WHAT IS INCLUDED

Two programs are included: *XlXtrFun* and *SurfGen*.
(In addition, there are files useful only to programmers who want to export the functions to other programming languages.)

XlXtrFun

XlXtrFun contains functions that look intrinsic to Excel. These functions are primarily interpolating and curve fitting, and include both two-dimensional (2D) and three-dimensional (3D) interpolating.

The two *3D* interpolate functions in *XlXtrFun*, *Interp3D* and *InterpMatrix*, require the data to be in groups of constant X's. For example, suppose you have a data set of the elevation above sea level for 1,000 locations for a given area of some planet, say, Earth. If the 3D data collected was along lines of constant longitude *or* lines of constant latitude, then you can use *XlXtrFun*'s *Interp3D* function.

SurfGen (Surface Generation from Scattered Input Data)

If you have (X,Y,Z) data that cannot readily be put into groups of constant X's, use *SurfGen* (*Surface Generation from Scattered Input Data*) to generate data in the format that can be used by *XlXtrFun*'s *Interp3D* and *InterpMatrix* functions. *SurfGen* is not part of *XlXtrFun* (and therefore does not appear as an intrinsic Excel function). Because the procedure to generate a surface from scattered 3D data takes up to a second to run, a spreadsheet with many cells containing calls to such a time-consuming function would recalculate painfully slowly.

SYSTEM REQUIREMENTS

Computer:
486DX PC or above.
Memory:
Sufficient for Windows.
Disk Space:
0.5 MB
Operating System:
Windows 95, 98, Me, NT 3.51, NT 4.0, 2000, XP.
Other Software:
Microsoft Excel for Windows 95/97/2000/XP.
However, Microsoft Excel is *not* required if you are using *only* the exported functions.

INSTALLATION OF XlXtrFun

1. Exit (shut down, quit, stop) Excel.
2. Unzip XlXtrFun.zip.
3. Put XlXtrFun.xll wherever you want and use Excel's Add-In Manager to install XlXtrFun.xll.

   1. Start Excel.
   2. If a workbook is not already showing, open or create a new workbook.
   3. Click on *Tools - Add-Ins - Browse* to wherever you put XlXtrFun.xll - *OK - OK*.

   OR ...

   Put XlXtrFun.xll in the sacred location listed below.

That's it. The functions should be available whenever you are running Excel. Until you get used to them, use *Insert-Function*, or the Paste Function button. They will be in the Engineering Function Category and the Low Level I/O Function Category.

I also recommend putting the help files, `XlXtrFun.hlp` and `XlXtrFun.cnt`, in the sacred locations listed below, but this is not necessary for *XlXtrFun* to work.

More Installation notes (if you experienced any difficulties)

Excel thinks everything in `XlStart` is an Excel file and attempts to open whatever it finds there. Therefore,

- Put only the **.xll** file in `XlStart`.
- Do not put any other XlXtrFun files in the `XlStart` folder.

SACRED LOCATIONS

Notes:

- the `XlStart` folder may be *hidden*.
- Also your locations might be different. I would appreciate it if you would tell me your locations if they are different from the following. I can then add them to the table below to help others.
- The usual sacred locations are listed below, but we recommend you verify the locations of the `XlStart` folder and the folder with the other Excel help files for your particular installation of Excel.

Version	XlXtrFun.xll *(This is the only file actually required)*	XlXtrFun.hlp, XlXtrFun.cnt
Excel 95	MSOffice\Excel\XlStart	MSOffice\Excel
Excel 97	Program Files\Microsoft Office\Office\XlStart	Program Files\Microsoft Office\Office\
Excel 2000 NT 4.0	Winnt\Profiles*UserName*\ Application Data\Microsoft\Excel\XlStart	Program Files\Microsoft Office\Office\
Excel 2000 Windows Me	Windows\Application Data\ Microsoft\Excel\XlStart	Program Files\Microsoft Office\Office\
Excel 2000 Windows 2000	Documents and Settings\ *UserName*\Application Data\Microsoft\Excel\XlStart	Program Files\Microsoft Office\Office\
From an Italian User...		
WinXp Pro Italian Sp1 Office 2000 Premium italian	C:\Documents and Settings*UserName*\Dati applicazioni\Microsoft\Excel\XLSTART	

- You will probably have to navigate to the help file's location the first time you access the help, but after that, Windows should remember where the help file is located.
- The other .xls files in *XlXtrFun*.`zip` are examples, and can be put anywhere **except *XlStart***.
- The other files in `XlXtrFun`*Distribution*.`zip` (the file you actually download which includes *XlXtrFun*.`zip`) are well named and extend the capabilities of *XlXtrFun* into less commonly needed areas. They are not required for the basic functions of *XlXtrFun*.
- Most functions have detailed descriptions and examples in the help file. However, the help file is still under construction. However (again), most of the functions are simple to use or have very similar argument requirements. Using the Excel Function Wizard will guide you through the argument requirements the first few times you use them.
- Network Administrators: When you update *XlXtrFun* (i.e., replace old *XlXtrFun* files with newer ones), the old files may remain in disk cache. This results in users experiencing the same old version, even when they quit and restart Excel. The old version needs to be flushed from the server's disk cache.

INSTALLATION OF SurfGen (Surface Generation from Scattered Input Data)

1. Install `XlXtrFun.xll` as described above.

2. Put `SurfGen.dll` in your path, e.g, `C:\Windows\System32`.

3. Put `SurfGen.xls` wherever you want. It will never be seen by the user. I recommend putting it in `C:\Program Files\Microsoft Office\Office` (The only consideration is that there is a button on the `xlt` that is linked to a macro in `SurfGen.xls`, and it makes things easier if all potential users have `SurfGen.xls` in the same location.)

4. `Surface Generation from Scattered Input Data.xlt` is a template. This is the file you will actually see and use. Put it in the folder that has your other Excel templates, and it will be available to you whenever you do *File - New*. (Alternatively, you can put it in the folder specified in *Tools - Options - General - Alternate startup file location* or the same folder as `XlXtrFun.xll`.)

5. **Button Link:** There is a button in `Surface Generation from Scattered Input Data.xlt` that is linked to a macro in `SurfGen.xls`. Right now, the button assumes that `SurfGen.xls` is in `C:\Program Files\Microsoft Office\Office`. If you put `SurfGen.xls` in `C:\Program Files\Microsoft Office\Office` in step 2 above, you are done. If not, you will need to,

    1. Open `Surface Generation from Scattered Input Data.xlt` as a TEMPLATE (not just as an `xls`, but as an `xlt`. Check the title bar at the top of your Excel window. It should read, "Microsoft Excel - Surface Generation from Scattered Input Data.xl**t**").

    2. *Edit - Links* and change the source file to wherever you put `SurfGen.xls` in step 2 above. Save `Surface Generation from Scattered Input Data.xlt`.

To use: *File - New - Surface Generation from Scattered Input Data*

Advanced Systems Design and Development

346 Atlantic Avenue
Red Lion, PA 17356
email: support@xlxtrfun.com
http://www.xlxtrfun.com/XlXtrFun/ReadMeXlXtrFunAndSurfGen.htm

Email address hidden from spammers by the most excellent code provided by Mysterious Ways Developments Ltd.