

# Colorado Technical University

## CS 660 – Database Systems

Colorado Technical University  
Instructor: Dr. John Conklin  
Visio ER Diagram Creation

# Start Visio

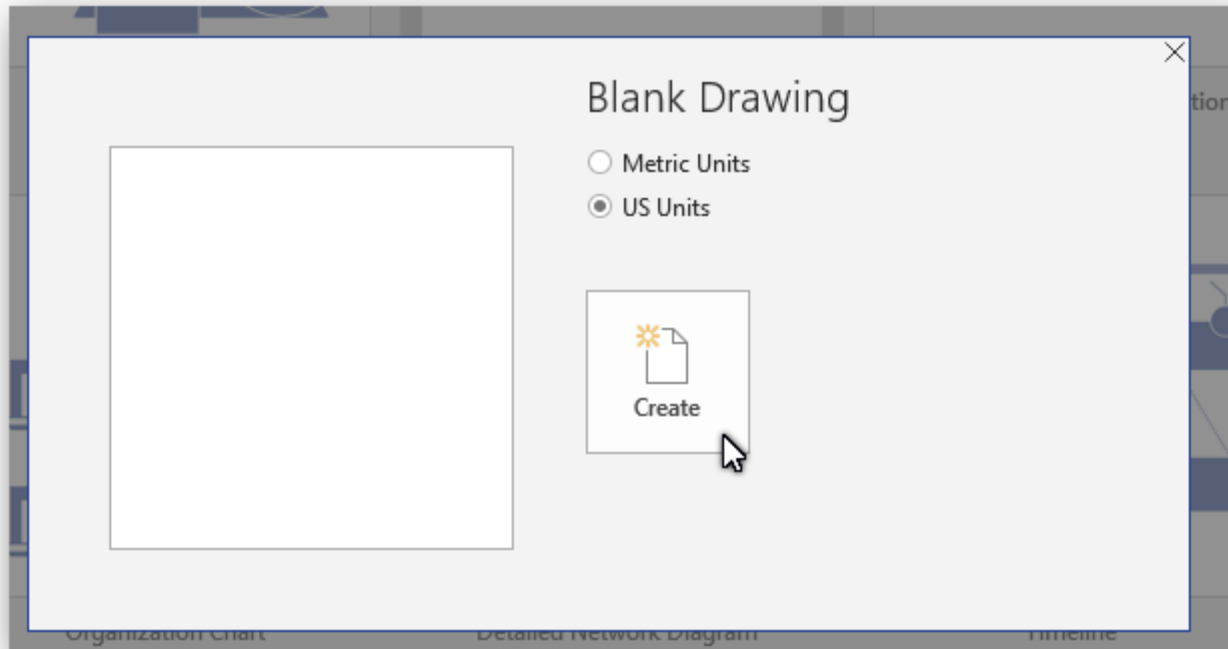
- If you have an icon on your desktop click on that.



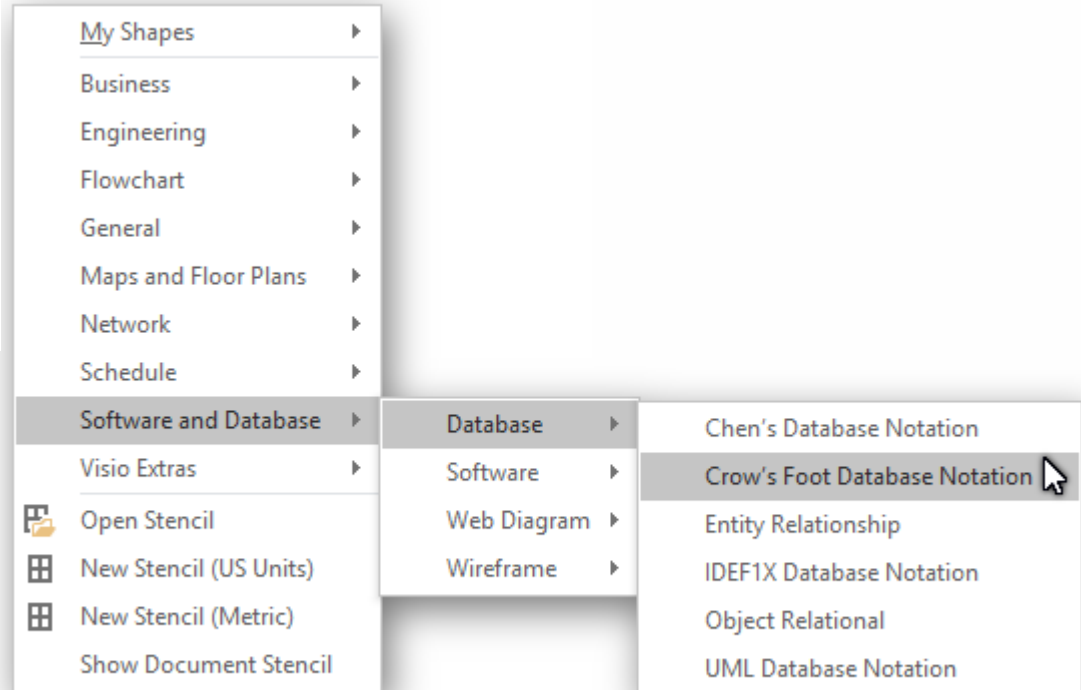
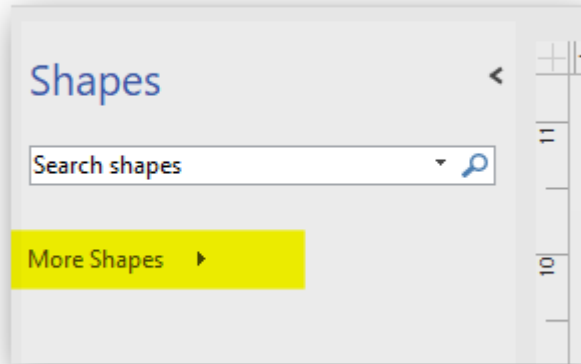
# Start Visio (cont.)

The screenshot displays the Microsoft Visio application interface. On the left is a dark blue sidebar with the 'Visio' logo and a 'Recent' section. The 'Recent' section lists several files, including 'ER Diagram Example.vsd', 'Drawing1.vsd', and 'CliffordPinnock\_CS660\_IP2.vsd'. Below the list is an 'Open Other Drawings' button. The main area of the application is light gray and features a search bar at the top with the text 'Search for online templates'. Below the search bar are suggested search terms: 'Network', 'Flowcharts', 'Software', 'Education', 'Business', 'Database', and 'Floor Plans'. The user's name 'John Conklin' and email 'john.conklin@conklin.phxcoxmail.com' are visible in the top right corner. The main area is divided into two tabs: 'Office' (selected) and 'Categories'. A grid of 15 template thumbnails is displayed, each with a title below it: 'Basic Diagram', 'Blank Drawing', 'Crow's Foot Database Notation', 'Welcome to Visio', 'Basic Flowchart', 'Organization Chart', 'Detailed Network Diagram', 'Timeline', 'Cross-Functional Flowchart', 'Work Flow Diagram', 'Office Layout', 'Basic Network Diagram', 'UML Class', 'Microsoft SharePoint 2013 W...', and 'Home Plan'. A vertical scrollbar is visible on the right side of the template grid.

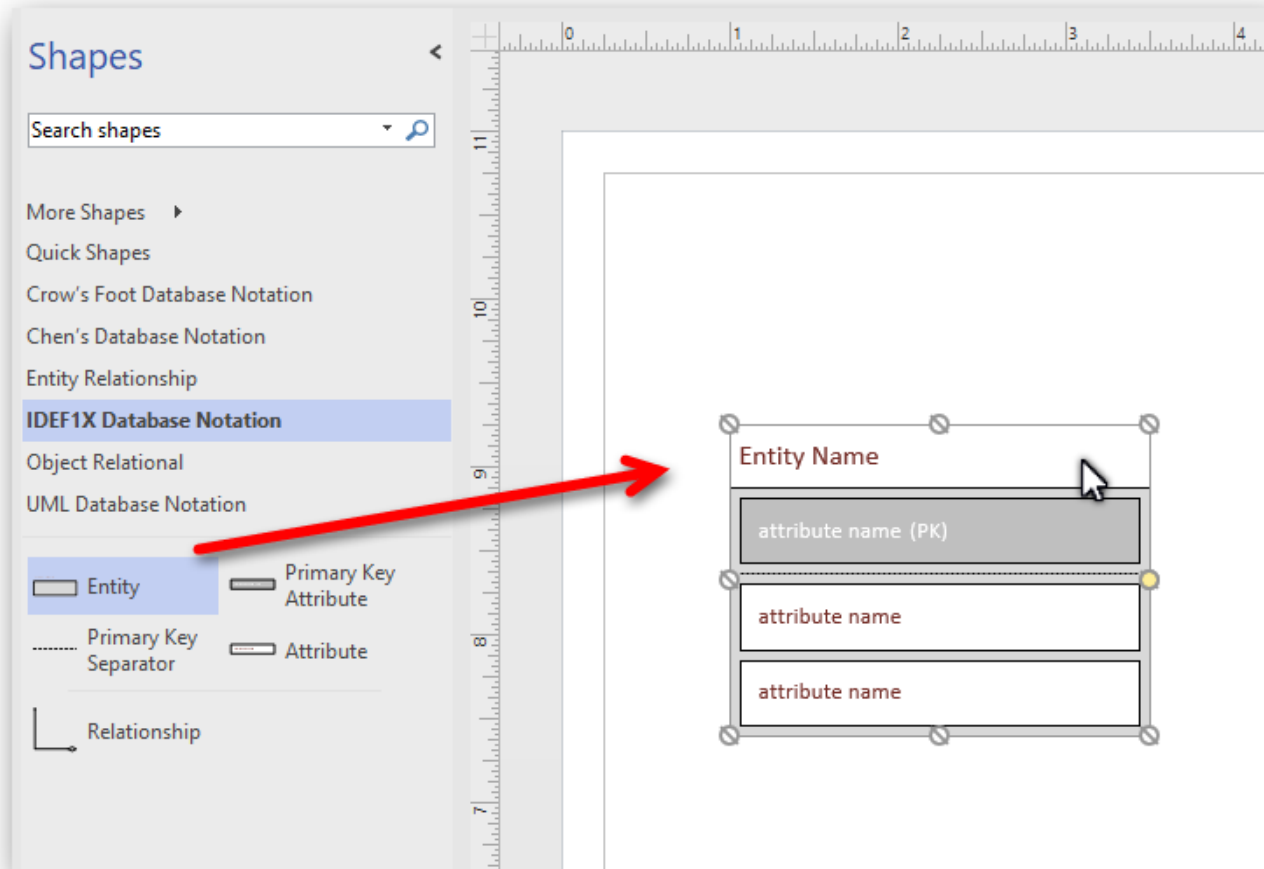
# Start Visio (cont.)



# Start Visio (cont.)



# Start Visio (cont.)



# Example

## Business Rule:

Each store (|| means one and only one) has one to many departments but each department is associated with a particular (one and only one) store.

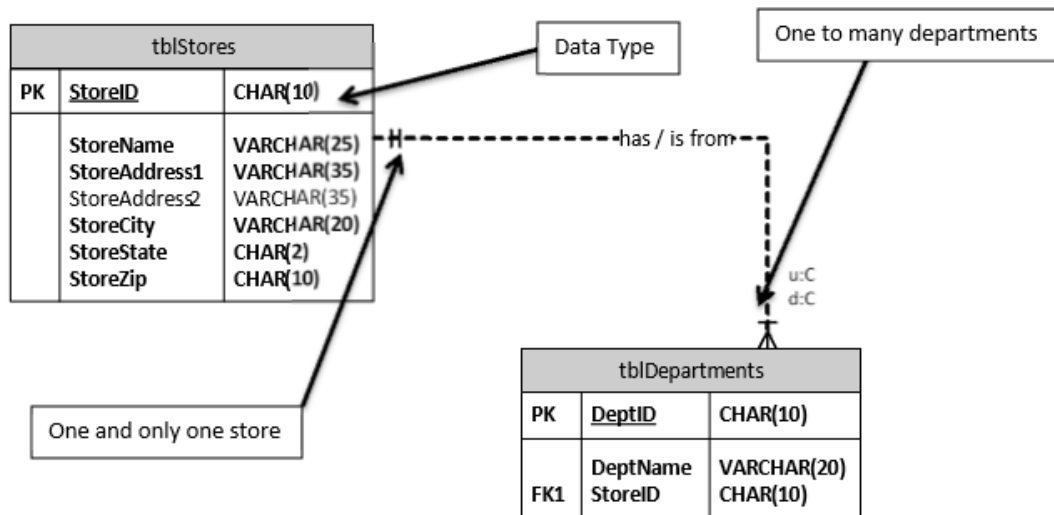


Figure 1 E-R Diagram (With Crow's Feet) shown enforcing the business rule

Primary Key (PK) : StoreID (tblStores)

Foreign Key (FK1): StoreID (tblDepartments)

# Entity Table Representation

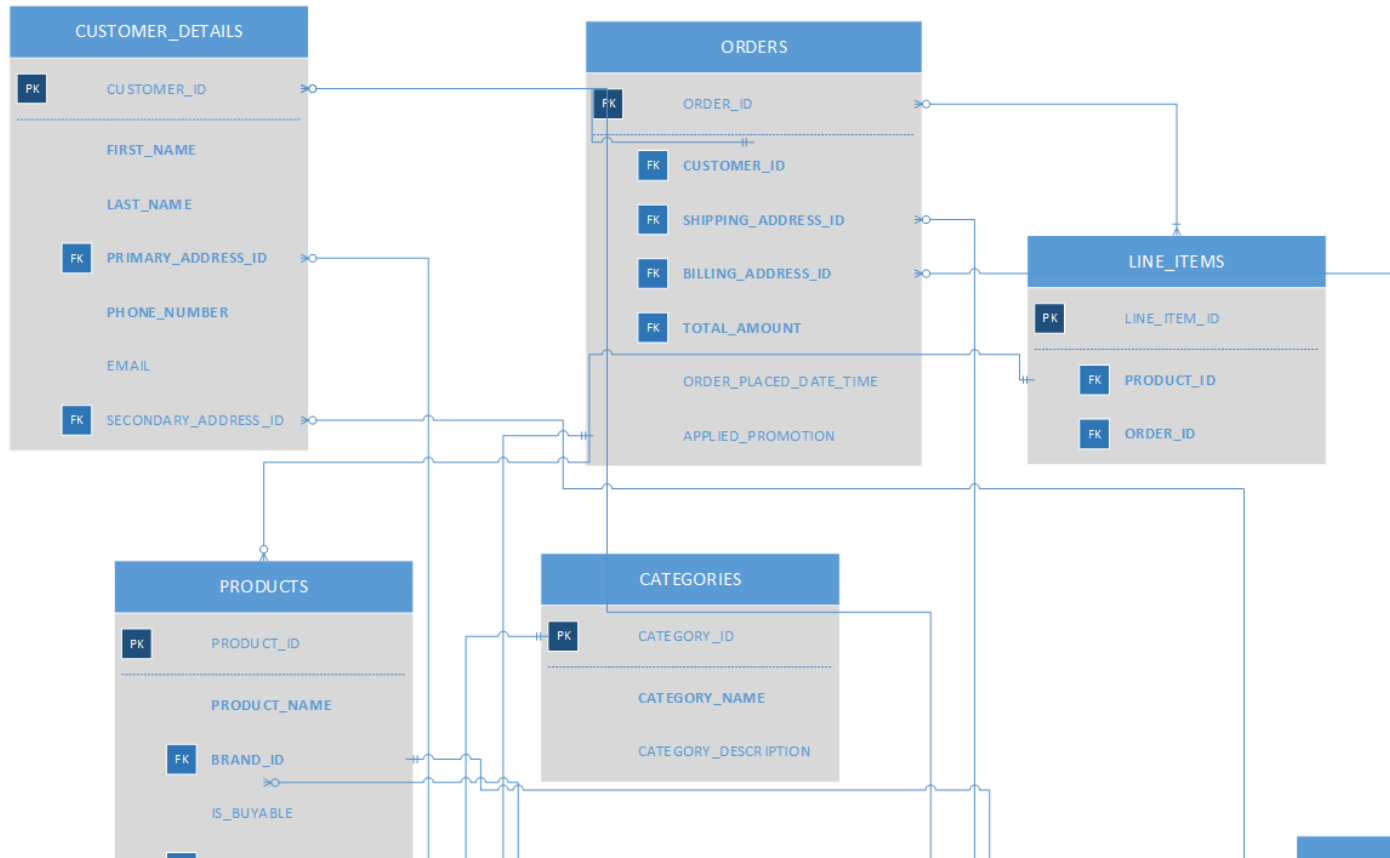
## 2.2. Entities, Attributes, Relationships & Cardinality Constraints

Entities (Tables)	Attributes (Rows)	Relationships	Cardinality Constraints
Customers	<u>CustomerID</u> (PK) (Char10)	Has Membership	1:1
	Customer Name (Varchar50)		
	<u>LocationID</u> (Char10)	Has a Location	One Location may have multiple customers
	<u>MembershipID</u> (Char10)	Directly associated to Unique Customer	1:1
	Contact eMail (VarChar200)		
Store	Contact Phone (Int10)		
	<u>StoreID</u> (Char10)	Can Sponsor Events Can Create Orders Has a Location Has Employees	<u>1:Many</u> <u>1:Many</u> 1:1 <u>1:Many</u>
	Store Name (Varchar50)		
	<u>LocationID</u> (Char10)	Has a Location	1:1
	<u>OpenTimes</u> (Varchar500)		
Employee	<u>EmployeeID</u> (Char10)	Associated to a Store Can Create Orders	1:1 <u>1:Many</u>
	Employee Type (Varchar25)		
	Employee Name (Varchar50)		
	<u>LocationID</u> (Char10)	Has a Location	One Location may have multiple Employees
	<u>StoreID</u> (Char10)	Is associated to a Store	1:1
	<u>PayRate</u> (Decimal 8,2)		
	Pay Frequency (Varchar20)		



# ER Diagram Example

## Entity-Relationship Model



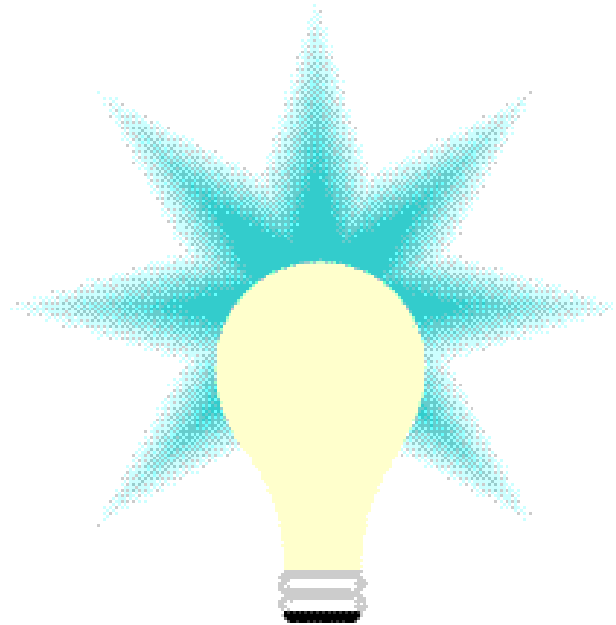
# Example

Now lets open Visio and show a live demo of how to create a diagram.



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# Questions / Comments



(Ideas/Think Web Graphics, 2019).

# Contact Information

- My e-mail address- JConklin@coloradotech.edu
  - Office Hours - Wednesday 6:00 P.M. – 7:00 P.M. CST  
Saturday 11:00 A.M. – 12:00 P.M. CST
  - Live Chats - Thursday 7:00 P.M. – 8:00 P.M. CST
- \* Please note that only one live chat session per week is required for this course. However, optional live chat sessions may be held sporadically throughout the course.