



DRAG 'N' DROP

RISC OS **Pi** and all RISC OS 5 machines

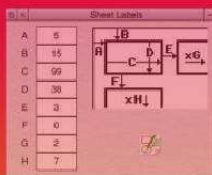
Summer 2018
Volume 9 Issue 4
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Boing!

Type-in arcade action

Plus
Vol. 1-9
index

Series
• Schema 2

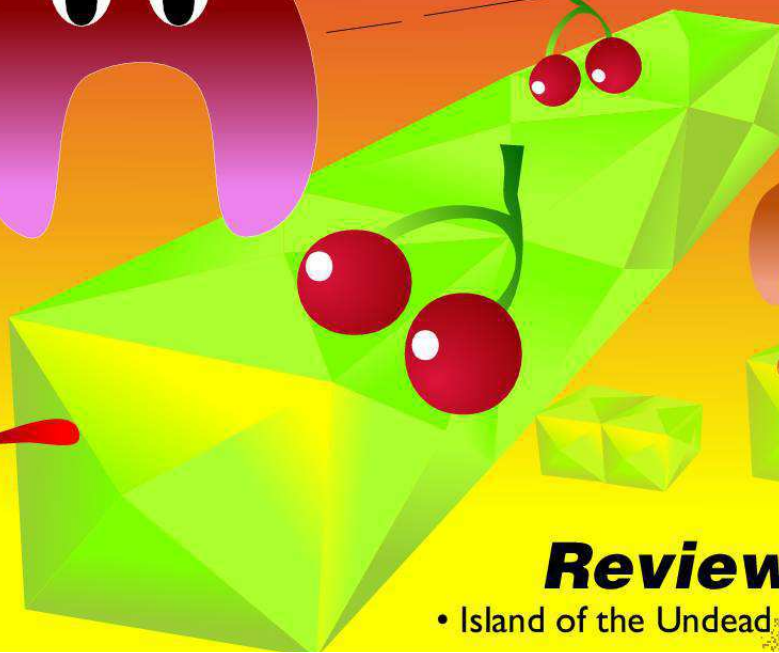


Apps

- Desktop clock
- Sheet labels

Features

- Upscaling & interpolation
- Creating a glass button

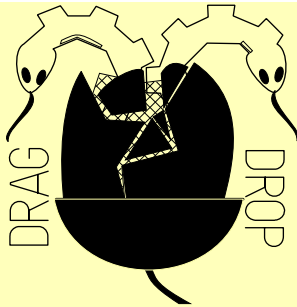


...type 'em all in!

Review

- Island of the Undead





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Produced on RISC OS computers

This issue has been blessed with contributions from the following people:

Tony Bartram (Boing!, Upscaling & Interpolation)
Norman Lawrence (Schema 2 series)
Steve Royd-Marker (How to draw a Glass Button)
Christopher Dewhurst (everything else)

The views expressed in this magazine are not necessarily those of the editor. Alternative views are always welcome and can be expressed by either writing an article or a short editorial.

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EDITORIAL

We are lucky to have Tony Bartram writing for us in this issue, he has taken time off from working on exciting future AMCOG releases to create *Boing*, an action-packed platform game with excellent graphics, sound effects and music. And it can all be typed in!

Some people say there are too many games in *Drag 'N Drop* but I can assure you games programming is a serious matter. Upscaling and interpolation is an important part of computer graphics these days and our feature on this topic is an interesting read.

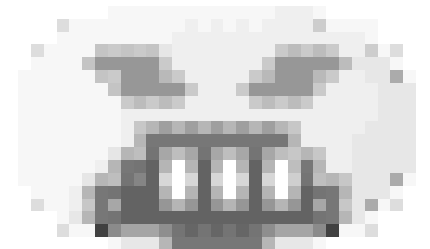
If, though, you are looking for more 'businessy' things to do why not get down to learning Schema2 with part two of our series?

Try your hand at designing a 'glass' button, or type in one of the useful applications like the label template maker or the desktop clock. Enjoy the read!

Chris.

Christopher Dewhurst

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Beginner's Page

How do I get the BBC Basic prompt?



Press F12 and type *BASIC and press Return. You can change the screen mode with MODE n where n is a number e.g. MODE 7 or MODE 0.

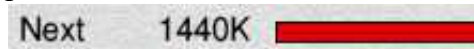
Type AUTO for automatic line numbering. Press Escape to stop and type *SAVE "myprog"* followed by Return to store *myprog* on hard disc.

To return to the desktop type *QUIT.

Programs listed in *Drag 'N Drop* are assumed to work on all machines with RISC OS 5 e.g. Raspberry Pi, unless otherwise stated.

How do I open a Task window?

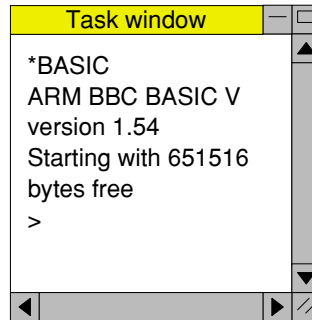
Menu click over the Raspberry icon on the right side of the iconbar and select click on Task window. Or press Ctrl + F12.



You may need to reserve more memory for the task in which case adjust-click on the Raspberry icon and under Application tasks click and drag the Next slide bar out to

the right.

You can also type programs in a task window, hold down Ctrl and press F12. You can't use the cursor editing facility or change MODE, however.



You can also program and run Basic programs from the desktop. Double-clicking on the filer icon runs it, holding down Shift and double clicking loads it into your text editor.



How do I select the currently selected directory?

Articles may tell you to set the CSD (currently selected directory). Just click menu over filer window and choose Set directory ^W.

How do I open an Application Directory?

Application directories begin with a ! called 'pling'. Hold down shift and double click select to open the directory.

I get blank a screen when trying to run games listings

Check you have the Anymode module installed. You can download it from www.pi-star.co.uk/anymode. It goes in *!Boot.Choices.Boot.Predesk*.

Open the *!Boot* application directory, in the root directory of the SD Card, that is *SDFS::RISCOSPi*.



\$.!Boot. Locate the *Loader* which is a multi-coloured directory with PC written on it. With Shift held down double click it to open it. Create a text file in Edit with the following line (press Return at the end):

```
disable_mode_changes
```

Save it inside *Loader* as *CMDLINE/TXT* and restart your machine.

News and App Updates

Website Maintenance

Over the summer the *Drag 'N Drop* website is moving to a different web host so if you find it's suddenly down, don't panic, check back later on.

RISC OS London Show

The annual London show takes place on Saturday 27th October at the St Giles Hotel in Feltham. It's still only £5.00 to get in and there will be plenty going on, so see you there ! Further details at

<http://www.riscoslondonshow.co.uk/>

RiscLua



RiscLua is a RISC OS port of the programming language Lua and version 7 is now

available from

<http://www.wra1th.plus.com/luas/risclua.html>.

Also available from another author is Tahī, a card game written in Lua and is based on Uno (the aim being to get rid of all your cards).

Download at <http://code.stephankleinert.de/riscos/LuaTahi.zip>



Manic Miner

The addictive and seemingly immortal platformer game from the days of the Spectrum has reached version 1.64 on RISC OS, download it for your Raspberry Pi from:

http://www.riscos.info/downloads/manic/manic-1_64.zip

Mini.M Computer



RCcomp, the developers of the popular ARMX6 machine

have marketed another computer, this

time it's the Mini.M, a hi-spec RISC OS computer in a 2-inch cube! Prices start from £299, for further details see <http://www.armini.co.uk/>

Tarmac



This is a small utility which intercepts Adjust clicks on the Task

Manager's iconbar icon (usually the raspberry on the bottom right of your screen) to open the

Configure window but can also be customised to do other things.

Download for free at <http://www.stronged.iconbar.com/fjg/index.html>

IconMover

This is one of those smart but tiny modules you never realised you wanted until you see what it does. By holding down several keys at once and dragging with the mouse you can re-order the icons on the iconbar. Version 1.03 can be downloaded from <http://iconmover.20000.org/>



Boing!

Boing is a platforms game in which you are a bouncy ball who must collect all the fruit on the screen whilst avoiding the clods.

Once you have collected the last piece of fruit you progress to the next level and there are five levels to complete with different graphics on each.

The game ends when you have lost all of your lives or completed the fifth level.

Use the Z and X keys to move left and right and press the space bar

to jump.

The game is packed full of features including scrolling stars, use of screen buffering, upscaled graphics (see the article elsewhere in this issue) and a sound track, something we will be exploring in a future edition of *Drag 'N Drop*.

Full listing



BOING! listing

```
10REM Boing! v0.6
20REM Programmed by AMCOG
30REM (c) Drag 'N Drop July 2018
40MODE32:OFF
50PROCUseTripleBuffering
60
70ON ERROR PROCError:END
80PROCinit
90REPEAT
100 PROCTitle
110 PROCGame
120UNTIL 0
130END
140
150DEF PROCTitle
160*FX112
170*FX113
180CLS:OFF
190PROCText(200,1100,"BOING!",&FF3
276,120,80)
200I%=0:REPEAT
210a%=shape$(I%)
220p%=ASCLEFT$(a$,1)
230x=40*(ASCID$(a$,2,1)-63)
240y=40*(ASCID$(a$,3,1)-63)
250CASE p% OF
260 WHEN ASC"G":GCOL0,x/40
270 WHEN ASC"C":CIRCLE FILLx,y,20*
(ASCID$(a$,4,1)-63)
280 WHEN ASC"E":ELLIPSE FILLx,y,20
*(ASCID$(a$,4,1)-63),20*(ASCID$(a$,
5,1)-63)
290ENDCASE
300I%=I%+1
310UNTIL shape$(I%)=""
320PROCText(90,200,"Press Space to
play!" &F0F0F0,60,60)
330REPEATUNTILINKEY-99
340*FX15,0
350ENDPROC
360
370DEF PROCGame
380SCORE%=0
390LIVES%=3
400LEVEL%=1
410REPEAT
420 IF LEVEL%=1 PROCMakeMap(level1
```

```

%( "tileB2", "cherry")
430 IF LEVEL%=2 PROCMakeMap(level2
%( "tileA1", "apple")
440 IF LEVEL%=3 PROCMakeMap(level3
%( "tileB1", "blackcurrent")
450 IF LEVEL%=4 PROCMakeMap(level4
%( "tileA2", "plum")
460 IF LEVEL%=5 PROCMakeMap(level5
%( "tileB2", "cherry")
470 REM Adjust these for each leve
l if required
480 cx(0)=64:cy(0)=22*32:cx(1)=44
*32:cy(1)=22*32
490 cx(2)=16*32:cy(2)=22*32:cx(3)
=32*32:cy(3)=22*32
500 FOR I%=0 TO 3:cb%(I%)=0:csb%(I
%)=0:NEXT
510 px%=128
520 py%=64
530 sb%=0
540 bb%=0
550 bx%=0
560 blink%=0
570 DEAD%=FALSE
580 tick%=0:lastTick%=TIME
590 REPEAT CLS
600 PROCText(500,1100,"BOING!",&F
F3276,60,30)
610 PROCText(0,1000,"SCORE: "+STR
$SCORE%,&3232FF,15,30)
620 PROCText(600,1000,"LEVEL: "+S
TR$LEVEL%,&3232FF,15,30)
630 PROCText(1000,1000,"LIVES: "+
STR$LIVES%,&3232FF,15,30)
640 PROCDrawMap:PROCBall:PROCClod
650 PROCTracker
660 PROCTripleBuffer
670 UNTIL DEAD% OR fruit%=0
680 IF DEAD% THEN SOUND &12,&3B0,1
10,40:PROCdelay(100):LIVES%-=1
690 IF fruit%=0 LEVEL%+=1
700UNTIL LIVES%=0 OR LEVEL%>5
710*FX112
720*FX113
730IF LIVES%=0 PROCText(250,600,"G

```

```

ame Over",&33AAAA,70,70):PROCdelay(4
00)
740IF LEVEL%<=5 ENDPROC
750CLS
760PROCText(100,700,"Congratulatio
ns!" &22AFFF,70,70)
770PROCText(10,500,"You have compl
eted all the levels",&22AFFF,40,50)
780PROCdelay(800)
790ENDPROC
800
810DEF PROCDrawMap
820FOR X%=1 TO 50:FOR Y%=1 TO 25
830IF MAP%(X%,Y%)=1 THEN PROCSSprit
ePut(tile$(X%-1)*32,(Y%-1)*32+128)
840IF MAP%(X%,Y%)=2 THEN PROCSSprit
ePut(fruit$(X%-1)*32,(Y%-1)*32+128)
850NEXT
860ENDPROC
870
880DEF PROCClod
890FOR I% = 0 TO 3
900 ox% = cx(I%)
910 oy% = cy(I%)
920 S = 1 + (I%/3)
930 IF csb%(I%) = 0 AND cb%(I%) =
0 AND MAP%(cx(I%)/32, (cy(I%)/32))=
1 THEN csb%(I%) = 8
940 IF csb%(I%) > 0 THEN cy%(I%) +
= 4 : csb%(I%) -= 1
950 IF cb%(I%) > 0 THEN cy%(I%) +=
4 : cb%(I%) -= 1
960 IF cy%(I%) > 24*32 THEN cy%(I%
) = 24*32
970 IF csb%(I%) = 0 AND cb%(I%) =
0 AND (MAP%(cx(I%)/32, (cy(I%)/32))
<>1 OR MAP%(cx(I%)/32)+1, (cy(I%)/
32)<>1) THEN cy%(I%) -= 4
980 IF MAP%(cx(I%)/32, cy%(I%)/32)
= 1 THEN cy%(I%) = INT(cy%(I%)/32)*
32+28
990 IF cx(I%) > px% THEN cx(I%) -=
S
1000 IF cx(I%) < px% THEN cx(I%) +=
S

```

```

1010 IF cy%(I%) < py% AND cb%(I%) =
0 AND MAP%(cx(I%)/32, (cy%(I%)/32))
=1 THEN cb%(I%) = 64
1020 IF cy%(I%) < 24*32 THEN
1030 IF MAP%(cx(I%)/32, (cy%(I%)/32
)+2) = 1 THEN cy%(I%) = oy%
1040ENDIF
1050
1060IF cx(I%) < 47*32 AND cx(I%) >
2*32 THEN
1070 IF MAP%((cx(I%)/32)+2, cy%(I%)
/32) = 1 OR MAP%((cx(I%)-48)/32, cy%(
I%)/32) = 1 THEN cx(I%) = ox%
1080 IF MAP%(cx(I%)/32)+2, (cy%(I%
)/32)+1) = 1 OR MAP%((cx(I%)-48)/32,
(cy%(I%)/32)+1) = 1 THEN cx(I%) = ox%
1090 IF MAP%((cx(I%)/32)+1, cy%(I%
)/32) = 1 OR MAP%((cx(I%)+16)/32, cy%(
I%)/32) = 1 THEN cx(I%) = ox%
1100 IF MAP%(cx(I%)/32)+1, (cy%(I%
)/32)+1) = 1 OR MAP%((cx(I%)-48)/32,
(cy%(I%)/32)+1) = 1 THEN cx(I%) = ox%
1110ENDIF
1120IF FNSpriteCollide(px%, py%, 32
, 32, cx(I%), cy%(I%), 48,48) DEAD%=
TRUE
1130PROCSpritePut("clod"+STR$(I%+1)
, cx(I%)-32, cy%(I%)+100)
1140NEXT
1150ENDPROC
1160
1170DEF PROCBall
1180ox% = px%
1190px%=px%+(INKEY-98 AND bb%=0) -
(INKEY-67 AND bb%=0)*4
1200IF INKEY-99 AND MAP%(px%/32, (p
y%/32))=1 AND bb% = 0 THEN
1210 SOUND &11,&150,200,13
1220 bb%=48:bx%=0
1230 IF px%>ox% bx%=1
1240 IF px%<ox% bx%=-1
1250ENDIF
1260IF ox%<px% AND sb%=0 AND bb%=0
AND MAP%(px%/32,(py%/32))=1 sb%=4
1270IF sb% 0 py%+=8:sb%-=1

```

My quest continues to see if I can change operating systems from Windows to RISC OS for my daily computing needs.

As an academic, I use Excel spreadsheets to track the progress of my engineering students during semester and then to submit the results to a board of examiners for approval and ratification at the end of the semester.

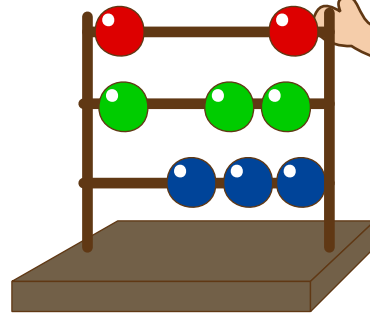
In seeking to replace Excel with Schema2 as my go to spreadsheet tool at work, I need to produce a results spreadsheet that will impress a fastidious board of examiners.

In this second instalment of the series, we'll explore the functions that come with Schema2, create a horizontal histogram, and sort the data entries into descending order.

At the beginning of each semester, a list of students for my class, Engineering 101 is downloaded as a CSV (comma separated value) file from a central server and so the first check point is to see if Schema2 would read a CSV file created by our student administration using Excel.

The simple answer is yes, just download the CSV file, start up

Schema2 Part 2



To maintain anonymity, our students have an ID (Identity) number which starts with the current year (18) and their enrollment number, so 18001 would identify the first student enrolled in 2018. This year, there are 17 students enrolled in Engineering 101, so

Schema2 and drag the CSV file on top of the Schema2 Icon and the file opens immediately as a Schema2 spreadsheet, which I saved as *Engineering101_2018*.

our student list starts at 18001 and ends with student 18017.

Take a look at Figure 1. The first

	A	B	C	D	E	F	G	H
1			Engineering 101 2018					
2	Assessment	Labs	Test	Design	Exam	Total	Grade	
3	%Weighting	12.5	12.5	25.0	50.0	100.0		
4	Student ID							
5	18001							
6	18002							
7	18003							

Fig.1 Setting up the Class list for Engineering 101

Upscaling and Interpolation

Last year I released two games which included some graphics from titles that I had written twenty years previously.

These graphics only used 16 colours and were designed for 320×256 displays. In other words, Mutant Penguin and Cyborg (my unfinished and unreleased Amiga title) were showing their age.

However, rather than re-design these graphics from scratch to make them

compatible with a more modern 800×600 16 million colour resolution, I decided to upscale the images.

This process added greater colour depth and actually brought out details which were hard to see in the original images.

Upscaling and interpolation are used by various digital systems to handle legacy low resolution

content. For example, HD (High Definition) televisions use upscaling to improve image resolution. Many old recordings used 576i source material.

The 576, incidentally, refers to the number of lines traditionally used on your television screen to display the picture and the 'i' refers to 'interlaced'. There are other standards in use around the world and you can read more on the internet if you are interested.

This technique can also be employed to improve the graphics used in 'type-in' games such as those published in *Drag 'N Drop* where space for data is limited.



Interpolation and Estimation

There are a number of popular scaling algorithms, including:

- Nearest-neighbour interpolation
- Bilinear interpolation
- Bicubic interpolation

Interpolation means 'filling in the missing information' or, put another way, create an intermediate

unknown value between known values. Let's say we had a very simple (and very small) image consisting of just two pixels, white and black:



If we were to increase the size of this simple image by interpolating, we could insert a pixel between the white and the black pixel which was an intermediate colour like grey:



Hence, the two pixel image has doubled in size to a four pixel image.

Now, there is a scaling algorithm provided by RISC OS in the form of OS_SpriteOp 52. It's a simple nearest-neighbour interpolation where interpolated pixels are the same colour as the original pixel. Think of the BBC Micro and those routines which used to 'blow up' characters to double width or double height – that's a nearest-neighbour interpolation.

The trouble with this method,



Desktop Clock

Desktop Clock is a simple multi-tasking application which displays the date and time in a large typeface on your desktop.

Type in listing 1 which creates the application directory, sprite, Boot and Run files.

Then type in listing 2 and save it inside !DeskClock as *DeskClock*.

Finally, double click !DeskClock to run.

PROCsetup dimensions a block of memory for the general-purpose parameter block, *B%*, space to store the window title, *title%*, and the current TIME is stored in *time%*.

The clock is initially

positioned where the mouse pointer was when you double clicked the application to load it.

SYS "Wimp_GetPointerState" is used to get the co-ordinates of the mouse pointer

stored in (*mx%,my%*)

mx% and *my%* are also seen in the first line of the window definition DATA statements, line 920, as part of expressions for the position of the window plus its width and height (*ww%* and *wh%* declared in line 720).

Each item of DATA is READ in as a string in line 840-860. EVAL is used so numbers and expressions containing variable names are calculated correctly.

Bit four of the window flags is unset to indicate we are taking responsibility of redrawing the window ourselves.

The window is opened on the screen and the poll loop starts, line 90. The null reason code is used to check the current TIME against

time% in PROctick. If it has advanced by more than one second (100 centiseconds) the clock needs updating with PROCredraw and the current TIME stored in *time%*.

PROCredraw is also called when Reason code 1 is returned by RISC OS to notify us that the window has to be replotted (perhaps because you have dragged it).

The time and date is stored in the built-in Basic variable TIMES\$. Lines 410-430 separate out the date part (the leftmost 15 characters), the hours and minutes (characters 17-21) and the seconds (the rightmost two characters).

SYS "Wimp_RedrawWindow" returns a non-zero value (in *more%*) if the window needs updating, which would happen if you had dragged another window over the clock and now you moved it away again.

The WHILE..ENDWHILE loop does the actual plotting of the clock's digits in outline font.

We could have inserted an icon in the window and put the time in there and then RISC OS would automatically update the window.

It's a bit of a faff doing it this way, however, as you need to make



Last summer in *Drag 'N Drop 8i4* we presented *Attack of the Raspberry Macaroons*, a type-in space invaders game for RISC OS on your Raspberry Pi.

The listing presented here is an enhanced version of the game with upscaled sprites (see the article elsewhere in this issue) so it can run on modern displays of 800 × 600 pixels. The game also now features scrolling stars, use of screen banking and a musical accompaniment.

It does not work on emulators like RPCEmu.

Use the A and S keys to move your ship left and right and the Shift key to fire.

Macaroons 2 Listing

```

10REM Macaroon Attack II
20REM Original game programmed by
  Czody
30REM Upscaling, tracker and othe
r improvements
40REM By A.V.Bartram
50REM (c) Drag 'N Drop July 2017-
2018
60MODE640,480,8
70*RMEnsure RDSP 0.23 RMLoad Syst
em:Modules.Audio.Soundchip.RDSP
80*RSTART
90ON ERROR REPORT:PRINT " at ";ER
L:END
100PROCinit:REPEAT
110PROCTitle:REPEAT UNTIL INKEY-99
120score%=0:lives%=3:level%=2
  
```

```

130PROCtrackerInit
140PROCsetgame
150OFF
160REPEAT C%=0
170REPEAT
180PROCmovestars
190PROCmovealiens
200IF C%=0 THEN oaa%=aa%:aa%=aa% E
OR 1
210PROCplayer:PROCbullets:PROCdela
y(1):
220PROCtracker
230C%=(C%+1)AND3
240UNTIL dead% OR killed%=na%+1
250IF dead% PROCexplode:PROCclives(
-1)
260IF killed%=na%+1 level%=level%+
1:PROCsetgame
270PROCdelay(200)
280IF lives% PROCrestart
290UNTIL lives%=0
300SOUND&13,&2FF,&8E,200:PROClarg
e("Game Over",230,512,3,3,2):PROCde
lay(500)
310PROChiscore
320UNTIL 0
330END
340
350DEF PROCtrackerInit
360tick%=0
370C3 = 124:Eb3= 124+3*4
380G3 = 124+7*4:Bb2= 124-8
390D3 = 124+2*4:F3 = 124+5*4
400Ab2= 124-16:G2 = 124-20
410bass%=0:lead%=0
420ENDPROC
430DEF PROCtracker
440tick%+=1
450IF tick%=160 THEN tick%=0 : bas
s%+=1:SOUND 14,14,bassline(lead%)+48
,100:SOUND 15,14,bassline(lead%)+96,
100
460IF bass%=8 THEN bass%=0 : lead%
+=1
470IF lead%=8 THEN lead%=0
  
```

```

480IF tick% MOD 40=0 THEN SOUND 8,
10,0,1:SOUND 9,10,4,1
490IF tick% MOD 10=0 THEN SOUND &4
1a,&0c10,339,1 : SOUND &41b,&0c20,29
1,1
500IF tick% MOD 80=0 THEN SOUND &1
c,&0bff,364,1
510IF tick% MOD 20=0 THEN SOUND 13
,13,bassline(bass%),1
520ENDPROC
530DEF PROCmovestars
540PROCdrawstars
550FOR I%=1 TO 100
560sy%(I%)=-4
570IF sy%(I%)<0 THEN sy%(I%)=900
580NEXT
590PROCdrawstars
600ENDPROC
610DEF PROCdrawstars
620LOCAL I%
630FOR I%=1 TO 100
640 GCOL 3,I%
650 POINT sx%(I%), sy%(I%)
660NEXT
670GCOL 0
680ENDPROC
690DEF PROCinit
700ENVELOPE 1,&80,&41,&92,7,57,0,-
1,0,25,28,104,109,104
710ENVELOPE 2,&41,&F2,&59,3,254,22
7,-52,-31,-22,151,126,95,129
720ENVELOPE 3,&C3,&C4,&C1,47,24,80
,-40,-85,-35,5,200,20,2
730ENVELOPE 4,&80,&89,&2F,10,0,8,0
,-1,9,1,0,0,0,60
740ENVELOPE 10,&80,&14,0,20,4,4,1,
1,-10,1,80,80,10 :REM bassdrum
750ENVELOPE 11,&82,&ad,&02,1,0,0,0
,0,0,1,80,80,10 :REM sname
760ENVELOPE 12,&01,&fd,0,1,1,1,0,0
,0,1,80,80,10 :REM hat
770ENVELOPE 13,&20,&88, &20,1,40
,40,1,1,-2,1,150,150,20 :REM bass
780ENVELOPE 14, &20, &80,&90,2,1,1
,48,-48,0,80,40,40,100 :REM lead

```

```

790REM music
800PROCtrackerInit
810DIM bassline(8)
820bassline()= C3, Eb3, G3, F3, C3
,Eb3, Bb2, G2
830FOR I%= 0 TO 7
840bassline(I%) -= 48
850NEXT
860nb%=6:na%=31
870DIM hi$(7),hi?(7),sc% 15,col% 3
,H% &20000,n$(9),ax%(na%),ay%(na%),
bx%(nb%),by%(nb%),ba%(nb%),ex%(7),ey
%(7), sy%(100),sx%(100)
880n$()="ACOMA" "DBN" "ACIGMO","AC
GIOM" "AGICO", "CAGIOM", "CAMOIG", "ACM
", "AGIOMGICA", "OCAGI"
890FOR I%=1 TO 7:hi$(I%)="Drag 'N
Drop":hi?(I%)=1400-I%*200:NEXT
900!col%=&F0703;!sc%=120:sc%!4=120
910!H%=&20000:H%!8=16:o$="OS_SprIt
eOp"
920SYS o$, &109, H%
930FOR S%=0 TO 9:READ W%, D%
940SYS o$, &10F, H%, STR$ S%, 0, W%, D%,
13
950
960SYS o$, &10F, H%, "2"+STR$S%, 0, W%*
2, D%*2, 13
970FOR Y%=D%-1 TO 0 STEP-1:READ a$
980FOR X%=1 TO W%
990SYS o$, &12A, H%, STR$ S%, X%-1, Y%,
ASC MID$(a$, X%)-33, 0
1000NEXT,,
1010xo%=0:yo%=31
1020FOR J%=0 TO 9:FOR K%=0 TO 4 STE
P 2
1030FOR M%=0 TO 4 STEP 2:FOR I%=1 T
O LEN n$(J%)
1040X%=((ASC MID$(n$(J%), I%, 1)-65)*M
OD3)*12 :REM*24
1050Y%=((ASC MID$(n$(J%), I%, 1)-65)*D
IV3)*6 :REM*12
1060IF I%=1 MOVE xo%+K%+X%,yo%-M%-Y
% ELSE DRAW xo%+K%+X%,yo%-M%-Y%
1070NEXT,, :xo%=xo%+32:NEXT

```

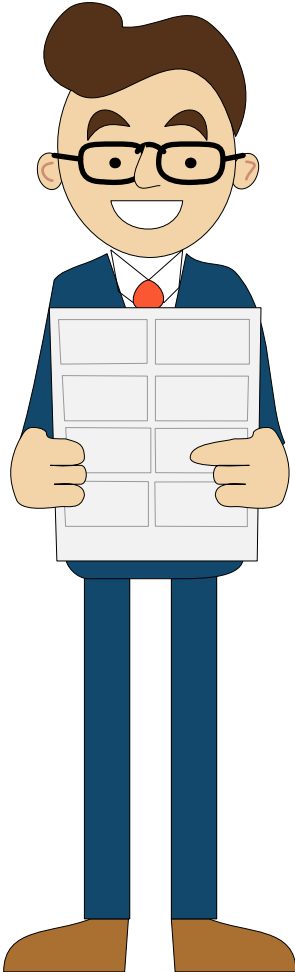
```

1080GCOL2,21:FOR Y%=0 TO 30 STEP2
1090TINT 2,(Y% DIV 16)*64:MOVE 0,yo
%-Y%:DRAW1279,yo%-Y%:NEXT
1100FOR J%=0 TO 9:SYS o$, &110, H%, ST
R$(10+J%), J%*32, 0, J%*32+31, 31:NEXT
1110REM Setup colour table
1120DIM R% 63, G% 63, B% 63
1130FOR I%=0 TO 63:READ a$
1140I%?R%=EVAL("&" + LEFT$(a$, 1) + LEFT
$(a$, 1))
1150I%?G%=EVAL("&" + MID$(a$, 2, 1) + MID
$(a$, 2, 1))
1160I%?B%=EVAL("&" + RIGHT$(a$, 1) + RIG
HT$(a$, 1))
1170NEXT
1180REM upscale
1190FOR S%=0 TO 9
1200PROCUpscale(STR$S%, "2"+STR$S%)
1210NEXT
1220TINT2,0
1230ENDPROC
1240DEF PROCUpscale(IN$, OUT$)
1250SYS o$, 256+40, H%, IN$ TO,,, W%, U%
1260FOR X%=0 TO W%-1
1270FOR Y%=0 TO U%-1
1280SYS o$, 256+41, H%, IN$, X%, Y% T
O,,, col%
1290SYS o$, 256+60, H%, OUT$
1300IF col%<>0 THEN GCOL 0,col%:POI
NT X%*8, Y%*8
1310SYS o$, 256+60, H%, 0
1320NEXT,
1330SYS o$, 256+60, H%, OUT$
1340FOR X%=0 TO W%-1
1350FOR Y%=0 TO U%-1
1360PROCInterpCol(POINT(X%*8, Y%*8),
TINT(X%*8+8, Y%*8), POINT(X%*8, Y%*8), ↑
INT(X%*8+8, Y%*8))
1370POINT X%*8+4, Y%*8
1380NEXT,
1390FOR X%=0 TO W%*2-1
1400FOR Y%=0 TO U%-1
1410PROCInterpCol(POINT(X%*4, Y%*8),
POINT(X%*4, Y%*8), POINT(X%*4, Y%*8+8),
POINT(X%*4, Y%*8+8))

```

SheetLabels is a type-in, multi-tasking desktop application which allows creation of label templates in Draw format with the minimum of fuss.

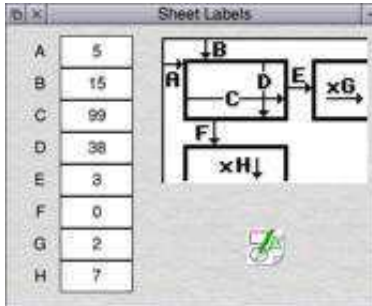
Sheet Labels



First of all type in Listing 1 which creates the application directory, sprites, Boot and Run files plus a library of templates to import into the application (of which more later).

The sprites are stored in Squashed format inside !SheetLabels so before doing anything else, double click !Sprites to expand them.

Then type in Listing 2 and save it inside !SheetLabels as !RunImage. Finally, ensuring there are no errors in your typing, double click !SheetLabels to run.



The boxes on the left labelled A to H take various details about the labels, measured in millimetres. Click on any box to edit and refer to the diagram on the right. B, for example is the top margin and G is the number of labels across the sheet.

The template is assumed to be A4 size as the majority of labels are sold in A4 sheets.

Once you are satisfied drag the Drawfile icon (located towards the bottom right of the window) to a filer window where it will be saved as Labels. Alternatively, drag and drop it directly onto Draw's icon on the iconbar if you have it loaded up.



You can then add text to the labels and print them. The guidelines are individual sides of rectangles to make it easier to select any text or graphics you may have applied. They are coloured in a light grey and may show up on some printers so it is a good idea to delete them

How to draw a glass button in eight steps

These drawings were made on a Pi, by Steve Royd Marker, using the RISC Operating System and Artworks by MWSoftware as the drawing application.

www.riscos.com | www.riscosopen.org | www.mw-software.com | www.markerdesign.be

Step-1

To start your drawing, draw your shape with a background colour (somewhat darker than the desired colour) and give it a graduated fill from the darkest to the lightest colour you'll be using. This will already determine where the light is coming from. (*The darkest side is the site where the light comes from and the lightest side is where the light shines upon*).

Top view

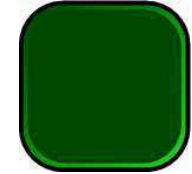
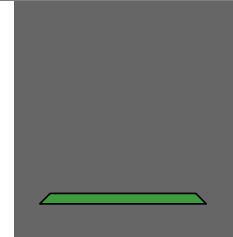


Front view



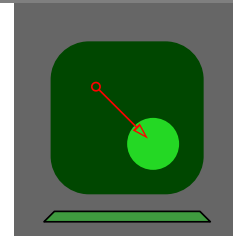
Step-2

Copy the shape again and make it somewhat smaller, so the button can appear to have a chamfer on its sides. Use the darkest colour of the previous shape and make it a solid fill. Also, remove the line colour. (*The button will also appear well without the shape of step 1, it all depends on the purpose of your button - your choice*).



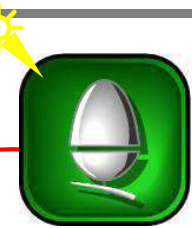
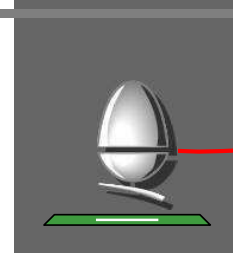
Step-3

Then you draw in the lens effect a rounded glass button has, when the light gets concentrated on one part of the background of the button. This is at the opposite side of the light entrance. Draw in a round shape, give it the lightest tint and blend it with the background shape in about 50 steps. If your button (or logo) is very large you may need more steps to avoid banding.



Step-4

Copy the object that you wish to display into the button and give it a shade, so it looks like it is not completely stuck at the back of the button. Giving it a shadow you need to be aware of the light to set it the same direction as step 3. The light angle will be more and more important when drawn in further light and reflection effects making the button look more like glass.



Product: Island of the Undead

Retailer: AMCOG Games

Website: <http://www.amcog-games.co.uk> or via !Store

Price: £11.99

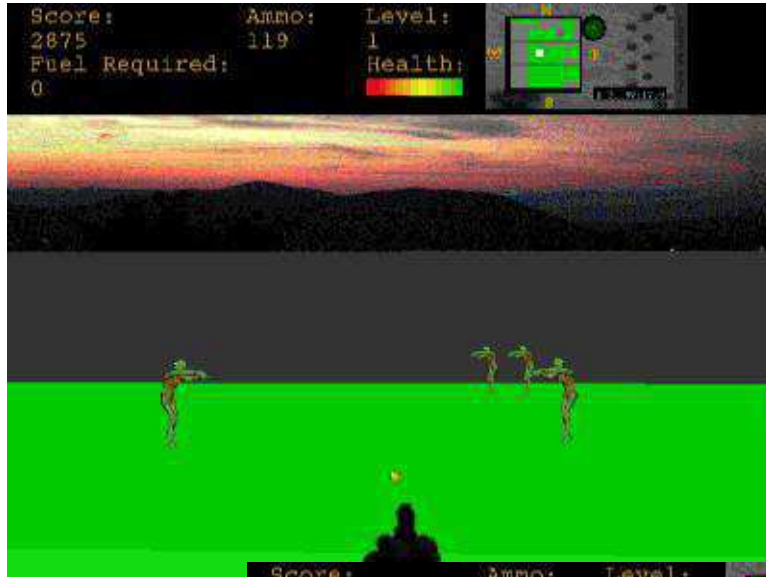
Review

This game is not for the faint hearted. From the minute you double click and the cadaverous music fades up, to the screen turning blood red when you are attacked by Zombies, you are on the edge of your chair . . .

Island of the Dead is a three-dimensional first-person shooting game. You wonder around a deserted landscape collecting fuel for your plane whilst trying to avoid half-dead beings.

You can move forwards and backwards into and out of the screen. You can turn through 360° as well as move from side to side plus you have a limited amount of ammunition to fire at the enemy.

If you haven't played this sort of game before it can take a bit of getting used to. Each time you move, the 3D view in the main playing area changes smoothly and realistically. Even the lighting



Just four of the eerie landscape's half-dead inhabitants...



After several tiring hours trek collecting fuel you see your plane!

changes subtly with each step you make.

A scanner at the top of the screen shows a plan view of the immediate neighbourhood and a compass next to the scanner tells you the direction you are heading in. Together they help you navigate round the walls and find the fuel and first aid packs.



You can collect the first aid packs to restore your health if you've had a nasty encounter with a zombie. Plus, dotted around the landscape are extra ammunition cartridges

when you are running low.

Once you have picked the required number of fuel packs for the particular level you are playing you must locate your plane.

After so long trekking through the eerie landscape you are treated to a fine and welcoming view of the cockpit of your aircraft.

Here you are given a level access code so you can skip screens you have already completed next time.

You are then flown on to another landscape to deal with more grisly

inhabitants, all in a quest to find survivors. Well, the introduction to the game says you hope you find someone alive, I am not sure how many screens you have to traipse through to reach them!

I really enjoyed the 3D aspect of *Island of the Undead* (even if the macabre theme of the game isn't quite my cup of tea) and it is clever how AMCOG have combined vector graphics with large detailed sprites where the zombies loom at you if you get too close.

Sound effects are the usual top quality affair we have come to expect in AMCOG offerings. The volume of the background music can be adjusted or turned off together.

Interestingly the game is entitled *Island of the Undead* on the cover but the application inside is called *!Zombie*. Is it the first in a suite of games, I wonder?

At £11.99 the price tag is a little higher than we have seen for previous AMCOG releases but it's an extra two quid well spent. For your money you also get the source code and level data in plain text which is easy to edit. ■

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