**Automation of NRDCL Services**

**(Java Programming Project)**

****

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date | Author | Description |
| 1.0 | December 2020 | Kinley Tshering | Project for Java Programming |

Table of Contents

[Background 2](#_Toc60138485)

[Business Requirements 2](#_Toc60138486)

[Menu System 3](#_Toc60138487)

[Customer Registration 3](#_Toc60138488)

[Site Registration 4](#_Toc60138489)

[Product Entry 4](#_Toc60138490)

[Deposit Advance 5](#_Toc60138491)

[Place Order 5](#_Toc60138492)

[Generate Report 6](#_Toc60138493)

[General Guidelines 6](#_Toc60138494)

# Background

This document contains the high-level design of the project that has to be executed to demonstrate your grasp of basic Java concepts. The project is to automate the services provided by Natural Resource Development Corporation Ltd (NRDCL) to provide better service to the customers and edge over their competitors.

# Business Requirements

The Business Requirements of the project is as follows. NRDCL wants you to implement the following modules:

1. Customer Registration
2. Site Registration
3. Product Registration
4. Deposit Advance
5. Place Order
6. Invoice Generation

NRDCL accepts orders for their products from registered customers with adequate advance balance. The advance balance is adjusted for the orders placed and appropriate invoices are generated.

|  |  |  |
| --- | --- | --- |
| Sl | Requirement | Status |
| 1 | Customer Registration | To be implemented |
| 2 | Site Registration | To be implemented |
| 3 | Product Entry | To be implemented |
| 4 | Deposit Advance | To be implemented |
| 5 | Place Order | To be implemented |
| 6 | Generate Report | To be implemented |
| 7 | Console Interface to read the data for all the modules i.e. Presentation Tier | To be implemented |

Details of the files provided:

* ReadData.java
  + This class has a public static method acceptString(String prompt) which reads a line (data) from the console and returns a String.

# Menu System

This module is to provide a menu system for easily accessing the functionalities.

=======================================

NRDCL Service System

=======================================

1. Customer Registration
2. Site Registration
3. Product Entry
4. Deposit Advance
5. Place Order
6. Generate Report
7. Exit

Enter your choice:

**Hint:** *To accept the choice from the console use ReadData.acceptString(String prompt) method of the ReadData class, provided to you. After taking the input (which is a String) convert it to int.*

# Customer Registration

This module is used to register the customer. This module should collect the customer’s information from the user and store it in a Customer object. The screen design should be as shown below:

Customer Registration

-------------------------------------

Customer Name :Sonam Dema

Citizenship ID :1232324242

Telephone Number :173442424

E-mail Id :sdema1989@yahoo.com

Customer should have following properties:

Customer

-customerName : String

-cid : String

-mobile : String

-emailId : String

The customer citizenship card (cid field) should be used as primary key when the customer registration is saved.

# Site Registration

This module is used to register the customer’s site. This module should collect the customer’s site information from the user and store it in a Site Object. The screen design should be as shown below:

Site Registration

-------------------------------------

Citizenship ID :1232324242

Site Name. :Kabesa

Distance from. :120

Customer should have following properties:

Customer

-siteId : int

-customerId : String

-siteName : String

-distance : Double

The siteId should be auto incremented value and citizenship card (customerId field) should be a registered customer’s cid.

# Product Entry

This module is used to enter the products on sale to the customers. The screen design should be as shown below:

Product Entry

-------------------------------------

Product Name :River Sand

Price Per Unit :7000

Transport Rate. :12

Customer should have following properties:

Customer

-productName : String

-price : Double

-rate : Double

The transport rate is the amount customers will have to pay per kilometer per unit of product.

# Deposit Advance

The company takes advance deposits from customers and adjusts it against future orders. This module is used to enter the advance deposits from the customers. The screen design should be as shown below:

Deposit Advance

-------------------------------------

Customer CID :1234243523532

Amount :10000

**Your Current balance is Nu. 10000**

Customer should have following properties:

Customer

-customerID : String

-lastAmount : Double

-balance : Double

The customer citizenship card (customerID field) should be used as primary key. On successful deposit, the current balance for the customer should be displayed.

# Place Order

This module is used to accept the orders form the customers. The following steps should be taken to place an order:

1. Enter Customer CID
2. Select Customer Site
3. Select Product
4. Enter Quantity
5. Calculate the order amount\*
6. Check available advance balance\*\*

*\*The total amount should be the total of product price (unit price \* quantity + transport rate \* quantity \* distance of site form depot)*

\*\*If the advance balance is less than the total order amount, inform the customer the additional amount required to place the order. For example:

Total Order Amount: Nu. XX

Advance Balance: Nu. YY

Required Amount: Nu. YY – XX

For successful orders, show the current advance balance

You still have an advance balance of Nu. XXX

# Generate Report

This module is used to generate report for the customers. The report design should be as shown below:

Customer Price Amount Transport Amount Advance Balance

---------------------------------------------------------------

121313414 Nu. 12,132,324 Nu. 2,534,554 Nu. 45,000

121313413 Nu. 12,132,321 Nu. 2,534,554 Nu. 45,000

121313416 Nu. 12,132,325 Nu. 2,534,554 Nu. 45,000

Product Price Amount Transport Amount

-----------------------------------------------------

River Sand Nu. 12,132,324 Nu. 2,534,554

Dredged Sand Nu. 12,132,324 Nu. 2,534,554

# General Guidelines

* All the java coding standards must be followed.
* All the modules should display appropriate messages.
* Java documentation should be generated describing all the classes and its members
* Database should not be used for data persistence