(), NULL);
    CloseLibrary(DOSBase);
}
}

```