



Beginning FileMaker Pro

Version: 4.1

*Information Technology Services
Tennessee Technological University
February 2000*

Introduction

FileMaker Pro is a database program that can help you to organize information such as accounts, inventories, or personnel data. It is a flexible program that can work with one file or many relational files.

Basic Database Terms

Database: A system of one or more files to keep information in an organized manner. A database allows you to add, edit, delete, sort and search for specific information, and create and print summary reports. In this exercise, the database created will consist of just one file.

Record: All the information for one unit, such as an individual, a requisition, or an item.

Field: The storage location for information. Within a record, each piece of information is stored in a specific field, such as name, address, and phone number for an individual.

Field Definitions: The characteristics of the field, such as type of data that may be entered. Fields may consist of text or numeric information as well as other types such as dates or calculations.

Value: The actual information in a specific field.

Planning the Database

In creating a new database, the most important step is planning and considering what you want to be able to do. Take your time with this step. Sketch out your ideas and share them with others. The answers to these questions will help determine what you can and cannot accomplish with your database. You will need to consider:

What is the smallest unit you want information on? For example, do you want to have information on each class or on each individual in the class? Each record will hold information on this unit.

What pieces of information do you need to keep? Be practical and think about what you have time to deal with. Also consider how you will keep track of changes in the information. How will you know? These pieces of information will be your fields.

Planning the Database (cont.)

In what form should you store the information (numbers, text, dates)? You should store numbers that are not used in computations (+,-,*,/) as text fields. For example, you wouldn't add telephone numbers or zip codes, so those should be stored as text.

Which specific fields do you need? For example, do you want just a Name field or do you want a First Name and Last Name field so that sorting can be done alphabetically by last name. These decisions can affect the kinds of reports you will be able to produce.

Can the information be stored in one database (flat) or are there several databases needed that will be linked together (relational)? For example, if you are doing requisitions, you might want a second file with the names and address of vendors to be able to link into the file containing each requisition.

In this exercise, we will create a database with one file to keep track of a departmental inventory.

Opening FileMaker Pro

To open FileMaker Pro: **Start** → **Programs** → **FileMaker Pro 4.1** → **FileMaker Pro**

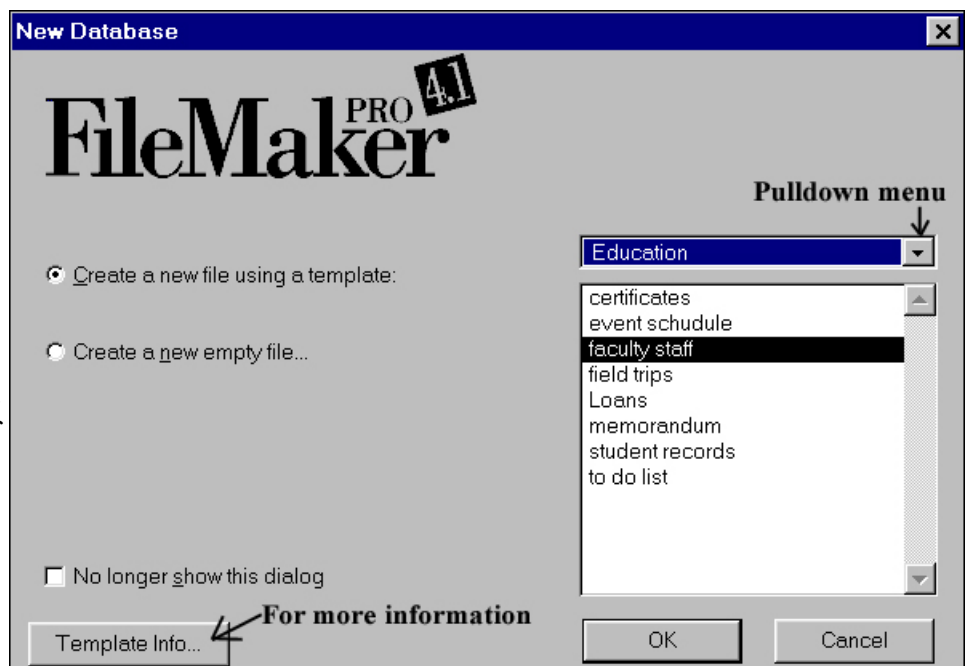
Note that in the FileMaker Pro 4.1 subdirectory in your office you may select FileMaker Pro Tutorial. This provides some basic information on FileMaker Pro that you can go through at your own pace.

Creating a Database from a Template

In the New Database dialog box:

- Click on
 - **Create a new file using a template**
- From the pulldown menu, select: **Education.**
- **Double-click** on **faculty staff** to open a template to create a staff database.

Note: For more information on each template, click on the **Template Info...** button.



Creating a Database from a Template (cont.)

- A dialog box will open asking you to create a copy of the file.
- Select the **temp** drive for this class; otherwise, select a permanent folder location.
- For this exercise, accept the name suggested.
- Click **Save**.

You will now see a database set up to keep track of employee information.

- To create a new record to enter data, click on the button **New Record**.
- Type in information on yourself and tab to move from field to field.

Note: You can make changes to the design and layout of this database, since this is a copy based on the original template. Select Mode → Layout.

To close this file, from the menu select: **File → Close**.

Creating a New Database File

In creating a database of items in a departmental inventory, consider some of the fields that will be needed, such as the kind of item, a description of it, the cost and date received, etc. List these ahead of time.

- From the menu select, **File → New**
- Click on **Create a new empty file**
- Click **OK**.

In the *Create New File* dialog box:

- Select the **temp** drive for this exercise; otherwise, select a permanent location
- Type the filename:
Dept Inventory
- Click **Save**.

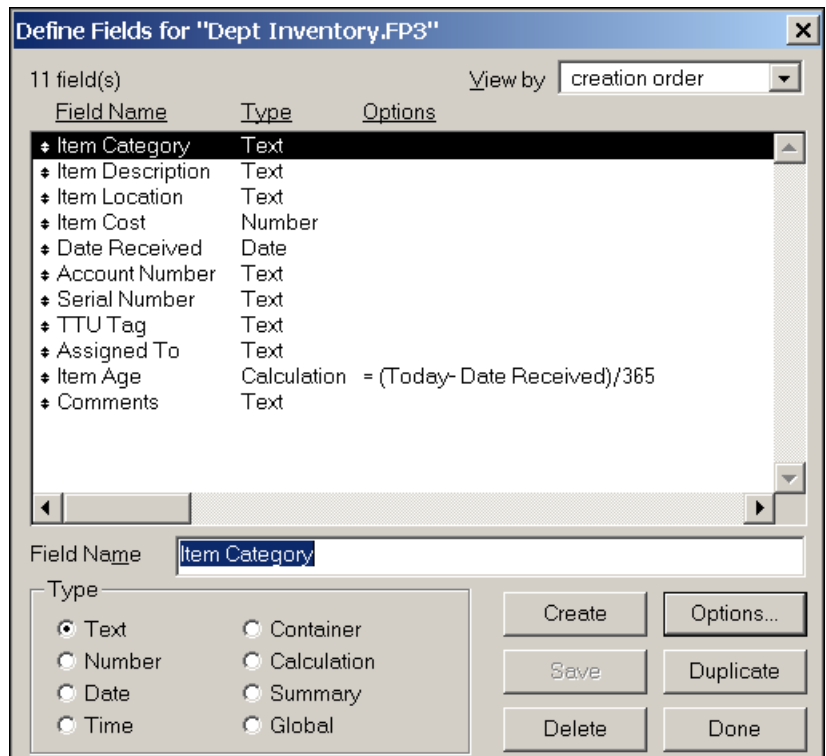
In the *Define Fields* dialog box:

- Under Field Name, type:
Item Category
- Select the field Type **Text**
- Click **Create**.
- Type the next field name shown in the list here (**Item Description**), selecting the field type **Text**
- Click **Create**.

Enter the next 7 fields as shown above:

Note the field type for:



Item Cost **Number**
Date Received **Date**



(See the next page to enter **Item Age**.)

Creating a New Database File (cont.)

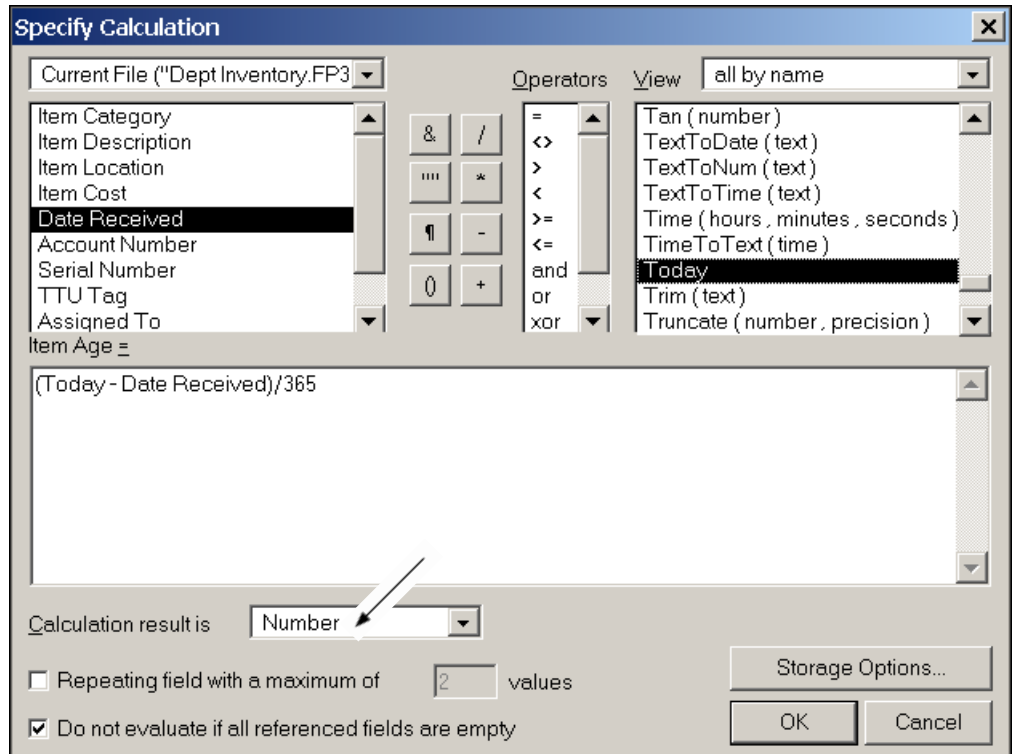
To enter a calculation field:

- Type the field name **Item Age**
- Select **Calculation** as the Type and click **Create**.
- The *Specify Calculation* dialog box will appear.
- To compute the item age, click in the formula box and type a left parenthesis (
- In the list of functions to the right, scroll down and **double-click** on the function **Today**
- Click on the subtraction symbol button. 
- In the list of field names to the left side, **double-click** on the field **Date Received**.
- Click in the formula box and type a right parenthesis)
- Click on the division symbol button. 
- Type **365**.

Formula to enter:
(Today - Date Received)/365

Note that the calculation result is correctly listed as **Number** in the pulldown menu.

- Click **OK**.
- Enter the last field name: **Comments**
- Type: **Text**
- Click **Create**.
- Click **Done**.



Field Types Available

Field Type	Data Type
Text	Up to 64,000 characters (letters or numbers) used as text. Sorts alphabetically.
Number	Up to 255 digits. Can be used in formulas. Sorts in numerical order.
Date	Dates including month, day, year. Sorts chronologically.
Time	Time in hours, minutes, or seconds.
Container	Graphics, sounds, QuickTime movie, or OLE object.
Calculation	Results of a formula which may be text, number, date, time, or container.
Summary	Summary of other values, such as totals, counts, or averages.
Global	One value to be used in all records which can be text, number, date, time, or container.

Modes

FileMaker Pro includes four modes for working in your database:

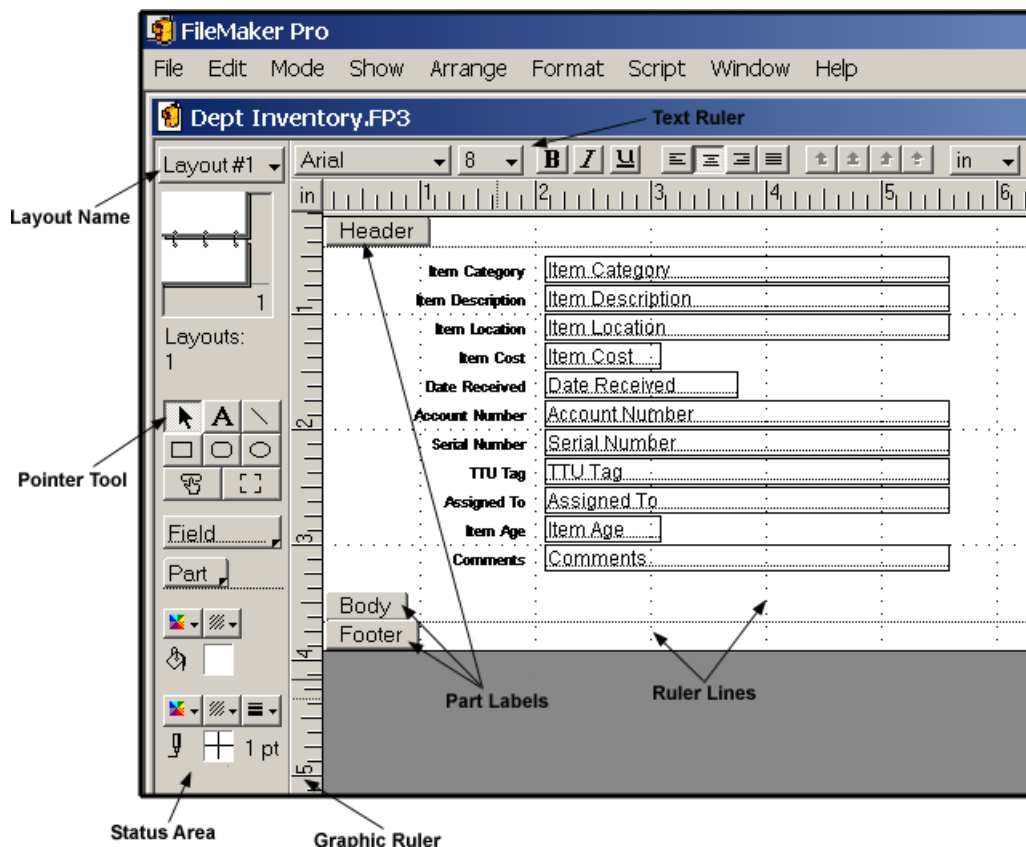
- **Browse** - for data entry and general viewing of your data.
- **Layout** - for designing how your information will appear on the screen and in reports.
- **Find** - to locate a particular record or set of records.
- **Preview** - to see on your screen how information will look when printed.

Working with Layouts

You will see a basic layout of your fields created by FileMaker Pro. Note in the menu under **Mode**, that you are in **browse mode**, ready to enter information. However, before beginning to enter data, we will make some changes to this layout.

Layouts allow you to specify how you want your data to appear. You can easily modify and create layouts to make data entry easier and to create reports. Each database can have many layouts. A layout does not affect how the data is stored, *just how it appears* on the screen or when printing.

FileMaker Pro creates the first layout, a Standard style layout, which includes all of the fields. This layout is automatically given the name, **Layout #1** (see below).



To switch from **Browse** mode to **Layout** mode, select:

- **Mode** → **Layout**

To set editing guides, select:

- **Show** → **Text Ruler**
- **Show** → **Graphic Rulers**
- **Show** → **Ruler Lines**
- **Arrange** → **Autogrid**
(Click to deselect — no check mark)


Three parts are shown:

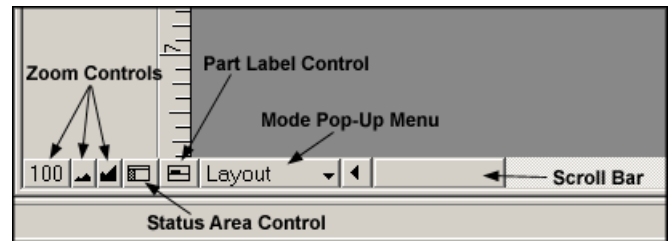
Header, Body, Footer.

Each part can be expanded, reduced, or even deleted.

Working with Layouts (cont.)

Adjust the view:

- Click on **Part Label Control** button at the bottom left corner to move the *part labels* off to the side.
- Click on the increase size  **Zoom Control** to change your view to 150%. (*In the PC Lab leave the zoom at 100% for better viewing*).



Delete the footer since it will not be needed in this layout:

- Click on the part label **Footer**.
- Press the **Delete** key on the keyboard.

Increase the size of the *Header* region:

- Click on the line separating the header from the body.
- Your cursor will change to a double arrow.
- Drag this border down to the **1 inch** mark on the graphic ruler.

Increase the size of the *Body* region:

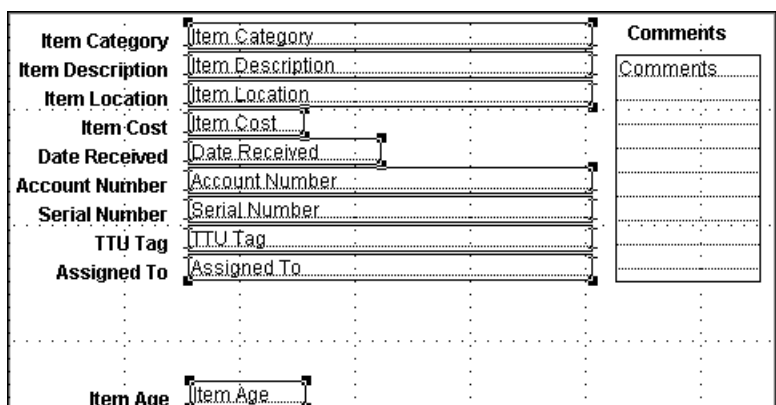
- Scroll down and click on the **bottom line** of the Body section.
- Your cursor will change to a double arrow.
- Drag this border down to the **6 inch** mark on the graphic ruler.

Increase the readability of the layout:

- From the menu, select **Edit** → **Select All** (*Note that the pointer tool button is depressed.*)
- On the text ruler, select **12 point** for the text size.
- Click in the center of the selected group and **drag** to move the group so that the tags are about **1 inch** from the left side and the top is at **1.25 inches**. *Note the rulers are highlighted as you move to help you position the group.*
- Click elsewhere on the layout to deselect the fields and tags.
- Click on the *label* "**Comments**" and drag it to the right side.
- Click on the *field* named **Comments** and drag it under the tag.
- Click on the **bottom right corner** of the field to drag and **resize** it to fit under the Comments tag.
- Click on the *label* **Item Age** and hold the **shift key** down while clicking on the *field* **Item Age**.
- **Drag** these down to about **4.5 inches**.
- Click elsewhere to deselect.

To set the alignment of items:

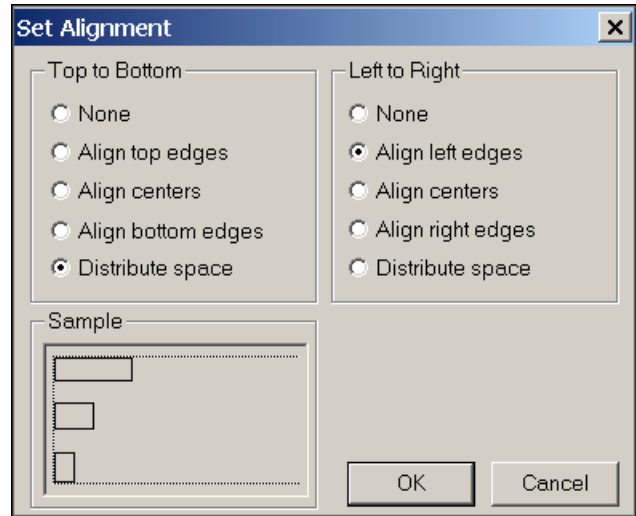
- Select the list of field names by **clicking** on each while holding the **shift key** down.
- From the menu select:
Arrange → **Set Alignment**.



Working with Layouts (cont.)

To set the alignment of items (cont.):

- Under Top to Bottom, select **☉ Distribute Space**
- Under Left to Right, select **☉ Align left edges**
- Click **OK**. Note that the fields are now spread out for better viewing.
- **Click** elsewhere to deselect the group.
- Select the list of labels by **clicking** on each while holding the **shift** key down.
- From the menu select:
Arrange → Set Alignment.
- Under Top to Bottom, select **☉ Distribute Space**
- Under Left to Right, select **☉ Align right edges**
- Click **OK**.



To set the items off using a box, color, and borders:

- Select the drawing tool that is a **rounded square**.
- Note that your cursor becomes a **plus**. +
- Place the plus at the top left corner of the items and **drag** diagonally to draw a box.
- Release at the bottom right corner just beyond the last field.
- The box appears as a layer on top of the layer containing the fields and field labels.
- With the box still selected, from the menu:

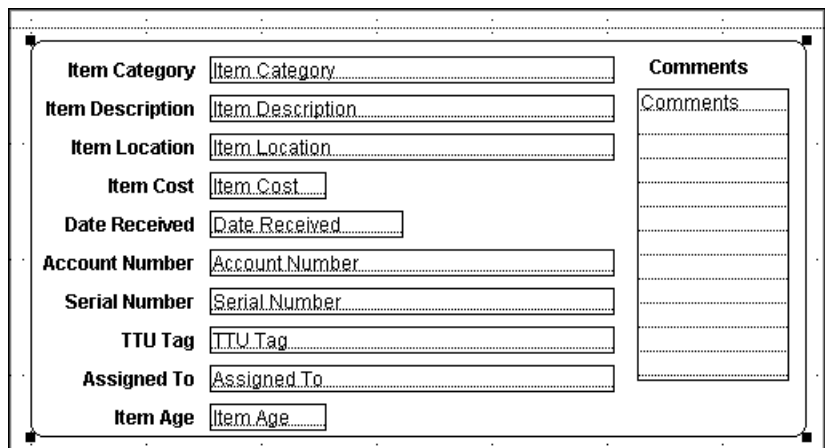


Arrange → Send to Back



With the box still selected, click on the: **Fill Color** button.

- Select **light yellow**.
- **Click** elsewhere to deselect.
- Click on the **fields** while holding the **shift** key down to select them.
- Click on the **Fill Color** button and select **white**.
- **With the fields still selected**, select **Format → Field Borders**
- Check **Top, Left, Bottom, Right** and click **OK**.
- Click elsewhere to deselect the fields.

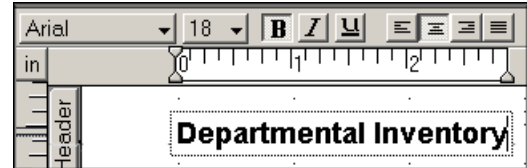


Working with Layouts (cont.)

To add a heading:



- Click on the **text button** (A) in the toolbar and your cursor changes to an I-beam.
- Click in the header region and a text box will appear.
- Select the font **Arial** and a font size **18**.
- Click on the **Bold** button.
- Click on **Center** alignment
- Type: **Departmental Inventory**.
- Click outside the text box to deselect text entry.
- **Click** on the text box and move it to the upper left corner of the page.
- Click on the **lower right corner** and **drag** to expand the text box to the right margin line.
- Note how the heading is now centered across the page.

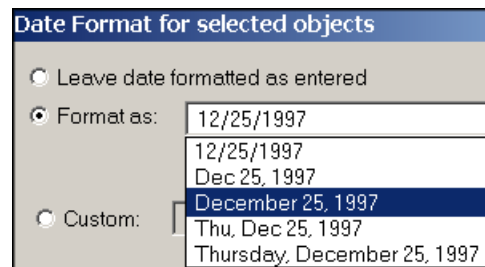


To add the current date under the heading:

- Click in the heading region and set the font size to **12**.
- From the menu, select **Edit → Paste Special → Date Symbol** (Looks like two slashes //).
- Click outside the text box to deselect text entry mode.
- Click and **drag** to position the current date.

To format the date:

- Click on the date symbol (//) to select it.
- From the menu, select **Format → Date**
- **Format as:** and select the style you prefer.
- Click **OK**.



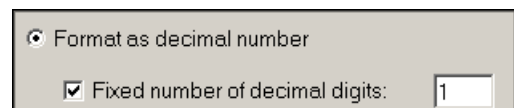
To add text in the body:

- Click on the **text button** (A).
- Move to the end of **Item Age** and click.
- Select a font size of **12** and a **Left** alignment.
- Type: **Years**
- **Click** outside the text box to deselect the text button
- Click on the word **Years** and **drag** to adjust the position as needed.



To format the number of decimals displayed:

- Click on the **Item Age** field.
- From the menu, select **Format → Number**
- **Format as decimal number**
- **Fixed number of decimal digits: 1**
- Click **OK**.



Working with Layouts (cont.)

To set currency formatting:

- Click on the field *Item Cost*.
- From the menu, select:
Format → Number
- Select:
 - Format as decimal number
 - Fixed number of decimal digits: **2**
 - Use notation: Currency (leading)
 - Currency symbol: **\$**
 - Use thousands separator
- Click **OK**.

To format a field with radio button:

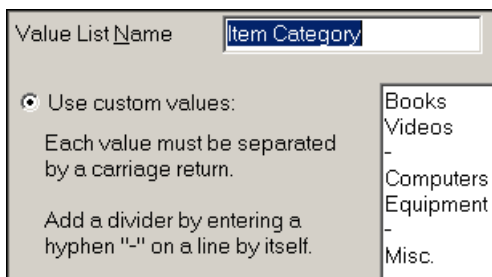
- Select the field *Account Number*
- Select **Format → Field Format**
- Select **Radio buttons** from the pulldown menu.
- Select **Define Value Lists** from the pulldown menu.

- Type the name **Account Numbers** in Value List Name.
- Click **Create**.
- Select **Use custom values:**
- Type three account numbers in the box. *Be sure to press enter after you type each one.*
- Click **Save**.
- Click **Done**.
- Click **OK**.

Working with Layouts (cont.)

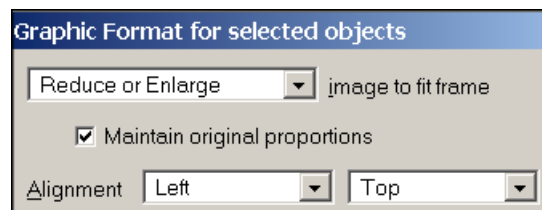
To format a field with a Pop-up List:

- Select the field *Item Category*
- Select **Format** → **Field Format**
- Select **Pop-up List** from the pulldown menu.
- Select **Define Value Lists** from the pulldown menu.
- Type the name **Item Category** in Value List Name.
- Click **Create**.
- Select **Use custom values:**
- Type the categories shown. →
- Click **Save**.
- Click **Done**.
- Click **OK**.



To add a graphic image to the layout:

- From the menu, select **File** → **Import Picture**
- Browse to **ClassFiles on Athena** → **ITS Folder** → **FileMaker Pro**
- Select the file: **Folders.WMF**
Note that the graphic is rather large.
- With the graphic still selected, from the menu select **Format** → **Graphic**.
- **Maintain original proportions.**
- Click **OK**.
- Click on the lower right corner of the the graphic and drag to decrease the size and move it to the right of *Departmental Inventory* in the header.



Working in Browse Mode

Use Browse mode to enter new information and correct existing data.

From the menu, select **Mode** → **Browse**

To enter a new record:

Select **Mode** → **New Record** or use the keyboard shortcut, **Ctrl + N**

Type in the data shown here.

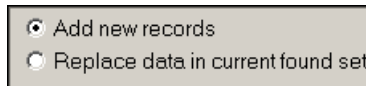
Item Category	Item Description	Item Location	Item Cost	Date Received	Account Number	Serial Number	TTU Tag	Assigned To
Computers	Dell Dimension	BR 888	1589	9/29/97	2-98765	8989898	0123122	Dr. Sue Jones

Use the **tab** key to move from field to field.

Working in Browse Mode (cont.)

Import some sample data from an existing file:

- Select **File** → **Import/Export** → **Import Records**
- Browse to **Classfiles on Athena** → **ITS** → **FileMaker Pro**
- Select **SampleData.FP3**
- From the pulldown menu, select View by: **Matching Names**
- Select Add new records
- Click **Import**



Move through the records by clicking on the book icon or using the slide along the edge of the book icon.

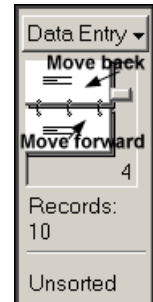
Make corrections to records by editing any field.

To duplicate a record: **Mode** → **Duplicate Record**

To delete a record(s): **Mode** → **Delete Record** or **Mode** → **Delete All** (*Use carefully*).

To omit record(s) from the current set, but retain them in the database: **Select** → **Omit**

Select → **Omit Multiple**



Using Find Mode

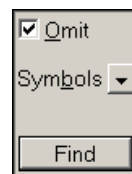
Use Find Mode to locate a particular record or sets of records that match your criteria.

- Select **Mode** → **Find**
- Select **Videos** from the Item Category menu.
- Press **Enter** or click the **Find** button to the left.
- Note that you have found the videos.



To find all records except videos:

- From the menu, Select → **Modify Last Find**
- Check **Omit**.
- Press **Enter** or click the **Find** button.
- Note that you have found all but the videos.



To find records with items over 1 year old:

- Select **Mode** → **Find**
- Click into the field **Item Age**.
- Click on the symbols pulldown menu and select > **greater than**
- Type **1** (for 1 year).
- Press **Enter** or click the **Find** button.

Using Find Mode (cont.)

To find records with items purchased between 1995 and 1998:

- Select **Mode** → **Find**
- Click into the field **Date Received**.
- Type **1/1/95...12/31/98** (Use three periods to denote a range of values.)
- Press **Enter** or click the **Find** button.

To find records with missing or blank data in a field:

- Select **Mode** → **Find**
- Click into the field **TTU Tag**.
- Type **=** (Use **=** with nothing following it to indicate a match to a blank field.)
- Press **Enter** or click the **Find** button.

To find records with Computers paid out of account 5-12345 (And):

- Select **Mode** → **Find**
- Click into the field **Item Category** and select **Computers**.
- Click into the field **Account Number** and select **5-12345**.
- Press **Enter** or click the **Find** button. (Note we are looking for this **and** that.)

To find records with Computers or Equipment paid out of account 5-12345 (Or):

- Select **Mode** → **Find**
- Click into the field **Item Category** and select **Computers**.
- Click into the field **Account Number** and select **5-12345**.
- Select **Mode** → **New Request**
- Click into the field **Item Category** and select **Equipment**.
- Click into the field **Account Number** and select **5-12345**.
- Press **Enter** or click the **Find** button.

(Note we are looking for this **and** that **or** the other **and** that.)

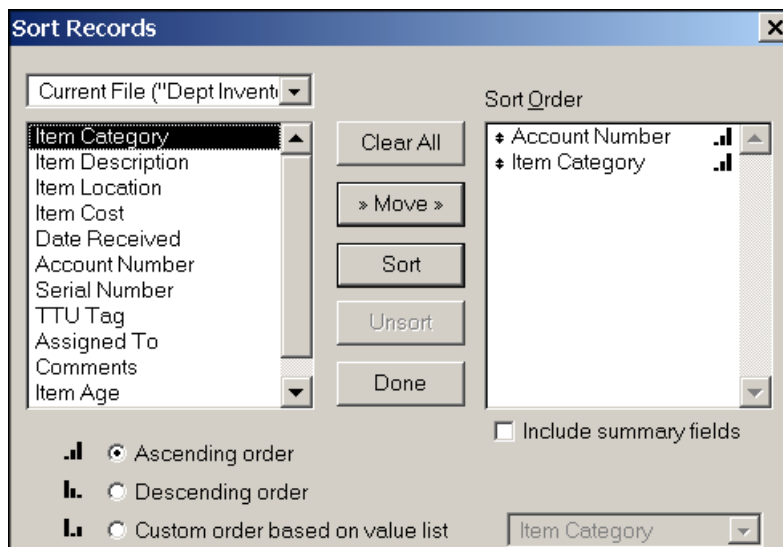
From the menu, **Select** → **Find All** to return to viewing your full set of records.

Sorting Records

To sort records:

- Select **Mode** → **Sort**
- Click on **Account Number** in the list to the left.
- Click on **Move**.
- Click on **Item Category**.
- Click on **Move**.
- Note that the sort will be
 - **Ascending order**.
- Click **Sort**.

(Use **Done** to cancel without sorting.)

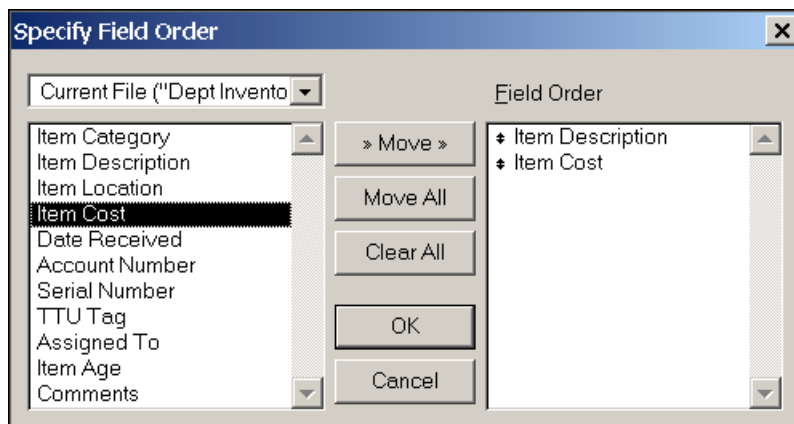


Creating a Report

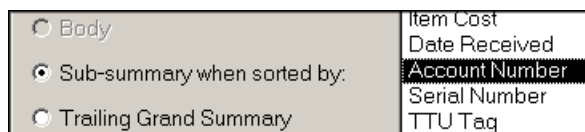
To create a report that lists records by account number and sums the costs.

- Select **Mode** → **Layout**
- Select **Mode** → **New Layout**
- Type the layout name: **List by Account**
- Select **Extended columnar** as the Type
- Click **OK**

- Select **Item Description**.
- Click on the **Move** button to move it to the **Field Order** list.
- Select **Item Cost**.
- Click on the **Move** button to move it to the **Field Order** list.
- Click **OK**.

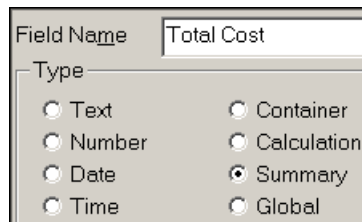


- Select **Mode** → **Part Setup**
- Click on the **Create** button.
- Choose **Subsummary when sorted by**.
- Select **Account Number** from the field list.
- Click **OK**.
- Choose **Print Above (leading)**.
- Click on the **Create** button again.
- Choose **Subsummary when sorted by**
- Select **Account Number** from the field list.
- Click **OK**.
- Choose **Print Below (trailing)**.
- Click **Done**.



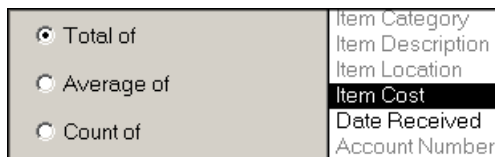
*Click on the **Part Label Control** to view the full names of each section. Click again to hide them.*

- Click on the **Field** button to the left
- Drag it into the **Account Number Subsummary** that is **above** the body
- Select the **Account Number** field.
- Deselect **create field label**.
- Click **OK**.
- Click on the **Underline** format button.



Create a new field to sum amounts:

- Select **File** → **Define** → **Fields**
- Type the Field Name: **Total Cost**
- Select the Type: **Summary**
- Select **Total of**
- Select **Item Cost** from the field list.
- Click **OK**.
- Click **Done**.



Creating a Report (cont.)

To add fields to the layout:

- Note that new fields created are added to the body of the layout you are currently in.
- **Increase** the size of the trailing **Sub-summary by Account Number** by clicking on the line and dragging down.
- Select the new **Total Cost** field and label and drag them into the trailing **Account Number Sub-summary**.
- **Decrease** the size of the **Body** section by clicking on the boundary line and it dragging up.



- Click on the **Line** tool.
- Draw a horizontal line above the **Total Cost** label and field by holding down the **shift key** while drawing your line. This will keep the line level. **Shift**, then **click** on the spot you want to begin your line, **drag** across, **release** the mouse button, then **release** the shift key.

- Click on the **Text tool (A)**.
- Click into the **Heading** section.
- Select font size of **18** and align **center**.
- Type: **Departmental Inventory by Account Number**
- Move and size the title text appropriately.

To view the report:

- Select **Mode** → **Browse**
- Select **Mode** → **Sort**
- Select **Item Category** and click the **Clear** button. This leaves **Account Number** as the field on which to sort.
- Click **Sort**.
- Select **Mode** → **Preview**.

(Note that you can not see the resulting report unless you are in Preview mode.)

To print: Select **File** → **Print** to print the report. *(Please do not do this during the class session.)*

To exit the program: Select **File** → **Exit** or use the close button.

Note that the file is saved automatically at exit and periodically throughout your work.

Getting Help

One of the easiest ways to get help with FileMaker Pro is the online help included with it. Just click on **Help** → **FileMaker Help Topics**

Should you have a question that the online help does not address, please contact the Microcomputer Support Office at 372-6315 (email: MicroSupport@tntech.edu) or your college contact.

Handouts on using FileMaker Pro and other programs are available on the web from the TTU home page under **Computing** → **Publications** (at www2.tntech.edu/its/pubs/).

Final Views of the Layouts

Departmental Inventory

Item Category <input type="text" value="Books"/>	Comments
Item Description <input type="text" value="Calculus for Engineers"/>	<input type="text" value="Free Desk Copy"/>
Item Location <input type="text" value="CH 311"/>	
Item Cost <input type="text" value="\$0.00"/>	
Date Received <input type="text" value="1/20/2000"/>	
Account Number <input type="radio" value="2-98765"/> 2-98765 <input type="radio" value="5-12345"/> 5-12345 <input type="radio" value="5-11221"/> 5-11221	
Serial Number <input type="text"/>	
TTU Tag <input type="text"/>	
Assigned To <input type="text" value="Dr. Sam Smith"/>	
Item Age <input type="text" value="0.1"/> Years	

Departmental Inventory by Account Number	
Item Description	Item Cost
Calculus for Engineers	\$0.00
Total Cost	\$0.00
<u>2-98765</u>	
Dell Dimension	\$1,589.00
Dell Dimension	\$1,389.00
Overhead Projector	\$1,148.00
The Life of Albert Einstein	\$59.00
All About Quarks	\$127.00
Total Cost	\$4,312.00
<u>5-11221</u>	
Computational Theory	\$89.00
VCR and TV	\$639.00
Total Cost	\$728.00
<u>5-12345</u>	
Dell Optiplex	\$1,899.00
Slide Projector	\$789.00
Total Cost	\$2,688.00