Subject: Re: Speedy Julia Set Fractals
Posted by Caleb on Sun, 06 Sep 2009 21:45:41 GMT
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On Sep 6, 4:44 pm, Caleb <calebwhe...@gmail.com> wrote:
> Hello!
>
> I have a quick question about some fractal work I am doing. I know
> that doing matrix multiplications and histograms can exponentiate
> processes that are historically done with for loops. I have been
> trying to think of a way to do this with a fractal program I just
> wrote. Here is a snippet of the code that I want to speed up:
>
> <code>
>
> ; Loop through and do calculations on each point:
> FOR i = 0, x_size-1 DO BEGIN
>
> FOR j = 0, y_size-1 DO BEGIN
>
> ; Initialize number of iterations:
> num = 0
>
> ; Complex value of the current coordinate point:
> z = COMPLEX(FLOAT(i-X_OFFSET)/(X_OFFSET*SCALE),FLOAT(j-Y_OFFSET) /
> (Y_OFFSET*SCALE))
>
> ; Calculate value of F(z) at above z:
> z1 = z^K + c
>
> ; Take magnitude of the above value (z1):
> mag = ABS(z1^K + c)
>
> ; Do loop until mag is greater than threshold or max iterations
> have been calculated:
> WHILE ((mag LE THRESH) AND (num LT MAX_ITERATION)) DO BEGIN
>
> ; Re-Calculate value of F(z) at above z1:
> z1 = z1^K + c
>
> ; Take magnitude of the above value (z1):
> mag = ABS(z1^K + c)
>
> ; Increment iteration variable:
> num++
>
> ENDWHILE
>

> ; Value of matrix is set to iteration number:
> grid(i,j) = num
>
> ENDFOR
>
> ENDFOR
>
> </code>
>
> My problem is that I have a while loop for every iteration of my
> matrix which can run up to 256 iterations if need be. Can I speed of
> these calculations without going to multiple cores?
>
> Oh and if you need more of the code let me know and I'll post it.
>
> Thanks!
>
> Caleb Wherry

Whoops, thought there were "code" tags. Guess not!

- Caleb
