1. **System overview.**

## System Context

Based on Team assignment document - provided information about POS-System, the implemented Smart Mart POS system will provide a numbers of function that help head manager control, monitor and report status of store system efficiently.

The following table will describes roles and responsibility of system.

|  |  |
| --- | --- |
| Role | Responsibility |
| Head administrator (manager) | 1. Manage head office, build policies about system items and prices. 2. Synthesis and report business information. 3. Manage store administrators and branches. |
| Store administrator | 1. Manage store office, build policies about local items and prices 2. Collect sales data to analyze and report to head office. 3. Manage cashier accounts. 4. Manage customer information. |
| Cashier | 1. Sales. 2. Manage customer information. |

List of quality attributes

|  |  |  |  |
| --- | --- | --- | --- |
| **Quality** | **Quality ID** | **Concern** | **Attribute** |
| Performance | QA.01 | Update customer’s score immediately | When the score are used, the number of score used is immediately subtracted from the number of score accrued by the member. |
| The synchronization between the branches and center. | Moreover, in addition to the sales operation, the system is also capable of performing the statistical analysis on the sales records of all stores in near real-time manner. |
| Availability | QA.02 | No down time | No down time when connection with head server have been cut. |
| No down time | No down time when connection of POS terminal with store server have been cut or store server has been broken. Switch to use POS local database to ensure transactions will be continued. |

## Purpose

This document is intended for:

1. Project Manager and Architect to manage and evaluate if Smart Mart POS system meets function requirements and quality requirements or not.

## Overview

This document will provide a big picture of Smart Mart POS system (SMPs) structures in architect. It will be present by using three different views.

1. Allocation view, describe a big picture of SMPs architect and physical device location.
2. C&C view, describe how to SMPs operate and data flow through each function.
3. Module view, describe structure of system.

Glossary and References will be listed in the end of document

# Allocation view

## Allocation View (Deployment views)

### Primary Presentation



### Element catalogue

#### Elements and their properties

|  |  |
| --- | --- |
| **Element** | **Responsibility** |
| Application server (head office server) | Provide functions help manager collect analyzed information from the stores to make business report. Help manage store administrator accounts. |
| Application server (store server) | Provide functions help administrators collect and analyze data from POS terminal, synthetic and report information sent to head office. |
| POS terminal | Provide functions help cashiers make transaction. |
| Database server SQL server 2003 | Database management. Store primary data in main activities. |
| Database SQLite | A backup database , use in condition pos terminal cannot connect to store server. |

#### Relationships and their properties

|  |  |
| --- | --- |
| **Element** | **Responsibility** |
| internet (between head and store server) | Internet connection between head and store server. Protocol HTTPs |
| Local network | Connection between POS terminals with their store server. Connect between database server with head application server. Protocol TCP/IT |



### Context diagram





# C&C view.

* 1. System C&C view.
     1. Primary presentation.



* + 1. Relationships and their properties.

|  |  |  |
| --- | --- | --- |
| **Element** | **Type** | **Description** |
| Add product | Screen | Allow user can add an exist product from center database to sale list. |
| Remove product | Screen | Allow user can remove product in sale list. |
| Add price | Screen | Allow user can add an local price for product in store, not apply in all stores. |
| Delete price | Screen | Allow user can disable new local price in store. |
| Create customer | Screen | Allow user can create new customer information. |
| Edit customer | Screen | Allow user can edit customer information |
| Search customer | Screen | Allow user can search customer info in database. |
| Sale | Screen | Help cashier make an transaction. |
| Create user | Screen | Allow admin or manager create user for system in following rules.   * + 1. Manager can create new admin account for a store only.     2. Admin of a store can create new cashier account only. |
| Edit user | Screen | Allow admin or manager edit user for system in following rules.   * + 1. Manager can edit admin account for a store only.     2. Admin of a store can edit cashier account only. |
| Edit price | Screen | Allow manager can edit price of product and apply on all stores. |
| Create product | Screen | Allow manager can create new product. |
| Edit product | Screen | Allow manager can edit information of product. |
| Create category | Screen | Allow manager can create new categories of product. |
| Edit category | Screen | Allow manager can edit information of categories of product. |
| Sale | Component | Help cashier make a transaction. The component provide process to make a transaction, help read product information, detail price and store transaction log in database.   * 1. Sale.   2. Calculate customer score after sale. |
| Product management | Component | Help manager or admin manage product in system. Product management component provide the function include create new product, edit product, create new category, edit a category (only with manager account). With admin account, user only have permission to add product from center to local store. |
| Price management | Component | Help manager or admin manage price of product in system. Price management component provide the function include, edit price.  With manager account, user can edit system price that is applied in all stores.  With admin account, user can create new local price, just apply in that store, not in other store. |
| User management | Component | Help manager or admin manage user in system. User management component provide the function include create new user, edit a user.  With manager account, user have permission to create and edit a admin account |
| Customer management | Component | Customer management component provide function to help cashier, admin or manager can manage customer of system.  Customer management component manage customer score, customer detail information. |
| Database controller | Component | Database controller provide functions help program can connect to database to query data. |
| Analyze data execute | Component | In local store, analyze data execute help user analyze data and then, prepare a report.  Preparation report can help head office update data in nearly real time. |
| Statistic and report | Component | In head office, statistic and report component with collect and statistic all analyzed data from all stores. |
| Search engine | Component | Provide the function and method help system search data. |
| Store database | Database | Main database |
| Center database | Database | Main database |

* + 1. Relationship and properties.

|  |  |
| --- | --- |
| **Element** | **Responsibility** |
| X read from y | X component get data from y component |
| X write to y | X component send data to y component |
| Synchronization | Auto sync data between head office and store server. |

* + 1. Element behavior.

1. **Module view.**