- Key press

This is a simple input method. It provides keyboard reading and returns the key that has been pressed by the user.

This usually involves an author-defined message, explaining what key should be pressed.

After clicking the Key press icon in the Input speedbar, the New Input dialog box appears on the screen:

To define the Key press object:

1. Type the Input title into the Title box.

2. Click the Save button in the New Input dialog box to add the Key press object to the page, or the Cancel button to discard it.

Modifying Input objects

The Input objects can be modified just like the Graphic objects, this means that their visible appearance and sensitive screen area can be modified using the right mouse button during the creation process. Alternatively they can be modified after clicking the Modify button in the Navigation speedbar.

When entering the modify mode, the input element that is about to be modified is bounded like a graphic object:

μ §

If the number of Input elements is greater than one, choose the particular element to modify in the following a way (irrespective how the modify mode was entered):

1. Click the name of the element in the list with the mouse. Its name will be shown in the Title box.

2. Click the Modify button in the Input speedbar. The graphic image of the Input will be bounded just like the images of graphic object.

3. Change the position of the image and its shape by dragging the corresponding boundary parts (see modification of Graphic objects for details).

4. Click the OK button to confirm the changes made.

5. Click the Save button in the Input dialog box to save the modified object or the Cancel button to discard the changes.

6. Repeat steps 1-4 as required.

The titles of the Input elements are altered by retyping them in the Title box.

4.11. Branch

The Branch object provides the author with a means of branching within pages, creating a complicated page structures.

When HM-Card encounters a Branch object, execution will continue from another part of the collection or from another page.

There are several types of branches available. Each of them is described in detail below.

After clicking the Branch button in the Object Type speedbar the New Branch dialog box appears on the screen:

Jump Start

This type of the Branch object is used to repeat the execution of the whole page from the beginning.

To set the Jump Start Branch object:

1.   Click the Repeat page button in the New Branch dialog box.

2.   Click the OK button to set the branch or the Cancel button to discard it.

Jump Input

Use Go to Input to pass control to the Input object specified.

To set the Go to Input Branch object:

1.   Click the Go to Input button in the New Branch dialog box.

2.   Specify the Input object for control to be passed to in one of the following ways:

•   Choose the Input title from the list box. The list box displays the titles of all the Input objects available in the current page.

•   Type the Input title into the Input box.

     If the input entered is not found in the current page, a warning message appears.

3.   Click the OK button to add the object to the page or Cancel button to discard it.

Jump End

This type of Branch is used when page execution is to skip all of the page's objects to the end. This effectively halts the execution of a page.

To set the Jump End Branch object:

1. Click the Jump End button in the New Branch dialog box.

2. Choose the OK button in the New Branch dialog box to add the Branch object to the page or Cancel button to discard it.

Jump Collection

This type of Branch is used when page execution is to be continued with execution of another page.

To set the Jump Collection Branch object:

1. Click the Collection button in the New Branch dialog box.

2. Specify the page for control to be passed to in one of the following ways:

*   Choose the page name from the list box. The list box displays the titles of all the pages available in the current database.

*   Type the page name into the Input box.

    If the name entered is not found in the current database, a warning message appears.

3. Click the OK button to add the object to the page or Cancel button to discard it.

4.12.   Analysis

The Analysis object provides the author with a powerful tool for defining interaction with the user, and analyzing these interactions with the help of the Input object. The data comparison is implemented according to the type of the Input objects used in the Analysis.

How it works

After setting at least one Input object, the Analysis object can be used. Its structure is shown in the following diagram:

```
....
....
Input object(s)
....
{Analysis header
```

Chapter

This part is executed if the conditions set in the Analysis header are evaluated as true.

}

The page resumes executing from here after the Analysis object.

The first part of the Analysis is its header in which the state of the analysis is evaluated. During execution, the rest of the page is executed according to the value (true or false) obtained as a result of testing this condition.

If the result is 'True', control is passed to the objects that are defined between the Analysis header and the closing parenthesis. This part (the Analysis body) may include any of the objects available in the HM-Card Editor. Branch objects may be added to change the flow of the collection according to the state of the users input. Other objects may also be used in the Analysis body.

If the result at the Analysis header is 'False', execution of the page is continued from the object after the close parenthesis. Execution also continues from this point after the implementation of the Analysis body (in case of a 'True' result).

Other analysis objects can be defined inside the Analysis body. The relationship of an inner analysis object to the outer level analysis object is similar to the relation of a simple Analysis object to the whole page.

There are two types of Analysis object - the one with complex logical formulae to make complicated logical schemes and a simple one with the formula containing one logical term. When the Analysis button at the Object Type speedbar is pressed, it is changed to the Analysis speedbar:

To define the complex Analysis object:

1. After pressing the complex Analysis button a new Analysis dialog box appears on the screen:

How it works

Select the Input object to work on. The available Input objects are listed in the Compared items list box.

Then choose one of the relation types. The relation type defines the way the Input data will be compared with the 'correct' values or sets the input existence check, etc.

If the relation type chosen requires some operands besides the Input object, they must be specified. These may be some values, a set, or a range of values, etc.

The compared item together with the compared value and the relation type make up a unique logical element of the Analysis object, called a "Term". Any number of terms may be defined, including different Input objects, different values, and different comparison types.

Next, the Logical Formula which contains the terms combined by Boolean operations is created. During the execution of this object the whole Analysis value is calculated according to this formula, with the values of the terms.

2. From the Compared Items List list box select the title of the Input object to be used in the current term. The selection is made by double-clicking the title with the mouse or by typing the title into the box.

3. Choose the type of data comparison to be used in the term. The availability of the comparison types depends on the type of the Input object used. The following comparison types are supported in the Analysis object:

- Relation operations: equal, greater then, less then, not equal, greater then or equal, less then or equal.

- To define a range of values, which returns true if the input value is within the selected range, choose the "Between" comparison type.

- The format error comparison type returns 'True' if the data contained in the Input object is not of the required format. For example, if the user types a string value into an input field that was set to integer value, the Format error comparison type will return 'True'

- True and False types are available for button Input objects. Such elements return 'True' or 'False' according to what was set as a comparison type.

If the Input object expects textual information and is of the Single Field or Multiple Field types, the Relation box is changed to the following:

The comparison returns "true" in the following cases:

"**=**" if input is equal to one of compared values;
"**!=**" if input is not equal to any of compared values;
"**=+(Spell error)**" if input is equal to one of compared values (spelling errors are allowed);
"**Exists**" if the input exists (some symbols have been typed in);
"**Fails**" if the input does not exist (no symbols have been typed in);
"**Contains**" if the input matches one of words used as comparison values;

"**Not**" if the input does not match any of the words given as comparison values;

If the Input object is of the Cursor position type, the Relation box is changed to the following:

The comparison returns 'True' when the mouse is clicked in the specified position, relatively to the screen area defined in the Cursor position object.

4.   If the compared item and the comparison type require some other operands (like values to compare the item with), define them in the Compared value box. This is done by typing the desired values into the box, and clicking the Add button at the bottom, after each value. The list of added values is displayed in the list box.

Remove values from the list by selecting them with the mouse and clicking the Delete button at the bottom of the Compared value box.

5.   To complete the term, click the OK button to the right of the Compared value box. The term is then displayed in the Terms list box below. Each term is given a unique identifier according to it's place in the list.

The author may define several terms in one Analysis object to be used in the Logical Formula. To add other terms repeat steps 2-5.

6.   All of the available terms are displayed in the Terms list box. To delete the selected term, click the Delete button to the right of the Terms list box.

To finish creating terms, click the Stop button to the right of the Compared value box.

7.   To avoid shortcuts in page structure, it is possible to set the maximum number of activate times for the Analysis object. This value defines the maximum number of analysis repetitions. When

they are exceeded control is passed back to the page, no matter what value the Analysis header returns. An activate limit of 99 times is used as a default.

8.   Create the logical formula to be calculated in the logical formula box. Note that the terms defined previously can be represented by identifiers. To add an identifier for a term in the formula click on the title of the term in the Terms list box. To add the logical operator click one of the logical operation buttons in the Logical operation box. To finish the formula click the Stop button at the same area.

The following logical operations are available in the Analysis object:

- **&** - logical AND

- **|** - logical OR

- **{ }** - open and closing parentheses. Use the parentheses to create more complicated logical constructions.

8.   After the defining the formula, add the Analysis object to the page or discard it by pressing the relevant buttons in the upper-right corner of the dialog box.

After the Analysis header has been defined, the objects to be used as the Analysis body to be created. They are defined in the usual way with the help of the Object Type and Navigation speedbars.

To set the closing parenthesis of the Analysis object click the right part of the Analysis button in the Object Type speedbar.

To define the simple Analysis object:

The only difference between the simple and complex Analysis objects is their header definition. All of the implementation principles are the same. This type should be used if a complicated logical formula is not required. Only one logical term can be defined, in much the same was as a complex Analysis object.

After creating the whole Analysis object, it and the objects in the Analysis body, may be treated just like any other objects. They can be modified, copied, and added using the Navigation speedbar.

4.13.   Snap Screen, Screen Shot

These objects allow the author to make a copy of the screen at the desired moment of page execution and then restore it later on the screen.

The Snap Screen object deals only with the graphic information on the screen. Similarly, Screen Shot displays only graphic images that were on the screen at the moment of the Snap Screen object execution.

The Snap Screen and Screen Shot objects are used when the author needs to create a backup copy of the screen area, when the original may be changed or spoiled during further page execution.

To add the Snap Screen object:

1. Click the Snap Screen button in the Object Type speedbar. The following dialog box appears in the upper-right corner of the screen:

2. Define the area to be captured in one of the following ways:

- Type the coordinates of opposite corners of the rectangular area into the corresponding boxes of the dialog box. To move inside them, click them with the mouse.

- Click and drag the mouse to define the rectangular area of the screen to be captured.

3. Click the Save button in the dialog box to add the object to the page or the Cancel button to discard it.

To add the Screen Shot object:

1. Click the Screen Shot button in the Object Type speedbar. The following dialog box appears in the upper-right corner of the screen:

2. Set the upper-left coordinates of the screen area in the same way as the Snap Screen object.

3. Click the Save button in the dialog box to save the Shot object or the Cancel button to discard it.