

**CSC 333 Spring, 2003
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**Software Requirements Specification (SRS)
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1. Introduction

1.1. Vision

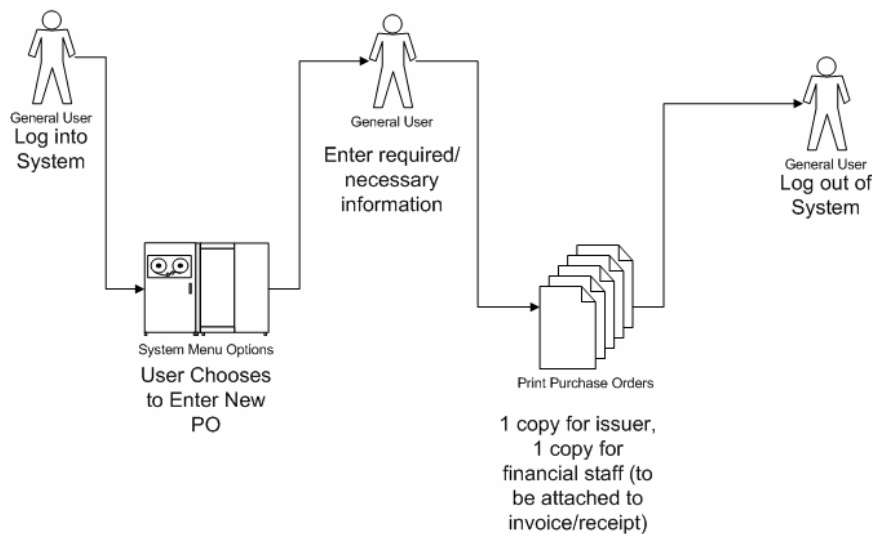
The purchase order system we will build and deploy will reduce human error in and streamline the process of issuing, finding, and receiving purchase orders for the Upper Allen Fire Department. By using agile methods, we will seek to deploy a series of systems, all building on one another in a series of releases, each adding features and functionality. The system will be of no cost to the UAFD as the necessary software and hardware infrastructure is complete.

1.2. System Goals

- The system will meet the requirements and expectations as set forth by the customer.
- The system will be user-friendly, easy to learn and logical – built from a UI point-of-view.
- The system will streamline the business process of issuing, tracking and invoicing purchase orders.
- The system will result in less time to create purchase orders.
- The system will result in less time to track and validate purchase orders.
- The system will be secure.
- The system will reduce errors and result in complete, error-free purchase orders – as much as possible.
- The system will provide printed copies of purchase orders, resulting in a much more professional appearance (compared to hand-written purchase orders).
- The system will centrally organize the purchase order system, eliminating the three paper-version purchase order books presently used.
- The system will effectively manage vendor contacts and information.

1.3. System Concept of Operations

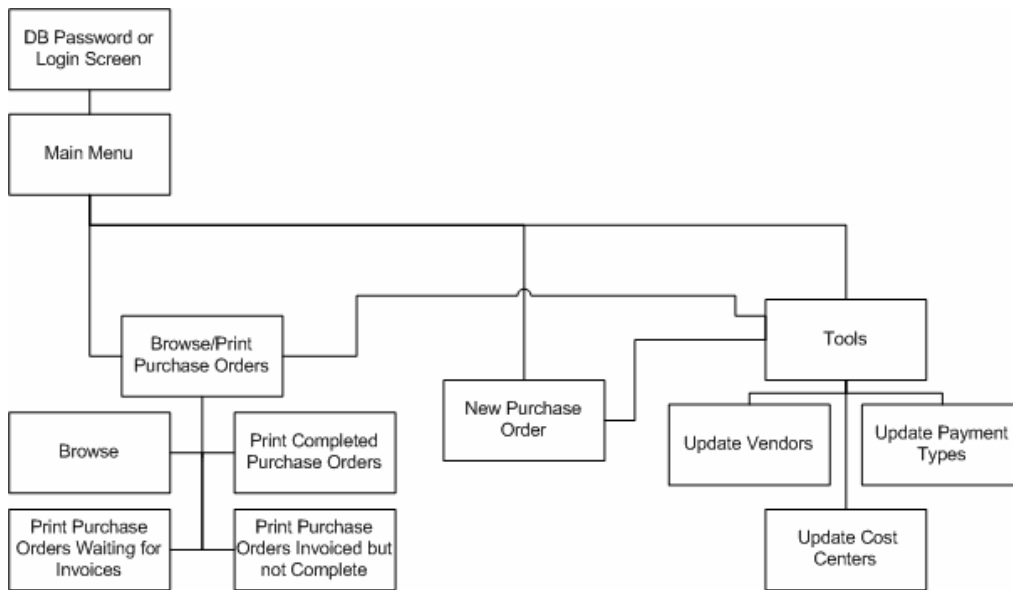
Issuing a Purchase Order with the Proposed System



1.4. System Overview

The main functioning requirements of the system are outlined below. The features modeled below should still be considered as our interpretation of the major areas deemed useable for the system. They are certainly not all inclusive or exclusive by any means and are subject to change.

As illustrated in the crude diagram below, the system will begin with some sort of authentication required. Upton successful login, the user will be at a main menu with three options. From the main menu the user can choose the “Browse/Print Purchase Orders” menu option which would then present the user with a new menu. This new menu would allow the user to browse previously entered purchase orders, print a list of completed purchase orders, print a list of purchase orders waiting for invoice, and print a list of purchase orders that have been marked as invoiced but not yet complete. From the main menu, if the user chooses to enter a new purchase order, she/he will be taken to the purchase order menu screen, where the user will be presented with a graphical representation of a purchase order requiring user input. From the main menu, if the user chooses to navigate to the Tools option, the user will be presented with three additional options. These options include the ability to update vendors, update available payment types, and update cost centers used to categorize spending. Menu options for the tools sub-menu will also be available from either the Browse/Print Purchase Orders menu and the New Purchase Order entry screen to allow maximum usability.



1.5. User Types

There are three basic types of system users. They are as follows:

1. Administrator – This user will have full control over every aspect of the system including database structure, form design, etc. This user will support the system as needed.
2. Financial Administration Staff – These users will primarily be viewing the entered purchase orders, printing purchase orders as necessary, marking purchase orders as invoiced, complete or void, and querying for outstanding purchase orders.
3. General User – These users will be primarily entering new purchase orders, printing hard-copies of purchase orders and viewing previously entered purchase orders.

1.6. Constraints and Assumptions

- The system must operate on the next-generation Windows NT operating systems (Windows 2000 Professional and Windows XP Professional).
- The system must utilize Microsoft Access 2000 or XP.
- The system must be able to print hard-copy purchase orders.
- The system must not allow incomplete purchase orders.
- The system must be easy to use.
- The system will not allow the deletion of purchase orders.

2. Software Requirements

2.1. Requirements Overview of Feature Areas

There will be three primary feature areas inherent in the system to be created.

1. Purchase Order Module – this module is used to:
 - 1.1. Create purchase orders
 - 1.2. Edit purchase orders
 - 1.3. Receive purchase orders
 - 1.4. Save purchase orders
 - 1.5. Void purchase orders
2. Vendor Module – this module is used to:
 - 2.1. Save vendor information
 - 2.2. Add/Update/Delete vendors
3. Inventory Module – this module is used to:
 - 3.1. Track inventory items [to be] purchased

Relationships among modules – The purchase order system is the primary module and must be functional for the system to be operational. The vendor module will supply vendor information for the purchase order module when operational. The primary purpose for this module will be to reduce database redundancy and user error. The inventory module will further supplement the purchase order system by allowing the purchase order module access to inventory items for reference to reduce redundancy as well as user-entered information.

2.2. Functional Requirements

2.2.1. P.O. Feature Area

- 2.2.1.1. **Change Number Sequence (Priority – Med)** – The purchase order number will be auto-incremented by the system when the user initializes a new purchase order. An administrator will be able to change the number sequence on a purchase order to start the increment from a specified number.
- 2.2.1.2. **Select Vendor (Priority – Med)** – The user will be able to select a vendor from a list of all available vendors and designate that vendor as the vendor for the current purchase order.
- 2.2.1.3. **Vendor Address Auto Fill (Priority – Med)** – Each purchase order will be designated to a single vendor. When the user selects the vendor for the purchase order, the address/contact/other information will be automatically filled into their respective fields on the purchase order.
- 2.2.1.4. **ShipTo Address Auto Fill (Priority – Med)** – Each purchase order will have a ShipTo address. The majority of the time this address will be the address of the Upper Allen Fire Department. The user will be able to designate the UAFD as the ShipTo address and all necessary fields will be filled in.
- 2.2.1.5. **Date Auto Fill (Priority – Med)** – The date the purchase order was issued will be included in the creation of each purchase order. The user will have the option of clicking a button to have the current date filled in or input the date manually.

- 2.2.1.6. Designation for Purpose (Priority – High)** – The database UI will provide a place on the purchase order to designate it for Administration, Training, and Operations. The designation will be stored in the database upon purchase order issuance by the user.
- 2.2.1.7. Add Line Item (Priority – High)** – The user will be able to add one or more line items to the purchase order. The information will be manually entered unless the inventory module is functional to provide item information and pricing based on a user entered stock code.
- 2.2.1.8. Query Line Item (Priority – Med)** – The user will be able to lookup various inventory codes and descriptions from within the P.O. module and select them as line items on the current purchase order.
- 2.2.1.9. Field Validation (Priority – Med)** – The program will not allow a user to proceed with the issuance of a purchase order if all of the necessary fields are not filled in. The program will perform field validation and error checking prior to the records being saved to the database. If no errors are present, the purchase order is saved. If there are errors or empty fields, a dialogue box will notify the user of those areas to be addressed and allow the user to continue correcting errors.
- 2.2.1.10. Delete Line Item (Priority – High)** – After a line item has been entered onto the purchase order, the user will be able to remove it as long as the purchase order is not marked as complete.
- 2.2.1.11. Edit Purchase Order (Priority – High)** – After a purchase order has been completed, the user will be able to review it and make changes to it at any time until the purchase order is marked as complete.
- 2.2.1.12. Void Purchase Order (Priority – High)** – The DBMS will not allow a purchase order to be deleted. Instead, if a purchase order is no longer valid, it will be marked as void by the user and designated as such in the database.
- 2.2.1.13. Type of Sale Designation (Priority – High)** – Each purchase order will have a type of sale designation that will specify the payment method (cash/credit/check) used to purchase the goods. The user will select the designation and the payment method will be stored in the database when the purchase order is complete.
- 2.2.1.14. Cost Center Designation (Priority – High)** – Each purchase order will be designated to a specific cost center as specified by the user in terms of the pre-entered cost centers that will be inherent in the database.
- 2.2.1.15. Purchasing Agent Designation (Priority – High)** – With each purchase order the agent who is conducting the order will need to identify him or herself by entering their name before the transaction can be completed.
- 2.2.1.16. Purchasing Agent Authorization (Priority – High)** – Along with the agent identifying themselves on initial login, they will also have to input a password before the purchase order can be completed. This will ensure that only qualified users will be able to make purchase orders.
- 2.2.1.17. Purchase Order Received Invoice (Priority – High)** – The user will be able to specify on a previously issued purchase order that an invoice has been received in response to the purchasing process. The user will be able to input an invoice number and the database will store the invoice number for future reference.
- 2.2.1.18. Purchase Order Mark Complete (Priority – High)** – Within each purchase order the agent will be able to specify whether the purchase order has been paid in full. This will allow agents to separate the purchase orders that have been completed, with those purchase orders that have not been paid for.
- 2.2.1.19. Create Purchase Order (Priority – High)** – Once a purchase order has been filled out and is ready to be filed, the user will be able to initialize the purchase order transaction to be processed by the DBMS and save it into the database.

- 2.2.1.20. **Query Complete Purchase Order (Priority – High)** – This function is used by other functions that have as their input a single purchase order such as Edit Purchase Order. This function accepts search criteria and returns results to select from.
- 2.2.1.21. **Query Outstanding Purchase Order (Priority – High)** – This function is identical to the previous function except that the purchase order list that is searched is only those purchase orders that have not yet been received and are thus not marked as complete.
- 2.2.1.22. **Query Vendor (Priority – Med)** – This function takes search criteria that the system manager specifies and searches the database for those vendors that match the search criteria and returns the results.
- 2.2.1.23. **Add Purchasing Agent (Priority – High)** – To be effectual, the system will allow for the creation of new agent accounts so that we can manage the list of agents and give separate logon privileges and manage internal security.
- 2.2.1.24. **Delete Purchasing Agent (Priority – High)** – If an agent leaves or no longer needs to access the system, this feature allows for the deletion of that person from the list of those who have access rights to the system.

2.2.2. Vendor Feature Area

- 2.2.2.1. **Add New Vendor (Priority – Med)** – The DBMS will post the user-supplied vendor information to the database for reference from the purchase order module.
- 2.2.2.2. **Edit Vendor (Priority – Med)** – Allows the user to retrieve and vendor record and edit vendor information such as address or phone number.
- 2.2.2.3. **Delete Vendor (Priority – Med)** – The user will have the option of deleting vendors that no longer are associated with any purchase orders. The process of historical data archive necessary for this to function has not yet been determined in terms of details of functionality or necessity.
- 2.2.2.4. **Query Vendor (Priority – Low)** – This function will allow the user to enter search criteria and will return search results based on user input to allow the user to select a record for view/update/delete.

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2.2.3. Inventory Feature Area

- 2.2.3.1. **Add Line Item (Priority – Low)** – This function allows the user to add inventory items into the database for reference from the purchase order module.
- 2.2.3.2. **Edit Line Item (Priority – Low)** – This feature will use the same interface as the Add Inventory Item function and will allow the user to edit various aspects of any given item.
- 2.2.3.3. **Query Line Item (Priority – Low)** – This feature allows the user to search for inventory items in the database and display relevant information in a form that will not allow for data modification.
- 2.2.3.4. **Delete Line Item (Priority – Low)** – This feature will allow the user to delete from the database various inventory items that they select.

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2.2.3.5. Line Item Designation (Priority – Low) – This feature must be implemented if the inventory feature area is functional. This feature allows the user to select the designation for each line item (e.g. Fire Department, Relief).

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2.2.4. Functions Not Inherent in a Feature Area

- 2.2.4.1. **Logon/Logoff** – If the system allows multiple users to access the system with differing rights and privileges, there must be a logon/logoff procedure in place. This function will be used by the system to give access to various users to various parts of the system based on given permissions by the manager. Initially there will be no remote network access so external security is not a serious threat, although we will plan to make recommendations should Upper Allen decide to scale the system to a multi-user environment.
- 2.2.4.2. **Usability** – Currently Upper Allen has no computerized purchase order set up within their office. Because of this, many of the users are not going to want to bother

using a system that is hard to use. One of our priorities is to not only to create a system that will perform the desired functions but also will be user friendly and easy to learn.

2.2.4.3. User Friendly Interfaces – The interface of the system needs to be user-friendly. This is important because the system will be totally new to the users. The users will need to be trained and if the interface is friendly then the user will not be intimidated. The simpler the interface the amount of error will be less.

2.2.4.4. Report – PO’s Waiting For Invoice (Priority – Low) – This report will query the status of each purchase order and print a list of those purchase orders for which an invoice had NOT been received.

2.2.4.5. Report – PO’s Not Yet Complete (Priority – Low) – This report will query the status of each purchase order and print a list of those purchase orders for which an invoice HAS been received but the PO is still not complete.

2.2.4.6. Report – PO’s Complete (Priority – Low) – This report will query the status of each purchase order and print a list of those purchase order that have been marked complete.

2.2.4.7. Report – PO’s Void (Priority – Low) – This report will print a list of purchase orders that have been permanently marked VOID.

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3. Increments

2.3. Release 1 (High Priority)

This release will include the absolute necessities that the system will need. Also, this release will not include features that will make the users job any easier (i.e. auto fill-in, drop down box). This is what is needed for the system to be minimally complete.

- 2.2.1.6. Designation For Purpose
- 2.2.1.7. Add Line Item
- 2.2.1.10. Delete Line Item
- 2.2.1.11. Edit Purchase Order
- 2.2.1.12. Void Purchase Order
- 2.2.1.13. Type of Sale Designation
- 2.2.1.14. Cost Center Designation
- 2.2.1.15. Purchasing Agent Designation
- 2.2.1.16. Purchasing Agent Authorization
- 2.2.1.17. Purchase Order Received Invoice
- 2.2.1.18. Purchase Order Mark Complete
- 2.2.1.19. Create Purchase Order
- 2.2.1.20. Query Complete Purchase Order
- 2.2.1.21. Query Outstanding Purchase Order
- 2.2.1.23. Add Purchasing Agent
- 2.2.1.24. Delete Purchasing Agent

3.2 Release 2 (Medium Priority)

Release 2 will allow for the user to delete or edit any items that they were able to add in the previous release. These requirements are high priority as well, but we’ve separated them into a different release because these are needed for editing what has been entered into the system and not for the system to run.

- 2.2.1.1. Change Number Sequence
- 2.2.1.2. Select Vendor
- 2.2.1.3. Vendor Address Auto Fill
- 2.2.1.4. ShipTo Address Auto Fill

- 2.2.1.5. Date Auto Fill
- 2.2.1.8. Query Line Item
- 2.2.1.9. Field Validation
- 2.2.1.22. Query Vendor
- 2.2.1.25. Reports
- 2.2.2.1. Add New Vendor
- 2.2.2.2. Edit Vendor
- 2.2.2.3. Delete Vendor

3.2 Release 3 (Low Priority)

Release 3 will include various functions that will make the program user-friendlier. This release contains all the medium priority requirements. It also includes requirements that allow for editing of the fields and searching for different purchase orders.

- 2.2.2.4. Query Vendor
- 2.2.3.1. Add Inventory Item
- 2.2.3.2. Edit Inventory Item
- 2.2.3.3. Query Inventory Item
- 2.2.3.4. Delete Inventory Item
- 2.2.4.4. Report – PO’s Waiting For Invoice
- 2.2.4.5. Report – PO’s Not Yet Complete
- 2.2.4.6. Report – PO’s Complete
- 2.2.4.7. Report – PO’s Void

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3. Open Issues

- A feature of the majority of P.O. systems on the market is a tax module. The UAFD holds tax-exempt status and therefore a tax module is not a high priority. This is a function that we think would be necessary if the program were to be distributed to other businesses, but we are currently tailoring this to the needs of the tax-exempt fire department.

4. References

Group members Jason and Brian did research on the Internet attempting to find similar PO systems with ideas similar to what we wanted to construct. Access had a template called ‘order entry’ that resembled what the group desires to create more than anything that was discovered on Internet.

5. Glossary of Terms

- DBMS is defined in our project as a database management system.
- UI is defined as user interface.