director

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COLLABORATORS

	TITLE : director	

ACTION	NAME	DATE	SIGNATURE
WRITTEN BY	Philip Gruebele	February 6, 2023	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

director

1.1 Director Help

```
                    Director 1.5
        Shareware Version
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       Table of Contents


           Legal Notes

           Introduction

           Installing

           Getting Started

           Main Window

           Menus

           Tool Types

           Rexx Commands

           Registering

           Known Limitations and Problems

           Problem Reporting

           Revision History
```

1.2 Legal Notes

                        This is a shareware version of Director. It is fully ↩
                          functional, but if it's
not registered, it opens up some irritating reminders to register. This software ↩
   may be
distributed freely. At the end of the trial period of 1 month, you are required ↩
   to stop
using this software if you do not register. If you do register you will receive a ↩
    key file which
makes the irritating requestors go away. This key file will be licensed to you ↩
   only and may
not be redistributed in any form. All of Director is copyrighted and is my ↩
   property.
The key file simply gives you a single user license to use Director.
  To register this software, please see
                Registering
                . To report problems, please
see
                reporting problems
                . In using this software, you accept all responsibility
for any damage or loss of productivity or money that may occur through or during ↩
   its use.
Philip A. Gruebele can in no way be held responsible for any losses.

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    OR RESPONSIBILITY IS ASSUMED.

1.3 Introduction to Director

                    Director is the input recorder for the amiga. It allows the ↩
                      user to record all
mouse and keyboard actions performed by the user into a macro. This macro
can then be played back at any time and any number of times, as fast as
the computer can handle it.
  Director has some intelligence built into it. Macros are played back to the
window they were recorded in. Upon playback, the Director finds the window
in question, and plays the macro relative to that window, regardless of its
position. Similarly, if an icon or button is selected during the macro recording,
then upon playback the Director will find the current position of the icon
or button and select it as would be expected.
  Director has many uses. The simplest use is to create macros for
actions frequently repeated by the user. For example a macro could be placed in ↩
   the

WBStartup drawer in order to open certain windows or start applications at boot ←
   time.
A macro can also be used to record demos of software or hardware at exhibitions. ←
    I
have also found Director to be useful in doing software testing.
   Some of the more advanced features are not available in this unregistered ←
     shareware
version. For example the interactive requesters are not available for making
interactive demos. Please see
                Registering
                 for further limitations.
   Since macros are really AREXX scripts which send commands to Director, the
user can modify the scripts to add any logic or add and delete parts of the macro. ←
     Macros
can also be executed from regular AREXX programs to give extended control over an
AREXX capable application.

1.4 Installing

   To install Director, simply double click on the install icon distributed
with this package. Note that Director has to be started at system boot time,
so if you want to try Director without installing it, please place it in the
WBStartup drawer and reboot.

1.5 Getting Started

                 The Director window can be opened by pressing the hot-key 'ctrl- ←
                  alt-m'.
This opens the main control window. It contains a list of macros and buttons
for starting and stopping a recording, playing back a recording, and setting ←
   playback
and record settings. Context sensitive help is available for any button or menu ←
   by
pressing the HELP key while the mouse is over any button or menu item. This ←
   feature
is available under V39 or above of the AmigaDOS operating system.
   The first time you run this software, there will not be any macros in the

                Macro List
                . You have to enter a new macro name in the
                Macro Name
                button. Then, you may press the
                Record Button
                 to start recording
into that macro. The recording will be suspended until you select a window other
than the Director window. As soon as you select another window, all mouse
and keyboard input is recorded. You may then go back to the Director window
and press the
                Stop Record Button
                 to stop the recording. To play back the macro,
simply press the

                    Play Button
                    . You may also change the playback speed by pressing the

                    Play Options Button
                    . For the usage of any other buttons, please refer to the
documentation for it.

1.6 Tool Types

The Director icon contains the following tool types:

o LEFT – the left edge of the window as saved by the settings menu
o TOP – the top edge of the window as saved by the settings menu
o CX_POPUP – YES to open the window on startup, NO to hide it
o DONOTWAIT – should always be there
o FONT – the font to use for the GUI (ex: topaz.font)
o FONTSIZE – the size for the font to use
o EDITREQ – the command line to open the editor for requesters (should not return ←
   until done)
o DIR – the directory to use to store macros
o EDIT – the command line to open the editor asynchronously
o CX_POPKEY – the key to pop up the main window (default is 'ctrl alt m')
o REC_POPKEY – the key to pop up the record control window (default is 'ctrl alt r ←
   ')
o FRONTSCREEN – YES to open the window on the front most public screen, NO to open ←
    on Workbench

1.7 Rexx Commands

Director is a rexx host. It generates its macros in the Rexx language.
When these rexx programs are played back, they send commands to Director.
These commands can move the mouse, click mouse buttons, etc. I designed these
commands so that they are humanly readable (for the most part). This allows a
Rexx programmer to modify macros manually. Some commands take rather cryptic
parameters. Letting Director generate these commands can be much easier than
generating them by hand. Most commands take a time stamp as the first parameter.
This is the time since the beginning of the macro when the given command should
complete by. The values are in 1/10's seconds. To obtain a better understanding
of commands, you may look at macros generated by Director. The following is a
list of the commands supported:

'|' is used to delimit a list of choices.
'[ ]' is used to show that the argument is optional
'timestamp' is the time stamp as discussed above.
'string' is an arbitrary sequence of keyboard input.

BUTT

Purpose: Change the state of a mouse button
Usage: BUTT timestamp L|M|R U|D

```
      L,M, and R stand for left, middlem and right buttons
      U and D stand for up or down.
```

CHAR

```
Purpose:  To enter character keyboard input
Usage:    CHAR string
```

RAW

```
Purpose:  To enter arbitrary keyboard input
Usage:    Because it's complex, just let Director. generate it.
```

MOVEI

```
Purpose:  Move mouse to a workbench icon
Usage:    MOVEI timestamp iconname
```

MOVEG

```
Purpose:  Move mouse to a gadget
Usage:    Because it's complex, just let Director. generate it.
```

MOVEM

```
Purpose:  Move mouse to a menu item
Usage:    Because it's complex, just let Director. generate it.
```

START

```
Purpose:  Tell Director that a macro is starting (block user input etc)
Usage:    START
```

STOP

```
Purpose:  Tell Director that a macro ending
Usage:    STOP
```

MOVE

```
Purpose:  Move the mouse to a window/screen relative position.
Usage:    MOVE timestamp x y
      x is the offset from the left of the screen/window
      y is the offset from the top of the screen/window

      If no window is selected, x/y are relative to the screen (see NOWINDOW).
```

MOVEREL

```
Purpose:  Move the mouse to a mouse relative position.
Usage:    MOVEREL timestamp x y
      x and y can be positive or negative.
```

SPEED

```
Purpose:  Sets the playback speed of the macro.
Usage:    SPEED n
```

n is a value from 1 to 30, where 1 is "recorded" speed and 30 is maximum ←
    speed.

NOWINDOW

Purpose: Make all further actions screen relative. To perform forther window ←
    commands (MOVEI, MOVEG etc.), a new window has to be selected (WIN)
Usage: NOWINDOW

NOSCREEN

Purpose: Unselect the current screen. To perform further mouse commands, a ←
    screen needs to be selected (SCRN)
Usage: NOSCREEN

REQ

Purpose: Display a requester to the user
Usage: REQ T|Q|W|I string
        T will create a text requestor with a "Continue" button.
        Q will create a text requestor with "Yes" and "NO" buttons. RESULT will ←
            contain YES or NO.
        W will create a text requestor with no buttons. It will close automatically ←
            when the current window is closed.
        I will create a text requestor with no buttons. It will close automatically ←
            when the use presses the return key.
        string is the string to be displayed in the requestor.

STORE

Purpose: Store the current mouse position.
Usage: STORE

RECALL

Purpose: Restore the previously stored mouse position
Usage: RESTORE

SCRN

Purpose: Select a new screen.
Usage: SCRN timestamp title special
        title is the title of the screen
        special are some Director generated flags.

WIN

Purpose: Select a new window.
Usage: Because it's complex, just let Director. generate it.

QUIT

Purpose: Quit Director.
Usage: QUIT

CLOSEWINDOW

```
Purpose:  Wait until currently selected window closes
Usage:    CLOSEWINDOW
```

1.8 Main Menu

The main window has the following menus:

```
  Project
```

```
o Edit - open the text editor with the selected macro
o Help - open the Amigaguide help window
o About - display copyright and version information
o Hide - hide the main window
o Quit - quit Director
```

```
  Settings
```

```
o Save As Defaults - save the window position as tool types
```

1.9 Main Window

```
            The main window contains the controls to select macros and record  ←
                or play them.
It also allows the setting of playback and record options.
```

```
The following is a list of all the controls available:
```

```
            Macro List

            Macro Name

            Play Button

            Record Button

            Stop Record Button

            Play Options Button

            Record Options Button
            Those controls which the user should not use at a given time will  ←
                be fogged out.
```

1.10 Macro List

The macro list contains the list of available macros. This is ←
                simply the
files in the s: directory that match the '#?.mac' file pattern. Names may
be added through the
                Macro Name
                 string gadgets. The

                Play Button
                ,
                Record Button
                , and
                Play Options Button
                affect the selected macro from this list.

1.11   Macro Name

                The macro name gadget displays the name of the currently ←
                selected macro.
The name may also be changed in order to add a new macro to the
                Macro List
                .
Please note that the name will always have the '.mac' extension in order for
the macro to be found and placed in the list the next time Director is started.

1.12   Play Button

                The play button will start to play the currently selected macro ←
                file. The

                Main Window
                window will be hidden during playback. Also, all user input is
blocked, since it would interfere with playback. However, the mouse buttons may
be used to control the playback. The right mouse button will abort playback.
The left mouse button will speed up playback (if possible).
  When the macro is finished, the
                Main Window
                will once again
appear and become active. If the macro ever appears to stop playing, but mouse
control is not given back to the computer, it usually means that the macro is ←
   waiting
for a window to be identified. You may regain control of your computer by either
waiting until the macro resumes, or by clicking the right mouse button to cancel
the macro.

1.13   Record Button

                    The record button will start to record into the currently ↩
                        selected macro file.
Any input that does not go to a Director window is recorded. This means
as long as a Director window is active, nothing is recorded. This is so
since the user would normally not want to record what is being done to the
Director windows, but rather what is being done to some other
application. Also, while recording, the
                    Record Options Button
                     can be
used to control some record options.

1.14 Stop Record Button

   The stop record button will stop the recording. This button is disabled when
Director is not recording a macro.

1.15 Play Options Button

                    The play options button opens the play options window. This ↩
                        window controls some attributes
of the currently from the
                    Macro List
                    . Options that may be set include:

o 'Speed' – this slider goes from 1 to 30, where 1 is recorded speed, and 30 is
  maximum speed.

o 'Hot Key' – the key combination which will automatically execute this macro.
  This key sequence is identical to that used with 'FKey'.

o 'Loop' – the number of times to repeat the macro if the 'Loop...' button is ↩
   pressed.

1.16 Record Options Button

   The record options button opens the record options window. This window
controls how the macro is recorded and provides some extra functionality.
Only the registered version has all functions in this window enabled. Since some
functions apply only while you are recording a macro, they will be disabled ↩
   otherwise.
All the "Record Actions" buttons will close this window immediately. To enter
another "Record Action", the user will have to reopen this window.
The various functions are as follows:

  Mouse Position:

These buttons insert mouse postion store and recall commands into the macro.
They can for example be used to store the initial position of the mouse
when playback starts, and then restore it at some later time. Upon
hitting one of these buttons, the window will close automatically.

o 'Save' – this button will insert the STORE command into the macro.
  This will store the current mouse position upon playback.

o 'Restore' – this button will insert the RECALL command into the macro.
  This will restore the saved mouse position upon playback.

  Insert Requestors:

  These buttons insert requestors into the macro. The preferred editor is
  brought up on a temporary file. The user should enter the text to be
  displayed in the given requestor, and select save and exit. This will
  insert the appropriate requestor with that text into the macro. To get
  a better understanding for the use of these requestors, you should
  experiment with them.

o 'OK...' – this button will insert the "OK" requestor. This requestor
  displays the given text until the user presses the 'Continue' button, at which
  point macro playback will resume.

o 'Yes/No' – this button will insert a "Yes/No" requestor. This requestor
  displays the given text until the user presses the 'Yes' or 'No' button, at
  which point macro playback will resume. This requestor returns the yes/no
  result which can then be used with the "Flow Control" buttons below.

o 'String Input...' – this button will insert a "String Input" requestor.
  This requestor displays the given text until the user presses the 'return'
  key. This for example allows the macro to prompt the user to enter an
  arbitrary string into a string gadget.

o 'Window Close...' – this button will insert a "Window Close..." requestor.
  This requestor displays the given text until the user closes the currently
  select window. This can be used to prompt the user for arbitrary input into
  a window, and continue macro playback when the information is enterd and the
  window is closed.

  Flow Control:

  These buttons insert IF-THEN-ELSE logic into the macro. They should be
  used with the "Yes/No" requestor (see above). For example the user may
  create a "Yes/No" requestor with the text "Do you want to do the next step".
  Immediately after this, the "If Yes" flow control button could be selected.
  This will insert a test like "if last command returned YES, then DO" into the
  macro. The follwing macro statements will then only be executed if the user
  pressed "YES". The "ELSE" flow control could be used to execute something
  else. Note that for every "If Yes/No" inserted into the macro, the user must
  insert a "End If". Otherwise the macro will encouter an error upon playback.
  Also note that the "If Yes/No" buttons should be pressed immediately after the
  "Yes/No" requestor. This is due to the fact that always the last result is
  used in the test.

o 'If No' – this button will insert an IF LAST RESULT WAS NO THEN DO THE FOLLOWING
  statement.

o 'If Yes' – this button will insert an IF LAST RESULT WAS YES THEN DO THE ↩
   FOLLOWING
  statement.

o 'Else' – this butto will insert an ELSE statement into the macro.

o 'End' – terminate the continional expressions above.

  Record Settings:

  These controls give control over what and how a macro is recorded. You may
  select to record just the keyboard input, or both mouse and keyboard. You
  may also select whether mouse actions are recorded relative to the active
  window, screen, or mouse. The default mode is relative to the window. This
  makes all mouse actions relative to the given window. Upon playback, the
  mouse will be positioned relative to that window. If the window cannot be
  found, however, an error will be displayed. The screen relative mode makes
  all mouse actions relative to the screen. Upon playback, no attention will
  be given to where windows are. All input will be played back in absolute
  screen coordinates. The mouse relative mode can be very useful for playing
  a macro relative to where the mouse currently is. Upon playback, the macro
  will not move the mouse to the recorded position, but will start playback
  wherever the mouse currently is.

  Menus:

  There are also some menu options which should normally never be used:

o 'Look at Gadgets' – this records references to gadgets rather that just window
  offsets.

o 'Look at Menus' – this records references to menus rather that just window
  offsets.

o 'Smart Window ID' – this uses a more complicated scheme for identifying windows.
  If there are problems with finding windows, turning this off may help.

o 'Insert REXX...' – this menu will bring up an editor. The text you enter here
  will be inserted into the macro.

1.17 Registering

  This software is distributed as shareware. That means that the unregistered
version may be distributed freely. Any one may try out the unregistered version
for some period of time (say I month). After this period, the user should either
register the software, or cease using it. Please be aware of the fact that
shareware authors work hard and long hours to create products – just like the
rest of you. We depend on registration payments to support development on this

and other products. If no one registers, then we will not be able to develop
any more shareware software. That would not be good, considering how much good
shareware software there is out there – and cheap too! So PLEASE register this
software if you feel that it is useful to you. And if it is not quite useful
enough to register, maybe you can send me some e-mail and let me know of ways
to possibly improve it – thanks.

   To register this software please send a check for $25. This check has to be
from a US bank. If you are not able to send a US check, you may send $25 cash
or money order. All orders received will be replied to within 1 week. Please
include your full name, mailing address, what you use Director for (optional), and ←
     what
you would like to see changed. From now on, the registered version will contain a
key file which can be used with future revisions of Director. This will allow
owners of Director to get the latest shareware release and use it without
restrictions.

My mailing address is:

  Philip A. Gruebele
  100 Buckingham Dr. #267
  Santa Clara, CA 95051

   You will receive a 3.5" disk with the latest software and documentation and
no expiration date. The annoying "Please Register" requestor will be gone!

1.18 Reporting Problems

   Since this is the first release of this software, I suspect a number
of bugs to be reported to me. If this is the case, I will post another
unregistered shareware on Aminet.

   Problems may be reported to me in several ways. You may send me mail at
the following mailing address:

  Philip A. Gruebele
  100 Buckingham Dr. #267
  Santa Clara, CA 95051

You may also send me email at:

  pgruebele@scuacc.scu.edu

If you find enforcer hits please send the complete hit. It helps greatly if you
run segtracker and enforcer with the following settings:

  segtracker
  enforcer STACKLINES 35 STACKCHECK AREGCHECK

This gives me more detailed information needed to find the problem. Also, you
should include a brief description of how to recreate the problem, the version
of AmigaDOS you are using, the machine type, and any other pertinent information.

1.19 Known Problems and Limitation

   Surprisingly I have gotten a very small number of bug reports/requests for
this software. I guess people have been pretty happy with it! However,
here is are some items you should be aware of:

o requires AmigaDOS 2.04 or greater
o AREXX has to be installed and running
o only one macro should be placed in WBStartup drawer
o some times macros won't play back correctly with a speed of 30, so slow them ←
   down
o application with overlapping screens may cause problems (some paint programs)
o when using MagicMenu, menus are not played back appropriately.
  To bypass this problem, always click the right mouse button over where
  the actual menu will appear, rather than cliking and then moving to the
  appropriate menu. A future release of MagicMenu may fix this.
o when using IF-THEN-ELSE constructs, the time stamps for the IF and ELSE
  cases should start from the same value
o also, when doing IF-THEN-ELSE constructs, it is the responsibility of the
  user to terminate the conditional.
o if at playback, a double click is not recognised, change you preferences to make ←
   it longer.
o if a "macro returned error" is reported, and you'd like to find out more try ←
   running the macro like this: "rx name.mac"
o you should quit Director since it Setfuntions various system calls

1.20 Revision History

   This history lists the changes between releases:

   version 1.4 to 1.5

o added key file for easier upgrading
o shareware version now no longer expires, but brings up reminders to register

   version 1.3 to 1.4

o generally a little more reliable
o double clicks no longer get lost
o keyboard input to shell windows no longer gets lost
o if active window closes at record time, then at play time macro will wait until ←
   the window closes before continuing
o added FRONTSCREEN tool type so we can pop open windows on Workbench or frontmost ←
    public screen

   version 1.2 to 1.3

o updated documentation
o made minor changes

   version 1.1 to 1.2

o compiled for 68000 instead of 68030 (will no longer crash on 68000)

version 1.0 to 1.1

o Fixed problem that would cause instant crash under AmigaDOS 2.04/2.1.
  Director was calling AmigaDOS 3.1 funstions even under 2.0
o made it so macros always get '.mac' extension.
o cleaned up some error handling

version 1.0

o First public release

Future plans for this software are:

o Holding down left mouse button will keep a macro from playing.
  This will allow the user to not execute a macro at boot time.
o Add better keyboard input commands that a programmer can use.
o Make IF-THEN-ELSE contructs more robust.
o Any good sugestions I get!