Tutorial for The Graphics Factory

Table of Contents

Introduction

These tutorials should guide you through some of the basic functionality of this program and give you a feel for how things can be done.   I will be assuming a good level of general Windows knowledge and will be making the descriptions brief.   Even if you don't plan on creating your own modules it would still be useful to go through all of the tutorials.

General Program Operations

This section will walk you through some general functions of the program using existing modules.

Simple Module Operations

1. Start The Graphics Factory program.

2. Select [File | Load Module] menu.

3. Select "LINE04.GFM" from the module open dialog.

4. Module credits and general information is displayed.   Press the [OK] button.

5. This module is designed to automatically start running when it is loaded.

6. In addition the interactive controls dialog will be displayed automatically for this module. This is used to interactively change some settings of the module while it is running.

7. It may take a few seconds before you see drawing on the screen due to the transparency settings for this module.   So give it a chance.

8. Now you can see this is a fairly routine line art drawing module with some transparency added.

9. When the screen becomes cluttered select the [Module | Clear] menu.   This will clear the screen.   Because you did not stop the module from running it will continue to draw on the screen after it is cleared.

10. After it reaches a point that looks interesting on screen select the [Module | Stop] menu.   This will stop the module from drawing.

11. You may have noticed the little box on screen that displays "LIN".   This is the factory. This module has just one factory. So it is this factory that has be configurated to draw the designs you see on screen.

12. Select the [Module | Hide Factories]   menu.   This will hide all the factories for this module (which there is only one).

13.   Select the [Module | Restart] menu.   The screen will be cleared and the drawing will restart.   You can see that even if a factory is hidden it can still draw.

14. Select the [Module | Show Factories] menu.   The "LIN" factory will be shown again. Also notice that drawing will continue.

Interactive Controls

1. Interactive controls vary with each module.   In fact many modules don't have any interactive controls configurated.

2. Continue with the same module as above (Line04.gfm).

3. Press the [Module | Restart] menu.

4. In the Interactive Controls dialog move the "transparency" slider to the left until the numbers on the right are some where around 50.

5. You will see that the lines being drawn are not as transparent.

6. Select the [Module | Restart] menu.   This is make it even more clear - the change in transparency.

7. Select the [Module | Stop] menu.

8. Drag the "LIN" factory near the center of the drawing area.

9. Press the [Module | Restart] menu.   You will see that the drawing begins much closer to the center.   The main thing to remember is existing modules can often generate a wide variety of images by changing factory locates and by using interactive controls.

10. Move the "Circle 2" slider to the left until the numbers on the right are around 30.

11. Select the [Module | Restart] menu.   Notice the difference in the drawing.

12. Move the "Transparency" slider to the right until the numbers on the right are around 225.

13. Select the [Module | Restart] menu.   Notice now the drawing to similar to what it was when we started.

14. Select the [Module | Stop] menu.

You now have the basic skills needed to use existing modules.

Basic Module Editing

Changing Colors

1. Start The Graphics Factory program if it is not already running.

2. Select the [File | Load Module] menu.

3. Select "magnet03.gfm" in the Module Open dialog and press [OK].

4. Read the Module Credits dialog and then press [OK].

5. This module will start running automatically when loaded.   This module has two factories, the "PIX" factory which is randomly drawing dots on the screen and the "MAG" factory which is being used by the "PIX" factory to alter each dot as it is drawn on the screen.   Each dot, if it is within the radius of the "MAG" factory's magnetic settings, is getting pulled as it is drawn.

6.   Select the [Module | Restart] a few times, watching the drawing each time.   Notice the colors are different each time.   That is because the "PIX" factory is configurated to use random colors.   Lets change that.

7. Double click on the "PIX" factory.   You will see a dialog with six main buttons.   Notice that if the module was still running it will have stopped automatically now.

8. Press the [Colors...] button.   This is the main colors dialog which exists for each factory.

9. Just for an overview.   The bar near the top is a sample of the colors that will drawn by this factory.   The color boxes below this are the control colors.   These seven colors determine the colors that are in the bar above.   Below the 7 color boxes are "variance" settings.   Because these are set to 255 the colors used are almost completely random.

10.   Press the [ReCalc] button a couple of times and notice the difference in the color bar each time.

11. Now change the values in the variance boxes from 255 to 0.   Do this for all seven of them.

12. Now press the [ReCalc] button.   Notice that the colors blend from pure red to pure blue.   Note pressing the [ReCalc] button is not required for the new color settings to take effect. It is used to get a sample of what the colors may look like.

13. Press the [OK] button for both the Color Dialog and the Factory Settings dialog.

14. Select the [Module | Restart] menu.   Notice now that the colors being drawn are blue and red and blends of those two colors.

15.   Lets change that to blues and yellows.

16. Double click on the "PIX" factory.

17. Press the [Colors...] button.

18. Now click on the red color box.   You will see the Color Select dialog.

19. Select the color yellow and press the [OK] button.

20. Repeat this for each red color box.

21. Press the [OK] button for both the Color Dialog and the Factory Settings dialog.

22. Select the [Module | Restart] menu.   Now blue and yellow and blends of those two colors are used.

Setting up Interactive Controls

1. Double click on the "MAG" factory.

2. Press the [Magnetics] button.   This dialog box controls the magnetic properties of a factory.   By default the magnetic properties are disabled (channel 0).

3. Double click on the "Strength" value of 75.   This is the aqua colored box.   Note any aqua colored box can be double clicked to bring up the Advanced Value Control dialog.

4. For value type select "Interactive 1".

5. For "Minimum Value" enter in 1.

6. For "Maximum Value" enter in 200.

7. Press [OK].

8. Now double click on the "Fade Distance" value of 200.

9. In the Advanced Value Control dialog.   For Value Type select "Interactive 2".

10. For "Minimum Value" enter in 1.

11. For "Maximum Value" enter in 400.

12. Press [OK] on this dialog, the Magnetics dialog and the Factory Settings dialog.

13. Select the [Module | Settings] dialog.   You now see the Module Settings dialog.   This is where general parameters about the module are set.

14. In the "Desc. 1" edit area enter "Magnetic Str".

15. In the "Desc 2" edit area enter "Magnetic Dis".   And press the [OK] button.

16. If the Interactive Controls dialog is not displayed select the [Module | Interactive Controls] menu.

17. Select the [Module | Restart] menu.

18. Experiment with the two programmed interactive controls to see the various differences.

Changing Drawing Types

1. Continue with the same module as above.

2. Double click on the "PIX" factory.

3. Press the [Draw Settings] button.   The dialog you now see is the heart of this program.

4. Change the "Drawing Type" to "Circle"   This should be near the top.

5.   IMPORTANT: Change the value in the box to the right of "Circle" from 300 to 1.
Because a value of 300 here for a circle would mean a line width of 300 pixels.   And if that
were pulled because of the Magnetic effect the program may appeared locked out for some
time while it draws this circle.   In addition make sure you did not select "Filled Circle", you
would end up with a similar problem in that case.

6. Press the [OK] button for this dialog and for the Factory Settings dialog.

7. Select the [Module | Restart] menu.

8. You should see a circle being drawn.   Adjust the interactive controls until the magnetic
effects are pulling the circle.

This should give you some of the basic skills of editing existing modules.

Basic Module Creation

1. Start The Graphic Factory.   If it is already running select the [File | New] menu.

2. Select the [Factory | Add] menu.   This will add a new factory to your current module.

3. Double click on the factory that was just created.   You will now see the Factory Settings dialog.

4. Press the [General Settings...] button.   This is where general parameters for this factory are set.

5. For the "name" edit area enter in "FRA" (for fractal).

6. Press the [OK] button.

7. Now press the [Draw Settings...] button.

8. For the "Drawing Type" select "Time Escape Fractal".

9. For the first two boxes (call them parameters) to the right drawing type enter in 16000 for each.

10. For the third box enter in 5.

11. Now press the [OK] button.

12. Press the [Colors...] button.

13. For "Life on Colors" enter in 3.

14. For each color variance for the red colors enter in 255.

15. Now press the [OK] button.

16. Almost ready to try it.   Press the [Control   Point 2] button.   This dialog is used to setup how the control points for a factory will perform.

17. For "Min. Tether X", "Min. Tether Y", "Max. Tether X" and "Max. Tether Y" areas enter in values of 25. This will force the drawing to be constrained to a 25 X 25 pixel box.

18. Press the [OK] button for this and the Factory Settings dialog.

19. Now select the [Module | Restart] menu.   What you are seeing are a series of random fractals being draw in a bouncing box.

20. Now lets setup this module to display them across the entire drawing area.

21. Double click on the "FRA" factory.

22. Press the [Control Point 1] button.

23. At the bottom, for "Paths" select "Cover Left to Right".

24. For the box to the right of this enter in 25.

25. For "Wall Reaction" select "Drift" since we don't want the box to bounce off the walls.

26. Press the [OK] button.

27. Press the [Control Point 2] button.

28. At the bottom for "Paths" select "Relative".   This will force the second control point to be moved on the path along with the first control point.

29. Press [OK] for this dialog and the factory settings dialog.

30. Select the [Module | Restart] menu.   Now you should see the fractals covering the drawing area in 25X25 pixel chunks.

31. For the last item lets add some mirroring.

32. Double click on the "FRA" factory.

33. Press the [Draw Settings...] button.

34. For "Effects and Functions" select "Mirror".

35. For the first parameter (the box to the right) enter in a 2.

36. For the second parameter (the second box to the right) enter in an 8.

37. To see a description of the parameters just hold the mouse cursor over the box for the pop up hint.

38. Now restart the module (I hope you can do that by now).

39. Let it run until it fills the drawing area.

40. Now select the [Module | Wallpaper] menu.   This will make the image your wallpaper. Your old wallpaper is still available.   To change it back you will need to do that in Control Panel.

41.   Ok, will do one more thing.

42. Go back into the Draw Settings dialog.

43. Select the "Level 2" tab.   Note that one of the powerful features of this program is the ability to layer effects that will occur on each pixel.

44. For the "Drawing Type" select "Jitter".

45. For the "Destination Control" select "wRGB Add".   This will add a certain "Jittered" (random) color value to each of the RGB components of the pixel.

46. For the three parameters of the Destination Control enter in 35 for each.

47. Now restart the module.   Now you have a bit of a dithered look to the fractals.

I realize that this just touches the surface of what you can do with this program but I hope that this tutorial has made the program more approachable.