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Department of Computer Science

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Submission 2: Software Requirements Specification

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Table of Contents

1. Introduction

1.1 Purpose

The goal of this project is to computerise the Guyana Defense Force Stocks Department's paper-based inventory management so as to make the operation less tedious, more accurate, and more transparent.

1.2 Intended Audience

This document is intended for developers, project managers, marketing staff, users, testers, documentation writers, and anyone else who has an interest in the GDF-IMS. The document will outline and answer a number of questions one may have about the system.This document consists of three main parts:

1. Overall Description

   The overall description will introduce the basics of the system, such as the system definition, expected characteristics, features, and design, intended user classes, and factors that determine the system's success.

2. System Feature

   The system feature section will further elaborate on the functionality behind features and design, how features vary between users, and how these features interrelate between interfaces and users.

3. Non-functional Requirements

The third and last section of the document will detail all the other features the developers of the system saw fit to have in a flawlessly working system. In other words, precautions exist within the system for assurance.

2. Overall Description

2.1 Product Perspective

The Guyana Defense Force Inventory Management System is a new and independent inventory database system that seeks to replace the existing paper-based inventory system. The GDFIS serves the same purpose as any other inventory management system (IMS), but its operation and design are unlike the others. GDF - IMS will consist of a two-part interface, one for the administrator and the other for the user. The administrator and user interfaces' designs will be as distinct as their varying functionality. Changes made by administrators will be reflected on the user interface, and vice versa. This is done to ensure instances of consistency, accuracy, efficiency, and transparency.

2.2 Product Function

There are two interfaces for the GDF-IMS, one for administrators and one for users. As a result, functionality differs.

1. Admin Functions
    a. Admin will be able to create and make available a list of all items available in inventory, along with the amount. This includes support features for admins to search and modify inventory lists.
        i. The system will notify the admin of low inventory.
        ii. The system records the date of the restack.
        iii. The system will be able to create inventory balance sheets.
2. User Functions
    a. Users will be able to see both inventory items and their numbers, as well as search inventory, on their interface.
        i. Users will request or order the number of items needed.
        ii. The system records the time and date of requests or orders.

3. Linked Function
    a. Upon the administrator's verification that a request or order has been fulfilled, the system will automatically make changes to reflect this.

2.3 User Class & Characteristics

Though this GDF-IMS was tailored to fix a specific problem within the GDF, it is understood that the system is still considered to be an inventory management system. Unlike most inventory management systems, GDF-IMS has two interfaces: the admin interface that caters to management and the user interface that caters to the client user. Therefore, two classes of users are defined: the administrative user and the client user. The administrative user and the client user are thus the two classes of users that have been established.

1. Administrative Users

These users may consist of the inventory and stock manager and IT personnel. They would have full access to the system and be able to make all possible changes. Full system access would provide the ability to adjust inventory counts, examine restocks, and view requests or order records submitted by general users. Administrators will be able to view and print summaries, as well as delete all records after a certain period of time.

2. Client User

They have less control and features, but exactly what is needed to be of effect to them. They have fewer features and controls, but they have exactly what they need to be significant. Any additional information must be requested because it is not directly relevant to them. For instance, client users have records of supplies that have been requested over time, but records of restock are not available to them. Features such as the restock notification would be useless to the client user. Such features could even be considered an annoyance.

2.4 Design Implementation and Constraints

Regardless of whether computer specifications were established, it is critical that the system function properly, particularly on user or unit computers. The purpose of its creation would be defeated if this were not taken into account. In other words, transparency and communication will be blurred again between the inventory managers and units. So it is important that the user interface can work with the bare minimum of specifications.

2.5 Assumptions & Dependencies

The creation of the GDF-IMS does not depend on any existing system. However, if this system is successfully completed, it can serve as the foundation for other systems. The system can be further developed to add features that may interest and suit other companies. Therefore, broadening its purpose and functionality.
If accuracy is not achieved with the creation of this system, it is a failed project because of the plethora of issues that will arise as a result of its interdependence. For example, incorrect inventory numbers can result in ordering too little or too much, which will lead to financial issues and unreliable balance sheets.

3. System Features

3.1 System Features Description

High priority features of the GDF -IMS includes:

- View Stock Numbers

The system should allow users and units to see real-time stock availability in inventory. This is a high priority feature because it is critical to the system's proper operation because it solves the problem of transparency and helps indicate when restocking is required. The units will enter their respective usernames and passwords into the system's login page, which will allow them to see the current stock numbers.The system allows each unit to have a client user account. This will allow units to not only view stock numbers but also make their requests for supplies from inventory. To gain access to the interface, a login credential will be needed.

- Make and view order request

The system should allow client users to request stocks from inventory, and admin users should be able to read orders, gather requested items, and verify orders upon retrieval so that the system reflects that.

- History of restock and orders

The system should make a record of all restock dates as well as dates of order from units. With this the system will be able to retrace and support the numbers of the inventory inflow and outflow.

- Generating of Inventory Balance Sheet / Stock Card

The system should generate inventory balance or stoOck cards that will show the inflow and outflow of stock on a monthly basis. This is a low priority feature as it is not a vital feature required for the system.

With these features the system should be able to:

- Create an admin account and a client account. The admin will have complete control over the data and will receive notifications on specific matters such as restocking and stock order requests made from client user accounts, whereas the client user account will only be able to see the number of items in stock and make orders for items needed.

- Keep track of all inventory details. First, an official count will have to be made for each item and input into the system by the user. The information will then be recorded, stored, and tracked by the system.

- Search the inventory for specific items. The system will allow both admin users and client users to search the inventory for a specific item.

- Allow the admin to edit the inventory list. The admin will have full authority to update the list or modify it however they wish. For example, the admin would be able to add new items onto the list or delete items that will no longer be in stock.

- Check the current supply of items being stored. The user will always know the amount of each item within storage by use of records.

- Update records as items are taken out of storage. When a request for an item has been approved by the admin, the records will also update in real time to accommodate the decrease in the amount of items, keeping the list accurate.

- Allow the administrator to set a maximum number of items to avoid overordering.

- Send a notification to let the admin know when to place orders or restock. When items have been used up to a certain amount, the system will notify the user that the item will need to be restocked soon before it is all used up.

4. Other Non-functional Requirements

These subsections are intended to provide a general guide about how you should categorise the various non-functional requirements of your system.

4.1 Performance Requirements

The system offers real-time inventory numbers. As a result, it is critical that the client user interface be constantly refreshed and updated to see accurate numbers, but this would be deemed a tedious task for a user. So it is important for the client-user interface to conduct this itself.

4.2 Safety Requirements

The system only allows admin users to change inventory numbers if there was an error upon entry. The system will also automatically update numbers in inventory after an admin user has verified an order.

4.3 Security Requirements

The system does not disclose order histories between client users; that information is kept between the admin and the client user. Only admin users can see restock history and view, print, and download the inventory balance sheet and stock card. Admin users will also be able to restore and delete inventory records.

4.4 Software Quality Attributes

The system, if needed, will be able to cross-check orders and restock histories to ensure the credibility and reliability of inventory numbers. Date and time will be taken into consideration for efficacy.

4.5 Business Rules

The system will allow the admin user to change inventory numbers, read and verify client orders, view inventory history, create and view an inventory balance sheet or stock card, as well as restore and delete deleted history records. Client users are able to view inventory numbers and make and review their orders.