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

Database synchronization solution.



Store system.



Head office.



### 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 2008 | Database management. Store primary data in main activities. |
| Database server SQL server 2008 – backup server | 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** |
| View product | Screen | Display product information. User can view. |
| Search product | Screen | Allow user search product in system by keyword. |
| Add product | Screen | Allow user can add an exist product from center database to sale list in local store. |
| Remove product | Screen | Allow user to remove product in sale list. Apply in local store only. |
| Create product | Screen | Allow manager to create new product. |
| Edit product | Screen | Allow manager edit information of product. |
| Create category | Screen | Allow manager to create new categories of product. |
| Edit category | Screen | Allow manager to edit information of categories of product. |
| Add price | Screen | Allow user to add an local price for product in this store, not apply in all stores. Add price is applied in local store only. |
| Delete price | Screen | Allow user to disable local price in store. |
| Create customer | Screen | Allow user to create new customer information. |
| Edit customer | Screen | Allow user to can edit customer information |
| View customer | Screen | Display customer information. User can view. |
| Search customer | Screen | Allow user to search customer info in database. |
| Sale | Screen | Help cashier make an transaction. |
| View user | Screen | Display user information. User can view |
| Create user | Screen | Allow admin or manager to 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. |
| Sale | Component | The component has responsibility to.   * 1. Read data from data object and business layer of product, customer to present on Sale UI.   2. Calculate sale data, save in a log and store in database. |
| Product management | Component | Help manager or admin manage product in system. Product management component provide the functions include show product info, search product, 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, view and search product. |
| Product object | Component | Manage data object of product, make connection with database. |
| Price management | Component | Help admin manage price of product in local store. Price management component provide the function include create new price and delete exist price. |
| Price object | Component | Manage data object of price, make connection with database. (only in local store) |
| User management | Component | Help manager or admin manage users in system. User management component provide the functions include view user info, search account, create new user, edit a user.  With manager account, user have permission to view, search, create and edit a admin account |
| User object |  | Manage data object of user , make connection with database. |
| Customer management | Component | Customer management component provide functions to help cashier, admin or manager can manage customers of system. Include functions, view, customer, create and edit customer info.  Customer management component manage customer score, customer detail information. |
| Customer object | Component | Manage data object of customer , make connection with database. |
| Store management | Component | Store management component provide function to help manager can manage stores of system, include functions: view, create, edit store. |
| Store object | Component | Manage data object of store , make connection with database. |
| 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. |
| 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.

Need sequence here

1. **Module view.**



|  |  |
| --- | --- |
| **Package** | **Description** |
| **UI** | The user interface corresponding to each form of features |
| **Controller** | The class receive the request from user to handle the business rules |
| **Entity** | The class create data object contains data rotation between layers  The class receive the request to Data Base from the Control Layer to handle data base |

