# Supermarket Automation Software

**Structure Chart Diagram**

**Name: Agniva Mukhopadhyay**

**Roll: 222CS3114**

**Advanced Software Engineering Lab**

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# Introduction to Structure Chart Diagrams

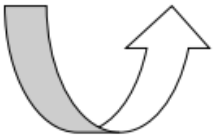
In software engineering, the architecture can be defined through modules and interactions between them which is captured in a structure chart diagram.

It is a hierarchical representation of a system. The system is divided into distinct modules and submodules which are treated as black boxes to carry out a specific functionality of the system. The interactions and flow of data and control between the modules are represented through connectors.

Each of these modules are given required inputs and outputs are generated accordingly. In general, modules at higher levels do coordination and control while modules at lower levels perform computational and I/O operations. The various components of the diagram are read from top-to-bottom and left-to-right.

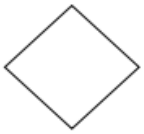
Some standard notations used in structure charts are:

Module

Loop 

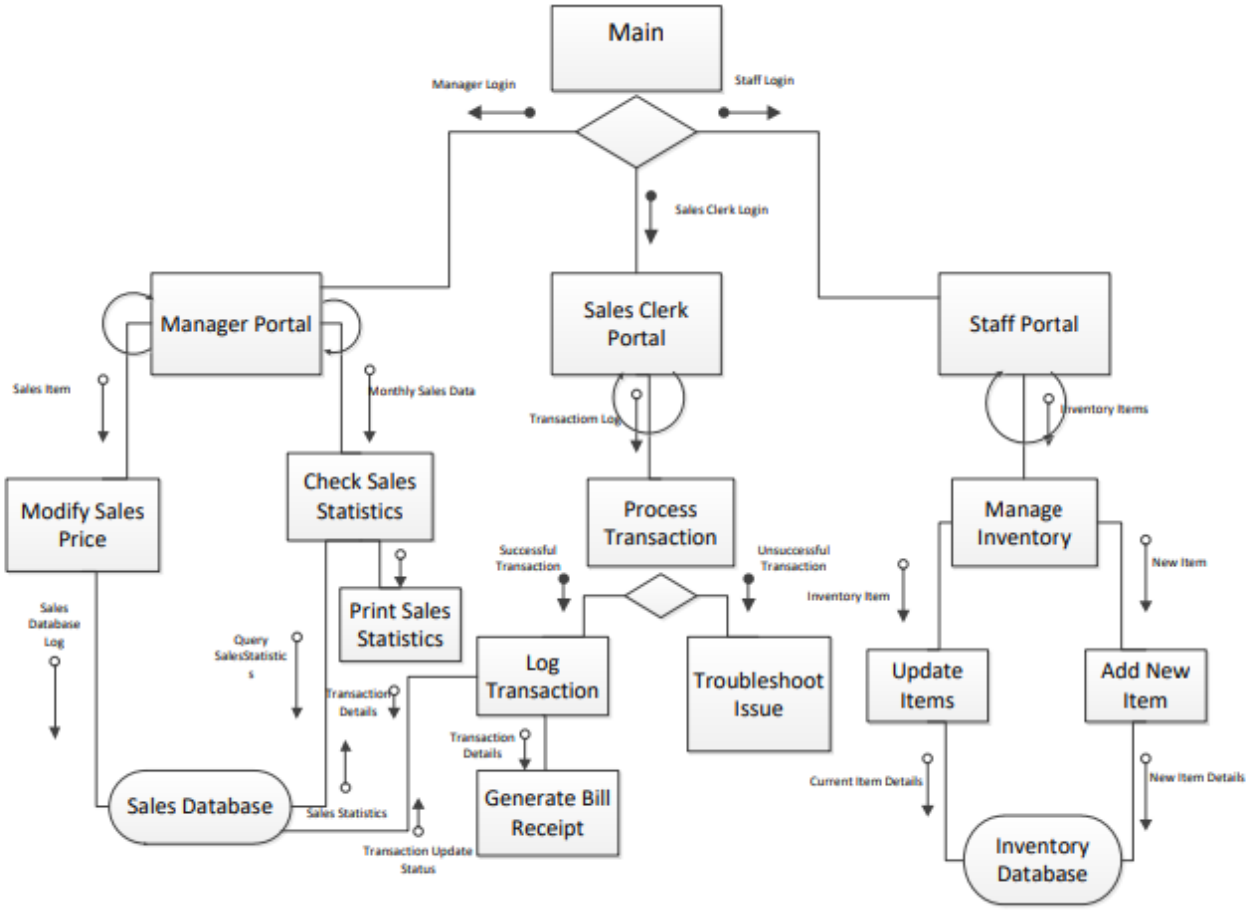
Control Flow

Conditional Call



Data Flow

# Structure Chart Diagram for Supermarket Automation Software




The above structure chart diagram is a representation of the supermarket automation software. The modules and interactions between them are represented in the diagram.

## Modules and Submodules

The modules used are as follows:

### Main

This module represents the main portal of SAS from which control is passed to the required below submodules based on the type of user request.

### Manager Portal

This portal is available to the manager of the supermarket after authentication through the main portal. The submodules that can be used under the manager portal are as follows.

- **Modify Sales Price**
- **Check Sales Statistics**
- **Print Sales Statistics**

All data logging and querying is performed in the Sales Database.

### Sales Clerk Portal

This portal is available to the sales clerk of the supermarket after authentication through the main portal. The submodules available to the sales clerk are:

- **Process Transaction** – If the transaction is successfully processed, the control is passed to '**Log Transactions**' and '**Generate Bill Receipt**'. On unsuccessful transaction, the control is passed to '**Troubleshoot Issue**' submodule.

All logging of transaction details of items are performed on the Sales Database.

### Staff Portal

This portal is available to the supermarket staff members of the supermarket after authentication through the main portal. The submodules available to the staff members are:

- **Manage Inventory**
- **Update Items**
- **Add New Item**

These submodules of SAS are available to the staff members to manage the supermarket inventory items and update with new items. All operations performed by the modules and submodules are performed on the Inventory Database.