NAVIGATOR

COLLABORATORS

	TITLE : NAVIGATOR		
ACTION	*NAME*	*DATE*	*SIGNATURE*
WRITTEN BY		August 24, 2022	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

NAVIGATOR

1.1 NAVIGATOR User Guide
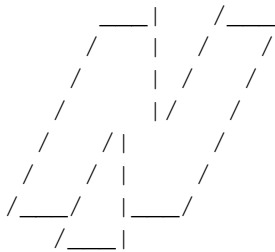
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      /    | /  /      N A V I G A T O R    W O R L D V I E W E R
     /     |/   /
    /   /|    /
   /   / |   /       a virtual reality presentation system for the Amiga
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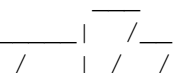
```
          Introduction
            Design and Coding by :
          Distribution

          System requirements
            Michiel den Outer
          Installing
            Populierenlaan 59
          Loading
            2925 CP Krimpen a/d IJssel
          Control
            The Netherlands
          WorldCreator

          Contacts
            This WorldViewer can be
    freely distributed.
```
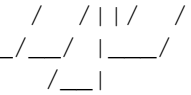
1.2 NAVIGATOR Introduction

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 NAVIGATOR INTRODUCTION                                      /  /||/  /
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NAVIGATOR is a virtual reality system for the Amiga computer. It allows you
to walk/drive and fly around a computer generated world in realtime.

Applications include :

-architectural walkaround systems
-3D titling
-3D computer games
-Flight simulators
-Racing games
-virtual art gallery
-prototyping
-music video's
-product presentation

The NAVIGATOR WORLDVIEWER can be used in the following ways :

-live at your presentation
-to make a videopresentation
-to make colourprints
-for design and analysis purposes

Since computer power is limited a realtime 3D computer model is always a
compromise between graphic detail and animation speed. Therefore pictures
generated by this program can't be compared to photorealistic images
produced by 3D modelling software like Lightwave.

However a realtime interactive model has a lot of advantadges over a
precalculated animation :

Precalculated Animation   Virtual Reality Model
----------------------------- ------------------------------------

Immersion

Looking at an non interactive   Entering a realtime interactive
animation is like looking through computer model is like stepping
a window : the world looks convincing through a door. You can walk around,
but you are no part of it.   look around and get the feeling of
         actually being there.
Interactivity

The animation is fixed and cannot be At any time you control the position
changed.   and orientation of the viewpoint.

Animation

Artificial, mathematical movements Since the animation is interactive
like perfect lines, circles etc   all movements are as natural as they
         can be
Cost

Rendering a single photorealistic No computing costs, everything is

frame takes hours even on the   computed in realtime.
fastest computers. Considering that
an animation must be at least 25
frames a second, this kind of
computer animation is very expensive.

Hardware requirements

-a fast processor   -a fast processor
-megabytes of memory
-gigabytes of disk space

Completeness

You see what the animator wants you By looking around you can see the
to see. This means that you get a   object from it's best but also from
incomplete, subjective impression.   it's worst side. This means that
            you get a complete and objective
            impression.

I hope you agree that a realtime interactive model gives you the best
impression at the lowest cost !

1.3 NAVIGATOR System Requirements


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  NAVIGATOR SYSTEM REQUIREMENTS                              /   /||/  /
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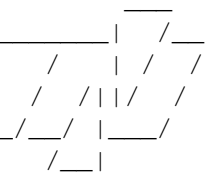
This version requires: - a 68020 CPU or higher
      - Amiga DOS 2.04 or higher
      - a 15 mhz monitor

AGA users will enjoy 24 bit colours, a 128 colour copper background and 256
colours in all resolutions. Older machines are limited to 32 colours.

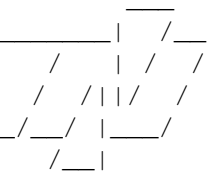You can make your animation more smooth by installing :
-fast ram
-32 bit ram
-a faster/newer processor

-NAVIGATOR is not very memory hungry, but be sure to have some fast ram
 because it's twice as fast.

-Since this program uses integer maths the use of a FPU will not effect
 performance at all.

1.4 NAVIGATOR Installing

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  NAVIGATOR INSTALLING                                   /   /||/   /
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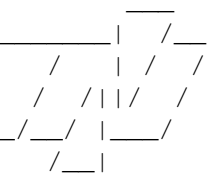
To install NAVIGATOR simply drag the NAVIGATOR icon to the desired place on
your harddisk.

The workbench file you need is :
-asl.library in the libs directory

1.5 NAVIGATOR Loading

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  NAVIGATOR LOADING                                      /   /||/   /
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Double click it's icon from the workbench to run the program. A filerequester
will be presented allowing you to select and load a world from disk.

You can also start the program from the Shell and use the worldfile as an
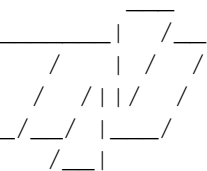argument.

Example : NAVIGATOR worlds:games/jaguar.NAV

It's possible to immediately start a recording file

Example : NAVIGATOR worlds:games/jaguar.NAV worlds:games/jaguar.REC

1.6 NAVIGATOR WorldCreator

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  NAVIGATOR WORLDCREATOR                                 /   /||/   /
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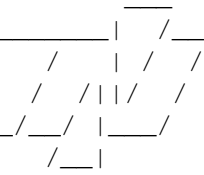
The NAVIGATOR WORLDCREATOR and fileformat are currently not published and
will not be in the near future.

All NAVIGATOR applications are developed in-house.

1.7 NAVIGATOR Control

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 NAVIGATOR CONTROL                                         /  /|||/  /
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<F1>   WALK MODE
    -use mouse up/down to walk forward/backwards
    -use mouse left/right to change direction
    -use mouse left/right with right button pressed to step to
     the left/right
    -use mouse up/down with left button pressed to look up/down
    -use mouse up/down with both buttons pressed to control
     height

<F2>   DRIVE MODE
    -use mouse left/right to steer
    -use +,- keys to control speed

<F3>   FLY MODE
    -use mouse left/right to roll
    -use mouse up/down to climb/dive
    -use +,- keys to control speed

<F4>   ROTATION MODE
    By pressing this key you start rotating around your current
    position.
    -use mouse up/down with both buttons pressed to control the
     radius.
    -use mouse with right button pressed to control the angles.

<F5>   SHADED HORIZON
    Uses Amiga's famous Copper chip to produce a shaded horizon.

<F6>   DRAW MODE

    1 SOLID
    Most realistic mode

    2 WIREFRAME
    Perfect for understanding constructions

    3 SOLID, B&W
    Perfect for b&w printing

    4 WIREFRAME, B&W

<F7>   SURFACE DETAIL

<F8>   GRAPHICS ENGINE (What code is used for graphic operations)

    1 ROM (AmigaDOS graphics library functions)
    Since these functions are part of the operating system they
    should always work. But for maximum performance you have to
    hit the hardware more directly.

    2 CPU (Motorola 020 code)
    The fastest method for the fastest Amiga's. Fasten your
    seatbelts for the 68040 !!!

<F9>   SYSTEM STATE

    1 KILLSYSTEM
    -128 colour custom copperlist
    -multitasking is turned off
    -interrupts are still working, so playing a Protracker
     module in the background is possible.

    2 OPERATING SYSTEM FRIENDLY
    -multitasking is ON
    -uses 2 intuition-screens for screen swapping.
    -press p to pause.

<F10>   RESOLUTION

    1 LOW
    320*256 pixels (PAL: Low Res, No Lace)

    2 HIGH
    640*512 pixels (PAL: High Res, Laced)

o   OVERSCAN
    The Amiga is capable of filling the entire screen which is
    perfectly suitable for video applications. Use this screen
    mode if you want to prevent the boxed computer look.

l   INTERLACE
    Use this for video applications

<,>   VIEWANGLE
    Using a higher Viewangle rises the perspective and gives the
    suggestion of a wider and bigger world. Use this variable the
    same way a photographer uses his zoom lens.

z,x   DETAIL LEVEL
    Use a low level to simplify the model or to increase
    animation speed.

(,)   ROTATION SPEED (1/16 Degrees / 1/50 sec)

-,+   TRANSLATION SPEED (unit / 1/50 sec)

    -> Please note that these variables are completely
    independent of the animation speed : it is possible to walk
    very slowly in 50 frames a second and fly at mach2 in 1
    frame a second.

  8   WINDOW SIZE
4   6   Use your numeric keyboard to adjust the window.
  2

g   GREY/COLOURS

Left Blank Key 24 BITS/12 BITS COLOURS
    If you have an Amiga 1200 you can force NAVIGATOR to use
    12 bit colours.

i   INTENSITY COLOURS
    The Amiga is capable of producing 'illegal' colours. These
    colors look fine on a monitor but when they are put on video
    tape the results can mean a terrible picture. This option
    tries to prevent this effect by keeping the colour values
    below 200

<Spacebar> NORMALIZE Viewpoint and Viewdirection
    -height=170 (normal human eye height)
    -no banking (horizon is horizontal)

<Help>   INFO SCREENS
    cycles through the info screens
    -> NAVIGATOR uses the same font as your workbench. NAVIGATOR
    assumes the font to be 8 pixels wide.

    Please note that by displaying this screen, the animation
    speed will slow down.

<Esc>   QUITS PROGRAM

<1>   Start recording
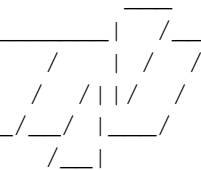<2>   Stop recording/stop playing
<3>   Play once
<4>   Play loop
<5>   Load record
<6>   Save record

b   SHOW BOUNDING BOXES

e   STEP TROUGH ELEMENTS

c   STEP TROUGH CONVEX OBJECTS

1.8 NAVIGATOR contacts

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  NAVIGATOR CONTACTS                                            /   /||/   /
_____/__/  |___/
                                                               /__|
```

If want a NAVIGATOR model of your design, please contact me at the
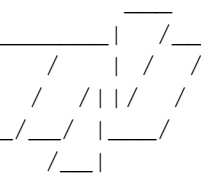following address :

 Michiel den Outer
 Populierenlaan 59
 2925 CP Krimpen a/d IJssel
 The Netherlands

 Phone +31(0)1807-20798

 After 10/95 : +31(0)180-520798

1.9 NAVIGATOR Distribution

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  NAVIGATOR DISTRIBUTION                                        /   /||/   /
_____/__/  |___/
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```

The NAVIGATOR VR system is copyrighted (C) 1994-1995 by Michiel den Outer.

All Rights Reserved.

The NAVIGATOR WORLDVIEWER is freeware.