

Cafeteria Inventory Control and Purchase Order System
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Abstract

Our Cafeteria had a very real need for its own automated inventory control and purchasing system to better manage inventory levels, cost, and to produce its own purchase orders. The system would need to be cost effective, streamline, and easy to operate.

A design team of Computer Services, Business Office, and Cafeteria staff was assembled to understand and identify the issues to be addressed, input and output needs, internal control concerns and flow of information. After consensus was reached on what was needed in an inventory control and purchasing system for the Cafeteria the team explored existing systems on the market and the idea of designing our own system.

The decision was made to design our own system. Computer Services staff was assigned this task using the ideas and parameters generated from design team meetings.

An Access database was created with five (5) tables as the basis for the system. These tables captured information for inventory categories, vendors, products, orders and order detail. An important part of the design included several custom designed reports.

After testing and training the initial database was built. Categories were created, vendor static information entered, product quantity and description entered and linked to specific vendors. Initial data was validated from a physical inventory taken prior to system testing.

Once input and validation was complete staff began creating Cafeteria purchase orders, checking out inventory for resale, and creating inventory count list.

After only about three weeks this system was up and running and assisting our Cafeteria staff to better control inventory levels, resale product cost, staff time for administrative functions such as creating purchase orders, checking out inventory items, checking inventory levels.

Several enhancements have been created since we began using this system and we continue to work on future enhancements. These are easily accomplished since our design staff is a part of our College staff.

Introduction of the Organization

Waycross College, an associate degree granting institution of the University System of Georgia since 1976, exists to provide programs of higher education for citizens of the immediate and surrounding communities of southeast Georgia within commuting distance of the College. The College's philosophy is to provide opportunities for those who need special preparation for regular college-level courses, while giving well-prepared students immediate access to transfer courses that can be applied toward advanced study appropriate to their academic goals. The College attempts to provide a wide range of enjoyable and satisfying experiences calculated to contribute to intellectual objectives and personal interests and aptitudes.

Waycross College is located on South Georgia Parkway at Augusta Avenue in Ware County, within the city limits of Waycross. The campus is located on a tract of approximately 150 acres of beautifully wooded land which includes two small lakes and an attractive, convenient area for recreational and outdoor classroom use. The campus abounds with flora native to southeast Georgia, including an abundance of wild flowers, palmetto palms, slash pines and other attractive plants and trees.

Five buildings constructed from 1976 to 2000 provide classrooms, laboratories, library, gymnasium and fitness center, faculty and administrative offices, student center, bookstore, cafeteria and maintenance shops.

The College enrollment has grown from 341 students in the fall of 1976 to 1,018 in the fall of 2006.

Statement of the Problem/Initiative

The College's Cafeteria has not had its own automated inventory control or purchasing system since the College opened. We have used a manual system and a modified version of a bookstore point of sale system to create purchase orders for resale merchandise and to produce physical inventory amounts and items. These systems had drawbacks for what we needed in the food service area of our auxiliary services. Since we have a very small cafeteria we were faced with the challenge of purchasing an existing system that was affordable and that would perform the task we needed. We wanted a system that would produce purchase orders for vendors, maintaining vendor and resale item information; add purchased items to our inventory when received; deduct items from inventory through a stock check out system. We wanted all of this to have built in accountability to provide improved internal control of purchasing and inventory.

Design

After unsuccessfully looking for existing software packages that would work for a \$ 40,000 - \$ 50,000 gross sales operation the decision was made to design our own system. Computer Services, Cafeteria and Business Office staff met as a team to discuss the issues including problems to be addressed, input and output requirements, database needs and requirements, internal controls needed, functions required and desired, reports, and system maintenance.

Design considerations included vendor database requirements, product database requirements, adding and deduction of items from inventory, purchase order printing and online retrieval, production of inventory item pick list, inventory work sheets, corrections, and audit and control requirement.

The design team prepared flowcharts and layouts for data input, historical data, vendor maintenance and history, product item description maintenance, product input and check out control and correction, purchase order and inventory sheet paper copies and reports. After considerable discussion it was decided that an Access database would best handle the needs identified for this system.

Building the database required the creation of five (5) different tables to store product, vendor, category, order and order detail information.

A main switchboard would come up when first entering the database allowing the user to decide what table is needed. The user can elect to update inventory, update and create new vendors, add products from vendors, adjust inventory items, and create purchase orders.

The category and vendor tables must be populated first. Once data is entered into these tables product information can be entered. This is done by associating product with vendors and categories through pull down menus. The initial inventory quantities are entered using the product table.

After the category, vendor and product information is entered purchase orders can be created. The system will create sequential purchase order numbers for each purchase order created. The user selects a vendor from a pull down menu. Vendor information automatically populates the purchase order upon vendor selection. The next step is to select products available from the vendor selected. When a product is selected unit price will appear. The total price is calculated when quantity is entered. When all selections are made a button at the bottom of the form can be selected to print the purchase order created.

To create reports a report button was designed on the main switchboard. This button takes the user to the reports created for the database. Reports designed are a vendor phone list, vendor orders by purchase order for a particular vendor, an alphabetical list of products, products listed by category, inventory listing products with quantity in stock, unit price, and total value, inventory categorized by product number.

Instructions were written to guide the user through the various functions and applications.

Implementation

Once system design was completed and tested it was time to build the database, train the Cafeteria Manager and to begin using the system. Computer Services staff who developed the system also developed instructions that were used in training the Cafeteria Manager.

First, we entered the categories that we wanted to use to organize the inventory. Those chosen were Food, Supplies, and Bookstore Supplies (items sold for bookstore).

The next step was to add all vendors used by the Cafeteria. Vendor information included complete mailing address, phone number, representative, vendor ID (from College Accounting System) and a vendor ID assigned by the system.

After the vendor information was entered we started entering product ordered from each vendor. A product ID, a product description, unit price and quantity was entered for each item in inventory.

A complete physical inventory had been taken just before we began to enter information for vendors and product items. All unit prices and quantities were checked to make sure current and accurate information was used in building the initial database. Once the initial

inventory was entered an inventory list was printed from the report menu and all prices and quantities were checked against the physical inventory.

Corrections were made as they were found. After we were confident that the beginning amounts and quantities, vendor and product information were all correct we were ready to begin creating purchase orders to add items to inventory and to create pick list to remove items from inventory as they are used.

Our implementation took roughly three weeks including taking the physical count of all inventory items which probably took the longest. Once this was done and all data to be entered was assembled the process went a lot faster. This all needs to be done at a time that the Cafeteria is closed. We picked a time when we would be taking a physical count anyway so that we didn't have to schedule an additional count for the year.

This is not a point of sale system. Since several raw products are used to create one retail item (hamburger includes, meat, bread, pickle, etc.) pick list to take items out of inventory take larger quantities than may be used at one time and inventory totals in the system are not accurate on a day to day basis.

Benefits

Since this is a simple system to use and is very user friendly it does not take much training of new staff. Items are added to inventory as purchased. Pick list for deductions allow items to be deducted from the inventory as they are moved into production. Current unit prices and vendor information are readily available for user to access for daily orders and pricing. Minimal data input is required after the initial data is entered. Static information can be updated and purchase orders and reports can be printed from the data base rather than having to be typed individually.

Access is windows based software and will run easily of most computers. Business Office and Computer Services staff can access the database with approval to perform audit checks, to assist with orders or reports in peak times, or when software maintenance is needed.

There are no annual maintenance or software upgrade fees. Our Computer Services staff can perform upgrades and enhancements when they are needed and requested.

Retrospect

One enhancement and improvement that has been made since the initial design has to do with unit price maintenance. Initially when a unit price was entered through a purchase order the inventory was not automatically updated. This was changed so that when a purchase order is created and a new unit price is entered the inventory unit price is also updated at the same time.

We have added another category for vending services snack items so that a separate inventory is being maintained for vending services using the same database.