International School

CMU-CS 246 VIS

DATABASE DESIGN DOCUMENT
Version 1.1

Date: 25 May, 2024

STORE MANAGEMENT SYSTEM

(SMS)

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PROJECT INFORMATION

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Project Acronym	SMS		
Project Title	Store Management System		
Start Date	15 - March - 2024		
End Date:	25 - May - 2024		
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DOCUMENT NAME

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Reporting Period	25 May 2024
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Role	Developer		
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REVISION HISTORY

Version	Date	Comments	Author	Approval
1.0		Initial Release	Team 4	
1.1		Update Database	Team 4	
1.2		Update Database	Team 4	

Document Approval

The following signatures are required for approval of this document

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	Dao Tien Dung	**Signature:**	
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	Nguyen Viet Minh Man	Signature:	
		Date:	

1. Introduction

1.1. Purpose

- Provide a list of priority features, containing short descriptions of all desired functions in the project.
- Contains a complete list of all requirements under consideration, priority order, and other key features that facilitate planning and prioritization.

1.2. Target

Develop applications that support users in saving time, manage stores in the best way.

2. Required hardware and software

This section provides an overview of the hardware and software architecture. Below are descriptions of the technology components of the SMS (Store Management System).

Technology components of SMS (Store Management System)	
Attribute	**Description**
Database	
Software	Java
Hardware	Mobile, Computer

3. Database design decision

3.1. Mapping rules

When mapping entities to tables, the following rules apply:

- Entities are mapped to tables in a one-to-one manner

- Properties are mapped to columns in a one-to-one manner

- One-to-many relationships are mapped to a foreign key

- For 1 - 1 association: sets the primary key, one of the two relations to another to create a foreign key.

- With 1 - n association: set the primary key, one relationship into many relationships that create a foreign key

- With n - n link: create a sub table, then set the primary key of the two tables to create a foreign key of the sub table.

3.2. Additional object

The following table lists the database objects (tables or columns) that are not derived from the entity but have been added to the database design for the purposes listed below. This includes intersection tables used to map many-to-many relationships.

3.3. Entity relationship
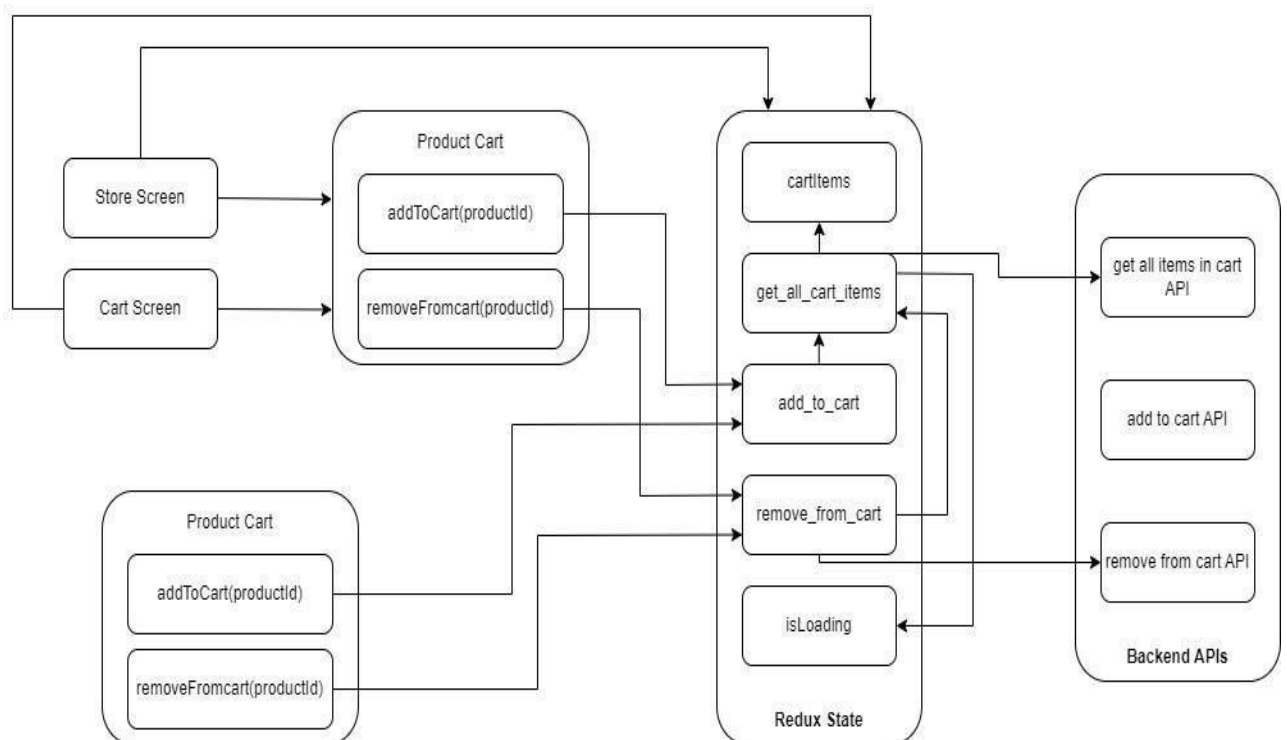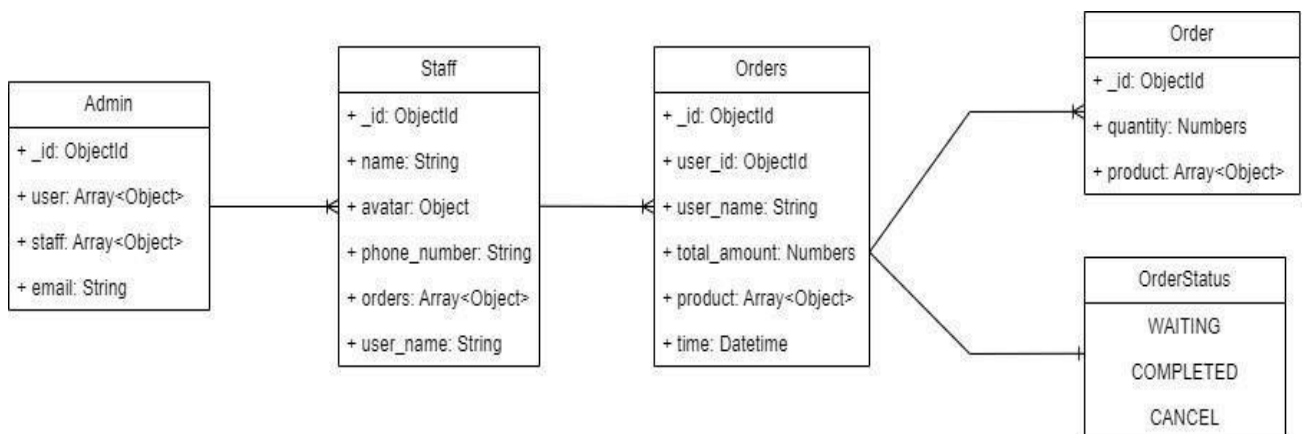

4. Relational Models

Figure 2: GMH Relational model.

5. Detail of the tables

Table 1: Admin

ID	Field	Datatypes	Constraint	Description
01	**_id**	ObjectId	Primary key	Consistent, discrete data for easy differentiation
02	Staff	Array<Object>		Staff manager
03	email	String		Contact Email Address

Table 2 : Staff

ID	Field	Datatypes	Constraint	Description
01	**_id**	ObjectId	Primary key	Consistent, discrete data for easy differentiation
02	name	String		name's staff
03	avatar	Object		avatar's staff
04	phone_number	Number		phone's staff
05	orders	Array<Object>		orders's staff

Table 3: Orders

ID	Field	Datatypes	Constraint	Description
01	_id	ObjectId	Primary key	Consistent, discrete data for easy differentiation
03	Total_amount	Number		Total Order
03	product	Array<Object>		Item Type
04	time	Datetime		Time Order

Table 4: Order.

ID	Field	Datatypes	Constraint	Description
01	_id	ObjectId	Primary key	Consistent, discrete data for easy differentiation
02	quantity	Number		Number of Orders
03	product	Array<Object>		Item Type