GENERAL INFORMATION MANAGEMENT
USER FRIENDLY INTERFACE, GUIF

Technical Report 94-09

W. Christian, S. Dunkin, M. Garrett, R. Johnson and P.A.D. de Maine

Department of Computer Science & Engineering
Auburn University
Auburn University, AL 36849-5347

July 14, 1994
User Manual for the:

GENERAL INFORMATION MANAGEMENT USER FRIENDLY INTERFACE, GUFI

W. Christian, S. Dunkin, M. Garrett, R. Johnson and P.A.D. de Maine

Report No. 25 (Auburn University CSE-94-09)
User Manual for the:

GENERAL INFORMATION MANAGEMENT USER FRIENDLY INTERFACE, GUFI

W. Christian, S. Dunkin, M. Garrett, R. Johnson and P.A.D. de Maine

Automatic systems for the Physical Sciences:
Report No. 25 (Auburn University CSE-94-09)

Computer Science and Engineering Department
Auburn University
Auburn, Alabama 36849

30 June 1994
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to log into the system</td>
<td>1</td>
</tr>
<tr>
<td>How to create a new query</td>
<td>2</td>
</tr>
<tr>
<td>Use of existing indices</td>
<td>2.1</td>
</tr>
<tr>
<td>Use of new indices</td>
<td>2.2</td>
</tr>
<tr>
<td>Forming the query</td>
<td>2.3</td>
</tr>
<tr>
<td>Use of the Monte Carlo Generator</td>
<td>3</td>
</tr>
<tr>
<td>Modify Login List</td>
<td>4</td>
</tr>
<tr>
<td>Example of forming a query with a new set of indices</td>
<td>5</td>
</tr>
<tr>
<td>Example of forming a query with an existing set of indices</td>
<td>6</td>
</tr>
<tr>
<td>Example of using the Monte Carlo Generator</td>
<td>7</td>
</tr>
<tr>
<td>Example of modifying the login list</td>
<td>8</td>
</tr>
<tr>
<td>Future Software Developments</td>
<td>9</td>
</tr>
<tr>
<td>Appendix</td>
<td></td>
</tr>
</tbody>
</table>
Section 1.0 How to Log into the System

In order to log into GUFI/SOLID, you must have a valid username and password. These will have been assigned to you by a manager. The initial screen you see when GUFI is executed, is the GUFI Sign On screen. (figure 1.0)

The first text box is for your username. Type it exactly as it is given to you and then press tab or enter. The cursor will be placed in the password box. You must then type in your password.

As you type this password, it will be not displayed on the screen. Instead, each letter typed will be replaced by an asterisk (•). After typing your password, if you press tab, the cursor will be placed at the Login button. Pressing Enter will attempt to log you in.

To use the interface, press the Login button or type Alt+L. Otherwise, press the Exit button, or Alt+x, to leave the system.

figure 1.0: GUFI Sign On Screen

Section 2.0 How to Create a New Query

Now that you are logged into the system, you may create a query in two different ways. You may choose to formulate your query by using existing indices, or may choose to create a new set of indices. The following sections will explain both methods.

Section 2.1 Use of Existing Indices

From the MDI root screen, (figure 2.0) choose Open NDX from the file pull down menu or press Alt+F+O. The screen will then display the Open NDX screen. (figure 2.1) From this screen, you will be able select the drive, directory, and NDX file you wish to use.
First, choose a drive from which to read. This is achieved by clicking on the drive box pulldown menu and then selecting the drive.

When a valid drive is selected, the directories on that drive will be displayed in the Directory box. Now, Click on the directory you wish you use. If there are any NDX files present in that directory, they will be displayed in the File box. If there are subdirectories, they will again be displayed in the Directory box.

When there are valid NDX files, choose a file from which to get a set of indices. To choose, click on the file you wish to use, then press the Ok button, or press Alt+O. This will display the Index Group Selection screen. (figure 2.1.1)
The Index Group Selection screen will display the path of the current file you have selected. The Index Groups box will display the index partition names contained within the NDX file you have chosen. When you choose the group name to use, the names of the individual indices will be displayed in the Index Names box. Also, the File indicator will be displayed. This is important for the Monte Carlo Generator section of the interface.

If this is the set of indices you wish to use to form your query, press the Ok button, or type Alt+O. This will take you to the MDI root screen. If this is not the file you wanted, you may choose to backup to the previous screen. (figure 2.1) This is accomplished by pressing the Backup button, or by typing Alt+B. If you wish to return to the MDI root screen without choosing a group of indices, you may press the Cancel button, or type Alt+C.

On the OpenNDX screen, a new partition can be added to a selected file by clicking on the New button, or by typing Alt+N. The Create New Index File screen will then be displayed. (section 2.2)

Section 2.2 Use of New Indices

To create a new set of indices, you must choose the Create NDX File option from the pulldown menu on the MDI root screen, (figure 2.2) or type Alt+F+N. The New Index Group Name Screen will now be displayed. (figure 2.2.1)

On this screen, you will enter the path and name for your NDX file. Type this in the file box and press the Ok button, or type Alt+O. If the file already exists, or if the name is valid, the screen will then display the Create New Index Group screen. (figure 2.2.2) From this screen, you will be able to assign indices and commonalities to be associated with a certain group. If you wish to return to the MDI root screen, press the Cancel button, or type Alt+C.
figure 2.2: MDI Root Screen with New NDX File Selected

figure 2.2.1: New Index Group Name Screen
Decide the names of the indices you wish to store and query by. You must type the name for the index in the New Index Name box. Then, you must select a commonality from the listing in the Commonality box. If you wish to add this index to the current set of indices in the Index Names box, press Add Index button, or type Alt+A.

If there is an index in the Index Names box which you wish to remove, select that index, and then press the Delete Index button, or type Alt+D. When you are ready to use the set of indices which are displayed in the Index Names box, press the Ok button, or type Alt+O. The New Group Create Screen will now be displayed. (figure 2.2.3) Now decide a general grouping name for your set of indices. Type this name in the box at the bottom of the New Group Create Screen. If you wish not to create a new set of indices, press the Cancel button, or type Alt+C. Both of these actions, Ok and Cancel, will return you to the MDI root screen.

If the new indices are part of a previously existing file, follow procedures in section 2.1 to load the new indices; otherwise, they are ready for use in your query.

Section 2.3 Forming the Query

Now that you have your indices, its time to give SOLID some information. Choose the Add New Item option from the query pull down menu on the MDI root screen, (figure 2.3) or press Alt+Q+A.
Next, the Query Setup screen will be displayed. (figure 2.3.1) On this screen, you may choose how to start the query.
How to start query:

(•) Supply Text
( ) Supply Registry Number
( ) Supply Device Address

( ) User Input
( ) File Read

OK  Cancel

figure 2.3.1: Query Setup Screen

This screen provides links to start the query from text entry, registry numbers, and device addresses. In the last two cases, this information can come from either user entry or from input file. To choose the way you want to start your query, move the cursor to the correct field and click, or press enter. The field will now have a bullet beside it, indicating that it has been chosen.

If you choose not to form a query, you may click on the Cancel button, or type Alt+C. This will return you to the MDI root screen. If you wish to form your query, press the Ok button, or type Alt+O.

The Assign Index Value screen will now be displayed. (figure 2.3.2) On this screen, you may choose each index for which you wish to supply information. Any indices which are left blank will be coded as "don't care" or wildcard specification.

figure 2.3.2: Assign Index Value Screen
You must first select the index for which you wish to supply the information. Do this by clicking on it in the List of Indices box. The index will then be displayed in the Index box. You may then provide the value you wish to assign to the index. Type this in the Value box. When you have the value you wish to enter, press Update button, or Alt+U. This will update the index to a list forming the query. If you wish to return to the MDI root screen, press the Cancel button, or Alt+C.

If you wish to continue providing values for indices, repeat the process for adding a single value, being sure to press the Update button each time. When you are finished, press the Done button, or Alt+D. This will form the query and actually ship the data to SOLID. You will then be returned to the MDI root screen.

Section 3.0 Use of the Monte Carlo Generator

To use the Monte Carlo Generator, you first open a file to use or create a new file. Now, choose the Monte Carlo Generator option from the File pull down menu on the MDI root screen, or type Alt+F+M. (figure 3.0) The Monte Carlo Generator screen will then be displayed (figure 3.1)

![Figure 3.0: MDI Root Screen with Monte Carlo Generator Selected](image)

```markdown
<table>
<thead>
<tr>
<th>File</th>
<th>Query</th>
<th>Help</th>
</tr>
</thead>
<tbody>
<tr>
<td>New NDX File</td>
<td>F2</td>
<td></td>
</tr>
<tr>
<td>Open Index Set</td>
<td>F3</td>
<td></td>
</tr>
<tr>
<td>Monte Carlo Generator</td>
<td>F2</td>
<td></td>
</tr>
<tr>
<td>Exit</td>
<td>F3</td>
<td></td>
</tr>
</tbody>
</table>
```
Supply a form of query (either IR or Simple) by choosing from the pull down menu at the JLI Format box. You must also provide a file indicator. This is entered in the File Indicator Text box. The number of items to be created is entered in the Job Items Text box. This must be a value between 1 and 20. To generate this query, press the Randomize button, or Alt+R. If you wish to look at the information generated, it is located in the DOS file, GUFI.CHK. This file can then be renamed if you wish to keep the data you have generated. If you wish to leave this screen without forming a random query, press the Exit button, or type Alt+X. This will return you to the MDI root window.

Section 4.0  Modify Login List (Manager Only)

To modify the usernames and passwords of users that may use GUFI, you must first be a manager. Choose Modify Login List from the Query pulldown menu, or press Alt+Q+M (figure 4.0). The Modify Security Data Screen (figure 4.1) will now be displayed.
On this form there are several text boxes for data entry. In the Username text box, you may enter a new username, or one which you wish to modify.

If the Username is new, you must enter the user's password, and verify that password. When you type the password and verification, the characters will be replaced by an asterisk. You then decide whether the Account Type is for a normal user or a manager. By clicking on the correct choice, a bullet is placed beside the option, denoting that it has been chosen. Once you do this, press Add User button, or type Alt+A, and the user will be added to the current list of users, which is displayed in the User List box.

If the Username is not new, the current username will be displayed in the User List box. You may now delete the user from the user list by pressing the Delete button, or by typing Alt+D. The user will be removed from the User List box. You may repeat adding and deleting users until the list is correct. When you are done, press the Ok button, or type Alt+O, and the user file will be rewritten and encrypted. If you want to leave without saving your changes to the file, press the Cancel button, or type Alt+C.

Section 5.0 Example of forming a query with a new set of indices.

You want to use new indices to formulate a query. First you need to choose Create NDX File from the pulldown menu on the MDI root screen. You will now be prompted for the name of the file you wish to use. In this example, we will use Data1.NDX. (figure 5.0)

Now that you have supplied a filename, the create new index group screen will be displayed. Next you need to type the listing of the indices you wish to store with. Enter such values as manufacturer, make, color, serial #, and year. For each of the indices you must enter a commonality. e.g., manufacturer = low, color = low, serial # = unique, year = low, make = medium. (figure 5.1)

You will then be prompted for the general grouping name to store your indices under. In our example, we will use cars. (figure 5.2)
Enter path and name for a New Index Group Storage File
<*.NDX>:
Default Path: C:\

C:\Data1.NDX

figure 5.0: Prompting for the New NDX Filename

Figure 5.1: Input for the Indices of the New Group
figure 5.2: Prompting for the New Group Name

When you press the Ok button, or Alt+O, you will be returned to the MDI root screen. Now you are ready to form a query with these indices. You may now choose Add from the Query pull down menu. (figure 5.3) You will then see the Query Setup screen.

figure 5.3: MDI Root Screen with Add chosen from Query Menu
Because we have only implemented the Supply Text as the way to start the query, (figure 5.4) you may click on the Ok button, or type Alt+O to continue. When you do so, the Assign Index Value screen will be displayed.

![Query Setup Screen](image)

**figure 5.4: Query Setup Screen**

On the assign index value screen, you may choose each index for which you wish to supply information. To do this, click on the index you want to give information. For example, you would click on manufacturer, and that index would fill the index box. In the value box, you would supply the value of the index, say Nissan. When you press the Update button, or Alt+U, the value and the index will be placed in the Index list box. To change data, you do the same operation; click on the index, and type the new value. When you press update, it will change the value in the index list box. (figure 5.5)

![Index Assignment Screen](image)

**figure 5.5: Assignment of Index**
When you are finished supplying data for all the indices you wish to give values (figure 5.6) you may press the Done button, or Alt+D. This will form the query and give the data to the Makematrix function.

![Assign Index Value](image)

figure 5.6: All Assignments of Indices have been made

Section 6.0 Example of forming a query with an existing set of indices

You know that there is a set of indices that you want to supply information for. It is located in the GUFI.NDX file and has a group name of Student. From the MDI root screen, choose Open NDX from the pull down menu. (figure 6.1)

![MDI Root Screen](image)

figure 6.1: MDI Root Screen with Open Index Set Selected
After checking to make sure that you are in the correct drive and path, choose the file GUFI.NDX by clicking on it. (figure 6.2) The Index group selection screen will then be displayed.

On this screen, you may now choose the group name you wish to use, student. By clicking on the student group name, the indices of that group (sex, lname, fname, ssn) will now be displayed in the index names box. (figure 6.3) This is the group you wish to use, click on the Ok button, or type Alt+O.
You will then be returned to the MDI root screen. From here, choose the add option from the Query pull down menu. (see figure 5.3)

Because we have only implemented the Supply Text as the way to start the query, (figure 6.4) you may click on the Ok button, or type Alt+O to continue. When you do so, the Assign Index Value screen will be displayed.

![Query Setup Screen]

Figure 6.4: Query Setup Screen

The only thing left to do is to provide values for the indices. On the assign index value screen, you may choose each index for which you wish to supply information. Just like before, click on the index you want to give information. For example, you would click on sex, and that index would fill the index box. In the value box, you would supply the value of the index, say Male. When you press the Update button, or Alt+U, the value and the index will be placed in the Index list box. (figure 6.5)

![Assign Index Value]

Figure 6.5: Assignment of an index
When you are finished supplying data for all the indices you wish to give values, (figure 6.6) you may press the Done button, or Alt+D. This will form the query and give the data to the Makematrix function.

![Assign Index Value](image)

Figure 6.6: All Assignments of Indices have been made

Section 7.0 Use of the Monte Carlo Generator

Before choosing the Monte Carlo Generator, we will first select a file to use. For this example, we will choose the file GUF1.NDX from the Open NDX screen. (see figure 6.2) To use the Monte Carlo Generator, choose Monte Carlo Generator from the File pull down menu on the MDI root screen. (figure 7.1).

This will now display the Monte Carlo Generator screen. (figure 7.2) We want to form a Simple query so in the JLI format box, we will select Simple from the pull down menu. We also want 5 items so we will type 5 in the Number of Items box. For this example, we will use File indicator 1, which corresponds to Student, so we will type 1 in the File Indicator box.

Now all we have to do is press the randomize button, or type Alt+R. The rest is up to the interface and makematrix.
If you want to delete a username, click on it from the user list and it will be displayed. When you click on the delete button, it will be deleted from the current list of users.
If you want to update a password, you would click on the username. The current password and username will be displayed. Now click on the Delete button, or type Alt+D to delete the user from the current list. You may now add the username back, with the updated password, as in the first example in this section.
When you are done modifying the user list, click on the Ok button, or type Alt+O, and you will be returned to the MDI Root Screen.

Section 9.0 Function hooks and Further software developments

There are several function hooks we have provided for. These may be programmed when the SOLID project is complete. Examples of these hooks are those provided for the reorganization of the MAR files, and the insertion of the dynamic locking mechanism.

We have also set up the interface so that it can be easily expanded for further software development. This would be accomplished by adding functions to one of the pull down menus on the root screen, and providing the code to accomplish the additional task. Examples of further development would be reading data from a file (such as provided for in the Query Setup Form) and printing the data from the main menu.

Appendix:

Hot key Reference Guide to GUFI

There are several hot keys defined for many of the most commonly used GUFI functions. These are listed below, with their corresponding Alt key combination.

<table>
<thead>
<tr>
<th>Function</th>
<th>Function Key</th>
<th>Alt-Key Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>About Screen</td>
<td>Alt + H</td>
</tr>
<tr>
<td>F2</td>
<td>Monte Carlo Generator</td>
<td>Alt + F + M</td>
</tr>
<tr>
<td>F3</td>
<td>Exit</td>
<td>Alt + F + X</td>
</tr>
<tr>
<td>F4</td>
<td>New NDX File</td>
<td>Alt + F + N</td>
</tr>
<tr>
<td>F5</td>
<td>Open Index Set</td>
<td>Alt + F + O</td>
</tr>
<tr>
<td>F6</td>
<td>Add</td>
<td>Alt + Q + A</td>
</tr>
<tr>
<td>F7</td>
<td>Delete</td>
<td>Alt + Q + D</td>
</tr>
<tr>
<td>F8</td>
<td>Update</td>
<td>Alt + Q + U</td>
</tr>
<tr>
<td>F9</td>
<td>Retreive</td>
<td>Alt + Q + R</td>
</tr>
</tbody>
</table>
Section 8.0 Modify login list (managers only)

From the MDI Root Screen, choose Modify Login List from the Query pull down menu. (figure 8.1) The next screen displayed will be the Modify Login List screen.

![MDI Root Screen with Modify Login List Selected](image)

The current list of users is in the User List box. If you want to create a new username, which isn't in the box, you may type this in the username box. For this example, use manager1 as the username. Because the name is new, you must also supply a password for this user, say gufipass. (figure 8.2) Type this password in the password box and in the verify box. When you press the add button, the user will be added to the list of users.

![New username on the Modify Login List Screen](image)
figure 7.1: MDI Root Screen with Monte Carlo Generator Selected

figure 7.2: Monte Carlo Generator with Completed Fields