

UML Class Diagram Practical Work Report

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Abstract

This report documents the UML Class Diagram solutions for the specified practical exercises. It outlines the key structural requirements for systems managing a Library, Laptops, a Restaurant, an Academic institution, and Flight bookings. Each section presents the corresponding visual model along with a summary of the core system requirements addressed.

1 Exercise 1: Library and Laptops

Library System Requirements

- Books can be magazines or study books
- Members can borrow books
- Each loan has borrow and return dates

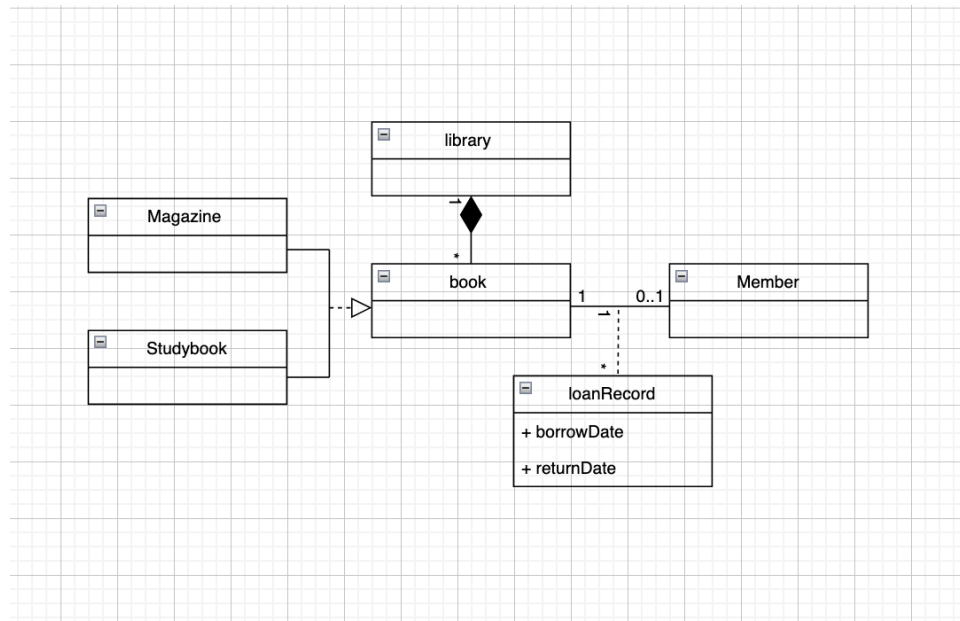


Figure 1: UML Class Diagram for Library Sub-System

Laptop System Requirements

- Laptop has a keyboard and keys
- Can have an optional owner
- Tracks purchase price

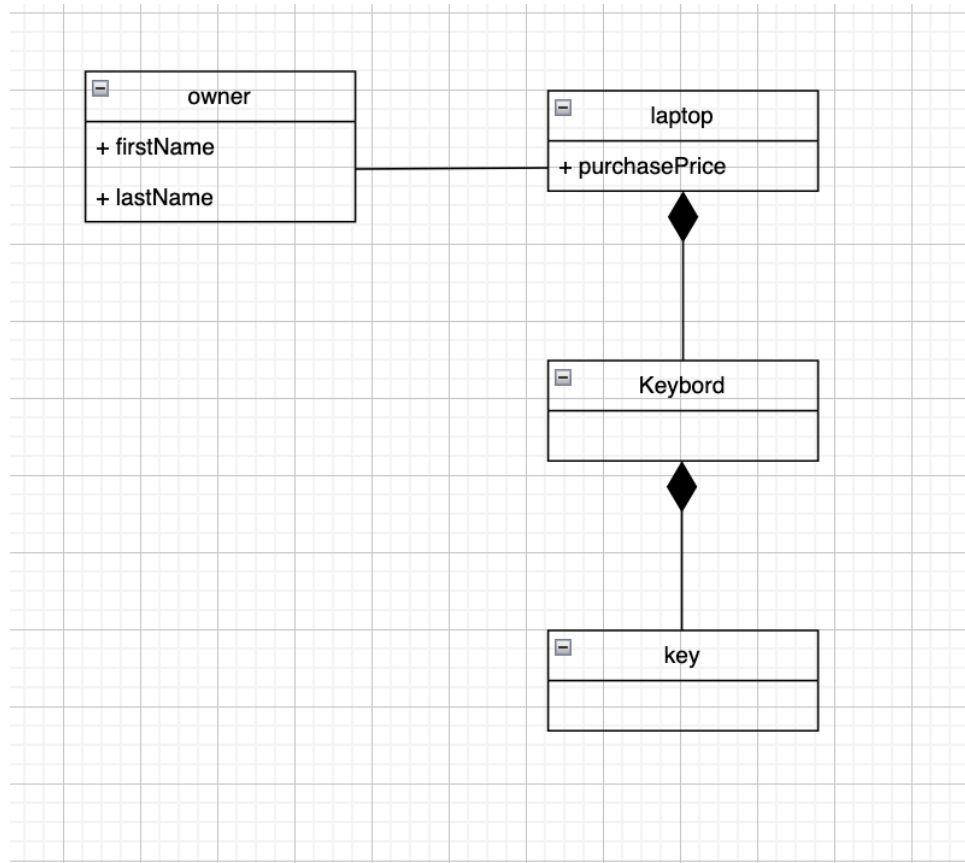


Figure 2: UML Class Diagram for Laptop Sub-System

2 Exercise 2: Restaurant Management

System Requirements

- Manages ingredients and dishes
- Tracks meals with waiters and customers
- Records table information and meal times

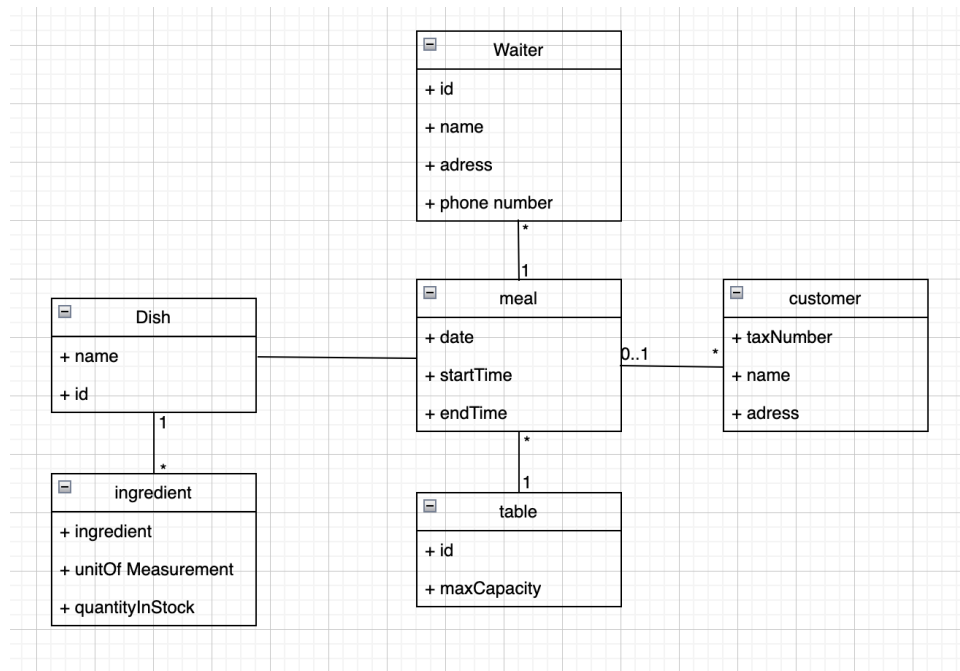


Figure 3: UML Class Diagram for Restaurant Management System

3 Exercise 3: Academic Management

System Requirements

- Manages colleges, departments, teachers
- Students take subjects and get grades
- Each subject has a classroom

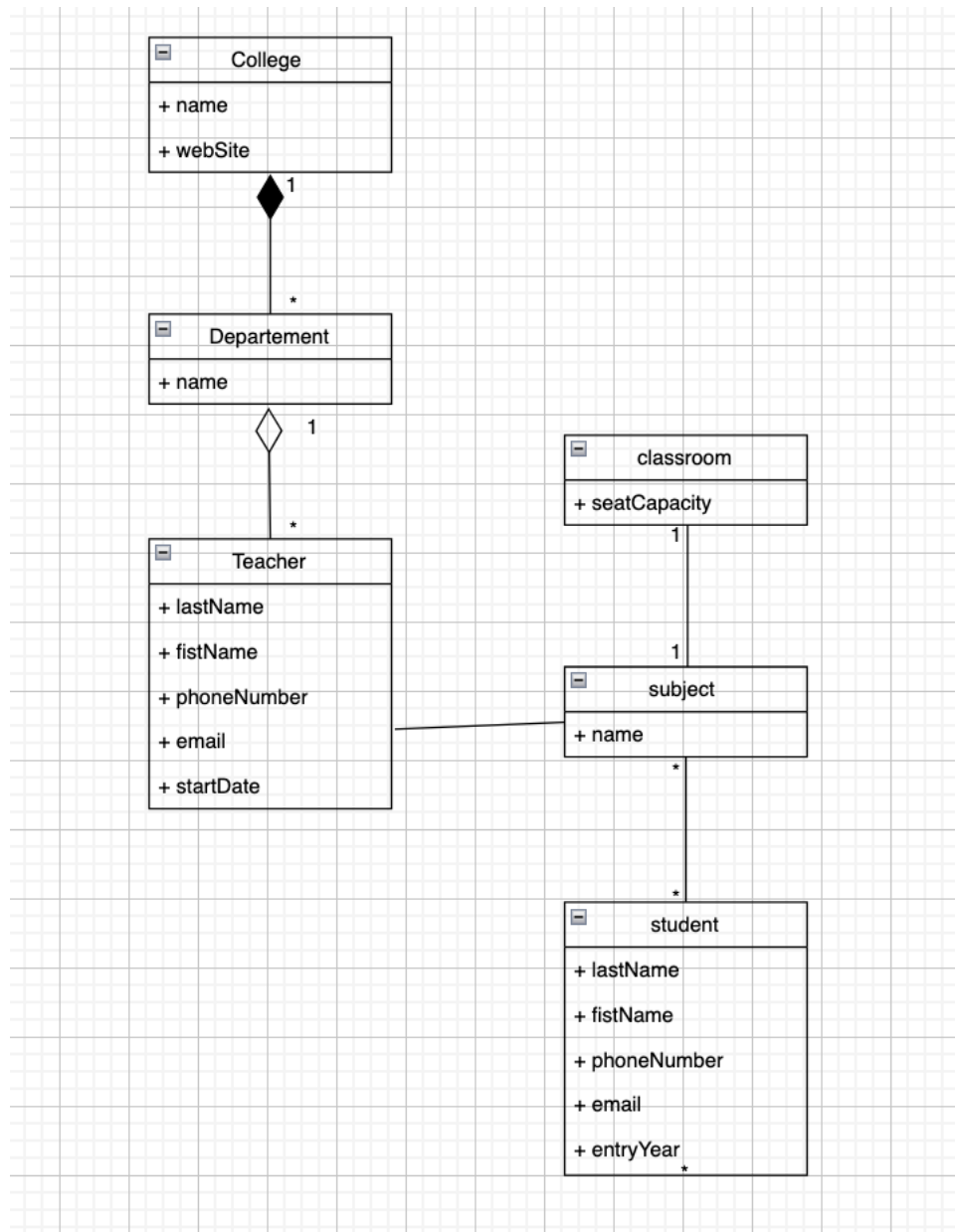


Figure 4: UML Class Diagram for Academic Management System

4 Exercise 4: Flight Booking

System Requirements

- Airlines offer flights
- Clients book flights for passengers
- Flights have airports and can have stopovers

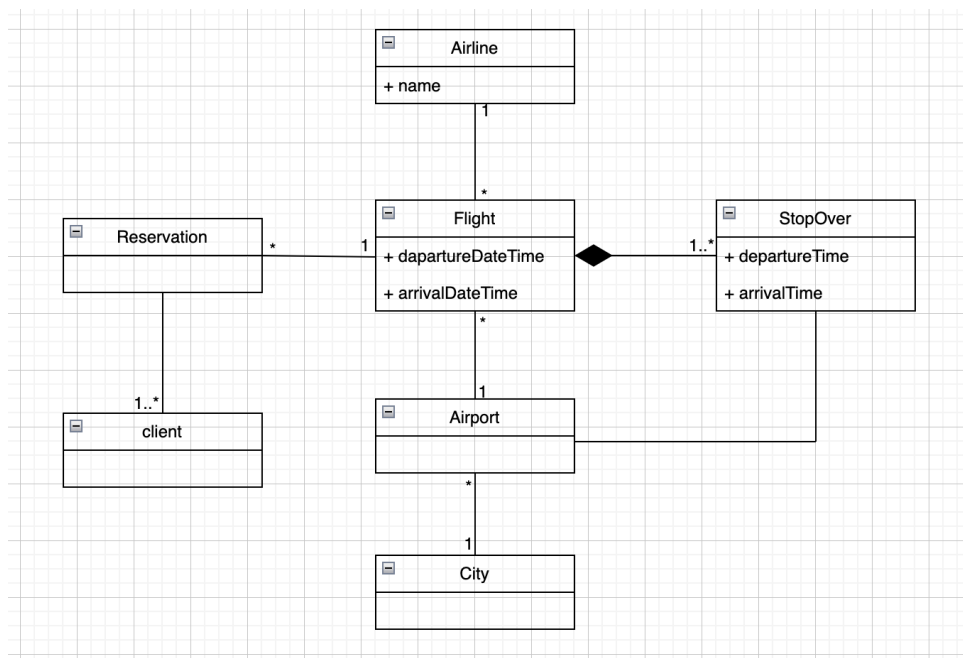


Figure 5: UML Class Diagram for Flight Booking System