

COMP 491: Senior Seminar

Requirements Document:

User Requirements
System Requirements

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0. Project Objective

0.1 Goal

The purpose of this system is to provide Brand New Windows with a system that will enable the business to keep records of past jobs completed and produce customizable estimates for future jobs. This system will allow the user to perform the same operations already used in current business practices, such as on-site pricing estimates, recording customer demographics, and window order forms, just without the paper clutter.

Rationale: Brand New Windows would like to eliminate any paper copies that have to be managed, while allowing for a higher level of organization. The business will then be able to enter all of a customer's information into the database, such as the type of windows that they desire, along with the measurements. This will facilitate presenting the customers with an estimate for the entire job, as the current prices for Brand New Windows' services can be obtained without manual computation or having to make calls to their window distributor.

1. User Requirements

1.1 Customer Functionality

1.1.1 Add a Customer

Whenever a new or potential customer is dealt with, the user will be able to enter the following information:

Customer Contact Information:

1. First Name
2. Middle Initial
3. Last Name
4. Street Address
5. City
6. State
7. Zip
8. Phone
9. Fax
10. Email Address

Rationale: The new or potential customer will exist in the database, which will allow a user to easily find contact information for the customer even if an order has never been placed with the business.

1.1.2 Modify a Customer

In the case that a customer's contact information should change, the following information will be available to edit:

Customer Contact Information (see Section 1.1.).

Rationale: This will allow a user the capability to keep up-to-date records of any customer's contact information.

1.2 Order Functionality

1.2.1 Create an Order

Whenever a customer wants to place an order with Brand New Windows, the user will enter in the following information:

Customer Contact Information (see Section 1.1.1) must be entered first.

Customer Shipping Information:

1. Street Address
2. City
3. State
4. Zip
5. Phone
6. Comments

Order Information:

1. Order Date
2. Window ID (Series, Style, & United Inches (UI) prefills upon selection)
3. Quantity
4. Install
5. Width
6. Height
7. Interior Color Selected
8. Exterior Color Selected
9. Grid Pattern Selected
10. Grid Type Selected
11. Glass Selected
12. Screen Selected
13. Labor
14. Discount

* The Order Information options 2 through 12 will be unique for each particular configuration of a window. The user will have the capability to enter multiple unique configurations of characteristics 2 through 12.

Rationale: These specified pieces of information that the user must enter are in direct correspondence with the current paper version of Brand New Windows' order form.

1.2.2 Modify an Order

In the case that an order needs to have its contents adjusted, the user will have the capability to edit the following information from a preexisting order:

Customer Contact Information (see Section 1.1.1).

Customer Shipping Information and Order Information (see Section 1.2.1).

Rationale: This will allow a user the capability to keep up-to-date records of any customer's order.

1.3 Item Functionality

1.3.1 Add a New Item

This functionality allows a user to enter a new item offered by the distributor along with its corresponding attributes. When adding a new item, the user will enter the following information:

Window Attributes:

1. Series
2. Style
3. Maximum United Inches (UI)
4. Maximum Height
5. Maximum Width
6. Minimum Height
7. Minimum Width
8. Interior Color Options
 - 8.1 Price
9. Exterior Color Options
 - 9.1 Price
10. Glass Options
 - 10.1 Price
11. Grid Pattern Options
 - 11.1 Price
12. Grid Type Options
 - 12.1 Price
13. Screen Options
 - 13.1 Price
14. Base Price

Rationale: Brand New Windows wants to have the capability to offer the latest models of windows to their customers. Whenever the distributor offers a new

window, the user can add the attributes of the item to the database for use in order processing.

1.3.2 Modify Existing Item

Whenever a user needs to edit or add to any of the attributes of an existing window in the database, the following information is available for adjustments:

Window Attributes(See Section 1.3.1).

Rationale: The distributor for Brand New Windows may offer new options for a window, such as a new grid pattern. The user wants to have the capability to offer the latest upgrades to their customers, so this will allow them to modify any of the attributes of an item in the database.

1.4 Reports

The system will provide the user with the capability of running reports. This feature allows the user to enter certain criteria, depending on the specific report, to search the database for data pertaining to the requested information.

1.4.1 Previous Install Reports

Whenever the user wants to search the database for data pertaining to a particular item that has been installed for a customer, they will be able to enter the following information to run a previous install report:

1. Series
2. Style

This report will query the database and return the following information:

1. First Name
2. Last Name
3. Date
4. Series (Requested)
5. Style (Requested)

Rationale: The user may want to run a report for a particular series and style of a window or patio door in order to see where that item has previously been installed. This may be done if a potential customer wants to see specific jobs completed by Brand New Windows. This report returns all of the information from an order form that has that particular queried type of item on it.

1.4.2 Date Reports

Whenever the user wants to search the database for orders placed on a certain date, they will be able to enter the following information to run a date report:

1. Date

This report will query the database and return the following information:

1. Date (Requested)
2. First Name
3. Last Name
4. Number of Windows Ordered
5. Total Price

Rationale: The user may want to run a report to see order information pertaining to a specified date.

1.4.3 Customer Order Reports

Whenever the user wants to search the database for orders placed by a certain customer, they will be able to enter the following information to run a customer order report:

1. First Name
2. Last Name

This report will query the database and return the following information:

1. First Name (Requested)
2. Last Name (Requested)
3. Order Date
4. Quantity
5. Series
6. Style

Rationale: The user may want to run a report to see all of the orders placed by a particular customer.

1.4.4 Zip Code Reports

Whenever the user wants to search the database for orders that were placed for a specific zip code, they will be able to enter the following information to run a zip code report:

1. Zip Code

This report will query the database and return the following information:

1. Zip Code (Requested)
2. First Name
3. Last Name
4. Address
5. City
6. Order Date
7. Quantity
8. Series
9. Style

Rationale: The user may want to run a report to see order information pertaining to a specified zip code location.

2. Non-Functional Requirements

2.1 Operating System and Software Requirements

The operating system on the user's PC must be able to run Microsoft Access 2003. Microsoft Windows 2000 Service Pack 3 (SP3) or later and XP are the recommended operating systems. The recommended system requirements for basic functionality are as follows:

1. Pentium 300-megahertz (MHz) processor
2. 128 megabytes (MB) of RAM
3. At least 3 gigabytes (GB) of available space on the hard disk

Rationale: These requirements will ensure that the Microsoft Access database will run efficiently even with high volumes of data. Additionally, Brand New Windows is currently running these minimum requirements, so the system was set up with this in mind.

3. System Requirements

1.1.1 Add a Customer

Function: Add customer information

Description: A form is displayed allowing a user to enter the appropriate information for a new customer.

Requires: Write access to the database.

Input: Last Name
Middle Initial
First Name
Street Address
City
State
Zip
Phone
Fax
Email Address

Output: New customer information is placed into the Brand New Windows database.

Pre-Condition: None.

Post-Condition: All information is stored in the database.

1.1.2 Modify a Customer

- Function:** Modify customer information.
- Description:** A form is displayed allowing a user to edit the appropriate information for a specified customer.
- Requires:** Read/Write access to the database.
- Input:** See Section 1.1.1
- Output:** Modified customer information is stored in the Brand New Windows database.
- Pre-Condition:** The customer information that needs modification exists in the database.
- Post-Condition:** All modified information is stored in the database.

1.2.1 Create an Order

- Function:** Order creation.
- Description:** Allows the user to compile an order form.
- Requires:** Read/Write access to the database.
- Input:** Customer Contact Information (see Section 1.1.1).
- Customer Shipping Information:
Street Address
City
State
Zip
Phone
Comments
- *Customer Shipping Information will be copied from Customer Contact Information if the user indicates that it is the same for both sets of information.
- Order Information:
Order Date
Window ID (Series, Style, & UI prefills upon selection)
Quantity
Install
Width

Height
Interior Color Selected
Exterior Color Selected
Grid Pattern Selected
Grid Type Selected
Glass Selected
Screen Selected
Labor
Discount

* The Order Information options 2 through 12 will be unique for each particular configuration of a window. The user will have the capability to enter multiple unique configurations of characteristics 2 through 12.

Output: Pricing information is displayed on the order form.

Pre-Condition: The Window ID must already exist in the database for each input.

Post-Condition: Order form is stored in the database.

1.2.2 Modify an Order

Function: Edit an existing order.

Description: Allows the user to edit mistakes, typographical errors, updates, etc. to an order that exists in the database.

Requires: Read/Write access to the database.

Input: See Section 1.2.1

Output: Pricing information is displayed on the order form.

Pre-Condition: Order being modified must already exist in the database.

Post-Condition: Order form is stored in the database.

1.3.1 Add a New Item

Function: Add new item information

Description: A form is displayed allowing a user to enter the appropriate information for a new item.

Requires: Write access to the database.

Input: Window Attributes:
Series
Style
Maximum United Inches (UI)
Maximum Height
Maximum Width
Minimum Height
Minimum Width
Interior Color Options
Price
Exterior Color Options
Price
Glass Options
Price
Grid Pattern Options
Price
Grid Type Options
Price
Screen Options
Price
Base Price

Output: New item information is placed into the Brand New Windows database.

Pre-Condition: None.

Post-Condition: All item information is stored in the database.

1.3.2 Modify an Existing Item

Function: Edit an existing item.

Description: Allows the user to edit mistakes, typographical errors, updates, etc. to an item that exists in the database.

Requires: Read/Write access to the database.

Input: See Section 1.3.1

Output: The edited item information is stored in the Brand New Windows database.

Pre-Condition: Item must already exist in the database.

Post-Condition: Item information is stored in the database.

1.4.1 Previous Install Reports

Function: Search for a particular item history.

Description: Searches the database for a particular item that has been installed for a customer.

Requires: Read access to the database.

Input: Series
Style

Output: Customer First and Last Names, Date, Series, and Style is displayed to the screen for the specified Series and Style combination entered.

Pre-Condition: None.

Post-Condition: Corresponding information is displayed. If history for the item does not exist in the database, then the screen will appear blank.

1.4.2 Date Reports

Function: Search for orders pertaining to a specified date.

Description: Searches the database for orders placed on a specific date.

Requires: Read access to the database.

Input: Date

Output: Date, Customer First and Last Names, Number of Windows Ordered, and Total Price on the specified date are displayed to the screen.

Pre-Condition: None.

Post-Condition: Corresponding information is displayed. If history for the date does not exist in the database, then the screen will appear blank.

1.4.3 Customer Order Reports

Function: Search for orders pertaining to a specified customer.

Description: Searches the database for orders placed by a specific customer.

Requires: Read access to the database.

Input: First Name
Last Name

Output: Customer First and Last Name, Order Dates, Quantity of Windows Ordered, Series, and Style are displayed to the screen.

Pre-Condition: None.

Post-Condition: Corresponding information is displayed. If an order for the customer does not exist in the database, then the screen will appear blank.

1.4.4 Zip Code Reports

Function: Search for orders pertaining to a specified zip code.

Description: Searches the database for orders placed by in specified zip code location.

Requires: Read access to the database.

Input: Zip Code

Output: Zip Code, Customer First and Last Names, Address, City, Order Dates, Quantity of Windows Ordered, Series, and Style are displayed to the screen.

Pre-Condition: None.

Post-Condition: Corresponding information is displayed. If an order for the customer does not exist in the database, then the screen will appear blank.