©

HM - Card
Version 1.4

Linker
User's Manual

HM-Card is an authoring system for hypermedia applications of different purpose-orientations. The hypermedia databases created with HM-Card can be integrated into other systems or browsed separately (as a stand-alone hypermedia application). The editing and linking facilities enable the creation of typical hypermedia documents, links, tours of various complexity.

Although the terminology is conventional, the user requires at least a basic understanding of HM-Data Model (the underlying concept of HM-Card) which allows the user to design the hypermedia database from scratch and provide different views to it (depending on context, semantics, hierarchy, etc.).

The complete authoring software consists of three components:
- a.**HMC_EDIT.EXE** : **Editor** which creates information pages.
- b.**HMC_LINK.EXE** : **Linker** which builds the logical data structure of the hypermedia database.
- c.**HMC_EXEC.EXE** : **Executor**: Is a stand-alone interactive browser of hypermedia databases.

These pages represent a documentation (user guide) for the linker. Any questions will be promptly answered via e-mail:
nsherbak@iicm.tu-graz.ac.at

0. Getting started

When you start to work with the linker, the "open database" dialog box (below) appears.

If a database already exists in the current directory then the file name "hmcard.dbs" automatically appears in the edit box "Select Database". Click OK to open the selected database or select another sub directory as the working directory using standard Windows navigation. To create a new database in the current directory, click on the database button   or any other can be selected in the conventional way.

After opening or creating a database, the standard user buttons (below) appears:

All operations, except the of a new S-collection, are performed on the current S-collection.
When modifying or deleting an existing S-collection, it must be the current collection. In order to select this current S-collection, the scrollable window on the upper right corner of the screen can be used.

List box containing all S-collections:

Pull down this list and select a desired S-collection, which will automatically be set as the current S-collection. All further editing operations are performed on this "current S-collection".

1. **Creation of S-collection**

To create a new S-collection click on the create button   and enter a collection name. Each S-collection must have a unique name, which must not exceed 20 characters. The name of primitive pages are automatically preceded by the "@" symbol.

The following palette of functions appears:

First assign a type to the newly created S-collection. Types of S-collection available are:

1. **Envelope** : all members of an envelope are fully linked, each member is linked to every other.

2. **Folder** : an ordered list of members, each member having links to "next" and "previous" member in line.

3. **Menu** : a simple hierarchical structure; the head of a menu S-collection includes links to all other members, and each member is provided with a link back to the head.

4. **Freelinks** : members of a freelinks S-collection may be arbitrarily connected together, using the "Insert_Link" and "Remove_Link" operations.

5. **Grid** : members of a Grid S-collection can be sequentially scanned using different sorting criterion. For instance, employees of an company can be scanned in order of corresponding attributes (age, salary, etc.) or in alphabetical order. Lists of attributes which can be used by S-collections of this type, are defined in the form of a form. Thus form filling, using the forms   button, is a required parameter for S-collections of this type.

6. **External** : S-collections of this type are provided with a content only (has no members), but with a special external procedure which is executed as a result of the "Zoom In" operation applied on this S-collection. S-collections of this type are normally used to provide access to information resources used by other systems (a database management system, for instance). The name of an external S-collection becomes an important attribute, as the name defines a *command line* which is used to launch the corresponding external procedure. For example, the external S-collection could have the name "**info.exe lesson.dbs**", which means that when the "Zoom In" operation is executed, the command line "**info.exe lesson.dbs**" launches the procedure **info** with the parameter **lesson.dbs.**
Note that content is an compulsory parameter for S-collections of this type.

7. **Void** : primitive chunk of multimedia information called an information page (the HM-Card editor is activated by pressing this button)

S-collections of type Menu or Freelink need a particular type of link visualization which has to be selected manually.

The system supports the following types of links (anchors).

  - Linking using a scrollable list.

 - Linking using buttons.

 - Linking using 'hot' clickable areas).

 - Linking using 'hot' words.

In addition, head and content must be assigned for the newly created S-collection.

Click the head button   to select the S-collection or page to be it's head.
Whenever a particular S-collection is to be used as the head, content, or member of another collection, the "Select S-collection" window is used.

You can either select an existing name from the list of S-collections, or type in a new name. In which case, HM-Card checks that you want to create a new S-collection.

If you confirm this, the system switches to the Editor application. When you close the Editor, the Linker is automatically re-activated.
If you want to define an S-collection having a certain head, it is not obligatory to start with the Editor to define the head in advance, and then use the Linker.

Using the label button   is optional and will define a page of multimedia content for the collection.

Additional optional parameters of S-collection are "Automatic Zoom In", "Automatic Zoom Out", "Permanent Presence of a Predefined Layout", "Transparent members" and "Form Filling".

If you are new to HM-Card, *avoid* using these options and skip to Section 2.

1.1 Automatic Zoom In and Automatic Zoom Out .

The automatic zoom in button   sets this attribute for all members of an S-collection. Whenever a complex collection member of the S-collection is accessed in some way, the operation "Zoom In" is carried out automatically.
Similarly, the automatic zoom out button   sets the zoom out attribute. Now, when the head of such S-collection is accessed in any way other than the "initial opening" of the S-collection, the "Zoom Out" operation is carried out automatically. For

instance, an S-collection of type "Folder" is automatically closed after visualization of it's "last" member.

1.2 Permanent presence of a Predefined Layout.

The predefined Layout is a particular information page (i.e. primitive S-collection) which is visualized as the first part of the screen layout when browsing the current container. For instance, if a particular S-collection "A" is defined as a member of two different S-collections-containers "B" and "C" (each having different predefined layouts), then visualization of the S-collection "A" depends on it's particular context, i.e. it is visualized differently when it is a member of "B" as opposed to a member of "C". Thus, some information common to all members of a particular S-collection (eg. a "help" message), can be defined once as such a predefined layout. Click the predefined layout button to set this attribute on the current collection.

1.3 Transparent members

The Transparent members button sets this attribute for all members of an S-collection. When a member of the S-collection is accessed in some way, it is visualized over a current image on the screen (i.e. without cleaning it).

1.4 Form filling

A form is a named combination of attributes which are attached to every member and/or head of a particular S-collection.

When a member (or head) is visualized on screen, the form defined for the S-collection (container) is also visualized as a part of the screen layout. Fields attached to members of the S-collection are filled out by the user when a particular member is inserted into the S-collection. Attributes attached to the head are dynamically calculated.

When members are inserted into an S-collection defined with this attribute, the system requires predefined fields to be filled in with particular values (see Section 8 of this manual for more details).

In order to complete the process of creating of a new S-collection click on the **OK** button and the S-collection is actually created.

2. Inserting/Removing members into/from S-collections

These operations are always carried on the current S-collection. The name of the current S-collection is indicated on the top of the screen, as the window title.

For example:

In order to select a new current S-collection, the scrollable window on the upper right corner of the screen can be used:

New members can be inserted into S-collection by means of the add members button

. The system shows a list of all pages and S-collections available, one of which is selected as the new member.

After selecting the desired member, the behavior of the system depends on the type of S-collection.

S-collections of the types "folder" and "envelope" require no further action, the links are automatically created.
For the other types, the systems require a name for the link and a position for the anchor. The anchor position is not requested if the current S-collection has links entered as a scrollable list. The name of the link mandatory when links are shown in the form of buttons, as the name corresponds to the text on the button, or when the links are shown in the form of scrollable list. Note that the system uses the names of inserted S-collections as default names of corresponding links.

For the link-types "buttons" and "hot areas", their corresponding areas on the screen are defined by first clicking and dragging from the upper-left corner (using the left mouse button) to right-bottom corner of the desired rectangle.
For the link-type "hot words", the page associated with the collection must contain an imported item. The words designated as "hot", are simply selected (marked) with the cursor within the textual window containing the imported item (see Section **4.8 Import** of the HM-Card Editor manual).

After typing in a name and defining the position for the anchor, click on the save button , and the member is inserted.

Existing members can be removed from the S-collection by clicking the remove button   and selecting the desired name from the list box displayed.

The name of the link and position of it's corresponding anchor can be modified by using of the edit button .

Note that links between members are actually only created when a particular member is inserted into S-collections of types Folder, Menu and Envelope. Those of the type "Freelink" required additional link editing. New links are inserted and removed by means of insert link   and remove link buttons   respectively. When a new link is inserted into these S-collections, the source and destination of the link must be defined by selecting the S-collection from two scrollable windows.

In addition, the name of the link and position of the anchor within the source S-

collection must be defined as described earlier.

3. Deleting S-collections

Note that a member that is removed from an S-collection continues to exist in the database. S-collection are actually deleted from the database by when the delete collection button   is activated.

When a S-collection is deleted, it is also removed from all S-collections in which it has been defined as a member.

4. Bookmarks

Any S-collection can be provided with a number of bookmarks, which simplifies navigation through it and other S-collections. In order to define bookmarks click the bookmark button .

A bookmark actually refers to one particular member of the current S-collection.
A bookmark is defined using the window (below) which appears after clicking the bookmark button.

Select the desired member from the list and add a name for the bookmark.

5. **Customisation of navigational buttons**.

The default navigational buttons used by the HM-Card executor, can be customized for each particular S-collection via the customise button
If navigational operations have been customized, the system does not display the operations using the default buttons:

Instead, a pre-selected form is used. In order to customize one or more of the navigational operations, set the current S-collection, and press the customise button after which, the following menu appears:
       1   2   3   4   5   6   7   8   9   10 11 12   13 14   15 16   A   B   C   D

Navigation operations 1-16 can be customized. The buttons are named as follows:
1. "Zoom In",
2. "Zoom Out",
3. "Zoom Up",
4. "Next",
5. "Previous",
6. "Change current criteria" - valid for S-collections of the type "Grid" only,
7. "Pause"
8. "Repeat visualization of a current page",
9. "Interrupt visualization of a page",
10. "Show bookmarks",
11. "Show Expert annotations if any",
12. "Show Users annotations if any",
13. "Show information on current location",
14. "Open toolbox",
15. "Help",
16. "Quit HM-Card execution".

The buttons A, B, C & D show possible metaphors which can be used for the customisation.
A. "customize the operation as a button",
B. "customize the operation as a 'hot' area on the screen (clickable)",
C. "customize the operation as a user-defined icon",
D. "disable the operation".
In order to customize a particular navigational operation for the current S-collection, select a desired operation and metaphor.
The delete button   deletes the current customisation of the selected navigational operation.
The delete all button   deletes **ALL** customisations for the current S-collection.
After pressing one of the metaphor buttons , the system asks for the position of the new button.

The corresponding area on the screen is defined by first marking the upper-left corner of the rectangular area (press the left mouse button) and dragging the cursor to the right-bottom corner (release the left mouse button). A name for the operation is necessary when operations are of the form of buttons, as the name corresponds to

the text on the button. Note that the default name of an operation is taken from the operation names previously listed.

After typing in a name and defining the position for the custom navigation buttons, click on the save button . The navigation button is now actually created.
If customisation in the form of user-defined icons has been selected, the system allows the user to select a particular icon from within the system library of icons.

6. Modification
Click the modify button   to alter the parameters of the current S-collection. This process of modification is similar to that of creating S-collections, with an identical button palette.

Selecting new attributes from the list overwrites previous settings of the current S-collection. For instance, if the parameter head has been selected, and a new head assigned, all other parameters remain unchanged.

7. Additional tools.

Click the information button   for the system to provide information about the current S-collection.

The test view button   starts navigation from the current S-collection, in the same manner as the Viewer.

The search button   provides an alternate way of selecting a current S-collection, using keyword searching.

8. Definition of forms.

A form is a named combination of attributes which are attached to every member and/or head of a particular S-collection.

When a certain member (or head) is visualized on the screen, a form defined for the S-collection (container) is also visualized as a part of the screen layout. Fields attached to members of the S-collection are filled in by the user when a member is inserted into the S-collection. Attributes attached to the head are dynamically calculated.

When members are inserted into an S-collection defined with this attribute, the system requires value to be entered into predefined fields.

For example:

A particular form can be selected from a list of existing forms and attached to the S-collection by means of the forms button , which must be selected as a parameter of the current S-collection:

.

A window containing a list of all existing forms appears:

Select the desired form and confirm by clicking on the exit button.

The same forms button   which is selected in the context of button operations is applicable to a current S-collection:

This provides the possibility of defining a new form or modify an existing one.