3Dots

COLLABORATORS			
	TITLE : 3Dots		
ACTION	*NAME*	*DATE*	*SIGNATURE*
WRITTEN BY		March 1, 2022	

REVISION HISTORY			
NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

3Dots

1.1   3Dots Documentation

```
    ***********************************************************************

                              3Dots V1.0
                   Written in Blitz Basic 2 by Don Finlay

                   105 Norwood Rd.  Bayswater, Auckland
                              New Zealand
             Phone 09 445 3699  CompuServe ID# 100033,655
    ***********************************************************************



        WHAT IS IT?

        THE COMMANDS

        DRAWING YOUR OWN PICTURE

        HOW DOES IT WORK?

        HOW TO SEE THE 3D
```

1.2   What have we here, then?

```
    WHAT IS THIS PROGRAM AND WHAT THE HELL DOES IT DO?

        3Dots is another of those programs which have been showing
    up lately to transform an IFF picture into a screen full of
    apparently randomly located dots.  Why would anyone want a
    screen full of dots?  Because if you look at the dots just
    right you can see the original picture again but it is now in
    three dimensions.  Weird!
```

As I mentioned, there are other programs about which do
the same thing as 3Dots, so why have I bothered to re-invent
the wheel? Mainly because I wanted to work out how it was done
and see if I could do it. The only advantage 3Dots may have
over the other programs is, as far as I know, it is the only
one which is menu driven.

There is an example picture included in the 3Dots drawer
for you to fool about with, but any eight color IFF picture
will work so you can do your own thing. For those of you not
all that familiar with picture files and drawing programs, I
will go into all that a bit more later.

1.3   To quit or not to quit, that is the question.

THE COMMANDS

When you run 3Dots you will first be greeted by the title
screen. By placing your screen pointer into the title bar of
the title screen and pressing the right mouse button you will
reveal the menu. There is only one section to the menu and it
only has two commands. Load and Quit. I won't bother to
explain "Quit" but probably should say a few words about
"Load". By choosing the Load command you will bring up a
requester from which you can select the picture you wish to
3Dot. 3Dots will not accept a picture with a palette of more
than eight colors! If you try to load a picture with more
than eight colors you will get an error message. It would
be very easy to fine tune the code of 3Dots to accept more than
eight colors, but the finished 3D picture would not be as
distinct so for the time being I will stick to eight colors.

Once you have selected and loaded the picture you want to 3Dot,
pressing the right mouse button will reveal another menu. This
menu gives you a few more choices, but not many.
                @{ "MAKE 3D   " link MAKE_3D}
                @{ "SAVE SCREEN " link SAVE_SCREEN}
                @{ "PRINT   " link PRINT}
                @{ "QUIT   " link QUIT}

1.4   This is what it is all about!

MAKE 3D

Selecting this command will start changing your screen
picture. Right before your eyes, your carefully planned and
well organized eight color picture will, line by line, be
changed into a screen full of garbage. Panic not! There is
still a picture in there. Really! This is not a joke! It is
there. With a little luck and a bit of practice you will even
be able to see it. I will give you a bit of help on that in a
bit.

1.5 save_screen

SAVE SCREEN

    This one does just what it says. It will bring up a
requester from which you can name your picture file and let the
program know where you want it saved. This command will save
what ever is on the screen. If you select save screen before
you select "make 3d" you will find yourself with two identical
picture files neither of which will be 3Dotted.

1.6 print

PRINT

    Dumps the screen to the printer. Again, this works on
what ever is on the screen at the time the command is invoked
so do "Make 3d" first.

    Be sure your printer is connected and on and you will have
a hard copy of the confused mess your screen has become.

    I have to say here that the program is set up for my printer
but as it prints through the PRT: device it should work for what
ever printer is in your prefs. If you have any trouble or want a
larger printout just save your 3dot picture, load it into a paint
program and print from there. A good dark ribbon would not go
amiss.

1.7 quit

QUIT

    Work this one out for yourself.

1.8 Sure you can!

HOW TO DRAW PICS FOR 3DOTS

    As mentioned before, 3Dots is set up to work with pictures
of eight colors or less, so the best way to go about doing your
own pic is to set your drawing program to use a palette of
eight colors. I find the easiest way to keep track of things
is to set up a range of colors (In DPaint.) ranging from black
to white.

    For those of you who might still be on the low end of the
computer learning curve a bit of further information might be
in order here. Computers don't count like people. If a person

was counting three apples he would count "One, two, three".
Computers don't start counting at one. Computers start at
zero. The three apples for the computer would be "Zero, one
and two". By the same token the eight colors in our drawing
program would be numbered color 0, color 1, color 2, color 3,
color 4, color 5, color 6, and color 7. These are called the
color register numbers. Most drawing programs use color 0 as
the background. In DPaint the colors sit in their little boxes
in the following order: |_0_|_4_|

                                               |_1_|_5_|

                                               |_2_|_6_|

                                               |_3_|_7_|

Why is this important to know? Because, when 3Dots changes
your masterpiece into a jumble of dots to make a 3 dimensional
picture it arranges the colors with the lowest numbers to be
the ones which look the furthest away. In other words, color 0
will be the back wall and color 7 will look closer to the
viewer than color 5. It does not matter a fig what colors you
use, 3Dots will know them only by number and will change them
all to black and white dots.

     So endith the lesson on computer counting of colors.

     To draw your own picture for 3Dots, simply use a paint
program set to eight colors and be sure that the things you
want to look closer are drawn with the colors with the higher
numbers. Save the finished picture, load it into 3Dots and you
are away.

1.9 It's magic!

HOW DOES IT WORK?

     I do not intend here to explain how the program works. If
you want to understand that, look at the code. What I will
attempt to explain is how the visual effect of three dimensions
is accomplished.

     The basic principle of the whole thing is that there are
actually two pictures composed of matching colored dots. One
picture is for the left eye and one is for the right. These
two pictures are superimposed one upon the other with the one
for the right eye a certain distance to the right of the one
for the left eye. The basic distance to the right is what is
changed to get the effect of depth. As I said in the little
bit about computer color registers, color 4 will look closer
than color 3. This is because two matching dots which are used
to represent color 3 will be placed further apart than two
matching dots used for color 4. It does not matter if the two
matching dots are both white or both black just as long as they
are the same. It has to do with the fact that our eyes have a

distance between them so we see things slightly differently
with each eye. Hold up your finger and look at it with only
the right eye. Quickly close your right eye and look at the
finger with only the left eye. You will see the finger appear
to move. I recommend that you try all this when no one is
watching. I'm sure that it would all be a lot easier to
understand if you could see my hands as I explain.

1.10   It's all in the way you look at things.

HOW TO SEE THE 3D ILLUSION

    O.K. so now you have drawn something, 3Dots has worked its
magic upon it and you would now like to actually see something
other than a jumble of dots. Now is the time to prove to
yourself that this whole exercise is more than an elaborate
sick joke.

    The basic idea is to focus your eyes about as far behind
the picture as you are in front of it. What?? Don't panic,
there are a couple of tricks to help you. Some people can see
the effect by looking at the picture on the computer screen. I
am not one of them. I find that I have to print out a hard
copy of the picture to have any luck at all. What I do is to
take the print out of the picture and hold it right up to my
face. So my nose is almost touching the paper. I then let my
eyes relax and go slightly out of focus. Then I move the paper
slowly away from my face but try not to change the focus of my
eyes as I do so. Slowly, the image will start to form. When
you start to see something forming out of the dots you will
soon get the hang of making the image sharper and clearer.

    Another trick is to put the print out behind glass. Tape
it up on the other side of your ranch slider or a window. Now,
look at the picture through the glass, but don't focus on the
picture. Focus your eyes on the reflection of yourself in the
glass. Again, when the focus of your eyes is right, you will
start to see things happening to the picture.

    If neither of these tricks works I don't know what to tell
you except to keep trying or send me a nasty letter. If you
wear glasses try looking at the picture with your glasses off.
If you don't wear glasses, borrow some. Let me know how you
make out. My name is Don Finlay and I can be reached at 105
Norwood Rd. Bayswater, Auckland, New Zealand. On CompuServe my
address is 100033,655. Have fun. 8-)>