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Linedrawing-Compo

The mission

After the gouraud-compo has been a big dissapointment this time a smaller competition. To be more accurate its a two-competition-in-one package :) The aim is to optimize a routine drawing a line into a chunky buffer by lengths and by size. So there will also be two charts - one for the fastest and one for the shortest. You may contribute with different routines in both compos.

The deadline was **sunday, september 21st, 1997** In case you are still interested in the full compo rules & source :download here.

Again many thanks to **Flynn** for preparing the great init-source and screenhandler. It was changed a little to suit the linedrawing-compos needs.

Rules:

- The size of the buffer is 256x256, with a color depth of 256.
- Your lineroutine has to accept following input:
  - D0.w/D1.w: X1/Y1
  - D2.w/D3.w: X2/Y2
  - D4.b: color (this must be implemented!)
  - A0: Pointer to chunky buffer.

  - The other registers are in undefined state. (Your routine will be disqualified, if it is using input from any other register, than the mentioned ones)
- All registers may be trashed, except a7.
- The line has to be closed. (no gaps)
- The line has to have a width of 1. (no 2 pixel wide lines in 45 degree cases)
- The line must hit both, start- and endpoint exactly.
- The routine must be working on 68020-68060! When you are sick enough to use selfmodifying code, make sure that it does also work on 040/060.

Well - please download the competition package for more detailed rules.

Results: (shortest lineroutine)

This competition was quite a success compared to the gouraud-one. 9 People sent 10 contributions. Unfortunately most poeple didnt take care of the rules very much this time. The four shortest routines produce very inaccurate lines, which is a rule violation. Well - I accepted it since such a majority of routines had this "feature". **ACT** and **Stelios** did the shortest lineroutines *really* matching all rules.

(using bresenham). Funny enough both the shortest routines using x/y interpolation and the shortest routines using bresenham have the same length. So we don't have any clear winner in this competition.

Detailed Results:

Place	Handle	Algorithm	Length:
1.	Piru	x/y interpolation *1	30
2.	Joseph	x/y interpolation *1,*2	30
3.	Sp & Brekke	x/y interpolation *1	32
4.	Chauple	x/y interpolation *1	34
5.	Dave	x/y interpolation *1,*2	34
6.	Act	Bresenham	60
	Stelios	Bresenham	60
8.	Trevor	Interpolation along axis	62
9.	Piru (second entry)	Bresenham	64
10.	Shin (joke entry)	Bresenham	198

*1 Line is very inaccurate
*2 longword coordinates are required, **Dave**s and **Josephs** entrie were moved down a place due to this

Results: (fastest lineroutine)

This compo went pretty nice. All rules were matching the competition rules, all routines worked and we have a clear result. Not much more to say about this, except I think that these routines could be a bit faster. All routines are writing byte- whise. Why did noone do a lineroutine plotting multiple pixels at once ? (move.l for horizontal lines, 4x move.b for vertical ones for example)

Detailed Results:

Place	Handle	Algorithm	Speed
1.	Piru	Bresenham	134
2.	Sniper	Bresenham	142
3.	Dave	Bresenham	144
4.	Stelios	Bresenham	152
5.	Act	Bresenham	159
6.	Shin (joke entry)	Bresenham	187

Download

Well - no further comments about the code here. Just download the competition entries here ***Please***

remember that, even if you can download these routines, they are still not public domain. Ask before using any of these routines, or give credits at least.

Last change: 16.01.2001