Problem Statement - Customer Ninja

[1.0] Introduction

Our software application, Customer Ninja, shall provide the employees and managers of a retail establishment with access to point-of-sale functionality, as well as provide the establishment with customer tracking and inventory control through the software-controlled use of a persistent local database. The application shall also aid in the marketing needs of the retail establishment through the customer tracking functionality, as well as through a built-in customer loyalty program. The application shall further implement the use of different levels of access permissions, enabling managers great flexibility to deal with unpredictable situations in the retail environment, while ensuring the security of the system by allowing front-line employees access to only necessary activities. The application shall provide this functionality within a single software package that can run on a stand-alone local computer.

[2.0]

Users of the application shall be the employees and managers of a retail establishment engaged in physical point-of-sale operations.

* The users shall operate the application through use of a standard computer mouse and keyboard on a single local machine, per project requirements.

[3.0]

The application shall provide users with a graphical user interface (GUI) for operations.

* The GUI shall provide access to all permitted functionalities of the application.
* The GUI shall take on the familiar form of windows, text fields, and buttons.
* The GUI shall display through the local computer’s standard graphics output.
* The users shall operate the GUI functions with the standard mouse and keyboard.

[4.0]

The application shall provide quick access to inventory-based sale functionality for employees of the retail establishment.

* The application shall allow employees access to item selection and item quantity through the local database.
* The application shall display the selected item, quantity, and total cost of the sale.
* The applications shall provide payment process functionality, allowing employees to enter amount received and displaying change owed to the customer.

[5.0]

The application shall also allow user entry of customer information during the sale process.

* The application shall allow users to enter customer information through during the sales process, including name and address.
* The application shall store this information within a persistent local database, enabling the tracking of customer preferences and behavior while easing the sales process for repeat customers.
* This functionality shall also provide a customer loyalty program, also tracked through the customer’s entry in the persistent local database.
* This native software feature aids in the maintenance of a loyal customer base by allowing the retail establishment to reward repeat business.

[6.0]

The application shall let managers and other trusted members of the retail establishment operate with elevated permissions.

* This functionality shall allow these trusted users to handle complex problems that may arise in the day-to-day operation of the establishment, such as the processing of refunds, manual entry of sales and sale amounts, and inventory adjustment.
* Trusted users shall furthermore be able to manage users through this same functionality, allowing managers to add or delete employees and elevate or restrict permissions.
* None of these elevated permissions shall endanger the integrity of the application itself.

[7.0]

The application shall facilitate these functions through the software’s use of a persistent local database, which is stored directly on the machine running the application.

* Users of the application shall not need to manage this database directly, as the application shall provide this functionality internally.
* Users shall simply enter any information and perform any functions through the graphical user interface (GUI).
* In this way, Customer Ninja allows the quick use of a powerful software database through an easy-to-understand user interface.

[8.0]

The application’s database shall also provide users with tools to analyze the behavior of their customers.

* These tools shall display and receive all information through the graphical user interface (GUI).
* The application GUI shall display options for customer look-up by name and customer number.
* The application GUI shall display additional options for analysis of the entire customer base.
* These features shall be light-weight and integrated directly into the Customer Ninja application.

[9.0]

The application will further provide implementation of these features through connection to a magnetic card reader/writer device.

* The application will allow users to issue a card to each customer that is linked directly to their information in the database.
* The user will access the device functions directly through the application GUI.
* This functionality will provide effective use of both the customer loyalty and tracking systems by ensuring the rapid retrieval and storage of all relevant customer information.
* The card reader/writer device will connect directly through the user’s local computer.

[10.0]

Through these tools, as well as the loyalty program and other features, the user will be able to more easily identify purchasing trends and demand at their retail establishment, allowing for a more effective and efficient business. Altogether, these functions shall provide the retail establishment with a light-weight solution to the various problems of the retail environment within a single software package.