Subject: Re: IDL Strip Chart
Posted by Mark Hadfield on Wed, 08 Sep 2004 21:26:51 GMT
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pestMay@gmail.com wrote:
> I ... need either a direct or object graphics strip chart routine.

What's a strip chart?

--
Mark Hadfield "Ka puwaha te tai nei, Hoea tatou"
m.hadfield@niwa.co.nz
National Institute for Water and Atmospheric Research (NIWA)

Subject: Re: IDL Strip Chart
Posted by Paul Van Delst[1] on Wed, 08 Sep 2004 21:50:55 GMT
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Mark Hadfield wrote:
> pestMay@gmail.com wrote:
>
>> I ... need either a direct or object graphics strip chart routine.
>
> What's a strip chart?

Ye strip chart of olde were what you see on telly when someone's getting a polygraph test - continuous output of paper with a pen recording all the bits and pieces. Nowadays you're more likely to see an electronic version - like the fancy heart monitoring machines in most hospitals... you know... the machines that go "ping" :o)

I'd say the OP wants an electronic/IDL version - dunno how you'd implement the paper/pen version in IDL (can you imaging the issues with PS output? Lordy.) It would be neato thing to write... I presume the ability to playback/scroll/stop/inquire the recorded data would be a must.

paulv

Subject: Re: IDL Strip Chart
Posted by pestMay on Thu, 09 Sep 2004 01:53:48 GMT
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For anyone involved in real-time data collection (e.g., atmospheric data,
heart-rate,
other physiological data) display this data as it arrives, say on a serial

port, is essential
in monitoring the data stream.

There are many commercial hardware/software solutions (e.g., BIO-PAC) and an
IDL
competitor, MATLAB, has one. The X-axis is always time, and often there are
a number of
channels of data that might include an event marker (e.g., we just launched
the weather sound,
a subject in an experiment pressed a button, etc.).

Ed May

Subject: Re: IDL Strip Chart
Posted by R.G. Stockwell on Thu, 09 Sep 2004 18:02:40 GMT
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<pestMay@gmail.com> wrote in message
news:MIO%c.17702$iS.1208@newssvr29.news.prodigy.com...
> For anyone involved in real-time data collection (e.g., atmospheric data,
> heart-rate,
> other physiological data) display this data as it arrives, say on a serial
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>
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> a number of
> channels of data that might include an event marker (e.g., we just launched
> the weather sound,
> a subject in an experiment pressed a button, etc.).
>
> Ed May

I had a few minutes to kill before a meeting, so here is a quicky strip chart
in direct graphics. It is not the most efficient thing ever, but it will give you
a starting point.

Cheers,
bob

xr = [0,100]

```
yr=[-4,4]

plot,fltarr(1),xr=xr,yr=yr

timeincrement = 1  ; the sample interval
datacounter = 0

datatime = !values.f_nan
data = !values.f_nan



for i = 0,1000 do begin
 ; make measurement
 newdata = (randomn(seed,1))[0]
 datatime = [datatime,i]
 data = [data,newdata]
 datacounter = datacounter+1

 if datacounter gt 50 then begin
  ;shift the axis
  xr = xr + timeincrement

  ;redraw data
  plot,datatime,data,xr=xr,yr=yr,psym=-4

 endif else begin
  if i gt 0 then begin
    plots,datatime[datacounter],data[datacounter],psym=-4,/data, /continue
  endif else begin
   plots,datatime[datacounter],data[datacounter],psym=4,/data
  endelse
 endelse
 wait,0.1

endfor


end
```

Subject: Re: IDL Strip Chart
Posted by Paul Van Delst[1] on Thu, 09 Sep 2004 19:00:39 GMT
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R.G. Stockwell wrote:
> <pestMay@gmail.com> wrote in message
news:MIO%c.17702$iS.1208@newssvr29.news.prodigy.com...

>
>> For anyone involved in real-time data collection (e.g., atmospheric data,
>> heart-rate,
>> other physiological data) display this data as it arrives, say on a serial
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>> in monitoring the data stream.
>>
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>> competitor, MATLAB, has one. The X-axis is always time, and often there are
>> a number of
>> channels of data that might include an event marker (e.g., we just launched
>> the weather sound,
>> a subject in an experiment pressed a button, etc.).
>>
>> Ed May
>
>
>
> I had a few minutes to kill before a meeting, so here is a quicky strip chart
> in direct graphics. It is not the most efficient thing ever, but it will give you
> a starting point.

Wow. That's pretty darn cool.

Subject: Re: IDL Strip Chart
Posted by Haje Korth on Thu, 09 Sep 2004 19:37:27 GMT
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I would define the maximum length of the arrays before hand. Appending can
take fairly long once arrays get large. That is at least the expereince I
had in the past.

Haje

"R.G. Stockwell" <noemail@please.com> wrote in message
news:EW00d.17$ts4.29302@news.uswest.net...
> <pestMay@gmail.com> wrote in message
news:MIO%c.17702$iS.1208@newssvr29.news.prodigy.com...
>> For anyone involved in real-time data collection (e.g., atmospheric
data,
>> heart-rate,
>> other physiological data) display this data as it arrives, say on a
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>> port, is essential
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>
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> I had a few minutes to kill before a meeting, so here is a quicky strip chart
> in direct graphics. It is not the most efficient thing ever, but it will give you
> a starting point.
>
> Cheers,
> bob
>
>
>
>
> xr = [0,100]
> yr=[-4,4]
>
> plot,fltarr(1),xr=xr,yr=yr
>
> timeincrement = 1 ; the sample interval
> datacounter = 0
>
> datatime = !values.f_nan
> data = !values.f_nan
>
>
>
> for i = 0,1000 do begin
> ; make measurement
> newdata = (randomn(seed,1))[0]
> datatime = [datatime,i]
> data = [data,newdata]
> datacounter = datacounter+1
>
> if datacounter gt 50 then begin
> ;shift the axis

```
>    xr = xr + timeincrement
>
>    ;redraw data
>    plot,datatime,data,xr=xr,yr=yr,psym=-4
>
>   endif else begin
>    if i gt 0 then begin
>      plots,datatime[datacounter],data[datacounter],psym=-4,/data, /continue
>    endif else begin
>     plots,datatime[datacounter],data[datacounter],psym=4,/data
>    endelse
>   endelse
>   wait,0.1
>
>  endfor
>
>
>  end
>
>
```

Subject: Re: IDL Strip Chart
Posted by pestMay on Fri, 10 Sep 2004 01:20:42 GMT
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Public thanks to Bob for the clever start on a strip-chard.

Ed

Subject: Re: IDL Strip Chart
Posted by btt on Fri, 10 Sep 2004 14:42:56 GMT
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R.G. Stockwell wrote:
> <pestMay@gmail.com> wrote in message
news:MIO%c.17702$iS.1208@newssvr29.news.prodigy.com...
>
>> For anyone involved in real-time data collection (e.g., atmospheric data,
>> heart-rate,
>> other physiological data) display this data as it arrives, say on a serial
>> port, is essential
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>>
>> There are many commercial hardware/software solutions (e.g., BIO-PAC) and an
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>> competitor, MATLAB, has one. The X-axis is always time, and often there are
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>> channels of data that might include an event marker (e.g., we just launched
>> the weather sound,
>> a subject in an experiment pressed a button, etc.).
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>
>
>
> I had a few minutes to kill before a meeting, so here is a quicky strip chart
> in direct graphics. It is not the most efficient thing ever, but it will give you
> a starting point.
>
> Cheers,
> bob
>

Hi,

I echo Paul, Cool!

I have added a few tidbits to control flashing (at least on my machine.) (1)
plotting is done to a pixmap then copied to the display and (2) a keepStart
keyword keeps the starting data postion in time.

I'll bet you the Mark H will pipe in here to mention that it is possible to do
this very smoothly with object graphics.

Ben

*********START

```
PRO stripchart, $
 keepStart = keepStart

xr = [0,100]
yr=[-4,4]


keep = Keyword_Set(KeepStart)

Window, /free
thisWin = !D.window
xSize = !D.x_size
ySize = !D.y_size
```

```
Window, /free, /pixmap
pixWin = !D.window
plot,fltarr(1),xr=xr,yr=yr


wset, thisWin
; [Xs, Ys, Nx, Ny, Xd, Yd, W]
Device, copy = [0,0,xsize, ysize,0,0, pixWin]
wset, pixWin

timeincrement = 1  ; the sample interval
datacounter = 0

datatime = !values.f_nan
data = !values.f_nan



for i = 0,1000 do begin
  ; make measurement
  newdata = (randomn(seed,1))[0]
  datatime = [datatime,i]
  data = [data,newdata]
  datacounter = datacounter+1

  if datacounter gt 50 then begin
   ;shift the axis - keep start position if requested
   if keep then $
    xr[1] = (xr[1] + timeIncrement)  else $
    xr = (xr + timeincrement)

   ;redraw data

   plot,datatime,data,xr=xr,yr=yr,psym=-4


  endif else begin

   if i gt 0 then begin
    plots,datatime[datacounter],data[datacounter],psym=-4, /data, /continue
   endif else begin
    plots,datatime[datacounter],data[datacounter],psym=4, /data
   endelse

  endelse

wset, thisWin
; [Xs, Ys, Nx, Ny, Xd, Yd, W]
```

```
Device, copy = [0,0,xsize, ysize,0,0, pixWin]
wset, pixWin

  wait,0.1

endfor


end


******END
```

Subject: Re: IDL Strip Chart
Posted by John Smith on Fri, 10 Sep 2004 15:20:22 GMT
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Well I did only have a few minutes!

But I would definitely limit the size of array (as Haje says), perhaps a
single buffer (initally NANs) with a shift statement, and NAN the point that gets
shifted to the end.
Also, I would also to some pixmapping as Ben suggests.

Cheers,
bob

Subject: Re: IDL Strip Chart
Posted by R.G. Stockwell on Fri, 10 Sep 2004 15:23:15 GMT
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"John Smith" <noemail@please.com> wrote in message news:2qdv4jFu77jfU1@uni-berlin.de...
^^^^^^^^^

Ah, oops. I just changed newservers, and didn't set the name up right.
news.qwest seems to expire messages after about 20 minutes, and
I seemed to be missing a lot of posts. So I went with the free (text groups
read and post) at news.indicidual.net

Cheers,
bob

Subject: Re: IDL Strip Chart

Posted by R.G. Stockwell on Fri, 10 Sep 2004 15:25:47 GMT
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"R.G. Stockwell" <noemail@please.com> wrote in message
news:2qdva1FujtelU1@uni-berlin.de...
> read and post) at news.indicidual.net

ARGH!
.... news.individual.net ...

sometimes i have a reel prolbem speeeling... a sin() of troo geenyus or conmplete idocy