
Subject: Re: AVALANCHE.PRO games in IDL FTW

Posted by [b_gom](#) on Tue, 15 Dec 2009 02:12:46 GMT

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Surely ITT is working on an iGames framework to make game development easier and faster in IDL 8.0..

On Dec 14, 1:04 am, munka <mynameismu...@gmail.com> wrote:

> If you have ever needed to plot a whole bunch of things, you may of
> put a plot command in a for/while loop. If you forgot to put
> something like wait,1 in your loop, you might have gotten something
> that looks like an animation almost. I noticed this, and this
> "animation" in combination with the cursor function, you can make some
> sweet games... like avalanche. I got bored and wrote out this game in
> IDL (It's less than 200 lines!)
>
> I realize there is some crappy programming going on in this program,
> but oh well! I've only known of IDL (or programming for that matter)
> for less than 3 years. (I'm an undergrad in physics/astronomy)
>
> Stuff like
> for i=0,maxenemies-1,1 do Xenemypos[i]=0.0
> instead of:
> Xenemypos=replicate(0.0,maxenemies)
> and the use of goto statements..... :O
> But don't worry about that....
>
> So, I don't really have any questions. I'm just here to share the
> wealth and show y'all this program. I have a better game written with
> the same... "engine"..... but I've been adding comments to it,
> because it is a bit more complicated. I'll post that on here a
> probably sometime later this week. If you have questions or comments,
> feel free to email me at billfreeman44 [at] yahoo.com. I don't check
> my gmail very often.
>
> Also, all this was possible because of Dr. Fanning's amazingly helpful
> website ;)
>
> Enjoy!
> ~Bill
>
> (and if you look closely, you might even be able to cheat! :D)
>
> pro avalanche
> ;VARIABLES
> difficulty=1 ;set by user in game (see into game screen)

```

> levelnum=1
> maxnumlevels=50
> usersize=.5
> usersizey=.5
> maxenemies=1001
> enemypsym=2
>
> thetime=long(0)
> thekey='string'
> ans='string'
> Xenemypos=fltarr(maxenemies)
> Yenemypos=fltarr(maxenemies)
> Yenemyvel=fltarr(maxenemies)
> Tenemytim=fltarr(maxenemies)
> for i=0,maxenemies-1,1 do Xenemypos[i]=0.0
> for i=0,maxenemies-1,1 do Yenemypos[i]=0.0
> for i=0,maxenemies-1,1 do Yenemyvel[i]=1./10*RANDOMU(S, 1)
> for i=0,maxenemies-1,1 do Tenemytim[i]=0.0
> enemynum=0
> thetime=long(1)
>
> ;INTRO GAME SCREEN
>   plot,[0,100],[0,100],/nodata
>   xyouts,50,60, "AVALANCHE",alignment=.5,charsize=3.5
>   xyouts,50,50, "click a difficulty to begin",alignment=.5,charsize=2.5
>   xyouts,50,45, "hit p to pause (while playing)",alignment=.
> 5,charsize=2
>   xyouts,50,40, "hit any key to EXIT (while playing)",alignment=.
> 5,charsize=1
>   xyouts,25,25, "EASY",alignment=.5,charsize=1
>   xyouts,50,25, "MEDIUM",alignment=.5,charsize=1
>   xyouts,75,25, "HARD",alignment=.5,charsize=1
>
> ;GET DIFFICULTY
>   cursor,xpos,ypos,/up
>   if abs(xpos-25) lt abs(xpos-50) and abs(xpos-25) lt abs(xpos-75) then
> difficulty=1
>   if abs(xpos-50) lt abs(xpos-25) and abs(xpos-50) lt abs(xpos-75) then
> difficulty=2
>   if abs(xpos-75) lt abs(xpos-25) and abs(xpos-75) lt abs(xpos-50) then
> difficulty=3
>   plot,[0,100],[0,100],/nodata
>   if difficulty eq 1 then xyouts,50,50, "EASY",charsize=2
>   if difficulty eq 2 then xyouts,50,50, "MEDIUM",charsize=2
>   if difficulty eq 3 then xyouts,50,50, "HARD",charsize=2
>   WAIT,1
>
> while levelnum lt maxnumlevels do begin

```

```

>
> levelstart:
> ;LEVEL VARIABLES...
>     levellength=long(320);length of level in frames
>     diffnum=100.;fix(35+levelnum*1.5+difficulty*2);percent chance of
> enemy spawn
>
> ;LEVEL BEGIN
>     for thetime=long(0),long(levellength),1 do begin
>
> ;DRAW LEVEL
>     plot,[0,100],[0,100],/nodata,xminor=1,yminor=1,xmargin=[0,0] ,ymargin=
> [0,0],ticklen=0,xticks=1,yticks=1
>
> ;DRAW SCORE
>     xyouts,2,98, "score = "+strcompress(string(fix(((levelnum+float
> (thetime)/float(levellength))*1000.-1000.)*difficulty)))
>
> ;INTRO TO EACH LEVEL..
>     if thetime lt 32 then begin
>         xyouts,50,70, "Beginning level "+strcompress(string(levelnum),/
> remove_all),alignment=.5
>         xyouts,50,65, "This will last "$
>         +strcompress(string(fix(levellength)/32),/remove_all)+"
> seconds",alignment=.5
>         xyouts,50,60, "Enemies/sec= "+strcompress(string(diffnum*
> (32.0/100.0)),/remove_all),alignment=.5
>     endif
>
> ;DRAW USER...
>     cursor,xpos,ypos,/nowait
>     ;CHECK IF USER OUT OF RANGE.
>     IF xpos lt usersizeX then xpos=usersizeX
>     IF xpos gt 100.-usersizeX then xpos=100.-usersizeX
>     IF ypos lt usersizeY then ypos=usersizeY
>     IF ypos gt 100.-usersizeY then ypos=100.-usersizeY
>     oplot,[xpos-usersizeX,xpos-usersizeX,xpos+usersizeX,xpos
> +usersizeX,xpos-usersizeX],$
>     [ypos-usersizeY,ypos+usersizeY,ypos+usersizeY,ypos-
> usersizeY,ypos-usersizeY],linestyle=0
>
> ;DRAW ENEMIES...
>     index=WHERE(Tenemytime ge 1)
>     check=size(index)
>     if check[0] ne 0 then begin
>         oplot,Xenemypos[index],Yenemypos[index],psym=enemypsym
>     endif
>

```

```

> ;CHECK FOR PAUSE...
>     input=get_kbrd(0)
>     if input ne "" then thekey=input
>     if thekey eq '.' then goto,hax
>     if thekey ne 'string' then begin
>         if thekey ne 'p' then begin
>             print, "EXITING."
>             plot,indgen(100),indgen(100)
>             goto, theend
>         endif
>         print,'paused.. enter to continue, or type exit to exit.'
>         read,ans
>         if ans eq 'exit' then goto, theend
>         thekey='string'
>     endif
>
> ;CHECK FOR HIT...
>     if thekey eq '.' then goto,hax
>     hittest=WHERE((Xenemypos gt xpos-usersizex and Xenemypos lt xpos
> +usersizey) $
>         and (Yenemypos gt ypos-usersizey and Yenemypos lt
> ypos+usersizey))
>     check=size(hittest)
>     if check[0] ne 0 then begin
>         oplot,indgen(100),indgen(100),linestyle=difficulty
>         print, "HIT!"
>         PRINT, "YOU FAIL..."
>         print, "Total score = ",fix((((levelnum+float(thetime)/float
> (levellength))*1000.-1000.)*difficulty)
>         goto, theend
>     endif
>     hax:
>
> ;WAIT
>     wait,0.03125;32 fps
>
> ;RECALCULATE ENEMY LOCATION...
>     index=where(Tenemytime ge 1)
>     check=size(index)
>     if check[0] ne 0 then begin
>         Xenemypos[index]=Xenemypos[index]
>         Yenemypos[index]=Yenemypos[index]+Yenemyvel[index]-difficulty y/3.0
>         Tenemytim[index]=Tenemytim[index]+1
>     endif
>
> ;GENERATE NEW ENEMIES...
>     rn1=FIX(levelnum*difficulty*RANDOMU(S, 1))
>     while rn1 le levelnum*difficulty do begin

```

```

>      enemynum++
>      if enemynum ge maxenemies-1 then enemynum=0
>      newvel= fix(RANDOMU(S, 1)*32.0)/32.0+levelnum/maxnumlevels
>      newpos=FIX(100*RANDOMU(S, 1))
>      Tenemytim[enemynum]=1
>      Xenemypos[enemynum]=newpos
>      Yenemypos[enemynum]=100.0
>      Yenemyvel[enemynum]=newvel*(-1)
>      rn1++
>      endwhile
>
> ;DELETE OLD ENEMIES
>      del=WHERE(Yenemypos gt 101 or Yenemypos lt -1)
>      check=size(del)
>      if check[0] ne 0 then begin
>          Xenemypos[del]=0.0
>          yenemypos[del]=0.0
>          yenemyvel[del]=0.0
>          Tenemytim[del]=0
>      endif
>
> ;LEVEL END
> endfor
>
> ;END OF LEVEL CHANGES
>      usersizex=usersizex+.1*difficulty
>      usersizey=usersizey+.1*difficulty
>      levelnum++
> endwhile
>
> print, "you win!"
> theend:
> print, "END OF PROGRAM."
> end

```
