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/* broker.c - Simple skeletal example of opening a broker
 * compiled with SASC 5.10
 * LC -b0 -cfist -v broker.c
 * Blink FROM LIB:c.o,broker.o TO broker LIBRARY
 * LIB:LC.lib,LIB:Amiga.lib
 */
#include <exec/libraries.h>
#include <libraries/commodities.h>
#include <dos/dos.h>
#include <clib/exec_protos.h>
#include <clib/alib_protos.h>
#include <clib/alib_stdio_protos.h>
#include <clib/alib_commodities_protos.h>
#include <clib/commodities_protos.h>

#ifdef LATTICE
int CXBRK(void) { return(0); } /* Disable Lattice CTRL/C handling */
int chKabort(void) { return(0); }
#endif

struct Library *CxBase;

void main(void);
LONG ProcessMsg(void);

CxBObj *broker;

struct MsgPort *broker_mp;

struct NewBroker newbroker = {
  NB_VERSION, /* nb_Version - Version of the NewBroker structure */
  "AmigaMail broker", /* nb_Name - Name CX uses to identify this commodity */
  "Broker", /* nb_Title - Title of commodity that appears in CXExchange */
  "A simple example of a broker", /* nb_Descr - Description of the commodity */
  0, /* nb_Unique - Tells CX not to launch new commodity with same name */
  0, /* nb_Flags - Tells CX if this commodity has a window */
  0, /* nb_Pri - This commodity's priority */
  0, /* nb_Port - MsgPort CX talks to */
  0 /* nb_ReservedChannel - reserved for later use */
};

ULONG cxsigflag;

void main()
{
  /* Before bothering with anything else, open the library */
  {
    CxBase = OpenLibrary("commodities.library", 37L)
    {
      /* Commodities talks to a Commodities application through
       * an Exec Message port, which the application provides
       */
      if (broker_mp = CreateMsgPort())
      {
        newbroker.nb_Port = broker_mp;

        /* The commodities.library function CxBroker() adds a
         * broker to the master list. It takes two arguments,
         * a pointer to a NewBroker structure and a pointer to
         * a LONG. The NewBroker structure contains information
         * to set up the broker. If the second argument is not
         * NULL, CxBroker will fill it in with an error code.
         */
        if (broker = CxBroker(&newbroker, NULL))
        {
          cxsigflag = 1L << broker_mp->mp_SigBit;

          /* After it's set up correctly, the broker
           * has to be activated
           */
          ActivateCxBObj(broker, 1L);

          /* the main processing loop */
          while (ProcessMsg());

          /* It's time to clean up. Start by removing

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         * the broker from the Commodities master list.
         * The DeleteCxBObjAll() function will take care
         * of removing a CxBObject and all those connected
         * to it from the Commodities network
         */
        DeleteCxBObj(broker);
      }
      DeleteMsgPort(broker_mp);
    }
    CloseLibrary(CxBase);
  }
}

LONG ProcessMsg(void)
{
  CxMsg *msg;

  ULONG sigrcvd, msgid, msgtype;
  LONG returnvalue = 1L;

  /* wait for something to happen */
  sigrcvd = Wait(SIGBREAKF_CTRL_C | cxsigflag);

  /* process any messages */
  while(msg = (CxMsg *)GetMsg(broker_mp))
  {
    /* Extract necessary information from the CxMessage and return it */
    msgid = CxMsgID(msg);
    msgtype = CxMsgType(msg);
    ReplyMsg((struct Message *)msg);

    switch(msgtype)
    {
      case CXM_IEVENT:
        /* Shouldn't get any of these in this example */
        break;
      case CXM_COMMAND:
        /* Commodities has sent a command */
        printf("A command: ");
        switch(msgid)
        {
          case CXCMD_DISABLE:
            printf("CXCMD_DISABLE\n");
            /* The user clicked Commodities Exchange disable
             * gadget better disable
             */
            ActivateCxBObj(broker, 0L);
            break;
          case CXCMD_ENABLE:
            /* user clicked enable gadget */
            printf("CXCMD_ENABLE\n");
            ActivateCxBObj(broker, 1L);
            break;
          case CXCMD_KILL:
            /* user clicked kill gadget, better quit */
            printf("CXCMD_KILL\n");
            returnvalue = 0L;
            break;
        }
        break;
      default:
        printf("Unknown msgtype\n");
        break;
    }
  }

  /* Test to see if user tried to break */
  if (sigrcvd & SIGBREAKF_CTRL_C)
  {
    returnvalue = 0L;
    printf("CTRL C signal break\n");
  }
  return(returnvalue);
}

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Input

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/* Hockey.c - Simple hot key commodity
 * compiled with SASC 5.10
 * LC -b0 -ffirst -v hockey.c
 * Link FROM LIB:c.o,hockey.o TO hockey LIBRARY LIB:LC.lib,LIB:Amiga.lib
 */
#include <exec/libraries.h>
#include <libraries/commodities.h>
#include <dos/dos.h>
#include <clib/exec_protos.h>
#include <clib/alib_protos.h>
#include <clib/alib_stdio_protos.h>
#include <clib/alib_commodities_protos.h>
#include <clib/commodities_protos.h>

#ifndef LATTICE
int CxObj(void) { return(0); } /* Disable Lattice CTRL/C handling */
int CxHAbort(void) { return(0); }
#endif

#define EVT_HOTKEY IL

struct Library *CxBase, *IconBase;

void main(intc, char **)
LONG ProcessMsg(void);

struct MsgPort *Broker_mmp;

CxObj *broker, *filter, *sender, *translator;

struct NewBroker newbroker = {
    NB_VERSION,
    "AmigaMail Hockey",
    "A Simple Hot Key",
    NBU_UNIQUE | NBU_NOTIFY,
    /* Don't want any new commodities
     * starting with this name. If someone
     * tries it, let me know */
    0,
    0,
    0,
    0
};

ULONG cxsigflag;

void main(intc argc, char **argv)
{
    char *hockey, **types;

    if (CxBase = OpenLibrary("commodities.library", 37L))
    {
        /* open the icon.library for the support library
         * functions, ArgArrayInit() and ArgArrayDone()
         */
        IF (IconBase = OpenLibrary("icon.library", 36L))
        {
            if (broker_mmp = CreateMsgPort())
            {
                newbroker.nb_port = broker_mmp;
                cxsigflag = IL << broker_mmp->mmp_sigflg;

                /* ArgArrayInit() is a support library function
                 * (from the 2.0 version of amiga.lib) that makes it
                 * easy to read arguments from either a CLI or from
                 * the Workbench's ToolTypes. Because it uses
                 * icon.library, the library has to be open before
                 * calling this function. ArgArrayDone() cleans up
                 * after this function.
                 */
                types = ArgArrayInit(argc, argv);

                /* ArgInit() (also from amiga.lib) searches through the
                 * array set up by ArgArrayInit() for a specific

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 * ToolType. If it finds one, it returns the numeric
 * value of the number that followed the ToolType
 * (i.e. CX_PRIORITY=7). If it doesn't find the ToolType,
 * it returns the default value (the third argument)
 */
newbroker.nb_pri = (BYTE)ArgInit(types, "CX_PRIORITY", 0);

/* ArgString() works just like ArgInit(), except it
 * returns a pointer to a string rather than an integer.
 * In the example below, if there is no ToolType "HOTKEY",
 * the function returns a pointer to "rawkey control esc".
 */
hockey = ArgString(types, "HOTKEY", "rawkey control esc");

if (broker = CxBroker(&newbroker, NULL))
{
    /* CxFilter() is a macro that creates a filter
     * CxObj. This filter passes input events that
     * match the string pointed to by hockey.
     */
    if (filter = CxFilter(hockey))
    {
        /* Add a CxObj to another's personal list */
        AttachCxObj(broker, filter);

        /* CxSender() creates a sender CxObj. Every
         * time a sender gets a CxMessage, it sends a new
         * CxMessage to the port pointed to in the first
         * argument. CxSender()'s second argument will be
         * the ID of any CxMessages the sender sends to
         * the port. The data pointer associated with the
         * CxMessage will point to a COPY of the
         * InputEvent structure associated with the original
         * CxMessage.
         */
        if (sender = CxSender(broker_mmp, EVT_HOTKEY))
        {
            AttachCxObj(filter, sender);

            /* CxTranslate() creates a translate CxObj.
             * When a translate CxObj gets a CxMessage,
             * it deletes the original CxMessage and adds
             * a new input event to the InputDevice's
             * input stream after the Commodities input
             * handler. CxTranslate's argument points
             * to an InputEvent structure from which to
             * create the new input event. In this example,
             * the pointer is NULL, meaning no new event
             * should be introduced.
             */
            if (translate = (CxTranslate(NULL)))
            {
                AttachCxObj(filter, translate);

                /* CxObjError() is a Commodities.library
                 * function that returns the internal
                 * accumulated error code of a CxObj.
                 */
                if (!CxObjError(filter))
                {
                    ActivateCxObj(broker, IL);
                    while (ProcessMsg());
                }
            }
        }
        /* DeleteCxObjAll() is a Commodities.library function
         * that not only deletes the CxObj pointed to in
         * its argument, but it deletes all of the CxObjects
         * that are attached to it.
         */
        DeleteCxObjAll(broker);
    }
    DeleteMsgPort(broker_mmp);
}
}

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Introduction to
Commodities Exchange

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        /* this amiga.lib function cleans up after ArgArrayInit() */
        ArgArrayDone();
        CloseLibrary(IconBase);
    }
    CloseLibrary(CxBase);
}

LONG ProcessMsg(void)
{
    extern struct MsgPort *broker_mp;
    extern CxObj *broker;

    extern ULONG cxsigflag;

    CxMsg *msg;

    ULONG sigrcvd, msgid, msgtype;
    LONG returnvalue = 1L;

    sigrcvd = Wait(SIGBREAKF_CTRL_C | cxsigflag);

    while(msg = (CxMsg *)GetMsg(broker_mp))
    {
        msgid = CxMsgID(msg);
        msgtype = CxMsgType(msg);
        ReplyMsg((struct Message *)msg);

        switch(msgtype)
        {
            case CXM_IEVENT:
                printf("A CXM_EVENT, ");
                switch(msgid)
                {
                    case EVT_HOTKEY:
                        /* We got the message from the sender CxObject */
                        printf("You hit the HotKey.\n");
                        break;

                    default:
                        printf("unknown.\n");
                        break;
                }
                break;

            case CXM_COMMAND:
                printf("A command: ");
                switch(msgid)
                {
                    case CXCMD_DISABLE:
                        printf("CXCMD_DISABLE\n");
                        ActivateCxObj(broker, 0L);
                        break;

                    case CXCMD_ENABLE:
                        printf("CXCMD_ENABLE\n");
                        ActivateCxObj(broker, 1L);
                        break;

                    case CXCMD_KILL:
                        printf("CXCMD_KILL\n");
                        returnvalue = 0L;
                        break;

                    case CXCMD_UNIQUE:
                        /* Commodities Exchange can be told not
                         * only to refuse to launch a commodity with
                         * a name already in use but also can notify
                         * the already running commodity that it happened.
                         * It does this by sending a CXM_COMMAND with the

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                         * ID set to CXCMD_UNIQUE. If the user tries
                         * to run a windowless commodity that is already
                         * running, the user wants the commodity to shut down.
                         */
                        printf("CXCMD_UNIQUE\n");
                        returnvalue = 0L;
                        break;

                    default:
                        printf("Unknown msgid\n");
                        break;
                }
                break;

            default:
                printf("Unknown msgtype\n");
                break;
        }
    }

    if (sigrcvd & SIGBREAKF_CTRL_C)
    {
        returnvalue = 0L;
        printf("CTRL C signal break\n");
    }

    return(returnvalue);
}

```

