# Inventory Management System Documentation

## Introduction

The inventory management system is designed to aid the store owner of a provision store in managing their inventory effectively. It supplies features such as adding goods, viewing vendors, viewing goods, viewing bills, issuing goods, and viewing issued goods. The system aims to streamline inventory management processes, improve efficiency, and supply real-time information about the store's inventory.

## System Requirements

To run the inventory management system, the following requirements should be met:

Hardware Requirements:

A computer system capable of running Java applications.

Adequate memory and processing power to handle the database operations.

Software Requirements:

Java Development Kit (JDK)

Integrated Development Environment (IDE) such as Eclipse, IntelliJ, or NetBeans.

MySQL, MSSQL, or Oracle database server installed and running.

MySQL, MSSQL, or Oracle JDBC driver.

JavaFX library for the user interface.

## Technologies Used

The inventory management system is implemented using the following technologies:

Java: The programming language used to develop the system.

JavaFX: The Java library for creating the graphical user interface.

MySQL, MSSQL, or Oracle: The relational database management system used to store and manage data.

JDBC: The Java Database Connectivity API used to connect and interact with the database.

## System Design

The system follows a modular design approach, with separate modules for different functionalities. The main modules include:

Goods Management: Allows the store owner to add, update, and view goods in the inventory.

Vendor Management: Enables the store owner to manage vendors and view vendor details.

Bill Management: Supplies functionality to view and manage bills generated for goods.

Issued Goods: Allows the store owner to issue goods to customers and view the history of issued goods. The system architecture is based on a client-server model, where the client application interacts with the database server to perform various operations.

## Database Design

The database design consists of several tables to store the necessary information. The main tables include:

Goods: Stores information about goods such as ID, name, quantity, price, etc.

Vendors: Stores details about vendors such as ID, name, contact information, etc.

Bills: Has information about bills generated for goods.

Issued Goods: Stores the history of goods issued to customers.

The relationships between tables are set up using primary keys and foreign keys for data integrity.

User Interface Design

The user interface (UI) is designed using JavaFX, a platform-independent UI toolkit for Java applications. The UI should be intuitive, user-friendly, and visually appealing. It should supply easy navigation and access to the various functionalities of the system.

The UI design should include screens or forms for adding goods, viewing vendors, viewing goods, viewing bills, issuing goods, and viewing issued goods. The forms should include proper input fields, buttons, and controls for interacting with the system.

## Implementation

The implementation of the inventory management system involves the following steps:

Set up the development environment by installing JDK, IDE, and database server.

Create the necessary database tables using SQL scripts.

Develop the Java classes and methods for each module.

Implement the database connectivity using JDBC.

Create the UI screens and forms using JavaFX.

Integrate the UI with the backend functionality.

Test the system for functionality, usability, and performance.

Deploy the system on the target environment.

During implementation, it is recommended to follow best practices such as modular programming, error handling, and code documentation.

## Conclusion

The inventory management system for a provision store supplies a comprehensive solution for managing the store's inventory efficiently. By using Java, JavaFX, and a suitable database system, the system can be developed with a user-friendly interface and robust backend functionality.

The system's features, including adding goods, viewing vendors, viewing goods, viewing bills, issuing goods, and viewing issued goods, enable the store owner to keep track of inventory, manage vendors effectively, and generate bills for goods transactions. The system's design and implementation should prioritize usability, performance, and data integrity to meet the store owner's requirements.

With the completion of this documentation, you have an overview of the inventory management system's requirements, design, and implementation guidelines.