



iList Data 3.5 User's Guide

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I. Getting Started

Welcome to the User's Guide (1st edition) for iList Data 3.5. This chapter introduces iList Data's main features and benefits and explains how to install iList Data. Important database concepts and terminology are next introduced by way of example. The chapter closes with some power tips for experienced database users.

Welcome to iList Data

Thank you for choosing iList Data for Mac OS X. Combining the flexibility of a full fledged database development tool with the out-of-the-box ease of use of a single purpose database solution, iList Data supports a diversity of single-user data management solutions ranging from simple to do lists to ambitious multimedia catalogs. iList Data is both powerful and flexible and this User's Guide will help get you up and running very quickly.

In addition to this document, please take a moment to review the included "Read Me" file that contains late breaking news for the most recent iList Data release. If you are an experienced database user or eager to begin using iList Data's advanced features right way, you may next wish to browse the "Power Tips" section that closes this chapter. After launching iList Data, be sure to check out the integrated on-line help for the Find Via SQL and Find Relational windows, as well as the Calculation Editor.

***Note:** If you are browsing through this User's Guide using Apple's Preview application, choose **View** → **Drawer** to open Preview's search drawer. Type in a term to search for in the User's Guide.*

Features and Benefits

iList Data sports a number of features that will help you efficiently gather, browse, and manipulate your data whether it be academic references, student grades, product inventories, e-mail addresses, or a catalog of holiday snapshots. iList Data is optimized for working with text, number, URL, file path, and image data. It also supports date and time fields so you can create calendar-based solutions as well.

Here are some of iList Data's major benefits:

1. User-designed windows for creating, editing, and finding data.
2. Built-in relational support for searching and displaying data across tables.
3. On-the-fly calculations and column summaries.
4. Ten find modes including find on field, find by value, and find parent.

5. Direct SQL editing for experienced users (and built-in help by example support for novices).
6. Search history and bookmarks.
7. Four batch editing modes including multi edit and auto number.
8. Inline editing and pop-up editing of fields via keyword lists.
9. On-the-fly graphing.
10. Inline graphing that allows you to viewing dot, line, bar, and fill graphs alongside your data.
11. Advanced interface controls including Mac OS X compliant date and time fields, color swatches, image canvases, and calendar widgets.
12. A built in resizable image viewer and full screen slide show mode.
13. Text-to-speech.
14. Microsoft Office X and 2004 integration: Send record lists to Excel and Word with one click.

Here are some of the features that are new to version 3:

1. **Thumbnail palette:** A dedicated palette for viewing JPEG and other web-based images at various sizes.
2. **Apple iLife® integration:** Send images to iPhoto with one click.
3. **Dynamic reports:** Retrieve both the data and shell of a report from the database itself.
4. **Nine window sets:** Save and recall custom interface setups with one click..

iList Data 3.5 adds several new features including native support for Intel-powered Macintosh computers plus the ability to add headers and footers to reports. You can also create web reports with iList Data 3.5.

System Requirements

iList Data 3.5 has the following system requirements:

- PowerPC G3 350 or higher (G4 or G5 recommended)
- 256 Mb RAM (512 Mb recommended)
- Mac OS X 10.2 or higher
- QuickTime 6.x or higher
- Microsoft Office X or Office 2004 (optional)

- Apple iPhoto 5 or higher (optional)

Installing iList Data

To install iList Data:

1. Download the iList Data application from:
<http://www.lakewoodstudios.com/ilistdata/download.html>
2. Unstuff the iList Data application using Aladdin StuffIt Expander® or an equivalent tool.
3. Move the iList Data application folder to the “Applications” folder on your hard drive.
4. To add iList Data to the Dock in OS X, drag the iList Data application file to the location in the Dock where you wish its icon to appear.

Purchasing and Registering iList Data

The demo version of iList Data will display up to 25 records, but is otherwise fully functional. After 25 launches, iList Data defaults to “browse only” mode. You can continue to use all of iList Data’s search features, but you won’t be able to create new records or update or delete existing ones. In “browse only” mode, iList Data displays up to 25 records.

To enable iList Data’s full functionality, including the ability to browse hundreds or even thousands of records at a time, become a licensed user. (In addition to single user licenses, Lakewood Studios also offers cost effective workgroup licenses and lab packs, as well as educational pricing.) To purchase and register iList Data:

1. If iList Data is currently running, choose **iList Data → About iList Data** to open the welcome window. (If the software is not currently running, launch iList Data. The welcome window automatically opens.)
2. Click on the **Copy Serial** button to copy the serial code to the clipboard.
3. Click on the **Order** button to launch your web browser and automatically navigate to:
<http://www.lakewoodstudios.com/ilistdata/buy.html>
4. Follow the instructions on this Web page to purchase iList Data.
5. Once you receive your registration code, reopen iList Data’s welcome window and click on the **Register** button.
6. Enter the requested information to unlock the full functionality of the software. The welcome window will no longer be displayed at startup.

If you purchase a new computer or reformat your hard drive, you will need to reregister iList Data. Reinstall iList Data and perform steps 5 and 6 above.

***Tip:** If you are migrating to a new computer, you should also copy the iList Data preferences file to your new computer as it contains your iList Data preference settings. The “iList Data 3 Preferences” file is located in the “Library:Preferences” folder in your user account folder:*

e.g. Macintosh HD:Users:johnsmith:Library:Preferences:iList Data 3 Preferences

Opening a Database

To open an existing iList Data database:

1. Choose **File → Open** to open the **Open Database** dialog.
2. Choose the database to open and click on the **Open** button. iList Data opens the database and its Record List window.

A Database Primer

This section introduces some of the concepts and terminology associated with databases. It is intended (as is much of this User's Guide) for those who will be creating full-fledged databases with iList Data. Terms highlighted in **bold** are used throughout this documentation. Return to this section if you require a quick refresher on what they mean.

A **database** is an organized system for storing, manipulating, browsing, and sharing information. A database can be as basic a two-column list of student names and the math grades for each or as complex as the complete record keeping system for an entire school district.

Databases are made up of **tables** that store associated data. A two-column list of student names and math grades is an example of a simple table, but many databases comprise multiple tables of data that are associated with each other by a common piece of information (e.g. student number). For example, a school database may maintain two tables of student related data. The first table called “Students” stores each student's name, address and unique student number:

Table: Students		
Student Number	Name	Address
1346885	Alex Smith	233 Cherry Lane
6489725	Martha Smith	45 Fallsview
4572189	Wendy Moffat	176 Cornerstone

The second table called “Grades” stores each student’s final grade for various subjects plus their unique student number:

Table: Grades		
Student Number	Subject	Grade
1346885	Language Arts	92
1346885	Math	71
1346885	Science	78
6489725	Language Arts	84
6489725	Math	73
4572189	Language Arts	78
4572189	Math	91
4572189	Science	89

***Tip:** You may wish to print out a loose leaf hard copy of the above two tables. For illustration purposes, this User’s Guide refers to them throughout.*

In the above examples, the “Students” table lists three **records** (i.e. rows) of data. The “Grades” table lists eight. The rows of records constitute a **record list**. Although not shown in the tables above, each record is also assigned a unique **record number** (also known as a primary key). Since no two records in a table ever have the same record number, you can display the data for a specific record by searching for that record’s unique record number.

The above two tables together constitute a **relational database**. Each table lists its own records, but the tables are connected to one another by a common piece of data (i.e. student number). Other than the student numbers, no data need be duplicated between the two tables. Nevertheless, since the database is relational, you can view the complete set of information for one or more students (e.g. name, address, subjects and grades) by searching across both tables at the same time. This is discussed in the “Find Relational Queries” section in Chapter 8.

Let’s step back to look at just one of the tables for a moment. The “Grades” table comprises three **fields**: student number, subject, and grade. Each field is assigned a specific **field type**. Considered together, the table and field names/types comprise the **structure** (or **schema**) of the database. The “Grade” field almost certainly holds number values, so it is likely a **number** field. We can search this field for number values that are greater than the passing grade of 50. The returned records can also be sorted in ascending or descending order.

Let’s say a student earned a perfect grade of 100 in math. Sorting this number field in ascending order would quite rightly place this student’s grade at the end of the list. However, were the “Grade” field mistakenly defined as a **text** field, sorting this field in ascending order would

wrongly place the grade of 100 between 10 and 11. So setting the right field type for a field is absolutely critical. Choose a number field type for numbers (e.g. grades, currency, interest rates, and percentages) and the text field type for alphanumeric data such as names and addresses.

***Note:** Text and number field types are just two of many field types supported by iList Data. The others are introduced in the “Setting the Field Types” section of the next chapter.*

Once you have entered (or imported) data into a database, you will almost certainly wish to retrieve and view this data again at some point. iList Data supports a number of **find** modes for searching for records. Some find modes shield you from the **find queries** that iList Data generates in searching a database (e.g. **Find → Records**). Other find modes allow you to enter your own find queries directly (e.g. **Find → Via SQL**).

When iList Data performs a find, a **found record set** is returned and displayed in the **Record List** window, iList Data's main document window. In addition to populating this window with found records, iList Data can also sort, graph, and print a found record set, send a found record set to Microsoft Office®, and much more.

Power Tips

For experienced database users and those eager to begin using iList Data's advanced features right away, the following power tips may prove helpful. Most of these tips are also noted (in the same order) elsewhere in this User's Guide. Skip this section if you intend on reading through the full documentation or are a novice database user.

1. To launch iList Data without automatically logging into a database (as set in the Preferences window), hold down the **Option** key while launching iList Data.
2. iList Data automatically triggers a user's last find query on log in. To log into a database without performing the last find query, hold down the **Option** key while logging into a database.
3. In iList Data, relational fields are best denoted by the same name. To create a relational database, add multiple tables, each including one or more fields with the same name. This enables the **Find → Across** functionality discussed in Chapter 7.
4. Number fields can be made to behave like boolean fields. They can be edited inline via checkboxes and display substituted “true” or “false” values in place of 1's and 0's. Refer to the “Setting the Field Types” section in Chapter 2 and the “Editing a Boolean Field via a Checkbox” section in Chapter 4 for details.
5. The format for date values entered as text is: YYYY-MM-DD (e.g. 1984-12-29).
6. The format for time values entered as text is: HH:MM:SS (e.g. 08:23:41).

7. Holding down the **Option** key and clicking on a toolbar button in the Record List window modifies the button's behavior in certain cases. Refer to "The Toolbar" section in Chapter 4 for details.
8. To duplicate a selected record multiple times, hold down the **Option** key and choose **Database → Duplicate Record**. To clear (i.e. set to empty) the value of a field for a group of selected records, hold down the **Option** key and choose the target field from the **Database → Clear Field** sub-menu.
9. Use the **Home**, **End**, **Page Up**, **Page Down**, **Arrow Up**, **Arrow Down**, **Tab**, and **Shift-tab** keys to navigate (and edit) a record list without using a mouse.
10. To quickly populate a database using the Record List window alone (i.e. Microsoft Excel style), create a new record and duplicate it multiple times (see #8 above). Disable **Edit → Inline Update** and inline edit enable the fields to be edited. Use the **Tab** and **Arrow** keys (see #9 above) to quickly move from field to field, typing in data for multiple records as you do.
11. If you will be inline editing several fields, you can optimize iList Data's performance by uncheckmarking **Edit → Inline Update**.
12. In the **Edit Keywords** window, control-click on the keyword list to preview it and import/export keywords from and to a text file or the clipboard.
13. iList Data supports multiple values for fields (referred to as "repeated fields" in FileMaker Pro®). Multiple values in a field are delimited by commas and usually populated via a keyword list. In the **Edit View Sets and Field Properties** window, enable the **Allow Multiple Keyword Values**.
14. You can instantly switch between window sets by pressing a number key (1 to 9) on your keyboard.
15. Number values can be formatted and inline graphed in various ways. Inline graphing options include fill, bar, line, and dot. Refer to Chapter 5 for details.
16. When editing a field value using the **Editing Palette**, hold down the **Apple/Command** key and press the **Return** key to quickly save the value without the need to press the **Save** button.
17. The "%" wildcard character can be entered into text and paragraph fields in the **Find Records** window to search for subsets of values (e.g. "Jo%" returns "Jo", "John", and "Joanne").
18. Choose **Find → Last Created** to view the last created record in a table.
19. To insert a field reference that is prefaced with its table name (e.g. Grades.Math) in the **Find Relational** window, hold down the **Option** key and choose a field from the **Fields** pop-up menu.

20. In addition to explicit values, conditional edit operations can reference field values. In the **Edit Conditional** window's **Value** and/or **Value 2** cells, type in the field name.
21. When importing and exporting records, "Return" is the most common record delimiter and "Tab" is the most common field delimiter. However, some text editing applications denote separate lines with line breaks, rather than carriage returns. Choose "[Line Break]" from the **Record** pop-up menu in the **Preferences** window to delimit records in such cases.
22. iList Data supports the import of file properties, but the properties that can be imported into a field are dependent on its field type (e.g. you can only import a file's creation date into a date field). Keep this in mind when creating the schema of databases with one or more path fields.
23. In addition to explicit values, certain path operations (e.g. **Paths** → **Rename**) can reference field values. In the query dialog for these operations, type in the field name enclosed in square brackets (e.g. "Letter[Record].doc").

2. Creating Databases

This chapter reviews the steps for creating a new database. The field types supported by iList Data are introduced as are the steps for adding, editing, and dropping tables, fields, and indexes from existing databases.

Creating a Database from a Template

Included with iList Data are several database templates that you are welcome to use and customize as you see fit. They are stored in iList Data's "Templates" folder. You can also create your own database templates as discussed in the next chapter.

To create a new database from a template:

1. Choose **File → New Database** to open the **New Database** window.
2. Choose a template from the **Template** pop up menu. Information for the template (if available) is displayed in the field at left. A screenshot for the template (if available) is displayed in the image canvas at right.
3. Click on the **Create** button. In the **New Database** dialog that opens, choose a save location for the database.
4. Click on the **Create** button. The new database is created and its Record List window is opened.

Creating a Custom Database

Custom databases provide the build-from-the-ground-up flexibility you may require for a specific database solution.

To create a new single table database from scratch:

1. Choose **File → New Database** to open the New Database window.
2. Navigate to the **New Custom Database** tab.
3. Create a table by clicking on the **New Table** button. In the **New Table** window that opens, enter a name for the table. Table names cannot include spaces, punctuation, or special characters other than an underscore (i.e. "_"). Click on the **New** button to close the window and append the new table to the table list.
4. With the new table selected in the table list at left, create a field by clicking on the **New Field** button. In the **New Field** window that opens, enter a name for the field. Field names cannot include spaces, punctuation, or special characters other than an underscore

(i.e. “_”). Choose a **Field Type**. (Refer to the “Setting the Field Types” section below for details.) Click on the **New** button to close the window and append the new field to the field list.

***Tip:** To set the default order in which fields appear in the Record List window, drag rows up and down in the field list to reorder them. Click on the **Save Field Order** button to save the field order for the current table.*

5. Repeat the above step to create additional fields as required.

***Tip:** Table and field settings in the New Database window can be imported and exported to and from iList Data. **Control-click** on the New Database window and choose an option from the pop-up menu that opens.*

6. Click on the **Create** button. In the **New Database** dialog that opens, choose a save location for the database.
7. Click on the **Create** button. The new database is created and its Record List window is opened.

Creating a Multi Table Database

Multi-table databases work just like single table databases except that they store multiple tables of *unrelated* data. While it is more common to store unrelated data in separate databases, it can sometimes be advantageous to maintain a single database, particularly if a multi-table database might one day be made relational by modifying the database structure.

To create a multi-table database, follow the steps above, but create two or more tables. Ensure that no field name matches the name of a field in another table.

Once a multi-table database has been created, you can navigate between tables by choosing a table name from the bottom of the **Database** menu.

Creating a Relational Database

Relational databases work just like multi-table databases except that they store multiple tables of *related* data. This gives them extra functionality. The “Database Primer” section in Chapter 1 describes a simple example of a relational database.

To create a relational database, follow the steps above, but create two or more tables. For each table, ensure that a field name matches the name of a field in another table. (Matched field names are hereafter referred to as relational fields.)

Once a relational database has been created, you can navigate between tables by choosing a table name from the bottom of the **Database** menu. You can also navigate between tables by selecting a record in the Record List window and choosing a relational field from the **Database → Find**

Across submenu. Finally, you can build powerful relational searches using the **Find Relational** window. These features are discussed in Chapter 7.

Setting the Field Types

Every field in a database is assigned a field type that tells iList Data how to display, sort, and otherwise treat the field. iList Data supports ten field types. Since each field type has certain benefits and limitations, it is important to assign the most appropriate type to each field in a database.

***Note:** iList Data databases use a "typeless" field format. This means you can store alphanumeric values in any field type (e.g. "zero" can be stored in a number field).*

Text

Stores a text string (including long paragraphs of text). Searches on **Text** fields are case sensitive (i.e. a search for "John" will find "John", but not "joHn").

e.g. This is sample text.

Number

Stores a number (i.e. integer, decimal, and negative numbers) that optionally includes a fractional part. The number field type is the appropriate choice for currency.

e.g. 12, 32016.67, -43.234

Date

Stores an eight digit date value using the following format: year (four digits), month (two digits) and day (two digits). The three components are separated by dashes. iList Data features a dedicated calendar widget and date field for setting date values when creating, editing and finding records.

e.g. 2003-01-31, 1984-12-29

Time

Stores a six digit 24-hour time value using the following format: hours (two digits), minutes (two digits) and seconds (two digits). The three components are separated by colons. iList Data

features a dedicated slider control and time field for setting time values when creating, editing and finding records.

e.g. 08:23:41, 14:02:09

Date and Time

Stores a fourteen digit date and time value using the following format: year (four digits), month (two digits), day (two digits), hours (two digits), minutes (two digits) and seconds (two digits). The date and time components are separated by a space. The three date components are separated by dashes. The three time components are separated by colons.

e.g. 2004-07-10 23:07:19

Path

Stores a file path in the form of a text string. File paths include four components: volume (i.e. disk name), folder path, file name, and file name extension. These components are separated by colons. iList Data features extensive support for file paths. Refer to Chapter 18 for details.

e.g. Internal HD 1:Users:johnsmith:Documents:Letters:Resume Cover.doc

URL

Stores a URL path (i.e. web link) or e-mail address in the form of a text string. URL paths can begin with “http://”, “ftp://” or another Internet prefix. (E-mail addresses do not require a “mailto:” prefix.)

e.g. <http://www.lakewoodstudios.com/ilistdata/>
info@lakewoodstudios.com

***Tip:** You can create Web-enabled image catalogs using iList Data. Create a URL field that stores the Web links for GIF, JPEG, and other images that are hosted at a Web site. When a record is selected, the referenced image is streamed directly into iList Data's **Image Palette** window.*

Color

Stores a RGB color value in the form of a text string. Color values have the following format: red (0-255), green (0-255) and blue (0-255). The three components are separated by commas. Color field values are displayed as colors in the Record List window. They can be used to flag and label records.

e.g. 0,0,0
 125,72,100

Tip: The RGB value for black is “0,0,0”. The RGB value for white is “255,255,255”.

JPEG

Stores a JPEG thumbnail image that can be viewed inline with other fields in the Record List window. Stored JPEG images have a width and height of 96 pixels. However, as set in the **Interface Preferences** window, they can be viewed at three sizes: 32, 64 and 96 pixels. Imported images are scaled appropriately.

Note: Displaying thumbnail images in the Record List window will slow down the retrieval of record sets.

Calculation

Calculation fields do not store data per se. Rather, they store a single calculation expression that is applied on-the-fly to all of the records in a found record set.

A calculation expression can reference the values stored in any of a record's alphanumeric fields. Calculation expressions are set using the **Edit Calculation** window as discussed in Chapter 13. Calculation fields can “behave” like other field types, including text, number, datetime, and color field types. They can be used to calculate and browse dynamic data on-the-fly.

e.g. First_Namell' ||Last_Name
 (Math+Science)/2

Building Databases: Next Steps

Once a database is created, there are still a number of tasks you will likely wish to perform in order to customize the database so that it best meets your needs. Each of the steps below is discussed elsewhere in this User's Guide.

Choose **Administer → Keywords** to create the keyword lists for the database (Chapter 4).

Next, for *each* table in the database:

1. Navigate to the target table by choosing it from the bottom of the **Database** menu.
2. Choose **Edit → View Sets** to set additional field properties and customize up to five view sets that set the look of fields in the Record List window. (Chapter 5)

3. Choose **Administer** → **Calculation** to define the expressions for calculation fields. (Chapter 13)
4. Choose **Administer** → **Record Interface** to create a custom window for creating, editing, and finding records. (Chapter 6)
5. Choose **Administer** → **Add Index** to create one or more indexes for the table. (Chapter 2)
6. Choose **Window** → **Report Palette** to create up to five report scripts. (Chapter 11)
7. For tables with multiple path fields, choose **Path** → **Set Target Path Field** to set the target path field. (Chapter 18)
8. For tables with path fields, choose **Path** → **Get File Properties** to define the file properties to import. (Chapter 18)

Adding, Renaming, and Dropping Tables and Fields

In addition to creating new databases, you can add, rename, and drop tables and fields from existing databases. To modify the structure of a database, navigate to the target table by choosing it from the bottom of the **Database** menu. To add, rename, or drop a table or field, choose options from the **Administer** menu.

There are some caveats to be aware of when modifying the structure of a table. For example, the deletion of a field can adversely affect the functioning of bookmarked queries that perhaps still reference the deleted field. After modifying the structure of a table, consider doing the following:

1. Verify each of the calculations in the modified table: Choose **Administer** → **Calculation** to delete or correct any problematic expressions that reference deleted fields.
2. Verify each of the conditional edit operations in the modified table: Choose **Database** → **Conditional Edit** to delete or correct any problematic operations that reference deleted fields.
3. Verify each of the bookmarks: Choose **Bookmarks** → **Edit Bookmarks** to delete or correct any problematic queries that reference deleted fields.
4. Choose **History** → **Clear History List** to clear the history list.

The above steps may be unnecessary when making modest modifications to the structure of a table. However, reviewing these steps in sequence can help to ensure a smooth transition from the old table structure to the new.

Adding, Viewing, and Dropping Indexes

Indexes help speed up database searches. You probably won't notice a difference for modestly sized databases, but for tables with hundreds or even thousands of records, an index can optimize the speed of searches.

To create a new index for the active table:

1. Choose **Administer → New Index** to open the New Index window.
2. Enter an **Index Name**. Index names cannot include spaces, punctuation, or special characters other than an underscore (i.e. “_”).
3. Choose an **Index Type**. Choose **Default** to create an index that allows duplicate values. Choose **Unique** to create an index that does not allow duplicate values.
4. In the **Fields to Index** list box, enable the checkbox for each field to index. Drag rows up and down to change the index order.
5. Click on the **New** button to create the index.

To drop an index from the active table:

1. Choose **Administer → Drop Index**.
2. Select an index from the drop down list.
3. Click on the **Drop** button to drop the index.

3. Saving Databases

This chapter reviews the steps for saving, compacting, and backing up databases and saving database templates.

Saving Databases

There is no need to manually save a database. A database's data is automatically saved whenever a record is added, modified, or deleted. Database preferences are also saved automatically.

Compacting Databases

Compacting databases optimizes the disk space usage and performance of a database. To compact the active database, choose **Administer → Compact Database**.

Backing Up Databases

It is crucial that *all* computer files be backed up regularly in order to avoid a loss of data due to system crashes, power outages, hard disk failure, and theft etc. In addition to regularly backing up computer files, the media on which the backup files is stored should be moved off site in order to guard against theft and fire damage etc.

To back up the active database to your computer:

1. Choose **File → Save Backup** to open the **Save Backup** dialog.
2. Navigate to a backup folder (preferably on a removable or external hard drive) and click on the **Backup** button to save a backup of the database.

Saving Database Templates

Included with iList Data are several database templates that you are welcome to use and customize as you see fit. They are stored in iList Data's "Templates" folder. You can also create your own database templates. To save the current database as a template:

1. Choose **File → Save As Template** to open the **Save As Template** dialog.
2. Name the template and click on the **Save** button.

3. The database template is saved. A notification dialog opens and prompts you to optionally capture a screenshot. Click on the **Launch** button to open Apple's "Grab" utility. Capture a screenshot of all or part of iList Data's interface and save the image file using the same name as the template (e.g. "My Template.tiff") in the "Templates" folder.

***Tip:** If you will be posting the template on-line, you may wish to use an image editing application such as Adobe Photoshop® to reduce the size of the screenshot. Full sized screenshots of a 1280 X 1024 interface can be quite large in file size.*

4. The Record List Window

This chapter introduces the **Record List** window, the main document window for iList Data. Data for all or a subset of records in one or more tables can be viewed in the Record List window. Field values for individual records can be edited inline either by typing in new values or choosing keywords from a pop-up menu. Record lists can be printed, exported, sent on to Microsoft Office, and selected for batch editing, file path operations, and much more.

The Record List Interface

The Status Bar

Along the bottom of the Record List window is a status bar that displays the current find query, sort order, and number of found and selected records.

The Toolbar

Along the top of the Record List window is a toolbar that provides one-click access to several of iList Data's most used functions.

1. Click on the **Open** button to open a new database. (The current database will remain open.) Hold down the **Option** key and click on the **Open** button to open a new window for the current database.
2. Click on the **New** button to create a new record.
3. Click on the **Edit** button to edit one or more selected records.
4. Click on the **Delete** button to delete one or more selected records,
5. Click on the **Send** button to send the record list to Microsoft Word. Hold down the **Option** key and click on the **Send** button to send the record list to Microsoft Excel.
6. Click on the **Publish** button to publish the record list to a text file. Hold down the **Option** key and click on the **Publish** button to publish the selected records to the clipboard.
7. Click on the **Print** button to print the record list.
8. Click on the **Sort** button to open the **Sort Records** window.
9. Click on the **View** button to open the **Edit View Sets** window.
10. Click on the **Bookmark** button to bookmark the current find query.

11. Click on the left and right arrow buttons to move backwards and forwards through the history list of find queries.
12. Click on the **Find** button to open the default find window as set in the **Preferences** window.
13. Click on the **Help** button to open the User's Guide.

Creating a Record

To add a record, choose **Database → New Record**. The **New Record** window is opened. Any default values for fields (as set in the **Edit View Sets and Field Properties** window) are assigned. Enter any additional field values and click on the **Create** button to save the new record. If the new record matches the current find query it will be displayed in the Record List window.

*Tip: To display the last created record, choose **Database → Find Last Created**.*

Duplicating a Record

To duplicate a record, select the record to duplicate and choose **Database → Duplicate Record**. A new record is created and (if it matches the current find query) displayed in the Record List window. All of the field values for the currently selected record (except for the record number) are copied over to the new record.

*Tip: To create multiple duplicates of a single record, hold down the **Option** key and choose **Database → Duplicate Record**. Choose this option if you have inline edit enabled certain fields, disabled **Edit → Inline Update** and wish to use the **Tab** and **Arrow** keys to quickly move from field to field, typing in data for multiple records as you do.*

Selecting Records

Many iList Data operations act only on selected records. For example, if *no* records are selected in the Record List window, many options in the **Database** and **Paths** menus are disabled. To select a single record (i.e. row of data), click on it. (Click on a non-inline editable field.) To extend the selection to adjacent records, hold down the **Shift** key and click on a record above or below the original selection. To select multiple records that are not adjacent to one another, hold down the **Apple/Command** key as you select records.

*Tip: If **Edit → Manual Sort** is unchecked, contiguous selections can also be made by dragging the mouse through the record list.*

To select all of the currently displayed records, choose **Edit → Select All**. To deselect all of the currently displayed records, choose **Edit → Select None**. To toggle the selection (i.e. select non-selected records and deselect selected records), choose **Edit → Select Toggle**.

Navigating Records

The Record List window can be navigated without the sometimes awkward need to shift between using the mouse and keyboard. This is particularly helpful when inline editing. Here are some useful keyboard shortcuts to keep in mind:

1. Press the **Home** key to scroll up to the top of the record list.
2. Press the **End** key to scroll down to the bottom of the record list.
3. Press the **Page Up** key to scroll up to the records just out of view.
4. Press the **Page Down** key to scroll down to the records just out of view.
5. Press the **Arrow Up** key to select or inline edit the previous record.
6. Press the **Arrow Down** key to select or inline edit the next record.
7. Press the **Tab** key to inline edit the next field.
8. Press the **Shift-tab** keys to inline edit the previous field.

Double-clicking Records

Choose **iList Data → Preferences** to open the **Preferences** window. Set the action(s) to perform when a record is **double-clicked**. Actions include editing the record, launching a file path, navigating to a URL, and speaking a report. Enable the **Do Special** checkbox to enable special double-click actions for specialized databases.

Editing a Record

To edit a record, select it and choose **Database → Edit Record**. The **Edit Record** window is opened. Edit the field values and click on the **Update** button to save the changes. If the edited record still matches the current find query it will be displayed in the Record List window.

***Tip:** Record windows can be customized to match the needs of your database. Refer to Chapter 6 for details.*

Editing a Field Inline

Inline editing (i.e. typing values directly into a field cell in the Record List window) allows multiple field values for multiple records to be edited through direct data entry using only the

keyboard. The **Tab**, **Shift-tab**, and **Arrow** keys can be used to quickly navigate between inline editable fields, whilst skipping those fields that are not inline editable.

To edit a field inline first make the field inline editable by choosing **Edit → View Sets** to open the **Edit View Sets** window. Enable the **Inline Edit** checkbox for the field to inline edit.

Return to the Record List window and click on an inline editable field value to ‘open’ its cell for data entry. Type in a new value and click outside the cell (or press the **Tab**, **Shift-tab**, or an **Arrow** key) to close the cell and update the record.

***Tip:** If you will be inline editing several fields, you can optimize iList Data's performance by uncheckmarking **Edit → Inline Update**. Changes to inline edited fields will continue to be saved, but the Record List window will not be updated (i.e. repopulated with found records) following each inline edit operation. To force an update to the found record list, choose the current table name from the bottom of the **Database** menu.*

Editing a Field via a Pop Up List

Pop-up editing (i.e. choosing a value from a pop-up menu) allows the values of fields to be quickly assigned using a set keyword list. Pop-up editing is ideal if you wish users to be presented with a limited selection of choices (e.g. the days of the week) and retain consistency between the values assigned across multiple records.

Creating a Keyword List

To edit a field via a pop-up list of keywords, you first need to create a keyword list.

Choose **Administer → Keywords** to open the **Edit Keywords** window. Choose options from the **Keyword Lists** pop-up menu to create, rename, delete, and navigate between keyword lists.

To insert a keyword, click on the **Insert** button. To edit a keyword, double-click on it.

***Tip:** Name a keyword “Other...” (with three periods) to allow users to specify a value that is not in the keyword list.*

To insert a divider line (represented by the text “—”), click on the **Divider** button. To delete a selected keyword, click on the **Delete** button. Drag keywords up and down to reorder the list. Click on the **Keywords** header to sort a keyword list alphabetically.

Control-click on a keyword list to preview what the pop-up menu will look like. You can also clear a field's keywords and import and export a keyword list via this pop-up menu.

Keyword lists can comprise both lists of alphanumeric values and lookup queries. iList Data automatically flags keywords that begin with the word “select” as lookup queries. They are populated with the values of the first column returned by the lookup query. Use the “distinct” SQL syntax to return a unique list of values for a field. For example:

```
select distinct field_name from table_name order by field_name
```

Tip: Lookup queries can present users with an up-to-date keyword list comprising all of the unique values for a field. Append an “Other...” keyword to allow users to instead specify a new value that is not in the keyword list.

Assigning a Keyword List to a Field

To assign a keyword list to a field, choose **Edit → View Sets** to open the **Edit View Sets and Field Properties** window. Select the target field and choose a keyword list from the **Keywords** pop-up menu at the bottom of the window.

If you wish to assign multiple keywords to an alphanumeric field (referred to as “repeated fields” in FileMaker Pro®), enable the **Allow multiple assignments** checkbox. Multiple keyword values are delimited by commas. For example, the field value list “Monday,Wednesday,Friday” lists three values, each of which can be treated independently of the others when performing finds and edits.

Assigning Values from a Keyword List

In the Record List window, **control-click** on a cell and choose a keyword from the contextual menu that opens.

If the field allows for multiple assignments, the chosen keyword will either be added to or removed from the field’s value list depending on whether the keyword is already in the value list. Otherwise, the keyword will replace the current field value.

Tip: If you will be pop-up editing several fields, you can optimize iList Data’s performance by uncheckmarking **Edit → Inline Update**.

Editing a Boolean Field via a Checkbox

Checkbox editing allows you to quickly set the true or false value of a boolean field by clicking on a checkbox. Checkbox editing is ideal for flagging completed tasks in to do lists.

Boolean fields are number fields that have been assigned a boolean format in the **Edit View Sets and Field Properties** window. (Refer to “The Field Properties” section in Chapter 5 for details.)

To edit a boolean field using checkboxes, first make the field inline editable by choosing **Edit → View Sets** to open the **Edit View Sets** window. Enable the **Inline Edit** checkbox for the boolean field to edit using checkboxes.

Editing a Field via the Editing Palette

Editing a field using the **Editing Palette** is most useful for fields that hold multiple lines of text. It is not possible to edit multiple lines of text inline or via a pop-up menu and it may be inconvenient to have to repeatedly open and close the **Edit Record** window if you need to edit multiple records.

To edit a field using the Editing Palette, open the palette by choosing **Window → Editing Palette**. (Reposition and resize the palette as desired.) Choose a field from the pop-up menu at the top of the palette to set the target field. Select a record in the Record List window and edit the target value using the Editing Palette.

To update the field value, either click on the **Save** button or hold down the **Apple/Command** key and press the **Return** key.

*Note: If **Edit → Inline Update** is unchecked, the Record List window will not be updated (i.e. repopulated) following each edit (i.e. changes will not appear in the Record List window). To force an update to the found record list, choose the current table name from the bottom of the **Database** menu.*

Customizing a Record List's Appearance

iList Data supports several options for customizing the appearance of record lists. Options that are set in the **Preferences** and **Interface Preferences** windows apply to the current Mac OS X user account on your computer. Options that are set in the **Edit View Sets and Field Properties** window (reviewed in the next chapter) apply to the current table.

To change the appearance of the Record List window, choose **Edit → Interface Preferences**. In the **Interface Preferences** window that opens, choose options to set the font, style and size of text. (Choose an option from the **Apply to** pop-up menu to set the text font, style, and size of other interface elements.)

To draw horizontal and/or vertical lines between rows and columns in the Record List window, choose a style from the **Horizontal Grid** and **Vertical Grid** boxes. To set the color of odd and/or even rows or columns, choose options from the **Grid Colors** box. Click on a color box to open the **Color** chooser.

Opening a New Record List Window

Multiple windows for a database can be open at the same time. To open a new window for the current database, choose **Window → New Window**. Updating the data in one window automatically updates the data in all other open windows.

Managing Window Sets

Window sets define the visibility, location, and size of the Record List and palette windows. Nine window sets can be saved and instantly recalled. To save a window set:

1. Choose a number from the **Window → Window Set** submenu to recall a window set.
2. Uncheckmark the **Window → Window Set → Lock** menu item.
3. Arrange the Record List and palette windows as desired.
4. Checkmark the **Window → Window Set → Lock** menu item.
5. To recall a window set, choose it from the **Window → Window Set** submenu.

***Tip:** You can instantly switch between window sets by pressing a **number** key (1 to 9) on your keyboard.*

5. Managing View Sets

This chapter introduces the **Edit View Sets and Field Properties** window where additional properties (lower half of the window) and the display settings for fields (upper half of the window) can be customized. Options for showing and hiding fields and setting the width, color, summary, and inline edit status of columns in the Record List window are reviewed as are the default value, keyword list, formatting, and alignment properties of fields. A few suggestions for managing multiple view sets closes the chapter.

To open the Edit View Sets and Field Properties window, choose **Edit → View Sets**. Drag fields up and down to reorder the display of fields in the Record List window.

***Tip:** Fields in the View Sets window can also be sorted by clicking on certain headers. For tables with many fields, consider first setting the **Show** property of each field. Then click on the Show column header to quickly sort the fields by visibility. Click again to reverse the order.*

The View Set Properties

You can customize up to five view sets in order to set up the display of fields in the Record List window.

Show

Toggles the visibility of a field. Hidden fields are not displayed in the Record List window.

***Tip:** A table's "Record" field cannot be hidden from view. However, setting its width to "0" effectively hides the field from view.*

Width

Sets the column width (in pixels) of a field. Setting the width to "0" effectively hides a field from view. The width of a field can also be set by dragging the borders of a column header in the Record List window.

Color

Sets the column color of a field. **Control-click** on a **Color** cell to set the column color to **None** (i.e. no background color). Choose **Set Color** to open the **Color** chooser.

Inline Edit

Toggles the inline edit status of a field. Boolean fields are inline edited via a checkbox. All other field types are edited via direct text entry. (Refer to the “Editing a Field Inline” and “Editing a Boolean Field via a Checkbox” sections of the previous chapter for details.)

Summary

For number and calculation fields that return a number value, toggles the summary display of a column. Summary results are displayed at the bottom of a column in the Record List window. **Control-click** on a **Summary** cell to set the summary property for a field. Choose **Sum**, **Average**, **Rounded Average**, **Minimum**, or **Maximum** to summarize a field's values. Choose **None** to display no summary for a field.

The Field Properties

Default Value

Sets the default value that will automatically be entered into fields when a new record is created.

Calculation

Sets the calculation expression for calculation fields. Click on the **Edit** button to edit a calculation using the **Edit Calculation** window.

Alignment

Sets the column alignment of a field to **Left**, **Center**, or **Right**.

***Tip:** To align columns at the decimal point (e.g. for currency values), set a right alignment and specify a number formatting string that ends with “.00”.*

Format

For number, date, time and calculation fields that return a number, date, or time, sets the look of values as you wish them to be displayed in the Record List window. There are four options:

- **Number Formats:** Formats the appearance of number values according to a formatting string. For example, the formatting string “\####,##0.00” displays the unformatted number value “3560.3” as “\$3,560.30”. Refer to the “Number Formats” section below for details.
- **Graph Formats:** Formats the appearance of inline graphs according to a formatting string that can also include an embedded number format. For example, the formatting string “#|LBAR|1|100” displays the unformatted number value “50” and a left justified bar graph that fills half of the cell (i.e. 50 is mid way between 1 and 100). Refer to the “Graph Formats” section below for details.
- **Boolean Formats:** Formats the appearance of number values according to a “true/false” property value. For example, the formatting string “Yes|No” displays the number zero as “No”. All other numbers (e.g. 1) are displayed as “Yes”.
- **Date and Time Formats:** Formats the appearance of date and time values according to a property value. The unformatted date value of “2003-01-31” displays as “1/31/03” (**Numbered Date**), “Fri, Jan 31, 2003” (**Short Text Date**) and “Friday, January 31, 2003” (**Long Text Date**). The unformatted time value of “12:30:10” displays as “12:30 PM” (**Short Time**) and “12:30:10 PM” (**Long Time**).

Number Formats

Number formatting strings set the look of number values as you wish them to be displayed in the Record List window. The following characters have a special meaning in formatting strings:

- | | |
|---|---|
| # | A placeholder that displays the number digit if present. |
| 0 | A placeholder that displays “0” or the number digit if present. |
| . | Indicates the position of the decimal point. |
| , | Indicates the position of a thousands separator. |
| % | Displays the number multiplied by 100. |
| (| Displays an open parenthesis. |
|) | Displays a closed parenthesis. |
| + | Displays a plus or minus sign if the number is positive or negative respectively. |
| - | Displays a minus sign if the number is negative. |
| e | Displays the number in scientific notation. |
| \ | Escape character. Displays the character that follows the backslash. |

Here are some examples:

Unformatted Number	Formatting String	Formatted Text
1.123	#.##	1.12
1.1	#.0000	1.1000
1	0000	0001
.12	#%	12%
123456.1	###,###.00	123,456.10
1234.1	\\$###,##0.00	\$1,234.10
-1.1	-.##	-1.1
-1.1	###;(##);z\er\o	(3.7)

The final example above makes use of the option to provide three formats for a number (separated by semi-colons) in order to format positive, negative, and zero values differently.

Graph Formats

Graph formatting strings set the look of inline graphs as you wish them to be displayed in the Record List window. There are four inline graph types from which to choose: The LFILL and RFILL formats draw a left or right justified fill graph. The LBAR and RBAR formats draw a left or right justified bar graph. The LLINE and RLINE formats draw a left or right justified line graph. The DOT format draws a left justified dot graph.

The fill, bar, and line graph formats use the following pipe (i.e. “|”) delimited syntax:

```
#|LFILL|1|100
```

In the above example, # is an optional number format (refer to the previous section), “LFILL” identifies the graph type, “1” is the minimum graph value, and “100” is the maximum graph value.

Tip: Leave the number format empty (e.g. “|LFILL|1|100”) if you do not wish to display the number value.

The DOT graph uses the following pipe delimited syntax:

```
#|DOT|5|10
```

In the above example, “#” is an optional number format. “DOT” identifies the graph type. “5” is the minimum graph value (represented by 1 dot) and “10” is the maximum graph value (represented by 6 dots in this example).

Managing View Sets

You can create five view sets for each table in a database. Switching between view sets allows you to view a database's data in a variety of ways. Create simple view sets to browse only the most important fields in a table and others to show all of the fields. For printing purposes, create view sets that do not exceed the width of the portrait or landscape oriented paper that will be printed to. For searches that return modestly sized record sets, create view sets that include multiple calculations and summaries. Create view sets that highlight important columns using color.

An appointment database may have two view sets, one that lists only the basic information for appointments and another that lists the full details. For image databases, you may wish to create alternative view sets that show or hide the thumbnail images.

To rename view sets, choose **Rename View Set** from the **View Sets** pop-up menu at the top of the Edit View Sets window.

To change the currently active view set, choose it from the View Sets pop-up menu or close the **Edit View Sets** window and choose a view set from the **Edit → View** sub-menu.

6. Designing a Record Interface

iList Data features custom (i.e. user designed) windows for creating, editing, and finding records in a table. Record interfaces that incorporate customizable text, date, time, and paragraph fields, pop-up menus, list boxes, numerical/time sliders, calendars, color swatches, and image canvases can be created for entering field values and search criteria.

Record windows need not be designed from scratch. Rather, they can be quickly built by setting the interface options and show order for fields in the **Edit Record Interface** window.

The Edit Record Interface Window

To create a custom record window, choose **Administer → Record Interface** to open the Edit Record Interface window. Click on the **Show** checkboxes to toggle the display of fields. Drag rows up and down to change the order in which fields are rendered. **Control-click** on an **Interface** cell to choose the interface element to use. **Control-click** on a **Width** cell to set the width of the interface element in percent. For text fields and numerical sliders, **control-click** on a **Properties** cell to set the interface options.

To leverage iList Data's custom window support to its fullest, it may be helpful to know what is happening behind the scenes. To render a record window, iList Data relies on an invisible grid that is four cells across and several cells down (depending on the resolution of your monitor). Whenever a **New Record**, **Edit Record**, or **Find Records** window is opened, iList Data 'fills in' each of these cells (going across, then down) with interface elements in the order in which they appear in the Edit Record Interface window list.

Some interface elements can be one (25%), two (50%), three (75%), or four (100%) cells in width. Others can only be one cell in width. As well, an interface element's height varies according to its type (e.g. text fields are two cells high whereas paragraph fields are four cells high).

If a cell is unused, it may yet be filled in by an interface element that appears lower in the Edit Record Interface window list should this interface element fit into the empty cell.

By reordering fields and experimenting with interface widths, aesthetically pleasing record windows can be quickly built using the very same Mac OS X compliant interface controls relied on by software developers. At any time, click on the **Show Mockup** button to view a mockup of the current window design.

The Interface Elements

Text Field

Text fields are used to enter single lines of text. **Control-click** on a **Properties** cell to set the options for text fields. Choose **Mask** to set a text pattern for the field (see below). Choose **Read Only On** or **Read Only Off** to toggle the editable status of the field. (Read only fields cannot be edited.) Choose **Password On** or **Password Off** to toggle password protection for the field. (Password protected fields show bullets (i.e. “•”) in place of characters and are appropriately used for privacy/security purposes.)

A Mask acts as an entry filter for a text field. Entered characters are automatically formatted (or not allowed to pass) according to a text formatting string. For efficiency sake, iList Data auto completes any explicit text that is specified in a formatting string. The following characters have a special meaning in formatting strings:

- A A placeholder that accepts an alphanumeric value. Entry is mandatory.
- a A placeholder that accepts an alphanumeric value. Entry is optional.
- ? A placeholder that accepts a letter value.
- # A placeholder that accepts a number digit. Entry is mandatory.
- 9 A placeholder that accepts a number digit. Entry is optional.
- & A placeholder that accepts a character value.
- C A placeholder that accepts a character value. Entry is optional.
- . Indicates the position of the decimal point.
- , Indicates the position of a thousands separator.
- : Indicates the position of a time separator.
- / Indicates the position of a date separator.
- < Converts all of the following characters to lowercase.
- > Converts all of the following characters to uppercase.
- \ Escape character. Displays the character that follows the backslash.
- ~ Reserved for future use.

With the exception of the above, all other characters are treated as literals. Here are some examples:

###-##-####	U.S. Social Security Number
(123) ###-####	Preset area code plus phone number

####-##-##	Date
##\:##\:##	Time

Date Field

Date fields are used to enter date values. Also consider using a calendar control.

Time Field

Time fields are used to enter time values. Also consider using a numerical slider (e.g. for durations).

Paragraph Field

Paragraph fields are used to enter multiple lines or paragraphs of text.

Pop-up Menu

Pop-up menus are used to choose single items from keyword lists. (For more information about setting up keyword lists, refer to the “Editing a Field via a Pop Up List” section in Chapter 4.) For a long keyword list, consider using a list box instead.

***Tip:** For boolean fields, create a keyword list that contains two values that match the boolean format specified in the **Edit View Sets and Field Properties** window: the “true” value followed by the “false” value. iList Data will automatically populate boolean formatted number fields with a “1” (true) or “0” (false) accordingly. For more details on boolean fields, refer to the “Setting the Field Types” section in Chapter 2.*

List Box

List boxes are used to choose one or more items from keyword lists. (For more information about setting up keyword lists, refer to the “Editing a Field via a Pop Up List” section in Chapter 4.)

***Tip:** To enable multiple list box selections, ensure that the **Allow Multiple Assignments** checkbox in the **Edit View Sets and Field Properties** window is enabled for the target field.*

Here are some tips for selecting multiple keywords in a list box: To extend a keyword selection to adjacent keywords, hold down the **Shift** key and click on a keyword above or below the original selection. To select multiple keywords that are not adjacent to one another, hold down the **Apple/Command** key as you select the keywords.

Numerical Slider

Numerical sliders are used to choose from a range of integer numbers or time values. **Control-click** on a **Properties** cell to set the options for numerical sliders.

For integer fields, choose **Set Minimum** to set the minimum (i.e. low end) slider value. Choose **Set Maximum** to set the maximum (i.e. high end) slider value.

For time fields, choose **Time - 05 Minute Increments** to set a range of times values from 00:00 to 24:00 in five minute increments. Choose **Time - 10 Minute Increments** to set a range of times values in ten minute increments. Choose **Time - 15 Minute Increments** to set a range of times values in fifteen minute increments. Choose **Time - 30 Minute Increments** to set a range of times values in thirty minute increments.

Calendar

Calendars are used to choose dates. To select a date, click on it. To navigate to another month, click on the arrow icons. To navigate to another year, click on the arrow icons that appear when the pointer is over the year.

Color Swatch

Color swatches are used to choose colors. To select a color, click on the swatch to open Apple's **Colors** window.

Image Canvas

Image canvases are used to display JPEG thumbnail images. Hold down the **Control** key and click on the image canvas to import, copy, paste, or clear an image. You can also drag an image to the image canvas from another application (e.g. a web browser).

7. Finding Records

Powerful and user-friendly search capabilities are at the heart of iList Data. The software supports ten find modes for searching databases, including custom find windows and a powerful standard query language (SQL) editor. This chapter introduces each find mode.

Find Records

To perform a standard find, choose **Find → Records** to open the **Find Records** window.

Tip: Find Records windows can be customized to match the needs of your database. Refer to Chapter 6 for details.

Choose a **Find Mode** to set the type of search. **And** searches look for records that match all of the find criteria. **Or** searches look for records that match at least one of the find criteria.

Enter the field values to search for and click on the **Find** button to perform the search.

Tip: To find records that begin or end with the text entered into a text field, add the character “%” to the beginning and/or end of the text to search for. For example, entering “Jo%” in a search field returns “Jo”, “John”, and “Joanne” whereas entering “Jo” returns only “Jo”.

Find Via SQL

To perform a find on the current table using standard query language (SQL), choose **Find → Via SQL** to open the **Find Via SQL** window.

Choose field names from the **Fields** pop-up menu. Enclose the values to search for in *single quotes*. Click on the **AND**, **OR**, and **NOT** buttons to connect search criteria. Click on the **Find** button to perform the search.

To learn more about building SQL queries using the Find Via SQL window, click on the **Show Help** button to reveal several examples. (These examples can also be found in the next chapter.)

Find Relational

To perform a find on two or more related tables using standard query language (SQL), choose **Find → Relational** to open the **Find Relational** window.

Choose commands and field names from the **Insert** and **Fields** pop-up menus. Enclose the values to search for in single quotes. Click on the **AND**, **OR**, and **NOT** buttons to connect search criteria. Click on the **Find** button to perform the search.

A relational search “belongs” to the current table (i.e. the table that is checkmarked in the **Database** menu). Although one or more fields from other tables may be displayed in the Record List window, only the fields for the current table can be edited. Keep this in mind when creating relational queries. Ask yourself: To which table do I want this relational search to belong?

***Note:** For relational searches, the properties of fields and columns (e.g. column width and color) are determined by the current view set for each field's table. To change these settings, navigate to the parent table for a field and choose **Edit → View Sets** to edit the field and column properties.*

Relational SQL strings are quite often long. For this reason, and since they can only be created via SQL, they are prime candidates for being bookmarked.

To learn more about building SQL queries using the Find Relational window, click on the **Show Help** button to reveal several examples. (These examples can also be found in the next chapter.)

Find By Value

To return all of the unique values for a field in the current table, choose **Find → By Value** to open the **Find By Value** window. Choose a field name from the pop-up menu at the top of the window or, if a field name is already chosen, click on the **Browse** button. iList Data searches through *all* of the records in the table and populates the list box with all of the unique values for the target field. The number of occurrences of each value is also displayed.

***Tip:** In addition to unique value counts, searching via the Find By Value window is particularly effective for uncovering value patterns, ranges, prevalences, and anomalous values.*

To sort the **Number** column in ascending or descending order, click on its header. To sort the **Value** column, click on its header. To copy or export a find by value list, **control-click** on the list box and choose **Copy Values** or **Export List** from the contextual menu that opens.

To populate the Record List window with all of the records that match a specific field value, select the field value in the list box and click on the **Find** button. The Find By Value window is closed and the found records are displayed in the Record List window.

***Tip:** The contents of the Find By Value window are restored to their most recent state when the Find By Value window is next opened. (The contents are cleared when you log out or switch to another table.) It is important to note that a restored find by value list does not reflect any of the changes to a database made since the Find By Value window was last viewed. Click on the **Browse** button to update the list.*

In addition to returning all of the records in a table, you can also limit the find by value search to a subset of the records in a table. **Control-click** on the list box and choose **Limit Using Find** or **Limit Using Find Via SQL** to set the limit criteria. To populate the Record List window with all of the records that match a specific field value *and* the limit criteria, select the field value in the

list box and click on the **Find in Limit** button. The Find By Value window is closed and the found records are displayed in the Record List window.

Find Within

To narrow the current search, choose **Find → Within** to open the **Find Within** window. Enter the field values to search for and click on the **Find** button.

*Note: The **Database → Find Within** menu item is disabled if the current search is a relational one (i.e. if the current search returns records across multiple tables).*

Find Extend

To broaden the current search, choose **Find → Extend** to open the **Find Extend** window. Enter the field values to search for and click on the **Find** button.

*Note: The **Database → Find Extend** menu item is disabled if the current search is a relational one (i.e. if the current search returns records across multiple tables).*

Find on Field

To return all of the records that match a specific field value, select a target record in the Record List window and choose the field to search on from the **Find → On Field** sub-menu.

The following example references the database introduced in Chapter 1. If you are browsing a list of student grades and wish to view all of the grades that are 78, select a record with a grade of 78 and choose **Find → On Field → Grade** to find all of the records with a grade of 78.

Find Parent

To return all of the records that match a subset of a specific field value, select a target record in the Record List window and choose the field to search on from the **Find → Parent** sub-menu. In the query window that opens, choose the subset to search for and click on the **Find** button.

Subsets of fields are delimited by the **Parent** delimiter as set in the **Preferences** window. This preference applies to all databases. The default is a colon (i.e. “:”). Find Parent can also be used to search for subsets of date, time, and datetime values.

Searching by parent values is particularly helpful when categorizing assets, such as holiday snapshots. Images that are imported into a database can be assigned a category value such as:

1999:Summer Vacation:Nice
2003:March Break:Miami
2003:Summer Vacation:London

These values can then be searched for by year and vacation period using find parent. All “1999” or “2003” snapshots can be quickly found or the search can be narrowed down to find only the “2003:March Break” snapshots etc.

Find Across

To search across the current table to another table on a relational field, select a record in the Record List window and choose the relational field to search across from the **Find → Across** sub-menu.

The following example references the database introduced in Chapter 1. If you are browsing a list of student names and wish to see all of the marks for “Alex Smith”, navigate from the “Students” table to the “Grades” table by selecting the “Alex Smith” record in the “Students” table and choosing **Find → Across → Grades:Student_Number** to switch tables and find all of Alex Smith’s marks.

*Note: The **Find → Across** sub-menu is only enabled for relational databases (i.e. multi-table databases where at least two tables have one or more fields with the same name).*

Find All Records

To find all of the records in the current table, choose **Find → All**.

Find Last Created

To find the last created record in the current table, choose **Find → Last Created**.

8. Writing SQL Find Queries

Follow the examples in this chapter to build custom SQL find queries using the **Find Via SQL** and **Find Relational** windows. Click on the **Show Help** button in either of these windows to display the examples below within iList Data.

Find Via SQL Queries

Follow the examples below to create SQL find queries. The example database referenced here has two fields:

The "Name" field contains a text value.

The "Age" field contains a number value.

To search for a specific name:

Name='John Peter Doe'

To search for names that begin with "John":

Name LIKE 'John%'

To search for names that end with "Doe":

Name LIKE '%Doe'

To search for names that include "Peter":

Name LIKE '%Peter%'

To search for names that begin with "J" and end with "n" and are three characters long:

Name LIKE 'J_n'

To search for persons aged 35:

Age=35

To search for persons over the age of 60:

Age>60

To search for persons aged 30 or 35:

Age=30 OR Age=35

To search for persons with names that begin with "J" and are aged 25 or younger:

Name LIKE 'J%' AND Age<=25

To search for persons with names that end with "Doe", but do not begin with "John":

Name LIKE '%Doe' AND Name NOT LIKE 'John%'

Find Relational Queries

Follow the examples below to create relational SQL find queries. The example database referenced here has two tables related by the field "Student_Number".

The "Students" table contains three fields: Student_Number (text), Name (text), and Address (text).

The "Grades" table contains three fields: Student_Number (text), Subject (text), and Grade (number).

To return a full listing of student names along with their subjects and grades:

```
select Name,Subject,Grade from Students,Grades where  
Students.Student_Number=Grades.Student_Number
```

Before moving on to the next example, let's dissect the above. Relational queries start with the command:

```
select
```

Next we add the list of fields to return. Each field reference is separated by a comma and no spaces:

```
select Name,Subject,Grade
```

Next we add the "from" command followed by the list of tables to which the above fields belong. They too are separate by commas:

```
select Name,Subject,Grade from Students,Grades
```

Finally, the "where" command is added followed by the relational conditional to match. Since this is a relational query, we need to specify both the table and the field name (separated by a period) for any field name that appears in both the "Students" and "Grades" tables (i.e. Student_Number). Hold down the Option key as you choose a field name from the Fields pop-up menu to insert a field reference that includes the table name:

```
select Name,Subject,Grade from Students,Grades where  
Students.Student_Number=Grades.Student_Number
```

The above query returns a full listing of students. To return a listing for a specific student:

```
select Name,Subject,Grade from Students,Grades where  
Students.Student_Number=Grades.Student_Number AND Name='Alex Smith'
```

To return a listing of those students with a grade below 50:

```
select Name,Subject,Grade from Students,Grades where  
Students.Student_Number=Grades.Student_Number AND Grades.Grade<50
```

As the above two examples demonstrate, once you have established the relational connection (i.e. Student_Number), you can add any number of conditions, just as you would using the Find Via SQL window.

You can also add sort commands to a relational query. For relational finds, the application ignores the sort order that is set in the Database → Sort Records window and instead relies on the (optional) sort command that is embedded in the relational query string:

```
select Name,Subject,Grade from Students,Grades where  
Students.Student_Number=Grades.Student_Number order by Subject,Grade desc
```

In the above example, the returned list is ordered first by subject and then by grade. Notice that we added the “desc” modifier to order the grades in descending order. Also note that the sort fields are referenced without the tables to which they belong.

Let's put everything together into one final relational query:

```
select Name,Subject,Grade from Students,Grades where  
Students.Student_Number=Grades.Student_Number AND Subject='Math' order by Grade desc
```

9. History and Bookmarks

This chapter introduces the **History** and **Bookmarks** menus that bring Web browser-like capabilities to database searches. Use these menus to return to a recent, favorite, or commonly used search.

Navigating the History Menu

The **History** menu logs each find query that you perform while logged into a database. To return to a recent search, choose it from the History menu. To move backwards or forwards through the history list, choose **History → Find Backward** or **History → Find Forward**.

To clear the History menu of all but the current search, choose **History → Clear History List**.

Note: The history list is permanently deleted when you out. Bookmark any searches that you wish to keep.

Adding a Bookmark

Bookmarks can be used to store favorite and commonly used find queries for a database.

To trigger a bookmarked query, choose it from the **Bookmarks** menu. To add the current search to the Bookmarks menu, choose **Bookmarks → Add Bookmark**. In the window that opens, name the bookmark or just click on the **Add** button to let the SQL find query itself serve as the name. The bookmark is added to the bottom of the Bookmarks menu.

The Bookmarks Editor

To edit, rename, reorder, and delete bookmarks, choose **Bookmarks → Edit Bookmarks** to open the **Edit Bookmarks** window. To rename a bookmarked query, double-click on a **Name** cell. (Delete the name completely to let the query itself serve as the name.) To edit a bookmarked query, double-click on a **Query** cell to open the **Find Via SQL** or **Find Relational** window. To separate groups of bookmarks (represented by the text "--"), click on the **Insert Divider** button. To delete a bookmark, select it and click on the **Delete** button. Drag bookmarks up and down to reorder the list.

10. Sorting Records

This chapter discusses four strategies for sorting (i.e. reordering) the display of records in the Record List window. Records can be quickly sorted on a single field or sorted in ascending and/or descending order on multiple fields. A discussion of custom and relational sorts closes the chapter.

Sorting on a Single Field

To sort a record list on a single field, click on the field's column header in the Record List window. Text, path, and URL fields are sorted alphabetically. Number fields are sorted numerically. Date and time fields are sorted by date and time. Clicking again on a column header toggles the sort direction.

Note: Sorting on a single field is disabled if the current search is a relational one (i.e. if the current search returns records across multiple tables).

Sorting on Multiple Fields

To sort a record list on multiple fields, choose **Database → Sort Records** to open the **Sort Records** window. Click on the **Sort** checkboxes to choose the fields to sort on. **Double-click** on a **Direction** cell to toggle the sort direction for a field. Drag rows up and down to change the order in which fields are sorted. To sort the record list, click on the **Sort** button.

*Note: The **Database → Sort Records** menu item is disabled if the current search is a relational one (i.e. if the current search returns records across multiple tables).*

Sorting a Record List Manually

Manual sorts are generally used in combination with the **Database → Auto Number** sub-menu to populate a number field with incrementing number values. Sort records manually in the Record List window and then auto number a number field to create a custom sort order for a database.

To sort a record list manually, first checkmark the **Edit → Manual Sort** menu item. In the Record List window, drag records up and down to reorder the list as desired. Select the records to be auto numbered and choose the field to auto number from the **Database → Auto Number** sub-menu. In the query window that opens, enter a starting number and click on the **Number** button. The selected records are auto numbered sequentially.

Sorting a Relational Find

The sort order for relational searches is embedded in the standard query language (SQL) search string that is specified using the **Find Relational** window. Refer to the “Find Relational Queries” section in Chapter 8 for a relational SQL example that incorporates a sort.

II. Creating Reports

This chapter discusses an additional way of browsing data using iList Data. Reports intermix field values with set text to create stories, bibliographic citation lists, recipe instructions, and other text chunks. In addition to being viewed, edited, and published, reports can also be spoken by choosing options from the **Window → Speak** sub-menu. Reports can either be viewed in the Report Palette window or formatted using HTML and viewed in a web browser.

The Report Palette

Use the **Report Palette** to view the field values for a record within the context of set text that doesn't change. For example, create a summary list of details for an address book:

Name: John Doe
Address: 45 Wilcox Street
Telephone: 123-555-1234

Or build an academic citation using the field values for a record intermixed with punctuation:

Hutchison, D. (2004). A Natural History of Place in Education.
New York: Teachers College Press.

iList Data supports up to five reports per table.

To browse a report, open the Report Palette by choosing **Window → Report Palette**. (Reposition and resize the palette as desired.) Choose a report to view by clicking on one of the five number buttons at the top of the palette. Select a record in the Record List window.

In addition to viewing a report for a selected record, a return delimited report for multiple records can be published to a text file (found records) or copied to the clipboard (selected records) by choosing **File → Publish Report** or **Edit → Copy Report** respectively.

Creating a Report Script

To create a report script, enable the **Edit** checkbox on the Report Palette. Click on one of the five number buttons to select the report to edit. In the field below, type in text and choose field references from the **Fields** pop-up menu to edit the report script.

Here are the report scripts for the examples given above:

Example 1:

Name: [Name]
Address: [Address]

Telephone: [Telephone]

Example 2:

```
[Last_Name], [First_Initial]. ([Publication_Year]). [Title].
[Publication_Location]: [Publisher].
```

***Tip:** To set the text style for reports, choose **Edit → Interface Preferences** to open the **Interface Preferences** window. Choose **Report Palette** from the **Apply to** pop-up menu. To align report text into columns (using spaces as in the first example above), consider assigning a proportional font (e.g. Courier or Monaco).*

Creating a HTML Report

In addition to intermixing normal text and field references, you can create web reports using the HTML scripting language understood by all web browsers. Any iList Data report that begins with a "<" character is flagged as a HTML report and sent to the web browser instead of the Report Palette.

Before being sent to the web browser, the HTML report is saved to same folder location where the current database is stored. This way you can add relative path references to your HTML scripts in order to display images and other content that are stored on your computer.

For example, the following HTML report intermixes HTML script, field references, a four-column table, italicized text, and a field reference to an image file that is stored in the sub-folder "images":

```
<iListHeader>
<html>
<head>
<title>Book List</title>
</head>

<body>
<p>The following citations were returned:</p>
<table width='100%' border='0' cellspacing='5' cellpadding='5'>
<tr>
</iListHeader>

<td>[Last_Name]</td>
<td><em>[Title]</em></td>
<td>[Publication_Year]</td>
<td></td>
</tr>

<iListFooter>
</tr>
</table>
```

```
<p>Compiled by: John Doe</p>
</body>
</html>
</iListFooter>
```

Notice the use of two special markup tags in the above example: `<iListHeader>` and `<iListFooter>`. These tags can be used to create HTML reports that have a header and footer that respectively proceeds and follows the main text. Headers and footers are particularly useful when publishing reports for multiple records. In the above example, a table is used to layout the main text. The HTML header script and table definition are stored between the `<iListHeader>` tags.

If you are a proficient scripter, HTML reports can be typed directly into the Report Palette. Otherwise, you can use a web scripting tool, such as Adobe Dreamweaver™, to create the report and then copy and paste the HTML script into the Report Palette.

Creating a Dynamic Report

iList Data can also create dynamic reports where even the static text changes depending on what record is currently selected.

Consider the academic citation script shown above. This script is formatted for a book citation, but a bibliographic database likely also lists journal articles, chapters in edited books, and on-line articles etc. Each requires its own citation format so a fixed report script is not ideal. If the current table has a field that indicates the citation format (e.g. book or journal article) for each record, a dynamic report script can be created that retrieves the appropriate citation format from the database itself. The above and other report scripts are stored in separate records (likely in a different table). The query a user types into the Report Palette may be as follows:

```
select Report from Reports where Format='[Format]'
```

In the above example, "Reports" refers to the table that stores the reports for this database. "Report" is the field to retrieve. "[Format]" refers to the value of the Format field for the currently selected record (e.g. "book"). The report script that is retrieved depends on the value of the current record's "Format" field.

12. Graphing Data

This chapter introduces iList Data's summary graphing features that visually represent unique field value counts, similar to the **Find By Value** window, but for the found record set only.

Graphing Data

To open the **Graphing Palette**, choose **Window → Graphing Palette**. (Reposition and resize the palette as desired.) Choose a field from the pop-up menu at the top of the palette to set the target field. **Control-click** on the palette's background to switch between a bar, line, and pie graph. You can also copy the graph to the clipboard and then open the **Edit Interface Preferences** window using this contextual menu.

To view the raw data for the graph, click on the **Data** tab. In the list that appears, click on the **Number** or **Value** headers to sort the data in ascending or descending order according to number of occurrences or field values. Click on the **Graph** button to redraw the graph.

Customizing the Appearance of Graphs

Graphs can be customized in a variety of ways. Choose **Edit → Interface Preferences** to open the **Interface Preferences** window. To set the **Font**, **Style**, and **Size** of graph-related text choose **Graph Labels** or **Graph Captions** from the **Apply to** pop-up menu on the **Text** tab.

To set the remaining preferences for graphs, click on the **Graph** tab. (Changes made to the properties on this tab will immediately be reflected in the preview graph.) Select either **Bar**, **Line**, or **Pie** to set the graph type. Click on a **Colors** button to set the colors for graphed values. Click on the **Rulers**, **Y Axis**, and **Values** checkboxes to show or hide these features. Click on the **Background**, **Grid**, **Captions**, and **Shadows** buttons to set the colors of the various interface elements. Click on the little arrows to set the **Line Width** and **Shadow Offset** values in pixels.

iList Data can plot a maximum of 16 values. Choose the number of values to plot by clicking on the **Plot** pop-up menu. Consider limiting the number of plotted values to three or four if the size of the Graphing palette is to be kept small.

Click on the **Apply** button to save the graphing preferences. Click on the **Cancel** button to close the window without saving changes.

13. Editing Calculations

Calculation fields store a single calculation expression that is applied on-the-fly to all of the records in a found record set. Calculation expressions can take text, number, date, time, and color values as inputs and store constant values or computations that do not change from record to record:

e.g. `First_Name||' '||Last_Name`
 `'John'||' '||'Smith'`
 `(Math+Science)/2`

As the above examples demonstrate, references to fields can be included in calculations. Explicit text values are enclosed in single quotations.

The Calculation Editor

To edit a calculation expression, **control-click** on a calculation field in the Record List window or choose **Administer → Calculation** to open the **Edit Calculation** window.

Choose the format for the result the calculation expression will return, either **Number**, **Text**, **DateTime**, or **Color**.

Choose field names from the **Fields** pop-up menu and functions (as described below) from the **Functions** pop-up menu. Click on the various operators on the left-hand side of the window to build mathematical expressions.

To learn more about the functions available in the Calculation Editor window, click on the **Show Help** button to reveal several examples. These examples can also be found below.

Calculation Functions: Text

||

Joins two or more values.

i.e. `val||val`

e.g. `'iList'||'Studio'` returns “iListStudio”

Quote

Returns the string value of a number or other non-string value.

i.e. QUOTE(val)

e.g. QUOTE(1+1) returns "2"

Length

Returns the length of str.

i.e. LENGTH(str)

e.g. LENGTH('iList Studio') returns 12

Substr

Returns the specified number of characters from the middle of str.

i.e. SUBSTR(str,position,length)

e.g. SUBSTR('iList Studio',7,6) returns "Studio"

Lower

Returns str as lowercase text.

i.e. LOWER(str)

e.g. LOWER('iList Studio') returns "ilist studio"

Upper

Returns str as uppercase text.

i.e. UPPER(str)

e.g. UPPER('iList Studio') returns "ILIST STUDIO"

Calculation Functions: Numbers

Abs

Returns the absolute (i.e. positive) value of num.

i.e. ABS(num)

e.g. ABS(-32) returns 32

Round

Returns num rounded to the nearest integer.

i.e. ROUND(num)

e.g. ROUND(3.14) returns 3

Round Decimal

Returns num rounded up or down to length decimals.

i.e. ROUND(num,length)

e.g. ROUND(3.14,1) returns 3.1

Min

Returns the minimum value.

i.e. MIN(val,val)

e.g. MIN(123,321,231) returns 123

Max

Returns the maximum value.

i.e. MAX(val,val)

e.g. MAX(123,321,231) returns 321

Random

Returns a random number between -2147483648 and +2147483647.

i.e. `RANDOM()`

e.g. `RANDOM()` may return 1254875347

Calculation Functions: Datetime**Current_Date**

Returns the current date.

i.e. `CURRENT_DATE`

e.g. `CURRENT_DATE` may return 2005-06-14

Current_Time

Returns the current time.

i.e. `CURRENT_TIME`

e.g. `CURRENT_TIME` may return 08:12:16

Current_Timestamp

Returns the current date and time.

i.e. `CURRENT_TIMESTAMP`

e.g. `CURRENT_TIMESTAMP` may return 2005-08-24 14:34:37

14. Batch Editing Records

Powerful and user-friendly batch editing capabilities are at the heart of iList Data. The software supports four operations for editing multiple records at the same time. Use these features to quickly build up and update databases without the need to manually edit each record one at a time.

Replace in Field

To replace a field value for a group of records, select the target records in the Record List window. Choose the target field from the **Database → Replace in Field** sub-menu. In the query dialog that opens, enter a new value for the field and click on the **Replace** button. The selected records are updated to the new value.

*Tip: To clear (i.e. set to null) the value of a field for a group of selected records, hold down the **Option** key and choose the target field from the **Database → Clear Field** sub-menu.*

Auto Number

The **Database → Auto Number** operation is most often used to create custom sort orders for tables. Refer to the “Sorting a Record List Manually” section in Chapter 10 for details.

Multi Edit

To replace multiple field values for a group of records, select the target records in the Record List window. Choose **Database → Edit Records** to open the **Edit Multiple Records** window. Set the target field values and click on the **Update** button to update all of the selected records. (Fields that are not set are not updated.) If the edited records still match the current find query they will be displayed in the Record List window.

Conditional Edit

Conditional edit is by far the most powerful batch editing operation in iList Data. (In fact, it is so powerful that it is strongly recommended that the target fields be backed up before performing a conditional edit operation.)

A conditional edit operation comprises one or more queries, each of which returns a found record set from the current table that is processed in some unique way. Text, number, and other

alphanumeric fields can be set, amended, formatted, and operated on in various ways. Even more powerfully, field references can be incorporated into conditional edit operations similar to calculation expressions.

To open the **Edit Conditional** window, choose **Database → Edit Conditional**. To switch to a conditional operation set, click on a number button. To add a new conditional edit operation to the current set, click on the **Append** button. To duplicate an existing conditional edit operation, select it and click on the **Duplicate** button. To delete one or more conditional edit operations, select them and click on the **Delete** button.

To save the conditional edit list, click on the **Save** button. To close the window without saving changes, click on the **Cancel** button. After performing a conditional edit operation, click on the **Update Record List** button to update the Record List window without closing the Edit Conditional window.

Click on an **Enable** checkbox to enable or disable a conditional edit operation. Edit operations that are disabled are not performed when the **Process** button is clicked.

***Tip:** The Edit Conditional window can be used to build a library of frequently performed batch editing operations. Toggling the state of the **Enable** checkbox controls whether specific conditional edit operations are performed when the **Process** button is clicked.*

Drag rows up and down to change the order in which conditional edit operations are performed. Carefully sequencing the order of edit operations is critical if the criteria for a specific operation relies on changes made by an earlier operation.

Control-click on a **Conditional** cell to choose the find query to execute. Choose **Set to Most Recent Query** to target the find query that is currently active in the Record List window. Choose **Target Current Query** to target whatever query is currently active when the operation is performed. You can also target all of a table's records, a bookmarked query, or set a find query using the **Find Records** or **Find via SQL** windows.

Control-click on a **Target Field** cell to set the field to be processed. **Control-click** on an **Operation** cell to set the operation to be performed. Type values into the **Value 1** and **Value 2** cells as required. (The Value 1 and/or Value 2 cells are only editable for those operations that require values.)

***Note:** In the Value 1 and Value 2 cells, enclose text values in single quotes.*

An explanation for each of the conditional edit operations follows. Review the calculation expression examples in the previous chapter for further details.

Conditional Edit Operations: Text

Set

Replaces a field value with the value specified in the **Value 1** cell.

***Tip:** To set a field value to the value of another field, enter the name of the source field in the Value 1 cell. Field references can be used in place of explicit values for any of the conditional edit operations that require values.*

Preface

Prefaces to the beginning of a field value, the value specified in the **Value 1** cell.

Append

Appends to the end of a field value, the value specified in the **Value 1** cell.

Uppercase

Formats a field value into uppercase.

Lowercase

Formats a field value into lowercase.

Substring

Returns **Value 2** *number* of characters from a field value starting at character *number* **Value 1**.

Calculate Str

Double-click on the row to open the **Edit Calculation** window where a custom operation can be defined.

Conditional Edit Operation: Numbers

Equals

Replaces a field value with the value specified in the **Value 1** cell.

Add

Adds to a field value, the value specified in the **Value 1** cell.

Subtract

Subtracts from a field value, the value specified in the **Value 1** cell.

Multiply

Multiplies a field value by the value specified in the **Value 1** cell.

Divide

Divides a field value by the value specified in the **Value 1** cell.

Absolute

Replaces a field value with its absolute (i.e. positive) value.

Round

Rounds a field value to the nearest integer.

Round Decimal

Rounds a field value to **Value 1** decimal places.

Random

Replaces a field value with a random integer between -2147483648 and +2147483647 multiplied by the value specified in the **Value 1** cell (e.g. 0.0000001).

Calculate Num

Double-click on the row to open the **Edit Calculation** window where a custom operation can be defined.

15. Importing Data

This chapter reviews the steps for importing data into an iList Data database. iList Data supports the import of delimited text files.

Importing Delimited Text Files

To import a series of records from a delimited text file into the current table:

1. Choose **File → Import** to open the **Import Records** window.
2. To set the record and field delimiters, click on the **Edit Preferences** button to open the **Preferences** window.

Tip: “[Return]” is the most common record delimiter and “[Tab]” is the most common field delimiter. Some text editing tools separate lines with line breaks, rather than carriage returns. Choose “[Line Break]” to delimit the records in such cases.

3. Click on the **Import** checkboxes to set the fields to import.
4. Drag rows up and down to change the import order.
5. Click on the **Import** button and choose the delimited text file to import from the open dialog that is displayed. When the import process is completed, the Import Records window closes and the imported records are displayed in the Record List window.

*Note: To preview the results of an import operation, click on the **Test Import** button and choose the delimited text file to preview from the open dialog that is displayed. Navigate between the preview records by clicking on the arrow buttons. The import data is previewed in the **Import Data** column.*

16. Publishing Data

This chapter reviews the steps for printing, exporting, and publishing data. iList Data supports the export of delimited text files and the publishing of simple reports to text files and the clipboard. Record lists can also be published to PDF documents. For advanced reporting, records can be sent on to Microsoft Excel and Word. Records can also be merged with existing Microsoft Word documents to produce form letters, mailing labels, and many other types of merged documents.

Printing Record Lists

To print the current record list, choose **File → Print** to open the **Print** window. Click on the **Preview** button to preview the print job prior to printing.

*Tip: Choose **File → Page Setup** to set the properties for print jobs, including the orientation of the paper (i.e. portrait or landscape).*

Publishing PDF Documents

To publish the current record list to a PDF document, choose **File → Print** to open the Print window. Click on the **Save as PDF** button to save the record list as a PDF document.

Exporting Delimited Text Files

To export the found record set to a delimited text file, choose **File → Export** to open a **Save As** dialog. Name the export file and click on the **Export** button to export the records.

*Tip: To set the record and field delimiters for exported records, choose **iList Data → Preferences** to open the **Preferences** window. To export a record list without the "Record" field column, hold down the **Option** key and choose **File → Export**.*

Publishing Reports to a Text File

To publish a return delimited report for the found records, choose **File → Publish Report** to open a **Save As** dialog. Name the report file and click on the **Publish** button to publish the report.

For more information about reports, refer to Chapter 11.

Publishing Reports to the Clipboard

To publish to the clipboard a return delimited report for a group of selected records, select the target records in the Record List window and choose **Edit → Copy Report**.

For more information about reports, refer to Chapter 11.

Sending Data to an Apple iPod

In addition to saving reports to a hard drive, iList Data can save reports to an Apple iPod. Connect an iPod to your Macintosh. Then choose **File → Publish Report** and navigate to the "Notes" folder on the iPod. Save the report.

To access the report on the iPod, navigate to the "Notes" screen on the iPod.

Sending Data to Microsoft Excel

With one click, iList Data can send a found record list to **Microsoft Excel X** and **Excel 2004**. To send the found records to Excel, choose **File → Send → Table to Excel**.

If necessary, Microsoft Excel is launched. A new spreadsheet is created and its cells are populated with data received from iList Data.

***Note:** The data is temporarily saved to an "iList Data.txt" file in iList Data's "Temporary" folder. As the imported file is a text document, you may wish to resave the document as a spreadsheet file in Excel. Also note that although the format of the data (e.g. text or number) is preserved, the results of calculation expressions are sent on to Excel, not the expressions themselves.*

Sending Data to Microsoft Word

With one click, iList Data can send a found record set to **Microsoft Word X** and **Word 2004**. To send the found records to Word, choose **File → Send → Table to Word**.

If necessary, Microsoft Word is launched. A new table is created and its headings and cells are populated with data received from iList Data.

***Note:** To specify a format for the table, choose an option from the **Format** pop-up menu in iList Data's **Preferences** window. To view an example for each of the available table formats, choose **Table → Table Auto Format** in Microsoft Word.*

Merging Data in Microsoft Word

iList Data can merge a found set of records with the static contents of an existing document in Microsoft Word. This operation allows you to leverage iList Data's database strengths alongside Microsoft Word's word processing features to create form letters, mailing labels, and many other types of merged documents.

Before performing a merge, you first need to create the Word document (e.g. form letter) that will store the layout, static contents, and field references for the merge. Such documents are referred to as "reports" in iList Data and they are stored by default in the "Reports" folder in iList Data's application folder.

The merge data that is sent from iList Data to Word is also stored, albeit temporarily, in a data file called "iList Data.txt". This file is saved in iList Data's "Temporary" folder. It is regenerated each time a merge operation is performed.

Creating a MS Word Report

Creating a report in Word is a multi-step process. However, once the report is created, you can quickly perform a merge operation with only a few clicks of the mouse.

To create a report in Word:

1. In iList Data, navigate to the table that contains the data to be merged. Choose an option from the **Edit → View Set** sub-menu to switch to a view set that displays all of the merge fields. (Alternatively, you can build a relational query by choosing **Find → Relational**.)
2. Choose **File → Send → Merge to Word** to generate and save the "iList Data.txt" data source file.
3. In the dialog that is displayed, click on the **None** button.
4. Launch Microsoft Word. Create a new Word document and, if necessary, choose **Tools → Data Merge Manager** to open Word's **Data Merge Manager** palette.
5. In the Data Merge Manager palette, choose an option from the **Create** pop-up menu to turn the new empty Word document into a form letter, label, envelope, or catalog document.
6. In the Data Merge Manager palette, choose **Get Data → Open Data Source**. In the open dialog that is displayed, navigate to the "iList Data Data.txt" file (located in iList Data's "Temporary" folder) and click on the **Open** button. The **Merge Fields** section of the Data Merge Manager palette is populated with the data file's merge fields.
7. Choose options from the Data Merge Manager palette to build up the report. For example, type in text that does not change and drag merge fields from the Data Merge

Manager palette to the Word document to insert field references. (Microsoft Word supports many advanced options for merge operations. Refer to Word's on-line help for complete details.)

8. In Word, choose **File → Save As** and save the new report to iList Data's "Reports" folder.
9. In the Data Merge Manager palette, click on the **Merge to New Document** icon button to test the merge.

Generating a MS Word Report

To merge a found set of records with an existing report:

1. Choose **File → Send → Merge to Word** to generate and save the "iList Data.txt" data source file.
2. In the open dialog that is displayed, choose the report to open in Word. Click on the **Choose** button.
3. Microsoft Word opens. If necessary, choose **Tools → Data Merge Manager** to open Word's **Data Merge Manager** palette.
4. Click on the **Merge to New Document** icon button to perform the merge.

17. Creating Specialized Databases

This chapter introduces iList Data's support for specialized databases that take advantage of various Macintosh technologies and web-powered services. iList Data can be used to create text clipping databases and web bookmark databases. iList Data can also be used to create multimedia databases for cataloging images, movies, PDFs, and other files. Templates for all of these specialized databases are included with iList Data.

Creating a Text Clipping Database

A text clipping database is used to store notes, quotations, web text, and other text chunks that you wish to catalog whilst reading documents and browsing web pages.

Select and drag text from another application onto the Record List window to create a new record. The dragged text will be saved to the field that is currently set up for editing in the **Editing Palette**.

By enabling the **Edit New Record** option in the **Preferences** window, you can immediately edit the newly created record. Enable this option to quickly tag each cataloged text chunk with a category for example. Disable this option if you don't wish to edit each record as it is created.

Study the included template for an example of a text clipping database. Keep in mind that you can drag text onto the Record List window for *any* database you create. A new record will be created and the dragged text will be saved to the field that is currently set up for editing in the **Editing Palette**.

Creating a Web Bookmarks Database

In addition to dragging text onto the Record List window, you can also drag URLs (i.e. web links) onto the Record List window in order to organize a collection of web bookmarks.

To create a web bookmarks database:

1. Choose **File → Create Database** and click on the **New Custom Database** tab.
2. Create and name a new table.
3. Add a new URL field named "URL".
4. Add a new text field named "Link".
5. Optionally add additional fields (e.g. a notes field).
6. Click on the **Create** button to create the new database.

To add a web link to the database, drag a web link from the Safari™ or FireFox™ web browser onto the Record List window. A new record will be created. The URL address will be saved to the "URL" field and the name of the web link will be saved to the "Link" field.

If the **Edit New Record** option in the **Preferences** window is enabled, the new record will be opened for further editing.

In addition to dragging web links onto the Record List window, you can also import an existing list of Safari bookmarks:

1. Open the Safari web browser.
2. Choose **File → Export Bookmarks** to save the exported bookmarks.
3. Open a web bookmarks database in iList Data. (i.e. a database that has a URL field named "URL" and a text field named "Link").
4. Choose **File → Import Bookmarks** to import the exported Safari bookmarks into the current database.

Creating a Multimedia Database

Multimedia databases store file path references to images, music, movies, and other documents that are stored on your computer. The next chapter focuses on iList Data's extensive support for path fields and multimedia databases.

18. Working with Path Fields

This chapter introduces iList Data's extensive support for path fields. File paths and properties, including image thumbnails, can be imported into iList Data. Documents can be launched, revealed, copied, moved, trashed, deleted and have their properties set. As well, image files can be browsed as thumbnails, viewed full size, and presented as a slideshow. Image files can also be sent to Apple iPhoto.

Importing File Paths

To create a series of records from an imported list of file paths:

1. Choose **Paths → Import** to open the **Import File Paths** window.

Note: The Paths menu is disabled if the current table does not contain a path field.

2. Click on the **Folder** button to choose a target folder. (Alternatively, click on the **File** button to import a single file.)

Tip: You can drag a folder of images directly on to the Record List window to automatically open the Import File Paths window. You can also drag folders and files on to a Filter text field (see step 5) to populate it with search criteria.

3. Enable the **Target Sub-folders** checkbox to descend into the target folder's sub-folders.
4. Enable the **Ignore Invisible Files** checkbox to skip hidden files.
5. Set the filter criteria by choosing options from the four rows of **Filter** pop-up menus.
6. Toggle the filter type by clicking on the **And** or **Or** buttons. If And is enabled, a file path must match all of the filter criteria to be imported. If Or is enabled, a file path must match at least one of the filter criteria to be imported.
7. Optionally enable the **Import Properties** checkbox and click on the **File Properties** tab to specify the file properties to import. (See below for details.)
8. Optionally click on the **Paths to Clipboard** button to copy a list of the filtered file paths to the clipboard. (Switch to the Finder and choose **Edit → Show Clipboard** to view the file path list.) This option is useful if you first wish to review a filtered file path list prior to importing the files.
9. Click on the **Import** button to import the filtered file paths and create a new record for each. When the import process is completed, the imported records are displayed in the Record List window. (The Import File Paths window remains open.)

Importing File Properties

In addition to importing file paths into a database, you can also import a file's properties. To import the associated properties for a group of file paths:

1. In the Record List window, select the target records.
2. Choose **Paths → Get File Properties** to open the **Import File Properties** window.
3. Click on the **Import** checkboxes to toggle the import of file properties into specific fields.
4. **Control-click** on a **Property** cell to set the file property to import.

***Tip:** The properties that are available depend on the field type of the target field. For example, a file's creation date can only be imported into a date, timestamp, or datetime field. Keep this in mind when creating the structure of a database.*

5. Click on the **Import** button to import the file properties.

The Path Log

The **Path Log** window logs all of the actions performed on a database's file paths. The Path Log automatically opens and auto-updates its display when most options in the **Paths** menu are chosen. The log contains header information for a path action followed by information for each targeted file path. For example:

*** New Path Operation ***

Operation: SET COMMENT

Comment: Summer, 2002

Date: Tuesday, May 6, 2003

Time: 2:08:31 PM

Database: Vacation

Table: Media

Records: 6

Record: 751 ?

Record: 752 * miami2.jpg

Record: 753 * miami3.jpg

Record: 754 * miami4.jpg

Record: 755 * miami5.jpg

Record: 756 * miami6.jpg

*** End Path Operation ***

In the above example, the question mark character (i.e. “?”) indicates a broken path that could not be found. For the remaining files, the star character (i.e. “*”) indicates that the file was found and the path action was performed.

To export a log, click on the **Export** button. To clear a log, click on the **Clear** button. To close the Path Log window, click on the **Close** button. A database's path log is deleted when a database is closed.

File Path Operations

Setting the Target Path Field

iList Data supports multiple path fields within a single table. Choose **Paths → Set Target Path Field** to set the target path field for path operations.

Launching File Paths

To launch a file path, select the target record and choose **Paths → Launch**.

iList Data relies on a file's extension (e.g. “.doc”) when launching files into the appropriate application (e.g. Microsoft Word). To override this functionality, specify a **Launch Application** in the **Preferences** window.

Revealing Files in the Finder

To reveal (i.e. show) a file in the Finder, select the target record and choose **Paths → Reveal in Finder**.

Getting Info on Files

To display the Finder's Get Info windows for a group of files, select the target records and choose **Paths → Get Info in Finder**.

Setting File Properties

To set the creator code for a group of files, select the target records and choose **Paths → Set File Properties → Set Creator**. In the query window that opens, enter a four character creator code and click on the **Set** button.

To set the file type for a group of files, select the target records and choose **Paths → Set File Properties → Set File Type**. In the query window that opens, enter a four character file type and click on the **Set** button.

To toggle the display of the extension for a group of files, select the target records and choose **Paths → Set File Properties → Show File Extension** or **Path → Set File Properties → Hide File Extension**.

To toggle the locked state of a group of files, select the target records and choose **Path → Set File Properties → Lock File** or **Path → Set File Properties → Unlock File**.

To set the comment for a group of files, select the target records and choose **Path → Set File Properties → Set Comment**. In the query window that opens, enter the comment and click on the **Set** button. To clear the comments for a group of files, instead choose **Path → Set File Properties → Clear Comment**.

Tip: You can embed field references in path related query fields. Enclose the field name in square brackets (e.g. "Letter [Record]") sets the comment to "Letter 12" for record number 12).

Tagging Broken Paths

To tag broken paths (i.e. paths that no longer point to an actual file) for a group of files, select the target records and choose **Paths → Tag Broken Paths**. In the query window that opens, enter the text to *append* to the path field values of broken paths and click on the **Tag** button.

Copying and Moving Files

To copy a group of files to another folder or hard drive, select the target records and choose **Paths → Copy to Folder**. In the folder dialog that opens, choose a folder to copy the files to and click on the **Select** button. If the **Update on Copy** checkbox is enabled in the **Preferences** window, the values for each record's file path field will be updated to reflect the new location of the copied file.

To move a group of files to another folder or hard drive, select the target records and choose **Paths → Move to Folder**. In the folder dialog that opens, choose a folder to move the files to and click on the **Select** button. The values for each record's file path field will be updated to reflect the new location of the moved file.

Tip: For copy and move operations, the path log inserts a “!” character (instead of a “*” or “?” character) to indicate that a file already exists at the copy/move to destination. To overwrite files that already exist, enable the **Overwrite Existing** checkbox in the **Preferences** window.

Trashing and Deleting Paths

To move a group of files to the trash, select the target records and choose **Paths → Move to Trash**. As you may later choose to manually move one or more files back to their original locations, the value for each record's file path field is not updated.

To permanently delete a group of files, select the target records and choose **Paths → Delete Files**. Click on the **Delete** button. The values for each record's file path field are cleared.

Tip: To permanently delete a group of files and the records they are associated with, instead choose **Database → Delete Records**.

Displaying Images

The Thumbnail Palette

To browse a set of thumbnail images, choose **Window → Thumbnail Palette** to open the **Thumbnail Palette** window. (Reposition and resize the palette as desired.) JPEG, GIF, and other web formatted images that are referenced in the current record set are automatically displayed in the Thumbnail Palette. Drag thumbnails to the **Image Palette** to display them full size.

To set the **Background Color**, **Thumbnail Size**, and other properties, **control-click** on the bottom of the Thumbnail Palette. Choose **Set Max Thumbnails** to control how many thumbnails are shown at a time. Choose **Show Record Numbers** to display the record number a thumbnail image is associated with (i.e. as a tooltip when the cursor is over the image). Choose **Send to Web Browser** to display the thumbnail images in a web browser.

Choose **Lock Thumbnails** to freeze the Thumbnail Palette. The palette will not be updated with a new set of thumbnail images until you choose **Unlock Thumbnails**. This feature allows you to browse a specific set of thumbnail images even as you perform new searches that return different record sets.

The Image Palette

The **Image Palette** window can display both still images and motion graphics that are readable by QuickTime (e.g. GIF and JPEG images, Photoshop files, PICT images, QuickTime movies, Flash movies, and PDF files etc.)

To view a multimedia file within iList Data, choose **Window → Image Palette** to open the Image Palette window. (Reposition and resize the palette as desired.) Select a record in the Record List window. Displayed images are automatically scaled down to fit the Image Palette's size. For QuickTime movies, you can enable forward and palindrome (i.e. back and forth) looping via the Media tab in the **Edit → Interface Preferences** window.

***Tip:** You can also create Web-enabled image catalogs using iList Data. Create a URL field that stores the Web links for GIF, JPEG, and other images that are hosted at a Web site. When a record is selected, the referenced image is streamed directly into iList Data's Image Palette.*

Slideshow View

To view a slideshow of images and motion graphics, choose **Window → Slideshow View**. The screen blacks out and all of the images and motion graphics for records listed in the Record List window are displayed in sequence, one at a time starting with the currently selected record. Press the **Arrow Up** and **Arrow Down** keys to move to the beginning and end of the slideshow respectively. Press the **Arrow Left** and **Arrow Right** keys to move forward and backward through the slideshow.

Hold down the **Control** key and click on the slideshow to choose a slideshow background color.

To end the slideshow, press the **Escape** key.

Sending Images to Apple iPhoto

With one click, iList Data can send a found set of images to **Apple iPhoto 5**. To send the images that are referenced in the current record set, choose **File → Send → Images to iPhoto**.

If necessary, iPhoto is launched. A new album is created and named according to the current date and time. iPhoto then imports the images.

Use iList Data to create a personalized image catalog that takes full advantage of iList Data's support for custom fields, user-created record editors, and advanced find modes. Then send a selection of images to iPhoto for further processing, publishing, and presentation.

I 9. Acknowledgements

Lakewood Studios would like to acknowledge the contributions of the following businesses and individuals:

Our beta testers, who have skillfully guided the development of iList Data.

REAL Software Inc., the publishers of REALbasic, the development software used to create iList Data.

The contributors to the SQLite open source database engine.

The contributors to the REALbasic mailing lists, many of whom provided helpful guidance throughout the development process.

Einhugur Software, publishers of numerous REALbasic plugins. Licensed versions of several Einhugur plugins are used in iList Data.

Mark Deitch & Associates, Inc., authors of the ChartPart freeware class. A custom version of this class is used in iList Data to support summary graphs.