# Report 4: Software Design Description

## Design Overview

This document describes the technical and user interface design of MSSC System. It includes the architectural design, the detailed design of common functions and business functions and the design of database model.

The architectural design describes the overall architecture of the system and the architecture of each main component and subsystem.

The detailed design describes static and dynamic structure for each component and functions. It includes class diagrams, class explanations and sequence diagrams for each use cases.

The database design describes the relationships between entities and details of each entity.

Document overview:

* Section 2: gives an overall description of the system architecture design.
* Section 3: gives component diagrams that describe the connection and integration of the system.
* Section 4: gives the detail design description which includes class diagram, class explanation, and sequence diagram to details the application functions.
* Section 5: overview some main user interface of system.
* Section 6: describe fully attributed ERD.
* Section 7: describe in details all algorithms used in the system.

## System Architectural Design

### Choice of System Architecture

The system is developed using MVC architecture, combine with front end – back end RESTful Web service interface architecture.

## Component Diagram

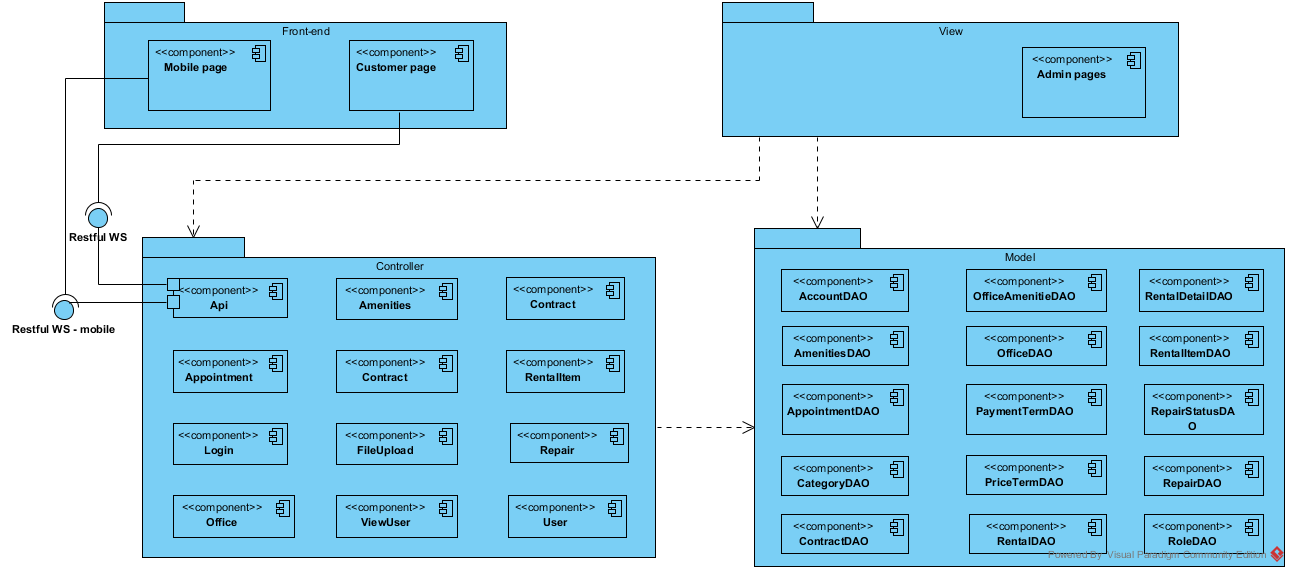


Figure 6: Component Diagram

## Detailed Description Explanation

### Class Diagram

Figure 7: Class Diagram

### Class Diagram Explanation

### Interaction Diagram

#### <Staff> Create office

**Summary:** This diagram used to describe the process of staff create an office

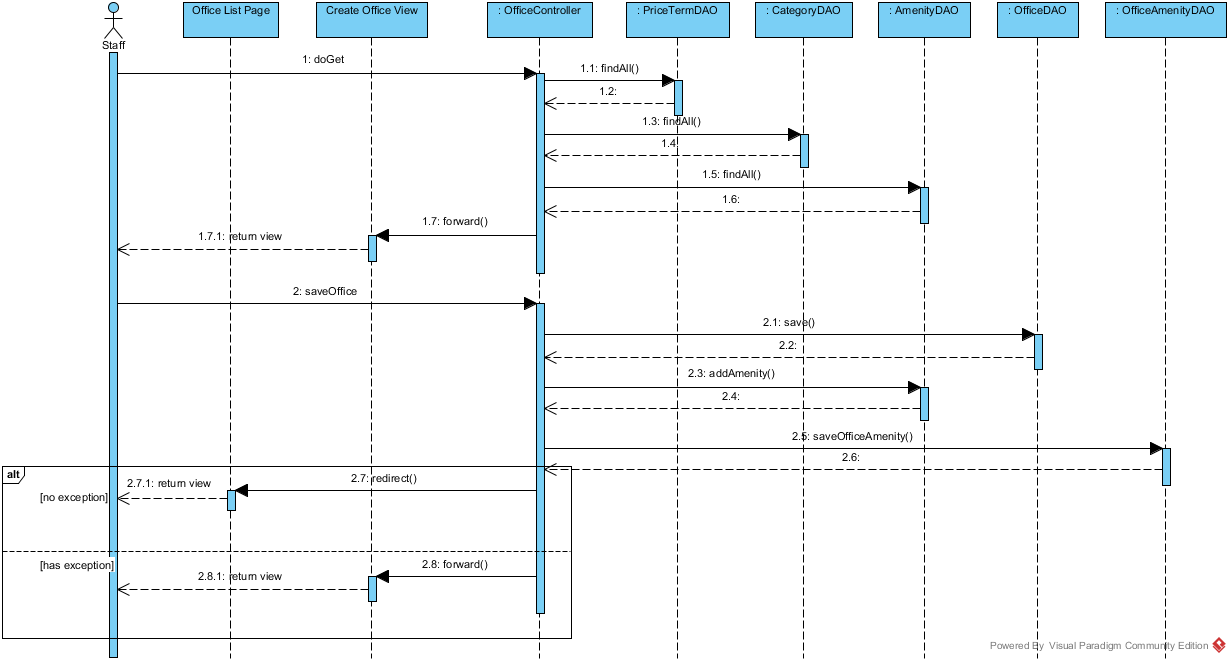


Figure 8: Create office Sequence Diagram

#### <Manager> Create contract

**Summary:** This diagram used to describe the process of create new contract.

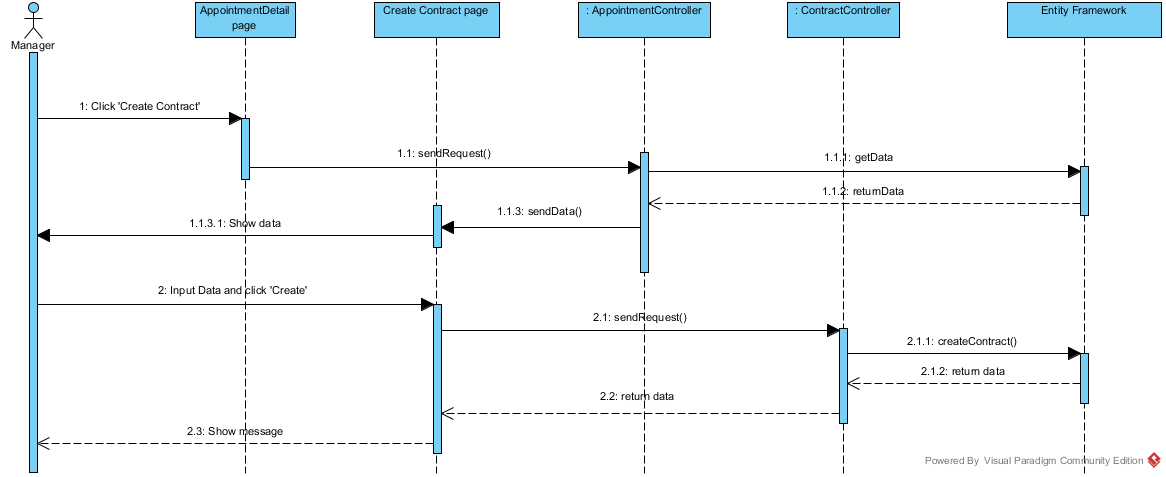


Figure 8: Create Contract Sequence Diagram

#### <Manager> Assign Appointment

**Summary:** This diagram used to describe the process of manager assign an appointment to a staff

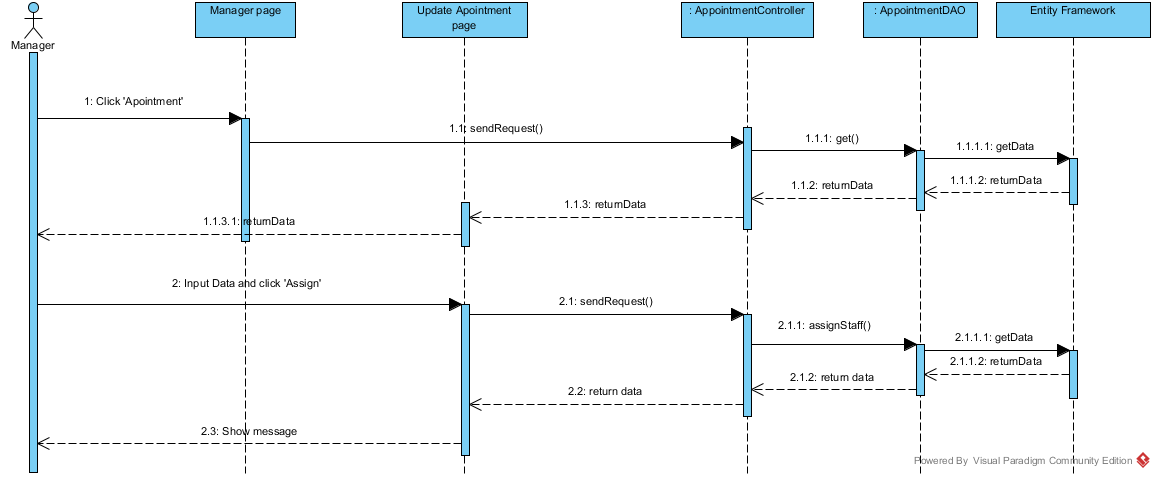


Figure 8: Assign Appointment Sequence Diagram

#### <Manager> Update Appointment

**Summary:** This diagram used to describe the process of manager update an appointment detail

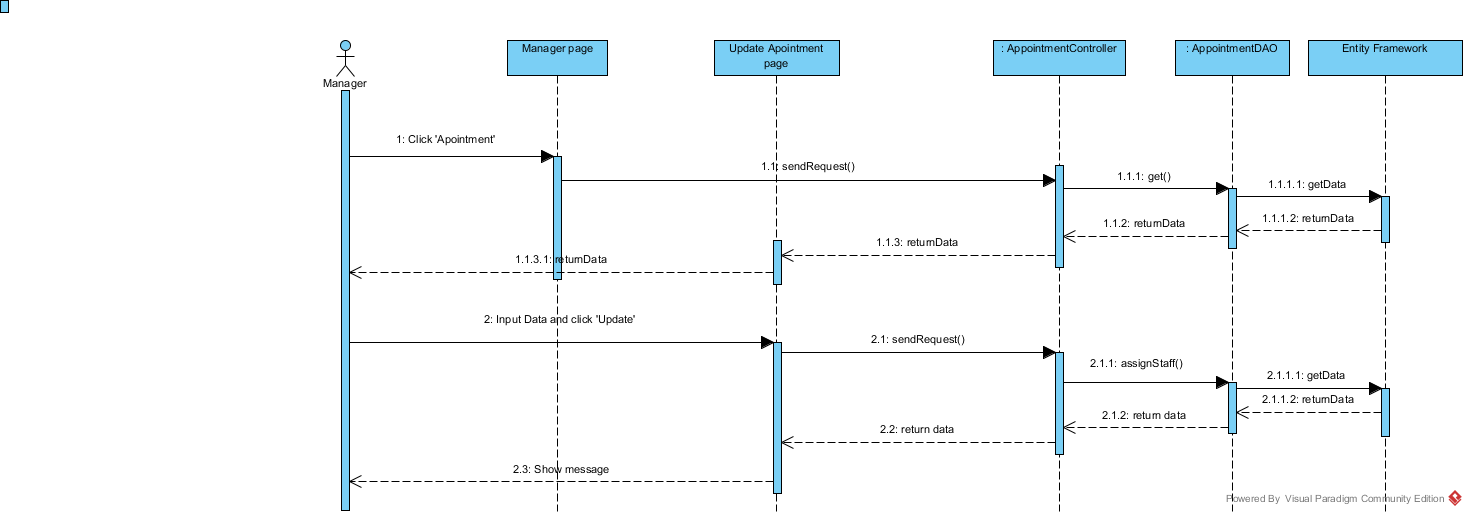


Figure 8: Update Appointment Sequence Diagram

#### <Customer> Get Office List

**Summary:** This diagram used to describe the process of customer request repair office

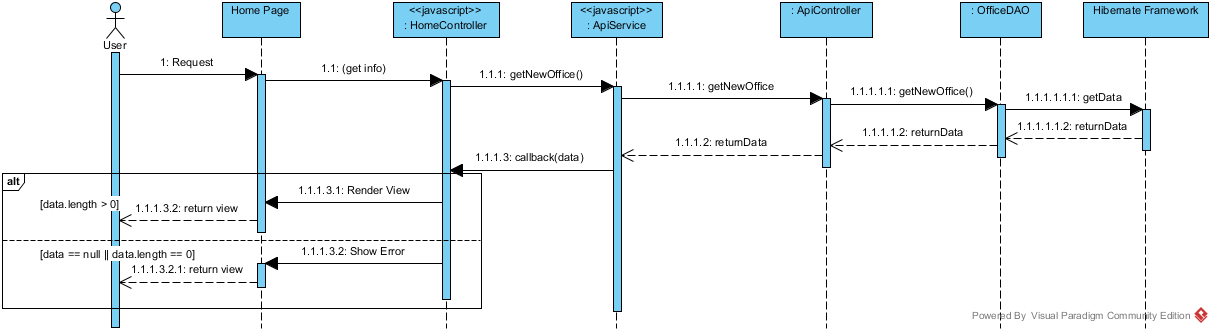


Figure 8: Get office list Sequence Diagram

#### <Customer> Request Appointment

**Summary:** This diagram used to describe the process of customer request an appointment.

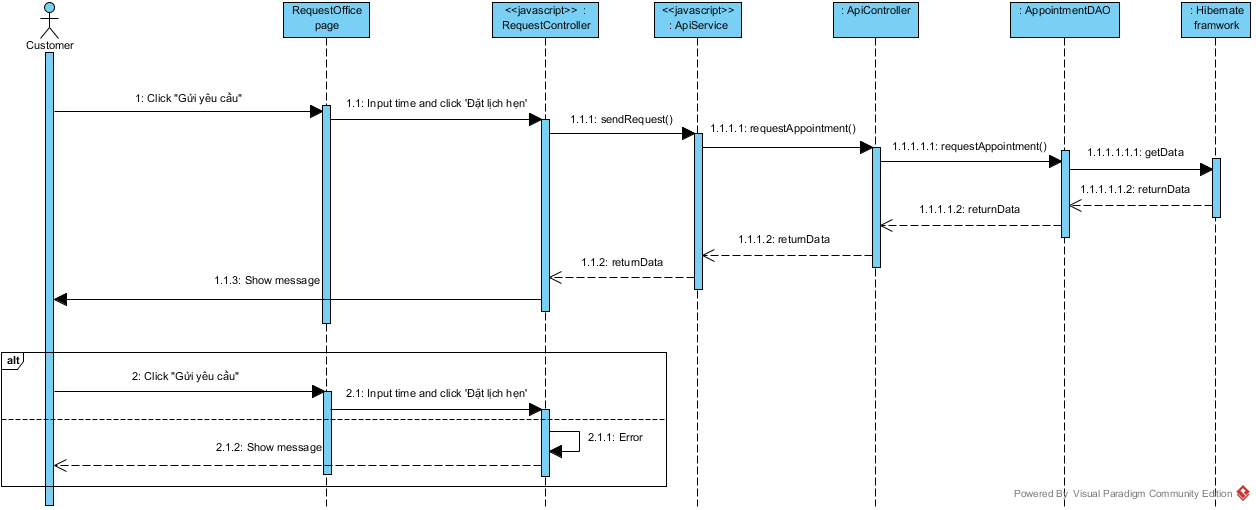


Figure 8: Request Appointment Sequence Diagram

#### <Customer> Request Repair

**Summary:** This diagram used to describe the process of customer request repair office

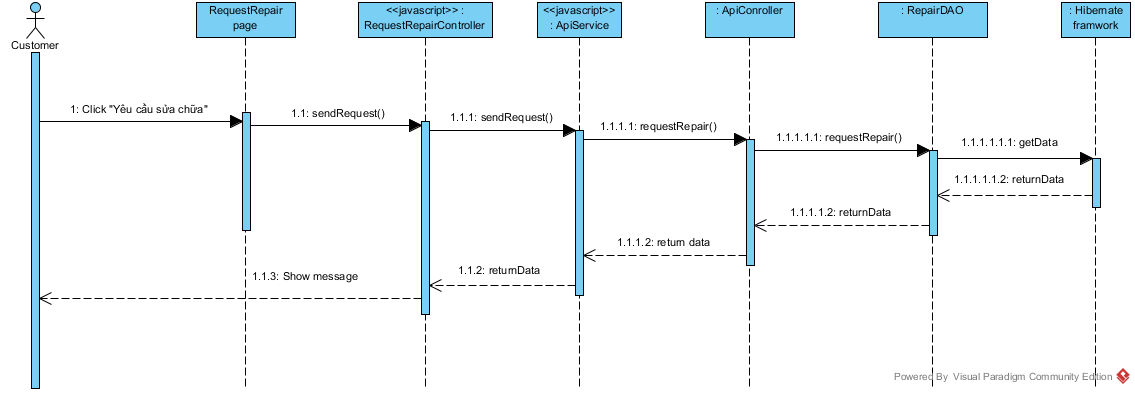
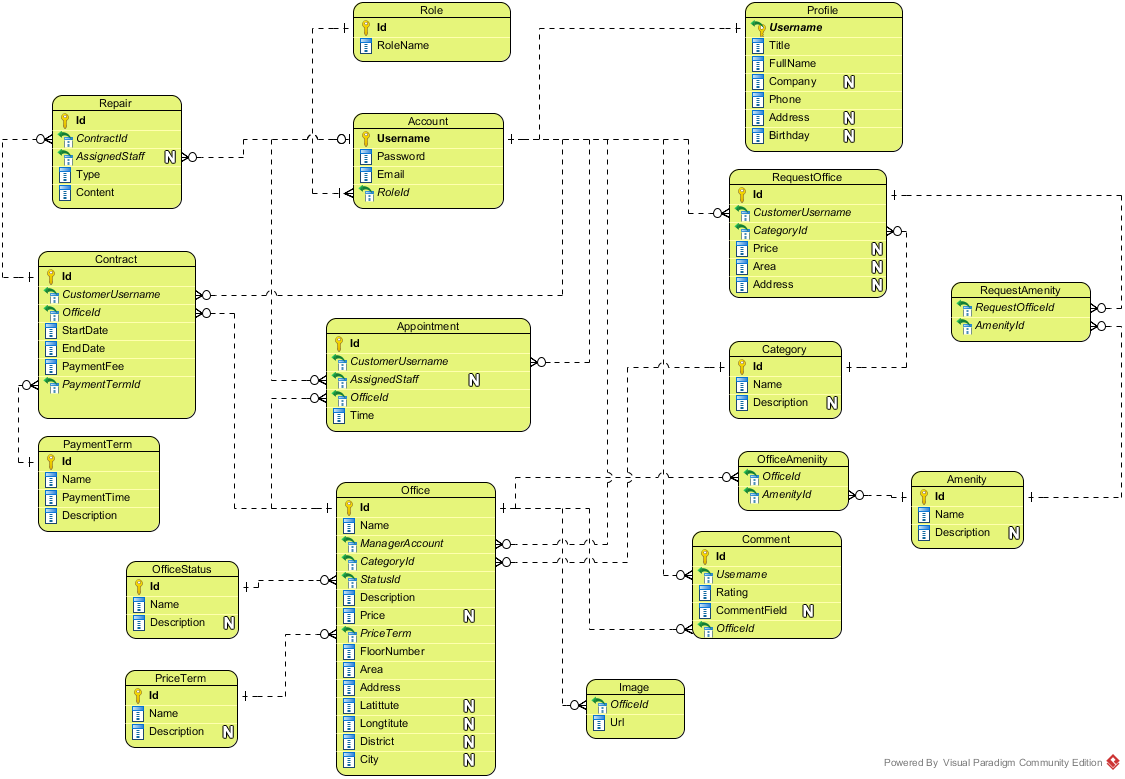


Figure 8: Request Repair Sequence Diagram

## Database Design

### Logical Diagram



**Figure 10: Logical Database Diagram**

### Data Dictionary

|  |  |
| --- | --- |
| **Entity Data dictionary: describe content of all entities** | |
| **Entity Name** | **Description** |
| Account | Describe account of user of system. |
| Staff | Describe account type staff |
| Admin | Describe account type admin |
| Manager | Describe account type manager |
| Customer | Describe account type customer |
| Profile | Describe the contact information for customer |
| Office | Describe information of the office |
| Category | Describe the category of the office |
| Amenity | Describe the amenities of the office |
| Image | List of images of the office |
| Appointment | Describe the information of the appointment of customer for the office |
| Contract | Describe the information of contract between customer and office |
| Request Office | Describe the stored office request of customer |
| Repair | Describe the repair request for each contract |
| Rental | Describe the rental request for contract |
| Rental Item | Describe the rental items which available for rental request |
| Account | Describe account of user of system. |
| Staff | Describe account type staff |
| Admin | Describe account type admin |
| Manager | Describe account type manager |
| Customer | Describe account type customer |

Table 14: Entity Data Dictionary