

## COMM 335 (Section 201)

### Information Systems Technology and Development



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## User Interface

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## Learning Objectives

1. Understand the user interface design of accounting software
2. Know the basics of form design
3. Understand fundamentals of report and query design
4. Have a basic understanding of forms in Microsoft Access

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## Learning Objective 1

- Understand the user interface design of accounting software

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- Within a few years, the accounting software QuickBooks reached a market share of over 90% in the US small business accounting software market
- One of the main reasons for this unusual success lies in the simplicity of the user interface, allowing users who are not accounting experts to use the software
  - What makes QuickBooks so easy to use?

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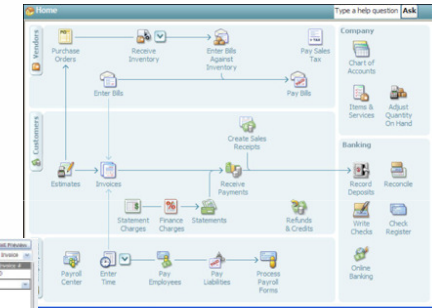
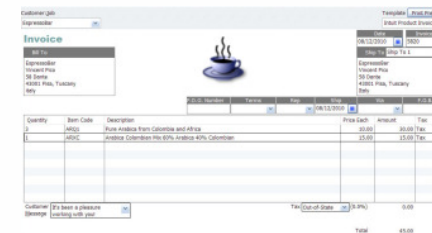
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QuickBooks software uses a Graphical User Interface:

- **Home Screen:** navigation
- **Onscreen forms:** data entry

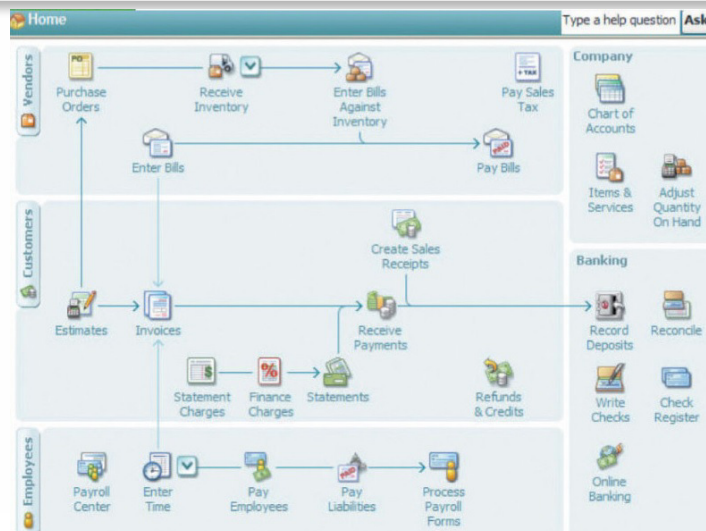


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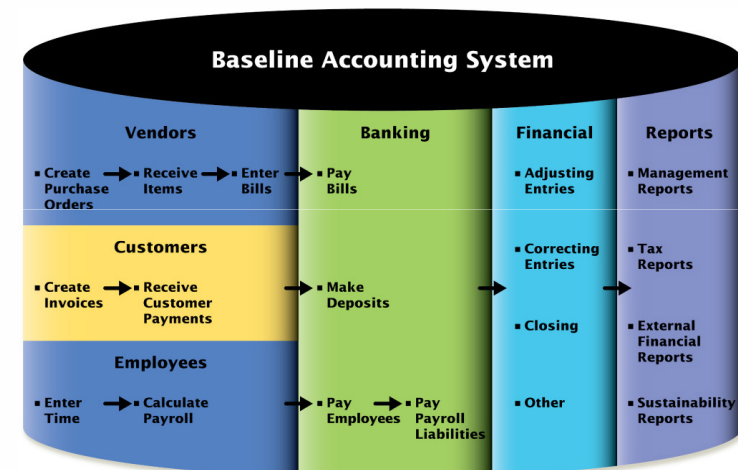
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## User Interface Matters?

- Can you think of other products that are successful mostly because of their user interface?

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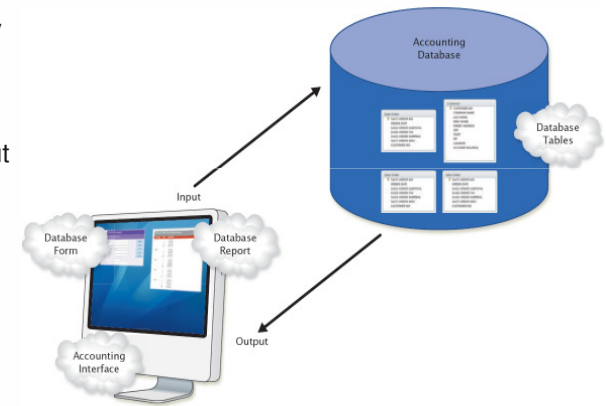
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## Accounting Interface

The Accounting interface is served by three database essentials:

- **Database forms:** input accounting data
- **Database queries:** search and retrieve accounting data from the database
- **Database reports:** present output of the queries



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## Baseline Accounting System Input / Output

**Database forms**  
record *input* for:

- Vendor module
- Customer module
- Employee module
- Banking module
- Financial module

**Database reports**  
display *output*.



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## Learning Objective 2

- Know the basics of form design

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### General guidelines for form design:

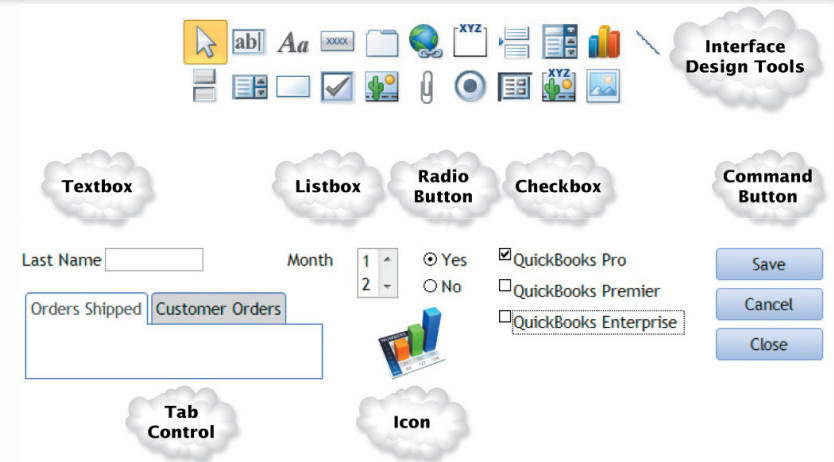
- Enter data once.
- Use data validation.
- Use auto entry.
- Format data entry forms to mirror hard copy forms.
- Create user-friendly forms.
- Implement appropriate security measures.

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### ➤ Exercise: Create an online form that serves the same function as the paper form

- Use a sheet of paper to draft how the screen(s) of an online version of the form could look like
- Use appropriate user interface elements
- Make sure that the form is user friendly!

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### ➤ How could the form below be improved?

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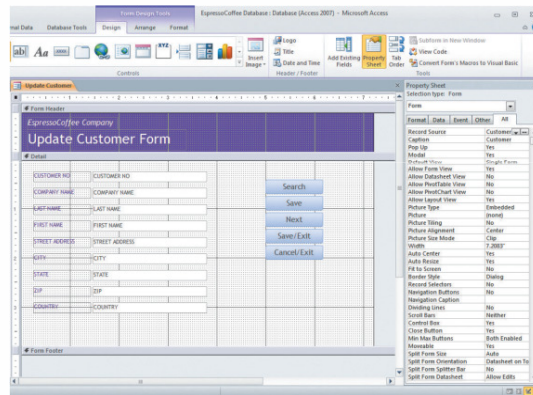
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### Database Forms

To build a database form, the developer uses a form design template as shown above. The developer selects the fields required on the form. The fields correspond to one or more tables in the database. The developer adds control tools (i.e., checkbox, button).



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- Understand fundamentals of report and query design

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4 basic types of accounting reports:

- **Financial accounting and regulatory reports** for investors, creditors, and regulatory agencies.
- **Tax reports** used when filing federal, state, and local taxes.
- **Management reports** provided to internal users, such as managers for decision making.
- **Sustainability reports** to evaluate an enterprise's responsiveness to economic, environmental, and social sustainability challenges.

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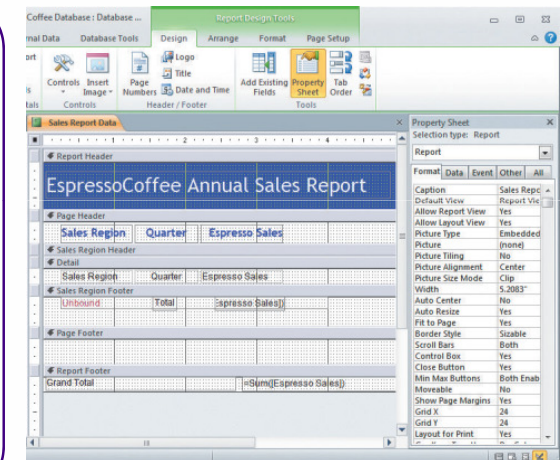
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### Database Reports

To build a database report, the developer uses a report design template as shown above. The developer formats and enters the report header, detail, and footer. The required fields are placed in the desired location on the report layout.



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- How would you improve this report?

### Vincent Pico Deposits

Month	Date	Deposit Amount
January 2011		
	1/20/2011	\$189
	1/22/2011	\$106
	1/24/2011	\$145
	1/26/2011	\$109
	1/28/2011	\$103
	1/30/2011	\$149
February 2011		
	2/1/2011	\$102
	2/3/2011	\$19
	2/5/2011	\$99
	2/7/2011	\$112
	2/9/2011	\$138
	2/11/2011	\$35
	2/13/2011	\$187
	2/15/2011	\$103
	2/17/2011	\$138
	2/19/2011	\$44
	2/21/2011	\$92

- Database queries search and retrieve data from one or multiple tables.
- Results of queries are displayed directly, or in database forms and reports.

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Two ways to build queries:

1. **Query builder tools** build queries without programming code.
2. **SQL, structured query language**, is a programming language used to construct queries for relational databases.

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### Database Queries

To build a database query, the developer can use a **Query by Example (QBE)** template shown above. Displays the tables used in query. Selects the fields required by the query. Search criteria are specified (e.g., Customer Last Name = "Pico") as shown on the right.

Field	CUSTOMER NO	FIRST NAME	LAST NAME	SALES ORDER NO	ORDER DATE	ITEM NO	LINE ITEM QTY	LINE ITEM TOTAL
Table	Customer	Customer	Customer	Sales Order	Sales Order	Sales Order Line	Sales Order Line	Sales Order Line
Criteria			"Pico"					

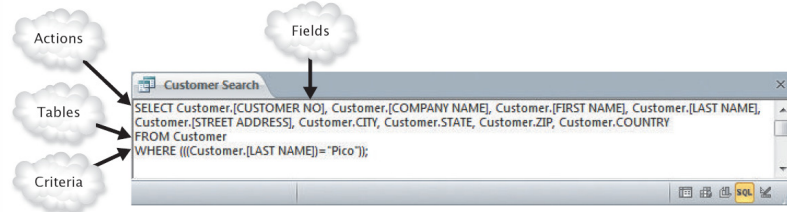
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## SQL Database Queries

After building a database query with Query by Example, view the SQL programming code for the database query shown above.

Each SQL statement contains an Action(s), Field(s), Table(s), and Criteria.

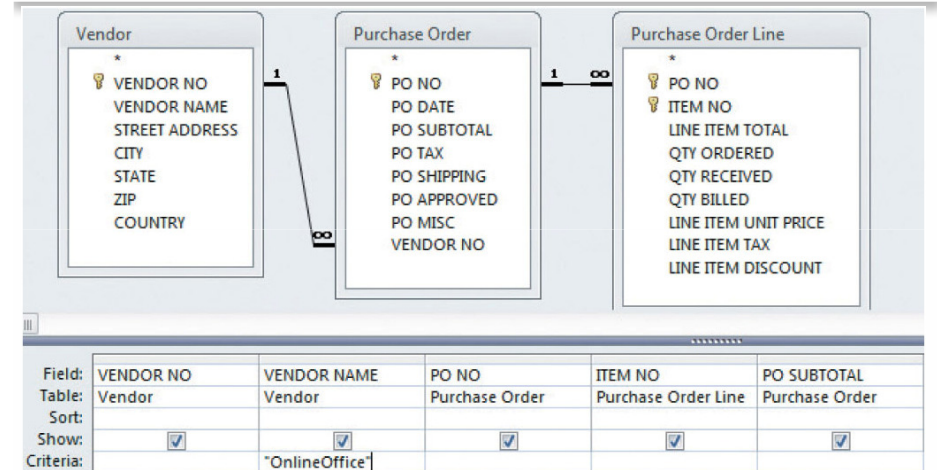


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When the RDBMS processes the following SQL SELECT statement:

1. What tables are accessed?
2. Which fields are retrieved?
3. What are the search criteria?

**SELECT Customer No, Customer Name, Invoice No, Date**

**FROM Customer, Invoice**

**Where Customer No = "3099";**

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- Have a basic understanding of forms in Microsoft Access

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## ➤ Columnar Form (wizard name)

- Also known as Single Form (property sheet name)
- For example

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## ➤ Tabular Form (wizard name)

- Also known as Continuous Forms (property sheet name)
- For example (courtesy of Microsoft)

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## ➤ All Forms & Reports have a “table (or query) behind”

- All Sub Forms are forms too!
- They have a “table or query behind” too.

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## ➤ Can you see where each field goes on the form?

- What about Link Master Child Fields?

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Data Entry  
Forms!

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- Form with only buttons
  - Direct user to other Forms and Reports
  - For example

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- Combo-Box or List Box?
  - Screen real estate a criterion
  - “Type to locate” with combo box (not possible with list box)
  - Choice “orientation” possible with list box (in other words what you did NOT pick is also visible). Sometimes very valuable.

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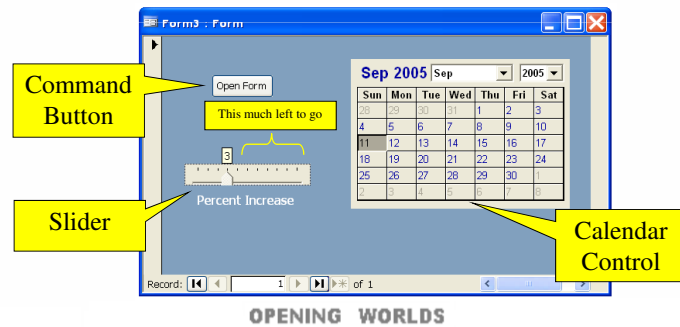
- Option (radio) Buttons or Check Boxes?
  - Only ONE choice can be made for option buttons
  - Multiple choices can be made for check boxes
  - Not more than about six possible choices (each), otherwise it becomes confusing (use combo-box instead if more than six choices available)
  - One big advantage, all choices immediately visible

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## Form Controls (cont'd)

### ➤ Command Buttons and Complex Controls

- Command buttons can be linked to any action or macro
- Calendars are more people-friendly than a date (Sep 11, 2005)
- Slider controls let users see the min and max anchors



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## Questions? Comments?



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