

digitize

This is version 0.98 of DIGITIZE

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Description

This program does the reverse job of a plotting program, it can take a scanned X,Y plot and digitize it to end up with a text file containing the X,Y points.

This program is written with Visual Basic so you need the **VBRUN100.DLL**, you would probably also need a scanner to scan your picture and save it in a bitmap file.

Instalation

Create a directory and copy all files to that directory, You can now use the file manager to drag and drop the program icon into a group in the program manager.

About

DIGITIZE v 0.98

Written by Y. Danon

October 1992

This program is distributed as shareware, you are granted 30 days to try the program after 30 days you must register the program or remove it from your computer. This is a beta version released on request of several interested people.

Using

1. There are two ways to get the scanned image into DIGITIZE, the first is to save it as a .BMP file and then DIGITIZE can open and read the file. The second is to copy the file to the clipboard and then use the PASTE command in digitize. This version can only paste a bitmap file from the clipboard. The user is encouraged to use other shareware products to convert the scanned image format.
2. After the plot was read (from a .BMP file) or pasted, define the origin by clicking the define origin button (it should be automatically selected as you start the program) and inserting the plot origin X,Y values in the X Y boxes (you can use TAB to move between them). Point the mouse to the plot origin and click the left button.
3. The program will automatically select the define X axis, you should then provide the X value in the X coordinate box and click on the X-axis position corresponding to that value. It is recommended to point the mouse to the end of the X-axis and then click. The plot rotation angle is determined from the X-axis line, it is assumed that the Y-axis is perpendicular to the X-axis.
4. Define the Y axis in the same way.
5. Now the digitize button is selected and as the mouse moves the plot X,Y coordinates are displayed in the X,Y Boxes. if the X or Y axis are log check the X-Log and/or Y-Log boxes accordingly.
6. Point the mouse to a point on the curve and click, the X,Y points will be inserted to the List Box.
7. To use the Auto Trace feature of DIGITIZE, position the mouse on the left side of the curve to be digitized and click the right mouse button. You can check the Test Trace box to see how the trace goes before you digitize. After you test the trace and before you digitize you will have to reload the plot in order to remove the green trace curve. This can be done by double clicking on the plot or by using the Reload Plot command in the FILE menu or the Paste command in the EDIT menu, there is no need to redefine the axis.
8. Use the Save As to save the X,Y data.

Some Remarks

These are some useful remarks for better using DIGITIZE

1. Since the program gets the X,Y values from the screen pixels the higher the screen resolution the better the accuracy is.
2. The program calculates the rotation angle of the plot axis relative to the screen grid using the origin values and the X axis values. This means that it will work properly even if the scanned picture is not aligned well.
3. The Auto Tracer is tracing the line by a simple search algorithm, the X and Y searching parameters are user adjustable. The ability of the Auto Trace algorithm to "Jump" over gaps in the curves is getting better as the values of the X, Y trace parameters is bigger.
4. The auto Trace is designed to work with a black curves only.
5. To get better accuracy in digitizing you can check the STRETCH option to stretch the plot in the X dimension.
6. If you have a slow machine, you can check the NOREFRESH option and the plot will not be refreshed when overlaid by another windows. To refresh the plot click twice anywhere on the plot

Registration

If you use DIGITIZE for more than 30 days (or you liked it much sooner) you should register it by sending \$35 to:

Yaron Danon
14 Beman Lane
Troy, NY 12180

A registered user will receive the updates of the next versions as they become available.

Responsibility

The author of DIGITIZE is not responsible to any damage done by DIGITIZE to your computer. The author is not responsible to any damage caused by using the digitized data.

Future Improvements

1. Add "Trace Blockers" this feature will make it easier to auto trace a plot with multiple intersecting curves.
2. Change the X,Y list box to a grid, this will provide more flexibility and maybe more speed.

Suggestions and Comments

Please Email and suggestion or problems you have to:
danony@rpi.edu

Checkout WINFIT

Also available is WINFIT:

A general purpose Non Linear Weighted Least Squares Fitting program for windows 3.x

FEATURES

- * Reads a simple ASCII file, space or tab delimited of X Y with an optional Yerror data.
- * The data can be plotted with log axis options.
- * The program uses Levenberg-Marquardt fitting method.
- * There are some built in functions and the a user-defined function.
- * The program can generate weights that will improve fitting performance for some problems.
- * This version can read up to 500 data points and fit up to 10 parameters.
- * The program provides a REPORT file and the plot can be copied to the clipboard.
- * The program will calculate and display the COVARIANCE and CURVATURE matrixes

