2*L* FIELD DEVELOPER v 7.1

PROGRAM DESCRIPTION

2*L* (Tool) is a Windows based Rapid Application Development tool to create, change and test forms and spreadsheets. The program consists of 2 parts; **2*L* Field Developer**, to be used for creating and designing forms and sheets, and **2*L* Field**, to be used for data collection on handheld.
The program comes in two versions: an evaluation version (referred to as **2*L* Evaluation**) and a professional version (**2*L* Prof**). **2*L* Prof** is the full-blown version of **2*L* Field Developer**. **2*L* *Evaluation*** is also a full-blown version, but has the limitation of not saving data during data collection.
With both program versions you can create forms to be used with **2*L* Field**.

1. The screens

At the start of the program three windows will be displayed, two “empty screens” and the **2*L*bar**:
* The form designer screen (LINX, **2*L* Field Developer** v 7.1)
    This is the main screen with the menubar, the field definitions grid, message panel and formname-bar.
    Each row in the grid specifies an element in one of the screens.
    Error messages will appear on the message panel.
    The name of the actual form, you are working on, is displayed in the formnamebar at the bottom of this main screen.
* The form painting screens (Screen 1, Screen 2.....etc.)
    Each screen is based on the size of the handheld screen you have chosen for the project you are working in (see Menu, Options, Form size).
    The Windowcaption bar will show you the screennumber and selected screensize (width * height) in pixels.
    The bottombar will tell you the actual pixelcoordinates when you move the mouse over the screen. Together with the gridlines this is very useful to help you positioning the elements on the screen.
    You can select any element by clicking with the left mouse button on the element.
    You can add a new element anywhere on the screen (outside the elements already present) by pressing the right mouse button, and selecting the proper element type from a pop-up menu. The position of the mouse will be used as top left corner of the new element.
* The **2*L*bar**
    The **2*L*bar** is a helpfull tool which helps you quickly design your form. On the **2*L*bar** you will find icons which represent all the possible elements you can add to your form. The use of the 2L bar is very simple. Just click on the icon which stads for the element you want te add. Then click on the area on your painting screen. Now fill in the basic definitions for this element and press OK.

Other standard screens which can be visible during design are:
* Form settings screen
    In this screen you can set the possibilities to:
    * change data on the handheld
    * append new datarecords on the handheld,
    * auto-scroll through the datafields,
    * adapt to the standard menu and taskbars of your preferred handheld
    * have a numeric + cursor keypad permanently on your screen.

* integrated list editor
* integrated command file editor
* integrated test screen
* set tab order screen
* etc ...

* Check design screen
  Sometimes a form might not function as you would expect it to. To see what might be the cause of the problem you can check with the check design function all the possible conflicts that might occur in your design.

* Form description screen
  Here you can add additional information about the form for the handheld user.
* Sheet designer screen
  View and edit columns (order, widths etc) in spreadsheet-view

Standard screens are screens where you can view/change items without closing another screen.
Other input/confirmation/edit screens must be closed before you can continue with the program.

2. The menus

The most important features of the program can be accessed using the Main menu in the form designer screen.
Furthermore context sensitive pop-up menus are available in the form designer screen, the form painting screen and the sheetdesigner screen.
The pop-up menu is activated by pressing the right mousebutton.

3. The main functions (in the form designer screen)

3.1 File functions

3.1.1 Create a new form.

Select File, New form, from the main menu.
Select the proper project (or create a new project) and fill in a new form name.
In the next screen you can specify a dataset (created for example in excel, see also Conversion of datasets from and to CSV) and/or existing form-layout to be used for automatic form generation of the new form.

3.1.2 Open an existing form.

Select File, Open... from the main menu.
Select the proper form in the proper project and press OK
If the form contains more then one screen, all painting screens will be shown.
If you select a form in a different project, the screensize will be automatically adjusted to the size as was defined for this new project.

3.1.3.Save form and Save form as...

Save form will immediately save your present form.

Save form as, can be used to save a working form under a different name (and/or in a different project).
If you started working from scratch on a new form, the option save form will ask you for a form name.

Note the name of the form you are working on is displayed at the bottom of the form designer main screen.

3.1.4 Print active screen

This will print the selected form painting screen

3.1.5 Print form...

Using this menu function, you can specify which items of the selected form will be printed:

* Form info
  the information as specified in the form description screen.
* Field definitions list
  the list as shown in the grid on the main screen.
* Constraints list
  a separate field definitions list, only for those elements that have a constraint for a special setting, like Obligatory, minimum value, attached list etc.
* Commands list
  a list of elements (buttons, icons, input fields) where commands are specified.
* Dataset list
  a list of fields in the dataset specified with the form (if available).
* Screens
  all the screens of the form.

3.1.5 Print setup

With the print setup function you can select your printer and you can change the printer settings.

3.2 Form functions

3.2.1 Form description

This will show you the form description screen used for additional information on the form. You can add here info about the author of the form, date of last release, and information about the contents of the form.

3.2.2 Form settings (layout)

This function will enable you to change or view the form setting details:

- Edit data allowed means, the handheld user can edit/change input fields for this form.
- Append records allowed means, it is possible for the handheld user to add new records to the dataset.
- Continuous data entry means, when the handheld user has entered the last input field in the form the handheld program will automatically save the data for this record (if all the input values are correct) and continue with the first input field on the next record.
- Select other forms allowed has no meaning in standard data collection on CE handhelds.
- Menubar visible will place a menubar at the top of the form with standard functions for File-, Record- and Page- management.
- Auto input mode means, if you fill in an inputfield to the maximum input length, the input will automatically jump to the next input field.
- On screen keyboard means, the lower part (about 1/3) of your screen will show an onscreen input panel with numeric keys, cursor keys, delete and Enter keys.
- Auto save data means, if you have changed something in a record, the whole dataset will automatically be saved to a file when this record is finished.

- Taskbar settings, check your handheld if it has a standard taskbar on the screen. If so, your effective screen size is smaller.
- Listcaption, has no meaning in standard data collection on CE handhelds.
- Logfile, if specified all record changes will be automatically be logged with date-and time-stamp in this logfile
- Datafile, if specified use this datafile instead of the standard datafile.
  Note if you specify a ? or an * in this name, the form selection menu on the handheld and the integrated test modus on the PC will let you select a dataset.
- Filterfile, if specified only filtered records, according to the filter conditions in this file, will be shown.

3.2.3 Show new screen

Show new screen is a function that adds a new painting screen to the set of screens already shown. This new screen will automatically be the active screen to insert new elements.

3.2.4 Rearrange fields and screens

This function will present you with a screen where you can resize all your fields in all the screens at once, you do not have to select the screens or fields. You can resize items (fields) widths and heights with a certain percentage and you can move items (fields) rows and columns with a certain percentage. Furthermore you can select the option to move fields, presently outside the visible screen area, to a new screen.

3.2.5 Update screens

With the function update screens you can update the form painting screens to the last changes you have made.

Note: most changes will automatically update the form painting screens.

3.2.6 Check design

This sophisticated function will check for possible conflicts in your design:
* Are there any (partly) hidden fields on your screens.
* Is the display width of the input fields large enough to contain the maximum input values.
* Is there a possible conflict in the definition of the fields (e.g. as N-field on screen 1 and as A-field on screen 2).
* Are there any doubly defined Buttons or Icons with different start functions.
* Are there any inputfields which are NOT defined in the dataset.
* Are there any fields in the dataset which are NOT referenced in the form.
* Is there a possible conflict between contents of the fields in the dataset and the field definitions in the form.

3.2.7 Test form

During any stage in your design you can test the form in the integrated test environment. Select Form, Test form from the main menu.
If you have made some changes to the form prior to testing, the program will prompt you to save the changes.

3.3 Sheet

Start the sheet designer mode.

3.4 Fields

3.4.1 Insert field

This function will pop-up a field definition screen, in this screen you can specify what kind of field you want to add with all its specifications. The field will initially be located close to the selected field.

3.4.2 Add field

This function will pop up a field definition screen. In this screen you can specify what kind of field you want to add with all its specifications. The field will initially be located in the upper left corner of the form painting screen.

3.4.3 Delete field

This will delete the field you selected in either the form painting screen or in the form designer screen. Before actual deleting starts the program will prompt you for a confirmation.

3.4.4 Edit field

This function will pop-up the field definition screen for the selected field so you can view/change the details of this specific field.

3.4.5 Tab order input field

This function allows you to choose the order in which the fields must be filled in. You can choose for Automatic or Manual. If you choose the option Manual, the set tab order window will appear. Here you can shuffle the different input fields. Note: the fields on your field designer screen will keep their own position.

3.4.6 Show 2L bar

This function will make the 2L bar visible on you screen.

3.5 Edit functions

3.5.1 Edit mode

This is a toggle function between on and off.
If Editmode is off, you cannot select a single cell in the field definition grid. If Editmode is on, you can select each single cell in the field definitions grid, and change the values in the grid.
Note: in this case the screens will not automatically be updated. Use the update screen function to see the result of your changes.

3.5.2 Copy (selection) and Paste

With this function you can copy an individual element and paste it in the same form or in another form. The field will be added to the field definition grid. The pasted field has the same definition as the original one.
If you want to copy a field to another location or to another screen you must use copy + paste in the form painting screen.
With the selection mode Copy selection you can copy the selection of fields you made. You can (de)select each field with double click on them in the field definition grid.

Note: the copy/paste function in the form designer screen works seperately from the copy/paste function in the form painting screens.

3.5.3 Cut (selection)

With this option you can cut a (selection of) field(s).

3.5.4 Delete (selection)

With this option you can delete a (selection of) field(s).
The delete action must be confirmed.

3.5.5 Undo last / Undo from..

With this function you can erase your last act or the acts following the selected line form the undo stack.

3.6 Files functions

3.6.1 Create, edit and delete list files

With these options you can create, edit and delete a list file. New list files, will automatically be saved in the project folder you are working in with the extension LST. List files can be used with A-, N- and S-type fields.

3.6.2 Create, edit and delete command files

With these options you can create, edit and delete a command file. New command files made, will automatically be saved in the project folder you are working in with extension CMD. Command files are useful for buttons that have to execute multiple commands at once.

3.6.3 Create filter files

There is no separate function for editing filter files. You can create a filter file using the create list file function, and save it with the proper name and extension (preferably .FLT) In this filter file you can specify one or multiple filterconditions. Records can be checked on conditions like
<Value>
<Fieldname>=<Value>
<Fieldname><=<Value>
<Fieldname>>=<Value>
<Fieldname><><Value>
If no condition has been given, and only a value has been entered, the first datafield (the so-called index field) will be checked on this value. Each line in a filter file consits of one condition. If one of the conditions specified in the filter file has been met, the record will be shown to the handheld user. If a filterfile has been attached to a form, the filter will automatically be set up, once the form has been activated. Special commands can be used to set the filter on or off or to use alternative filter conditions.
In spreadsheet mode a '(*F*)' indicates that the specific dataset is filtered. When the filter is turned off, the sign will disappear.

3.7 Options

In the options menu you can change the size of your form painting screens, to adapt to the screen size of your handheld. The selected screen size is valid for the whole project. If you need to develop forms for different handhelds with different screensizes, you need to develop the forms in different projects, each project tuned to the screen size of the handheld.

3.8 Info, registration

This will show you information about your license and registration of **2*L* Field Developer**.

4 The form painting screen options

4.1 Mouse options

Left mouse button:

* By clicking on a field with the left mouse button you can select this field.
* By holding down the left mouse button on the selected field you can drag the field to another position on the screen. When you release the mouse button the field will be dropped in the new position.
* Once you have selected a field you can resize it by dragging one of the black squares in the corners or sides with the left mouse button held down. When you are finished click once more outside the field, and your changes will be updated in the form painting screen.
* Double-click on an element will (de)select this element.

Right mouse button:
* By clicking the right mouse button in the form painting screen (outside any of the elements), a menu for adding fields or pasting a copied element will pop-up.
* By clicking the right mouse button on a selected field a pop-up menu will appear to copy/cut/delete or edit the selected field.
Once you have cut or copied a field with the menu option you can paste it somewhere else (on the same screen, on another screen, or in another form).

4.2 Pop-up menu functions

4.2.1 Pop-up outside field

If you click with the right mouse button in the form painting screen outside the fields, a pop-up menu will appear. From this pop-up menu you can select the following options:
*Paste (See 4.2.2)
*New Datafield
    -Display Data Field(D)
    -Text Input Field(A)
    -Numeric Input Field(N)
    -Memo Field(M)
    -Logical Field(L)
    -Stack Field(S)
    -Selection List(S)
    -Calculated Field(C)
*New Text(T)
*New Frame(F)
*New Button(B)
*New Icon(I)
*New Picture(P)
Once you have selected the desired element, an Add new <element> screen will be shown. In this screen you can specify the most important characteristics for the field. If you would like to change other options for this field, click the field definition details and the full field definition details screen will appear. Each type of element has it's own specific Add new <element> screen.

4.2.2 Pop-up on field

If you click with the right mouse button on a selected field a menu will pop-up. This menu contains the following items:
*Cut
*Copy
*Deselect
*Edit
*Delete
With the cut function you can cut the selected element and paste it on another location or on another screen by right clicking on the desired location. * A pop-up menu will appear, (see 4.2.1) with the paste function enabled. Select Paste from this pop-up menu to paste the cut item.

With Copy you can copy a field to a new place on another location or to another screen. Again with the Paste function you can paste the copied field with the same field defintions to the new location.
The Deselect option deselects the selected field.
The Edit function will present you with the Field defintion details screen of the selected field, where you can edit the specifications for the selected field.
The Delete function deletes the selected field after confirmation.

4.3 Drag- and drop functions

A selected field can easily be dragged and dropped from one location to another. First select the field with the left mouse button. Now hold down the left mouse button and drag to the desired location. A red crossed square will move along with the mouse while dragging. If the square has been placed on the desired location, release the right mouse button. The field has now been dropped on its new location.

5 The sheet designer options

5.1 Mouse options

Left mouse button:
* By clicking on a cell with the left mouse button you can select this cell.

Right mouse button:
* By clicking the right mouse button in the sheet designer (outside the spreadsheet), a menu for adding columns or buttons will pop-up. (See 5.2.1)
* By clicking the right mouse button in the spreadsheet, a pop-up menu will appear to edit the column. (See 5.2.2)

5.2 Pop-up menu functions

5.2.1 Pop-up outside field

If you click with the right mouse button in the sheet designer screen outside the table, a pop-up menu will appear. From this pop-up menu you can select the following options:
*Add column
*Add button
If you select add column, the field definition details screen will pop up (see Field descriptions in detail, chapter 2.2, page 3). Here you can choose the nature of the column you want to add.
If you select add button, the add button screen will pop up. Here you can choose the nature of the button.

5.2.2 Pop-up on spreadsheet column

If you click with the right mouse button in the sheet designer screen, inside a column, a pop-up menu will appear. This menu contains the following items:
*Edit column
*Add column
*Insert column
*Delete column
*Smaller font
*Lager font
*Hide column
*Show column

The Edit column function will present you with the Field defintion details screen of the selected field, where you can edit the specifications for the selected field.
The Add column function will also present you with the Field defintion details screen. Here you can select the specifications for a new column. The new column will be placed at the end of the sheet.
The Insert column function will also present you with the Field defintion details screen. The new column will be placed at the point you selected in the sheet.
The Delete column function deletes the selected field after confirmation.
The Smaller font function will make the font smaller. More columns and rows will fit in the spreadsheet.
The Larger font function will make the font larger. Less columns and rows will fit in the spreadsheet but the visibility of the letters or numbers will increase.
The Hide column function hides a column in your spreadsheet. The column will not be erased.
The Show column function will show the hidden column.