

University of Guyana 2021/2022
CSE2101 Software Engineering
Semester Project
Submission 1: Project Plan

Group Members:

Elon Burgess - 1040464

Triston Evelyn - 1040245

Christopher Udit - 1015624

Chantelle Xavier - 1034748

Faraz Yassin - 1040202

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Submission o

Organisation: Guyana Defence Force

Relationship to the organisation: E. Burgess - Employee

This project aims to address an existing issue within the Guyana Defence Force Stocks Department. The goal of this project is to simplify the process by moving away from a paper-based filing system. The implementation of this project would see a drastic change in the record-keeping procedures which would improve the efficiency and accuracy of their inventory management system.

The Guyana Defence Force has faced issues relating to inventory record-keeping, and stock monitoring. With the help of this database, units within the GDF will be able to see the number of materials available in the inventory and request materials when needed and update the system accordingly. A record of what units have been requested and received will be kept. When materials in inventory are low, a notification will be given, this allows time for the supplies to be restocked before they are completely used up. This database also focuses on the accuracy of numbers in stock. With correct numbers, balancing the inflow and outflow of materials will be made easy and the risk of ordering too few or too much of restocked items is significantly reduced. This system will ultimately increase efficiency and avoid any unexpected shortages of stock.

Aim

To create a database that:

- keeps records of materials in inventory
- records materials used or requested by the various units
- notifies when materials are running low

Submission 1

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Introduction

The purpose of this proposal is to outline the operation of an inventory management system for the Guyana Defence Force Stocks Department. This project will aim to simplify the process by moving away from a paper-based filing system. The expected constraints of this project will include inconsistent tracking, incomplete data and changing demands from the customer. This project is expected to start [dd/mm/yy] and be completed [dd/mm/yy], a total of x days. A budget of \$ is deemed sufficient.



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Project Organisation

- Project Manager
 - Establishes communication between the client and the team.
 - Plans budget, and schedule.
- Team Lead
 - Conducts and assigns tasks to team members.
 - Make sure that deadlines are met.
 - Resolves conflicts and errors.
 - Ensures that all necessary documentation is made.
 - Ensure project goal is met
- Software Developers
 - Front-end Developers: Create the interface for users.
 - Back-end Developers: Create the admin platform.
- Testers
 - Tests all program features.
 - Identify and document errors.
- UI Designer
 - Designs mockups of the admin platform and user interface.
- QA Engineer
 - Ensures that the program meets all expected criteria flawlessly.

Risk Analysis

Five (5) possible risks that may arise from the project are

- Failed low stock notification
- Over-ordering
- Unknown numbers in the inventory
- Inaccurate numbers in the inventory
- Loss of Data

Project Risk	Likelihood	Risk Reduction Strategies
Failed low stock notification	Medium	<ul style="list-style-type: none">• A backup estimated time schedule to check inventory items will alert the admin, regardless of whether the admin received low stock notifications.
Over-ordering	Low	<ul style="list-style-type: none">• A maximum number will be set for an item or a group of items. An alert will be given when this number is reached.
Unknown numbers in the inventory	High	<ul style="list-style-type: none">• Admins will be working with a level of transparency, meaning units and users will be able to see available items and their numbers. Units/users will be provided with a history of their supply requests.

Inaccurate numbers in the inventory	Low	<ul style="list-style-type: none"> • The Admin will be able to verify requested items on a daily basis with a record of the date and time to retrace. As admin verifies requests and supplies numbers in inventory, numbers will automatically change to retrace. As admin verifies requests and supplies numbers in inventory, numbers will automatically change with a record of the date and time. And if an admin sees fit, they can alter the numbers themselves. • Admin and user history can be cross-checked. • A monthly inventory balance sheet will be generated by the system with a reflection of the month's supplies and orders.
Loss of Data	High	<ul style="list-style-type: none"> • All data of requests, supplies and orders will all be computerised and backed up.

Hardware & Software Resource Requirements

For Developer

Hardware Requirements	<ul style="list-style-type: none">• Processor - 64, two - i5 Core, 3GHz• RAM - 64GB• Hard Drive - 256GB• Internet (LAN) or WiFi
Software Requirements	<ul style="list-style-type: none">• HTML• CSS• SQL• Python• Windows 10, 11

For User

Hardware Requirements	<p>Minimum Requirements:</p> <ul style="list-style-type: none">• Processor - 64-bit, four-core, 2.5 GHz minimum per core• RAM - 4 GB• Hard disk 80 GB <p>Recommended Requirements:</p> <ul style="list-style-type: none">• Processor - 64-bit, four-core, 2.5 GHz minimum per core• RAM - 8-16GB• Hard disk -80 GB• Windows 10, 11• Internet (LAN) or WiFi
Software Requirements	<ul style="list-style-type: none">• Application and front-end web• SQL Server• Web Browser

Work Breakdown

Phase I - Admin Development

Begin admin platform development.

Task 1 - Back-end Development

- 1.1. Create a pre-made inventory list.
- 1.2. Add an admin feature that modifies the inventory list.
 - 1.2.1. The feature will include a way to add items to the inventory list, a way to search the inventory list, and a way to change the numbers on the inventory list.
- 1.3. Add a feature that notifies the admin when a particular inventory is low.
 - 1.3.1. The feature will allow the admin to set a minimum number for an individual item or group of items and indicate when that number is met.

Task 2 - Front-end Development

- 1.1. Design an admin platform mockup.
- 1.2. Implement platform design.

Task 3 - Test the admin platform and revise if any issues occur.

Phase II - User Development

Begin unit/user interface development.

Task 1 - Back-end Development

- 1.1. Create an interface that units can check to see if items are in inventory.
 - 1.1.1. Add features to the interface so units can be able to request items.

Task 2 - Front-end Development

- 1.1. Design a user page mockup.
- 1.2. Implement interface design.

Task 3 - Test the unit/user interface and revise if any issues occur.

Phase III - Admin & User Cross Development

Task 1 - Add features that link the admin platform to the user/unit interface.

- 1.1. Add an admin feature that keeps a record of the date and time of requested items from units and dates of inventory restock.
- 1.2. Add a feature that automatically changes inventory numbers when items requested by units are verified by the admin.
- 1.3. Add an admin feature that saves and prints, if desired, the monthly inventory balance sheet.

Task 2 - Compile and test the complete database and revise it if any issues occur.



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Project Schedule

Work Bench Schedule	Task	Lead	Duration (Days)	Start	End	Week 1 [dd/mm]					Week 2 [dd/mm]					Week 3 [dd/mm]					Week 4 [dd/mm]					Week 5 [dd/mm]					Week 6 [dd/mm]					Week 7 [dd/mm]				
						M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F					
Phase I	Admin Development		17	dd/mm/yy	dd/mm/yy																																			
Task I	Back-end Development		8																																					
Activity I	Create a pre-made inventory list	Back-end Developer(s)	2																																					
Activity II	Add an admin feature that modifies the inventory list		3																																					
Activity III	Add a feature that notifies the admin when a particular		3																																					
Task II	Front-end Development		6																																					
Activity I	Design admin platform mockup	UI Designer	2																																					
Activity II	Implement platform design	Front-end Developer(s)	4																																					
Task III	Test and revise	Team Lead, Tester, QA Engineer	5																																					
Phase II	User Development		11	dd/mm/yy	dd/mm/yy																																			
Task I	Back-end Development		5																																					
Activity I	Create an interface where units can check and request i	Back-end Developer(s)	5																																					
Task II	Front-end Development		6																																					
Activity I	Design a user page mockup		2																																					
Activity II	Implement interface design	Front-end Developer(s)	4																																					
Task III	Test and revise	Team Lead, Tester, QA Engineer	5																																					
Phase III	Admin & User Cross Development		16	dd/mm/yy	dd/mm/yy																																			
Task I	Add features that link the admin platform to the user/u		11																																					
Activity I	Add an admin feature that keeps a record of the date an	Back-end Developer(s)	5																																					
Activity II	Add a feature that automatically changes inventory num		3																																					
Activity III	Add an admin feature that saves and prints, if desired, t		3																																					
Task II	Compile, test and revise	Team Lead, Tester, QA Engineer	5																																					



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Submission 2: Software Requirements Specification

Use Submission 1 to guide the creation of a Software Requirements Specification document for the proposed project. This document is a description of the software system to be developed. It specifies the functional and non-functional requirements, and should include use cases which describe the user interactions that the software must provide. Use this modified [IEEE SRS template](#) to guide your preparation of the document. Note it is a guide - so feel free to further modify it (within reason) and add any other relevant information.

Date for submission: 16th November, 2022 before 12 noon

 [Software Requirements Specification](#)

[Our document](#)



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