1. **Document description**

This section describe who the intended audience is for the document, and to help them navigate and use the document

* + Purpose and audience: Describe who the intended audience and organizations are and what they might use the document for.
  + Document organization: Describe the overall organization of the document. List the major sections of the document and describe what concerns each section addresses.
  + Common notation: List any notation that will be used throughout the document.
  + Terminology and definitions: Define any terms used throughout the document and provide context for terminology.
  + References and relevant document: List any other relevant documents that the reader might need to refer to, and most importantly, describe their relationships to this document and why the reader might want to (or need to) refer to them.

1. **Project overview**
   1. **Purpose**

This document provides a high level overview of the evolving technical architecture for the Sales System of a retail chain using a loyalty card point system. It also provides a high-level description of the goals of the architecture, the use cases support by the system and architectural styles and components that have been selected to best achieve the use cases.

In addition to these views, this architectural description will:

* Identify the candidate patterns and tactics that will become the architecture design of the system.
* Frame the architectural design activity, begin with the given technical constraints and the structures
* Identify patterns generally suit the needs described in the product description based upon the quality attribute scenarios
* Identify tactics we apply to further refine the initial decomposition of the system and promote the necessary quality attributes.

The architecture has a set of guiding principles as well as known criteria and constraints that shape the proposed architecture. It is intended to capture and convey the significant architectural decisions which have been made on the system.

The development team can use this document to review the architecture of the system. The Architecture document will be also useful for future development teams.

* 1. **Scope**

The project will aim to develop a sale system for Company A, a retail chain (hereinafter, the system) in conjunction with its launch of a point service.

The system consists of a head office server, located at the head office, and the POS terminals placed at store cashiers. The head office server and the POS terminals are connected to each other via a network. Products sold at stores have bar codes attached which indicate the product codes. These bar codes can be read with bar code readers of POS terminals. Customer who have become point service members are issued point cards, which bear bar codes indicating their member numbers, and when they purchase products with cash, they are awarded points based on the amount of their purchase.

For each product, its standard price, common to all stores, is set as a part of the product data. Each store, however, can set and use its own actual retail price instead of the standard price during the limited period specified be each store. The actual retail price must be set in advance, and it cannot be charged in the middle of the specified period.

Products are classified into product types such as food, general merchandise, etc. Not all stores carry every product type, and the range of product types carried is designated for each store.

Hệ thống được xây dựng để kết nối mạng LAN các cửa hàng và head office nằm trong cùng một tòa nhà. Both the head office server and the POS terminals are equipped with a Database, and both the head office server Database and the POS terminal Database can be accessed during the sales operation. Riêng Head office sẽ có them một server database phụ, chỉ làm nhiệm vụ update thông tin

Moreover, in addition to the sales operation, Việc đồng bộ dữ liệu giữa các cửa hàng và the Head office sẽ được chia làm hai loại. Một do người admin tự đồng bộ bằng tay vào cuối ngày và đầu ngày, thường là đồng bộ tất cả các thông tin. Hai là đồng bộ do hệ thống tự động sau mỗi 5 phút đối với các thông tin về khách hàng và các thông tin bán hàng như bills để the system is also capable of performing the statistical analysis on the sales records of all stores in near real-time manner.

* 1. **Stakeholders**

|  |  |  |
| --- | --- | --- |
| Stakeholders | Organizations | Interaction |
| Customers | None |  |
| Staffs | Company A |  |
| Cashiers | Company A |  |
| Administrator | Company A |  |
| HIT Team | Van Lang University |  |

* This section describes the project and its purpose and scope.
* Describe why the system is being built.
* Describe business, organizational, mission, or marketing concerns that are relevant to the project.
* List the relevant stakeholders, their organizations, and how they will interact with the system.

1. **Architectural drivers**

* In this section describe the architectural drivers for the system.
* At a minimum, list the high-priority or critical drivers for the system
* The architectural drivers can be listed in separate sections enumerated as high-level functional requirements, technical constraints, business constraints, and quality attribute requirements.
* Make sure to list the priority of the architectural drivers.

1. **System context**

* The system context is the first step in design and should include at least one context drawing
* In addition to the context drawing, include prose that describes the scope of the system being described by showing its relationship to external entities like systems, peripherals, organizations, and stakeholders as necessary to describe the context drawing.
* Describe the relative perspective of the context drawing or drawings.

1. **Level X decomposition**

* **Decomposition description:** Describe what is being decomposed and relate it back to the context drawing. Describe the perspective of the decomposition.
* **Primary representation(s):** Include one or more drawings (or views) that represent the decomposition of the system
* **Description and rationale:**
  + Describe the primary representation and include rationale for the decomposition.
  + Relate the architectural decisions to the architectural drivers by describing how the architectural drivers are promoted by the decisions and approaches taken.
  + Describe any design trade-offs relevant to the design decisions in terms of the architectural drivers promoted and inhibited.
* **Elements and relations:** Include element and relationship between them.
* **Interface descriptions:** If appropriate, describe specific interfaces for the elements. Whether detailed interfaces are described at any level of decomposition depends upon if there is enough detail in the decomposition.

1. **Mapping between perspectives**

* Show mappings between structures in different perspectives if necessary.
* Show how specific structures in one perspective map to specific structures in other perspectives.
* Be careful in the mappings and use prose to describe any mappings you show.

1. **Document directory**

In this section include an index, glossary, and acronym list

|  |  |
| --- | --- |
|  |  |