Subsystem Design Solution

for

Book Rental and Sales System

Version 1.1 approved

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Group 7

November 30, 2023

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Revision History

Name	Date	Reason For Changes	Version
Trinh Thai Linh	30-Nov-23	Create Document Template	1.0
Trinh Thai Linh	06-Dec-23	Add *Sequences and Class Diagram*	1.1
Do Tien Dung	06-Dec-23	Add *Dependencies.*	1.1
Nguyen Hoang Anh Dung	06-Dec-23	Add *Dependencies.*	1.1

1. Introduction

1.1 Purpose

This is a report prepared by Group 7 (Object-oriented Analysis and Design Class 20, 22-23) of Use Case Solution Analysis for Book Rental and Sales System and is written based on the reporting format "IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications".

The purpose of this report is to present the system properties, their structure and behaviour with the system's architecture model.

1.2 Intended Audience and Reading Suggestions

The different types of reader that the document is intended for are:

- **Designers:** Design the classes and the subsystems architecture that satisfies the requirements specified in this SRS.
- **Developers:** Implement codes from the design and these documents. They use this document as a blueprint, and it makes sure that, firstly, their code works properly, and secondly, it is in sync with others' codes.
- **Tester:** Use this document to understand the requirements. They have to create a test plan that outlines the scope of testing, testing objectives, test environment setup, resources required, and a schedule.
- **Documentation writers:** Ensure that the documentation aligns with the software's requirements as specified in the Software Requirements Specification (SRS). Verify that the documented information is accurate and complete.

1.3 Product Scope

The software, “Book Rental and Sales System”, is designed to provide a platform for users to rent, purchase, read books in both physical and electrical form. Additionally, it includes a forum where users can discuss with other readers about the books they purchased, rented or simply ones that captured their interest. The system aims to enhance the reading experience and promote the reading community engagements.

1.4 References

[1] Form of presentation IEEE. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998.

[2] System Requirements Specification Content and Format Standard, which specifies the content and format of this specification.

[3] Previous Project of Object-Oriented Analysis and Design Course, The Cargo Carriage System.

2. Subsystem Design

2.1 BankSystem

2.1.1 Interface Realizations

IBankSystem::requestPayment()

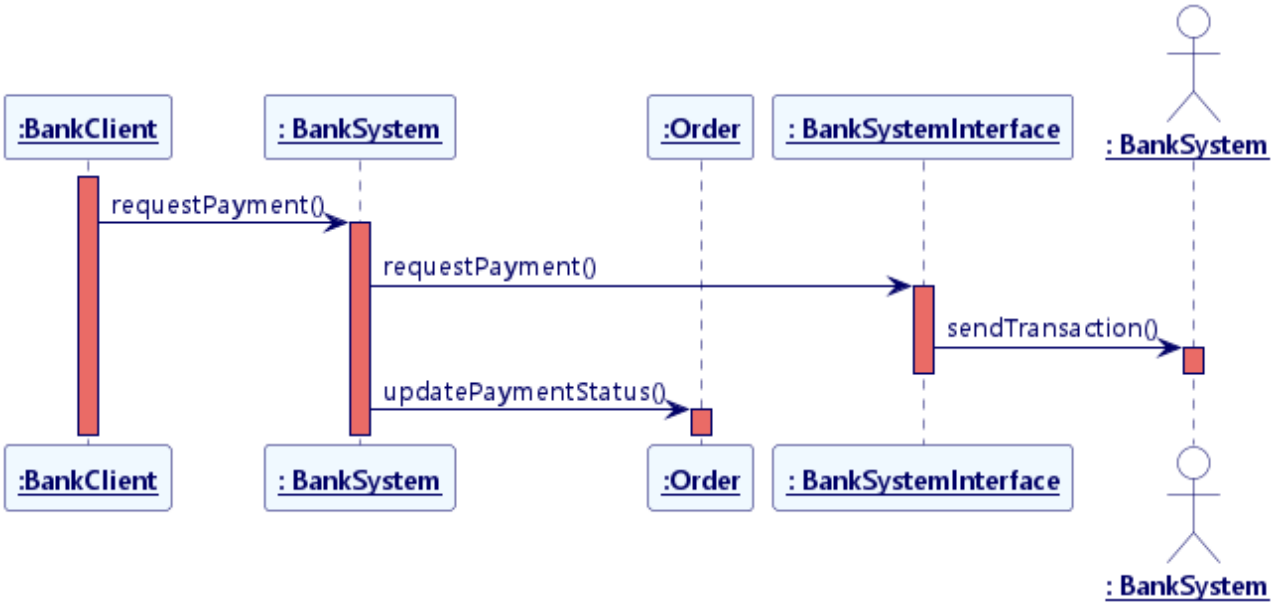

Figure 2-1: BankSystem Request Payment Sequence Diagram.

IBankSystem::requestRefund()

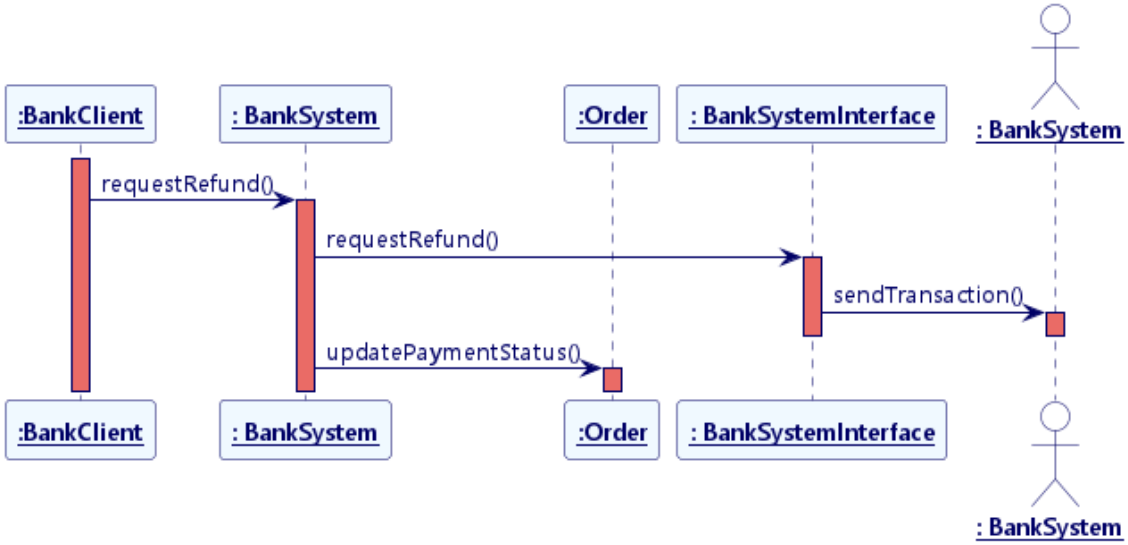

Figure 2-2: BankSystem Request Refund Sequence Diagram.

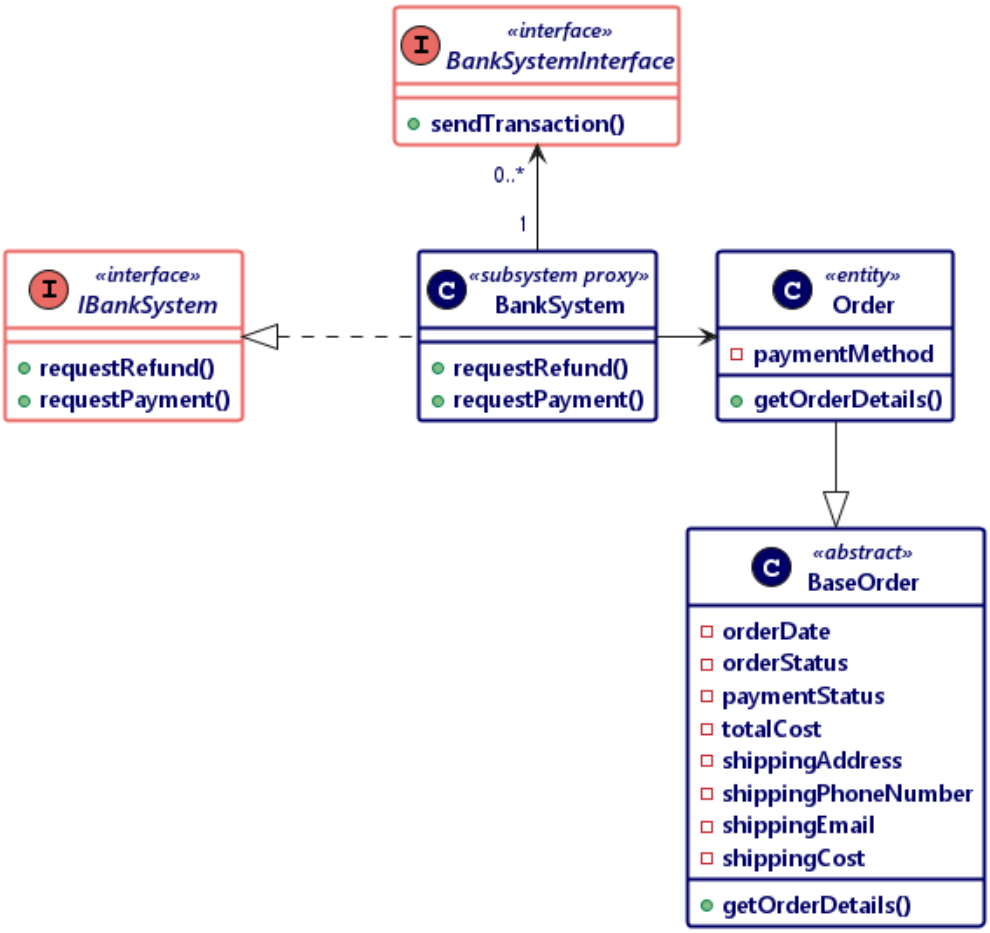

Figure 2-3: BankSystem Class Diagram.

2.1.2 Subsystem Dependencies Class Diagram

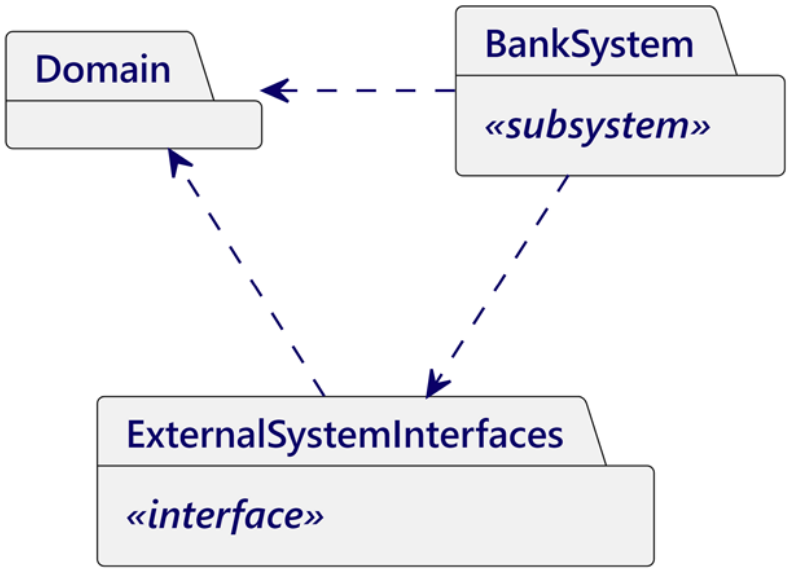

Figure 2-4: BankSystem Dependency Class Diagram.

2.2 OrderSystem

2.2.1 Interface Realizations

IBankSystem::getOrderList()

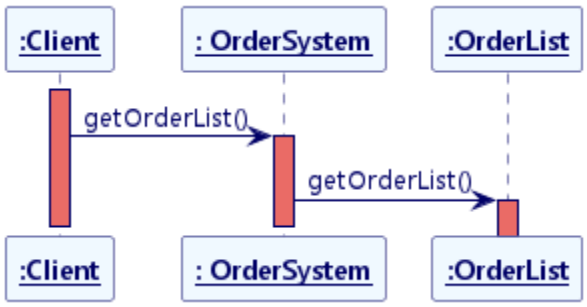

Figure 2-5: OrderSystem Sequence Diagram.

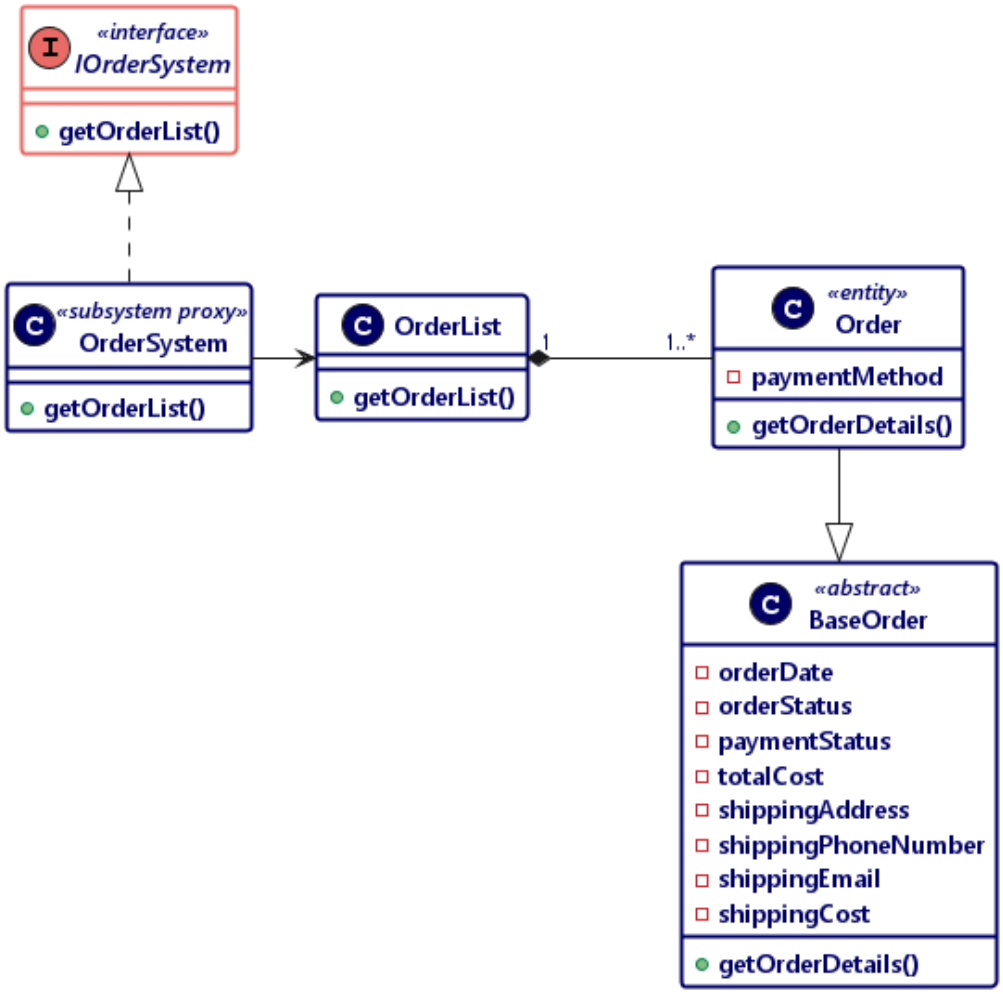

Figure 2-6: OrderSystem Class Diagram.

2.2.2 Subsystem Dependencies Class Diagram

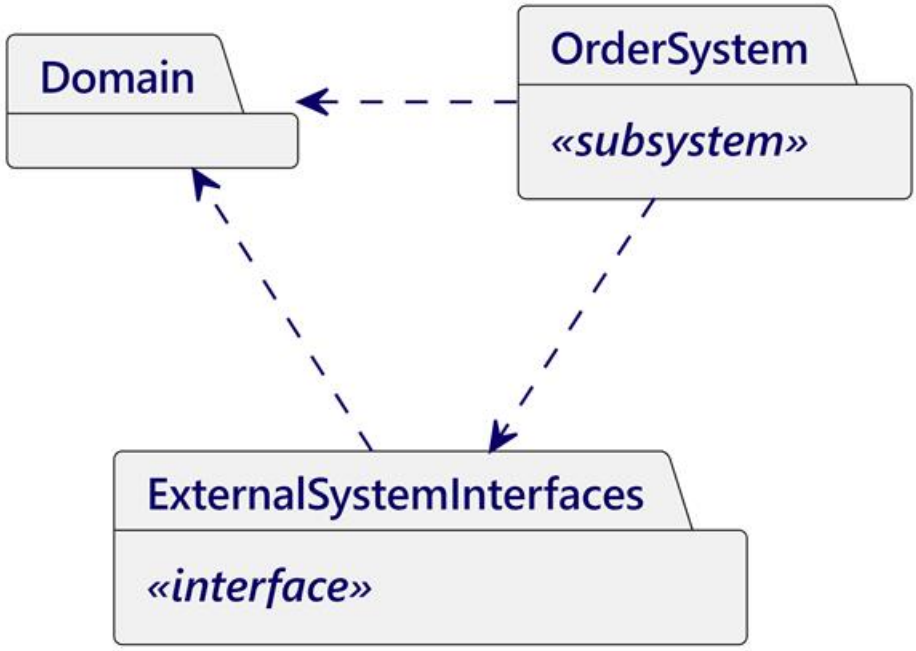

Figure 2-7: BankSystem Dependency Class Diagram.

2.3 BookSystem

2.3.1 Interface Realizations

IBankSystem::searchBook()

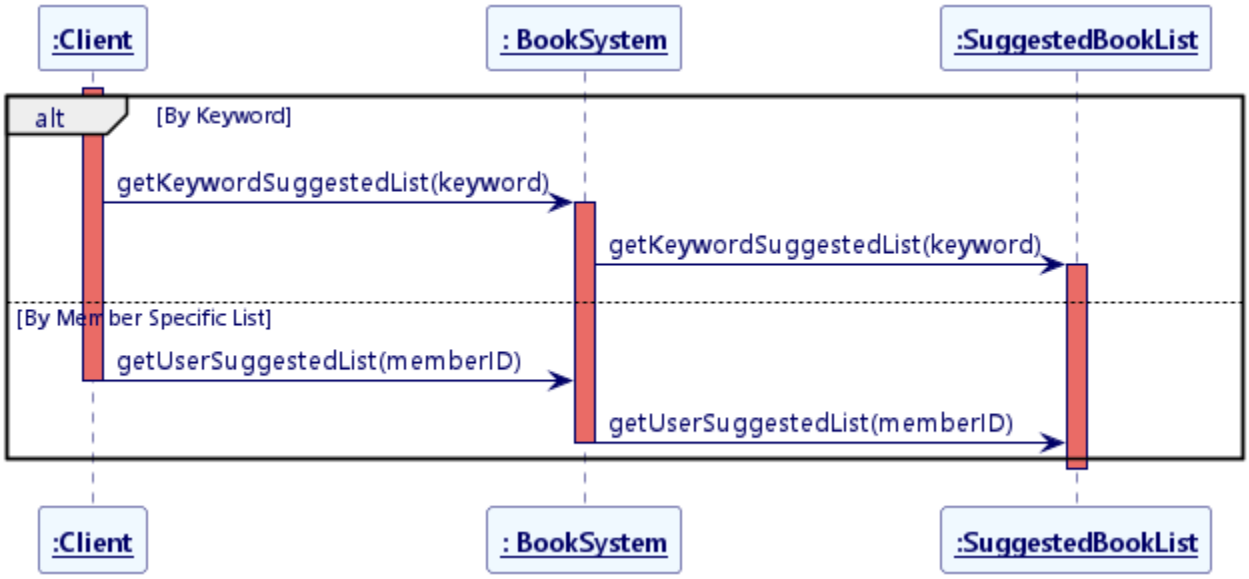

Figure 2-8: BookSystem Search Book Sequence Diagram.

IBankSystem::getBookList()

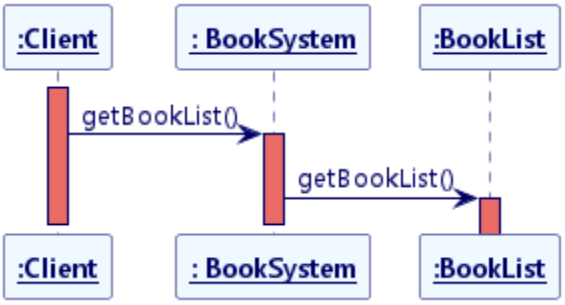

Figure 2-9: BankSystem Request Refund Sequence Diagram.

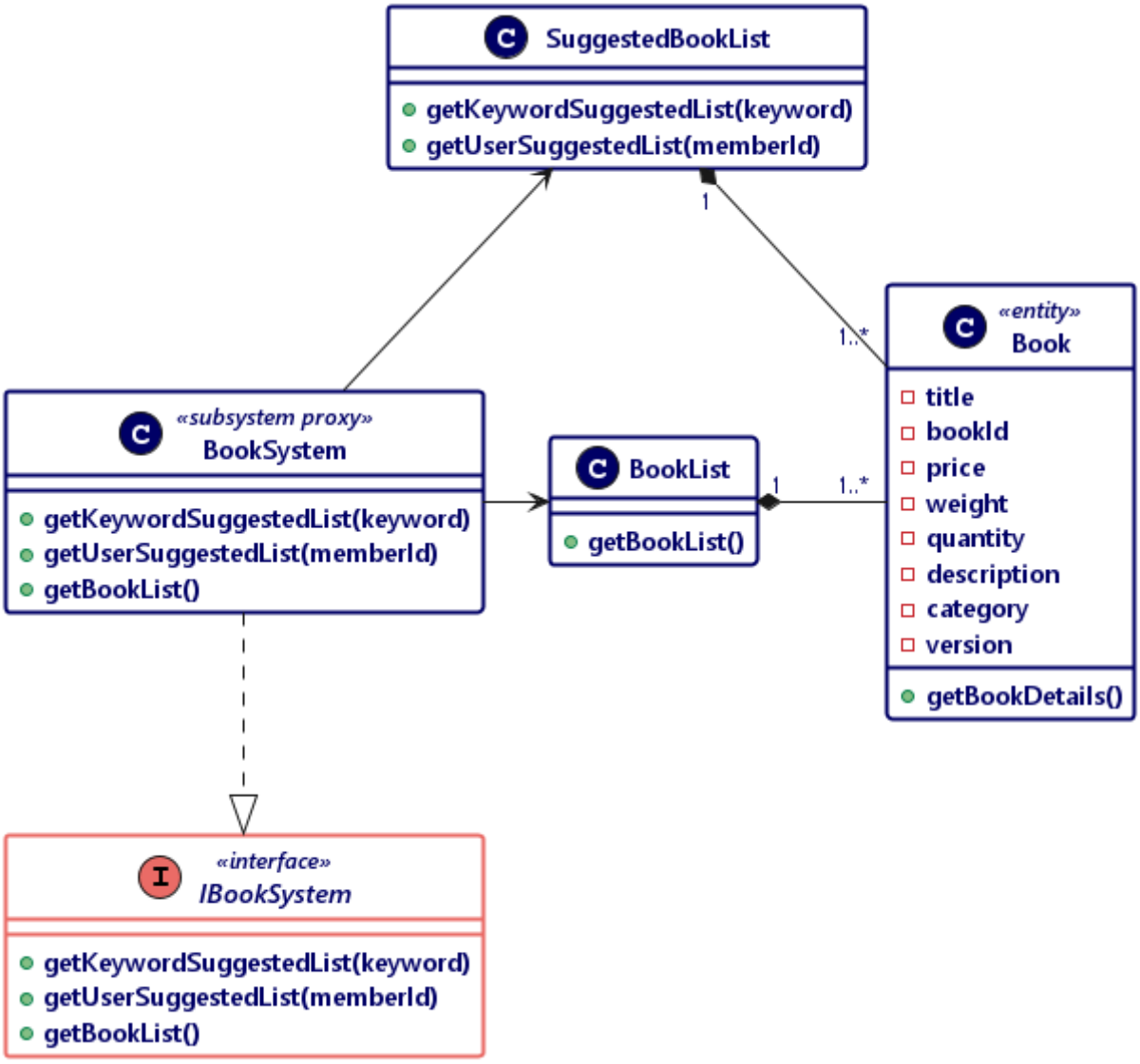

Figure 2-10: BookSystem Class Diagram.

2.3.2 Subsystem Dependencies Class Diagram

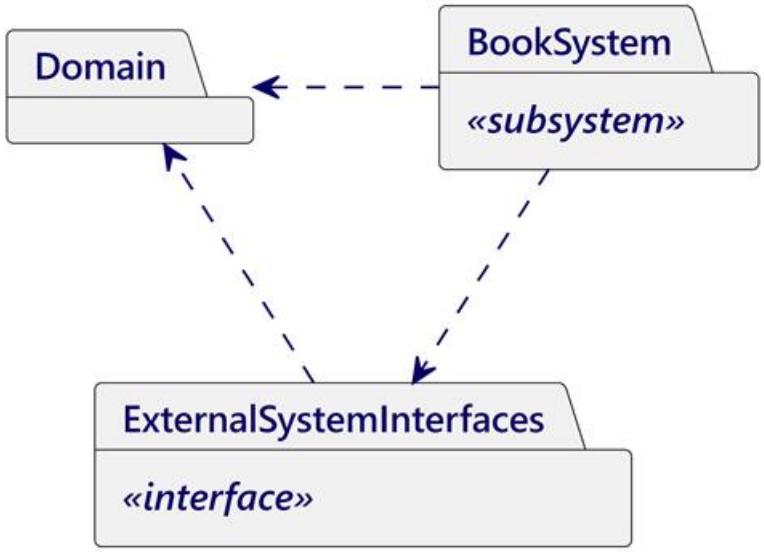

Figure 2-11: BankSystem Dependency Class Diagram.

2.4 SMSSystem

2.4.1 Interface Realizations

IBankSystem::sendMessage()

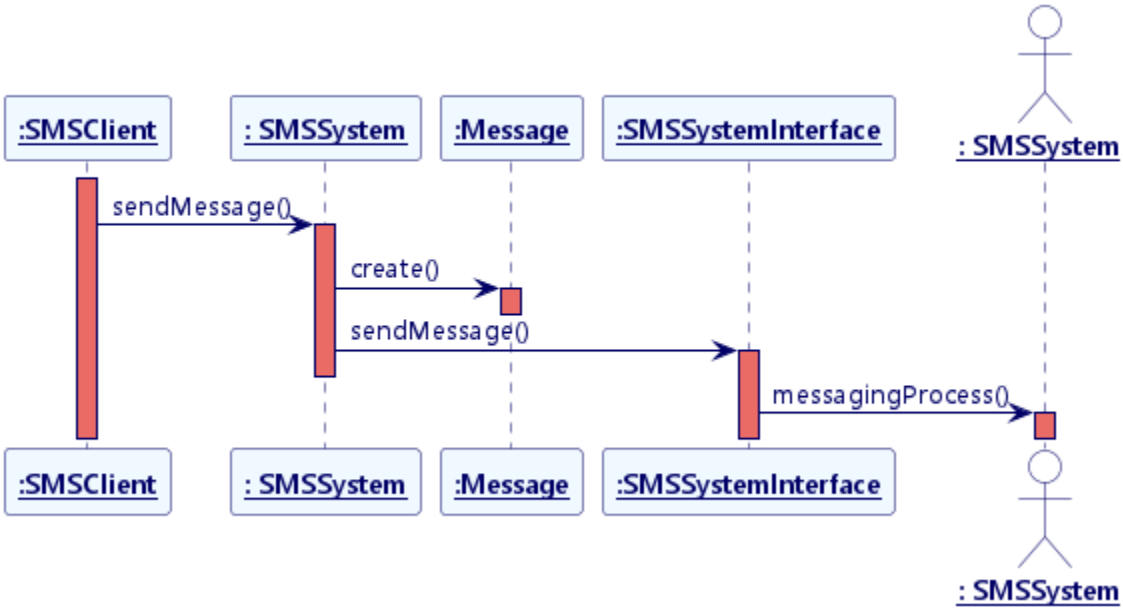

Figure 2-12: SMSSystem Sequence Diagram.

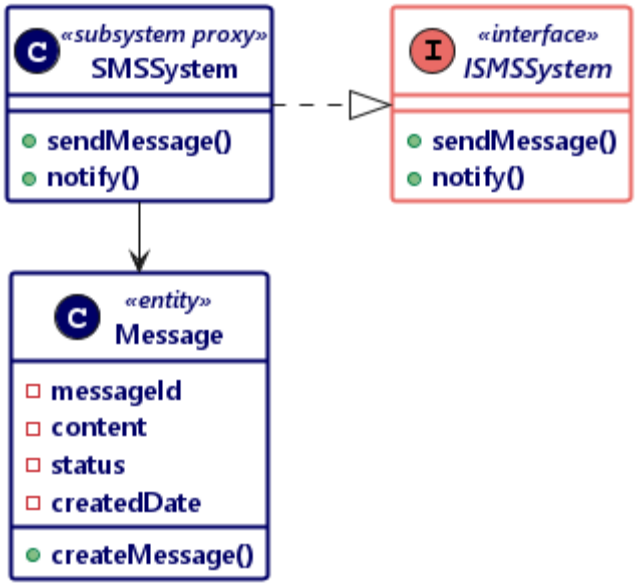

Figure 2-13: SMSSystem Class Diagram.

2.4.2 Subsystem Dependencies Class Diagram

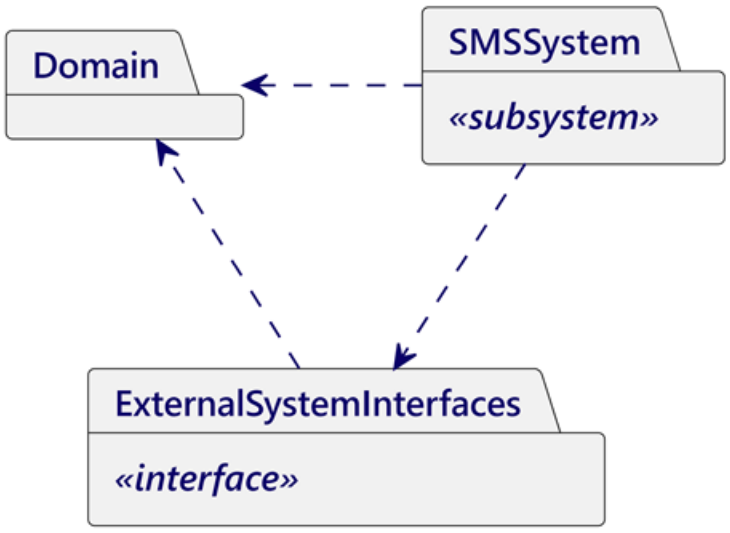

Figure 2-14: BankSystem Dependency Class Diagram.