Requirements analysis

6.1 Introduction

This section will list the functional and non-functional requirements in detail for the system we are proposing, "system name". The functional requirements are grouped into the following sub systems: Staff subsystem, Inventory subsystem, Order subsystem and administration subsystem.

6.2 Functional requirements list

6.2.1 Subsystem 1- Staff subsystem

1.1. Login
1.2. Logout
1.3. Create user
1.4. Manage users
1.5 Delete user

6.2.2 Subsystem 2- Inventory subsystem

2.1. Scan inventory
2.2. View inventory
2.3. Update inventory

6.2.3 Subsystem 3- Order subsystem

3.1. Place order
3.2. View order

6.2.4 Subsystem 4- Admin subsystem

4.1. Produce sales report
4.2. Produce stock report
4.3. Report notification

6.3 Functional requirement description and detail
Subsystem 1- Staff Subsystem

Functional Requirement	Explanation
Requirement number:	1.1
Requirement name (use case name):	Login
Requirement short description:	The system should allow for a user to log on to the system.
Requirement detailed description and constraints:	Description: Each user can log onto the system with their user ID and password. Constraints: • A user needs to be a staff member
Business rules applicable to this requirement	• All passwords should be encrypted and hashed • The login page should be the same for all users
Revision date and Revision number:	2022-05-25 Version 1.0
Criticality/Priority:	High

Functional Requirement	Explanation
Requirement number:	1.2
Requirement name (use case name):	Logout
Requirement short description:	The system should allow a user to log out of the system.
Requirement detailed description and constraints:	Description: The system should provide a simple way for user to log out of the system. This should also be accessible from any screen. Constraints: • None
Business rules applicable to this requirement	• The user should be able to log out from any page.
Revision date and Revision number:	2022-05-25 Version 1.0
Criticality/Priority:	High

Functional Requirement	Explanation
Requirement number:	1.3
Requirement name (use case name):	Create user
Requirement short description:	The system should allow a manager to create a new user.
Requirement detailed description and constraints:	Description: A manager should be able create a new user on the system which will allow different employees to access the system. The manager will enter the employee's Name and Surname, as well as the password and user ID that will be used to log in. Constraints: • A duplicate user cannot be made
Business rules applicable to this requirement	• Name, Surname, password and user ID must be provided. • A strong password should be used • A user must be a staff member
Revision date and Revision number:	2022-05-25 Version 1.0
Criticality/Priority:	High

Functional Requirement	Explanation
Requirement number:	1.4
Requirement name (use case name):	Manage users
Requirement short description:	The system should allow a manager to manage all users.
Requirement detailed description and constraints:	Description: The manager should be able to view all users as well as being able to manage their information. The manager will enter their password in order to do this. Constraints: • None
Business rules applicable to this requirement	• Only a manager should be able to manage users • The manager needs their password
Revision date and Revision number:	2022-05-25 Version 1.0
Criticality/Priority:	High

Functional Requirement	Explanation
Requirement number:	1.5
Requirement name (use case name):	Delete user
Requirement short description:	The system should allow a manager to delete a user.
Requirement detailed description and constraints:	Description: The manager should be able to delete a user and their information along with it. The manager will enter their password in order to do this. Constraints: • None
Business rules applicable to this requirement	• Only a manager should be able to delete a user • A manager's password is needed
Revision date and Revision number:	2022-05-25 Version 1.0
Criticality/Priority:	High

Subsystem 2- Inventory Subsystem

Functional Requirement	Explanation
Requirement number:	2.1
Requirement name (use case name):	Scan inventory
Requirement short description:	The system should allow a user to scan a product
Requirement detailed description and constraints:	Description: A user can use a barcode scanner to scan a product for it's information Constraints: • None
Business rules applicable to this requirement	• A product needs a barcode • Any user can scan a product
Revision date and Revision number:	2020-02-19 Version 1.0
Criticality/Priority:	High

Functional Requirement	Explanation
Requirement number:	2.2
Requirement name (use case name):	View inventory
Requirement short description:	A user can view the products inventory
Requirement detailed description and constraints:	Description: The system would allow a user to view quantities and information on different products. If inventory is low, the system will notify user. Constraints: • None
Business rules applicable to this requirement	• Any user can view the inventory.
Revision date and Revision number:	2020-02-19 Version 1.0
Criticality/Priority:	High

Functional Requirement	Explanation
Requirement number:	2.3
Requirement name (use case name):	Update inventory
Requirement short description:	A user can update the inventory information
Requirement detailed description and constraints:	Description: The system allows a user to update the VIN numbers, product information, and the quantity available after the purchase or sale of stock. Constraints: • None
Business rules applicable to this requirement	• Any user can update the inventory
Revision date and Revision number:	2020-02-19 Version 1.0
Criticality/Priority:	High

Subsystem 3- Order Subsystem

Functional Requirement	Explanation
Requirement number:	3.1
Requirement name (use case name):	Place order
Requirement short description:	The system should allow a manager to place an order
Requirement detailed description and constraints:	Description: A manager should be allowed to place an order to suppliers for stock. A manager's password is required to place an order Constraints: • None
Business rules applicable to this requirement	• Only a manager can place an order • Managers password is needed.
Revision date and Revision number:	2020-02-19 Version 1.0
Criticality/Priority:	High

Functional Requirement	Explanation
Requirement number:	3.2
Requirement name (use case name):	View order
Requirement short description:	The system should allow a manager to view orders.
Requirement detailed description and constraints:	Description: A manager should be allowed to view the current order and even past orders from suppliers. Constraints: • None
Business rules applicable to this requirement	• . Only a manager can place an order
Revision date and Revision number:	2020-02-19 Version 1.0
Criticality/Priority:	High

Subsystem 4- Administration Subsystem

Functional Requirement	Explanation
Requirement number:	4.1.
Requirement name (use case name):	Produce sales report
Requirement short description:	The system should produce a sales report
Requirement detailed description and constraints:	Description: The system produces a sales report based on the last 30 days of stock sales as well as services/repairs provided. Should provide total income. Constraints: • None
Business rules applicable to this requirement	• Sales report depends on sales of stock as well as services provided
Revision date and Revision number:	2020-02-19 Version 1.0
Criticality/Priority:	High

Functional Requirement	Explanation
Requirement number:	4.2
Requirement name (use case name):	Produce stock report
Requirement short description:	The system should produce a stock report
Requirement detailed description and constraints:	Description: The system produces a stock report based on the current stock levels and compares it to that of the stock in the last report. Constraints: • There might not be a record of the previous stock report
Business rules applicable to this requirement	• Based off the current levels of stock • Compared to last stock report
Revision date and Revision number:	2020-02-19 Version 1.0
Criticality/Priority:	High

Functional Requirement	Explanation
Requirement number:	4.3
Requirement name (use case name):	Report notification
Requirement short description:	The system should send a notification to the manager(s)
Requirement detailed description and constraints:	Description: The system should send a notification to the manager(s) regarding the sales and stock reports so that they can view them. Constraints: • None
Business rules applicable to this requirement	• Only managers should receive the notification • Should be done every 30 days
Revision date and Revision number:	2020-02-19 Version 1.0
Criticality/Priority:	High

6.4 Non-functional requirements

6.4.1 Non-functional requirements list:

6.4.1.1 Performance:

1. Throughput
2. Sensible response time

6.4.1.2 Information:

3. Data integrity
4. Stored data

6.4.1.3 Economics:

5. Cost

6.4.1.4 Control and security:

6. Security

6.4.1.5 Efficiency:

7. User friendly
8. Reliable
9. Generation of data

6.4.1.6 Services:

10. Flexible

6.4.2.1 Performance

Non-Functional Requirement	Explanation
Requirement & Title	1. Throughput
Requirement text	The system should be able to transfer data from one location to another over the system in a short amount of time with efficiency.
Requirement type	Non-functional
Details and Constraints	• Throughput should be maximised to ensure high performance. • The system should not lag when being used to view, update information etc.
Revision date and Revision number:	2015-02-19 Version 1.0
Criticality/Priority:	High

Non-Functional Requirement	Explanation
Requirement & Title	2. Sensible response time
Requirement text	The system should have a quick response time to user demands.
Requirement type	Non-functional
Details and Constraints	• Users should not have to wait for screens to load • Use of system should not be time-consuming
Revision date and Revision number:	2015-02-19 Version 1.0
Criticality/Priority:	High

6.4.2.2 Information

Non-Functional Requirement	Explanation
Requirement & Title	3. Data integrity
Requirement text	The data of the system should be maintained and stored in a way that makes sure that the data remains accurate, complete and consistent.
Requirement type	Non-functional
Details and Constraints	• The data should be accurate, complete and consistent • Data should be well-organised • Human error should be minimalised
Revision date and Revision number:	2015-02-19 Version 1.0
Criticality/Priority:	High

Non-Functional Requirement	Explanation
Requirement & Title	4. Stored data
Requirement text	Large amounts of data should be able to be stored on the system with regards to information about stock and services
Requirement type	Non-functional
Details and Constraints	• There should be constraints in place to prevent data leaks • There should be no loss of data in the case of the system failing. • The system should comply with the POPI act.
Revision date and Revision number:	2015-02-19 Version 1.0
Criticality/Priority:	High

\

6.4.2.3 Economics

Non-Functional Requirement	Explanation
Requirement & Title	5. Cost
Requirement text	The cost of the system should be a minimal as possible
Requirement type	Non-functional
Details and Constraints	• There should be no costs regarding the maintenance of the system
Revision date and Revision number:	2015-02-19 Version 1.0
Criticality/Priority:	High

6.4.2.4 Control and security

Non-Functional Requirement	Explanation
Requirement & Title	6. Security
Requirement text	The system should have a high level of security to prevent data breaches
Requirement type	Non-functional
Details and Constraints	• Passwords should be hashed • The security and privacy of user's contact information must be ensured • Only managers will be able to access certain aspects of the system • The system must comply with the POPI act • Managers can view and change all user's information after entering their password.
Revision date and Revision number:	2015-02-19 Version 1.0

6.4.2.5 Efficiency

Non-Functional Requirement	Explanation
Requirement & Title	7. User friendly
Requirement text	The system should allow the user to easily navigate the system and application.
Requirement type	Non-functional
Details and Constraints	• The interface should remain constant throughout the whole system • The presentation of the system should be clean and organised
Revision date and Revision number:	2015-02-19 Version 1.0

Non-Functional Requirement	Explanation
Requirement & Title	8. Reliable
Requirement text	The system should be reliable in all tasks as well as in the completion of them.
Requirement type	Non-functional
Details and Constraints	• The system should not fail while updating the system, inventory or placing an order • Data on the system should not be leaked or lost • There should be no data redundancy
Revision date and Revision number:	2015-02-19 Version 1.0

Non-Functional Requirement	Explanation
Requirement & Title	9. Generation of data
Requirement text	The system should provide accurate and timely data is provided as an output or being viewed on the system.
Requirement type	Non-functional
Details and Constraints	• The data used for printing and producing reports must fulfil the tasks through generation. • The reports generated from stored data should be able to accessed easily.
Revision date and Revision number:	2015-02-19 Version 1.0

6.4.2.6 Services

Non-Functional Requirement	Explanation
Requirement & Title	10. Flexible
Requirement text	The system should include all users through the operation that is based through factors that are easy to adapt and dynamic
Requirement type	Non-functional
Details and Constraints	• The system should allow for a change of environment that is easy to ensure that the data is still managed correctly and effectively after a change has been made.
Revision date and Revision number:	2015-02-19 Version 1.0

6.5 Conclusion

In conclusion, this section has set out the functional and non-functional requirements for the "system name" system and has thus shed more light on how the actors will go about interacting with the system.