Assignment 2

Detailed Design Document

Car Rental System

(using GAIA methodology)

Project Group 1

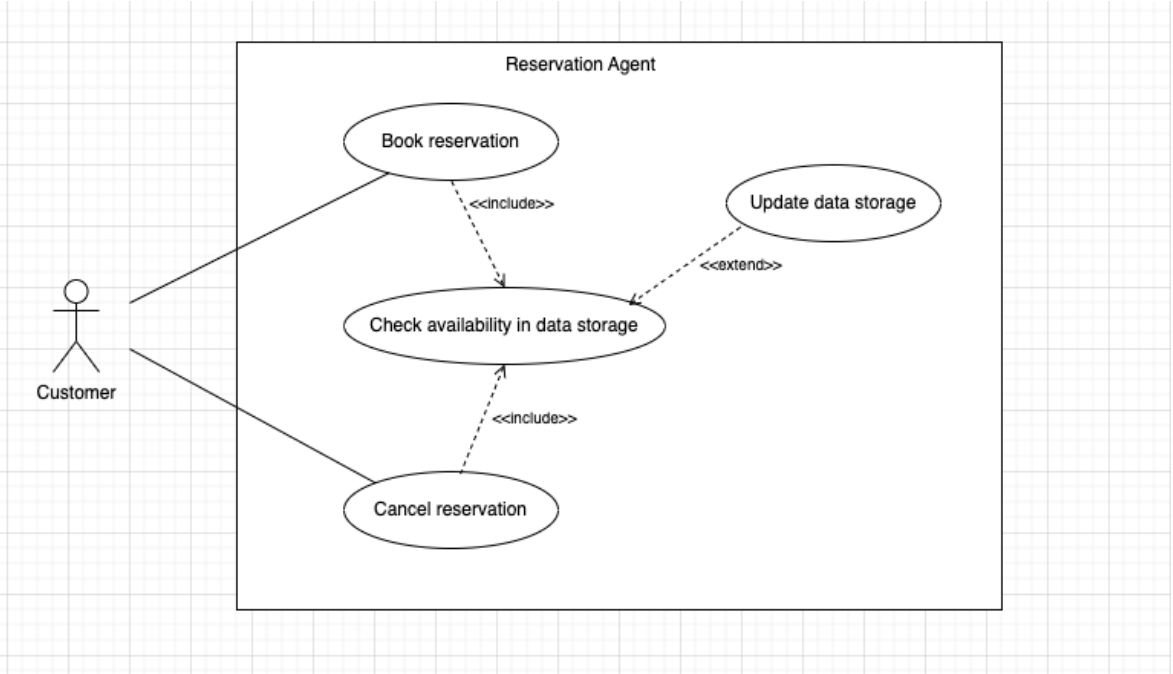
Jacob Idoko

Aakash Sorathiya

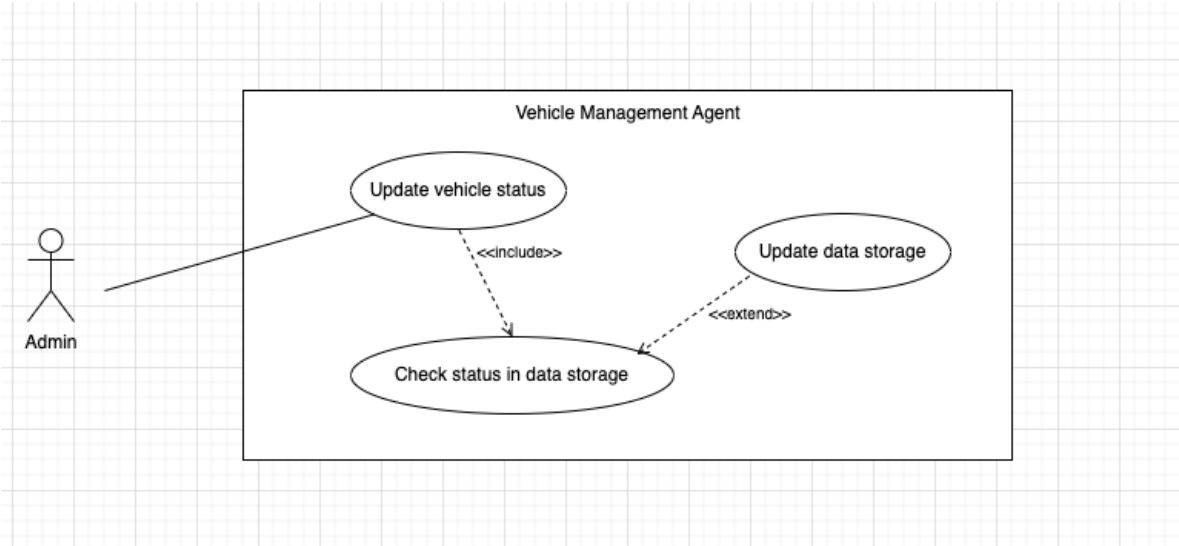
Table of Contents

1 Use Case Diagram of Agents

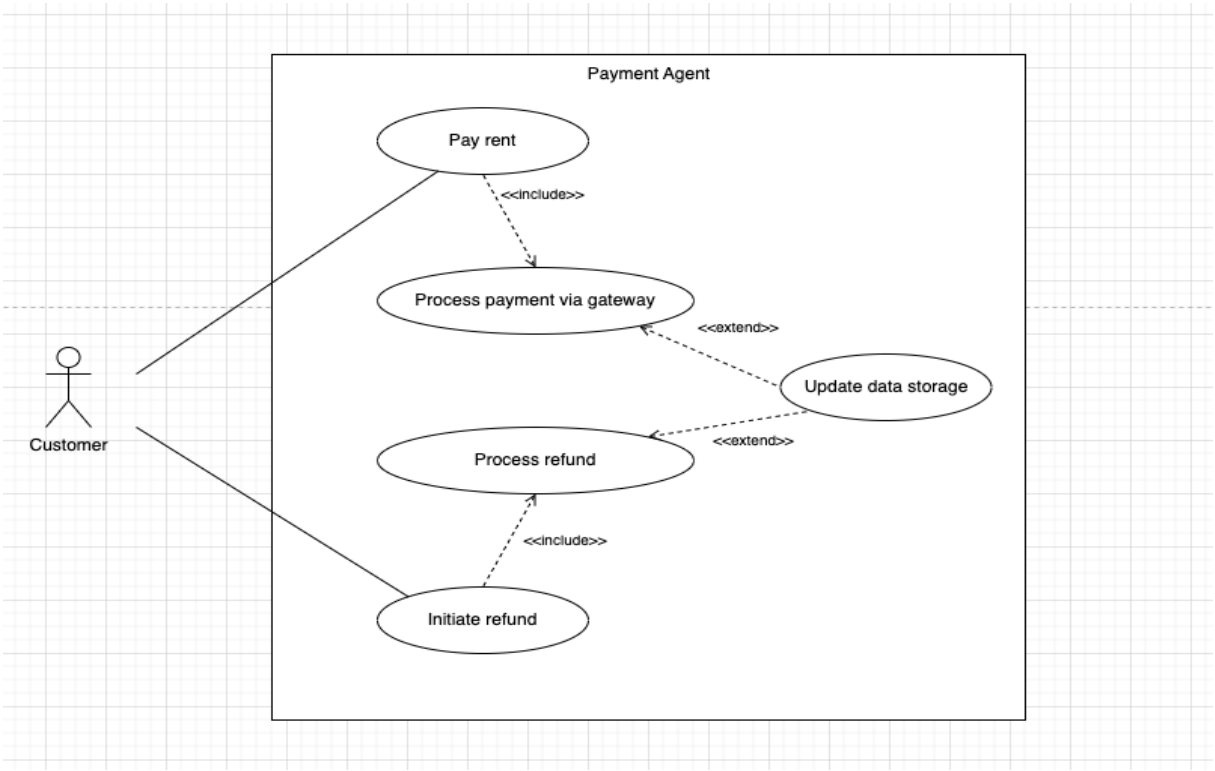
1.1 Reservation Agent



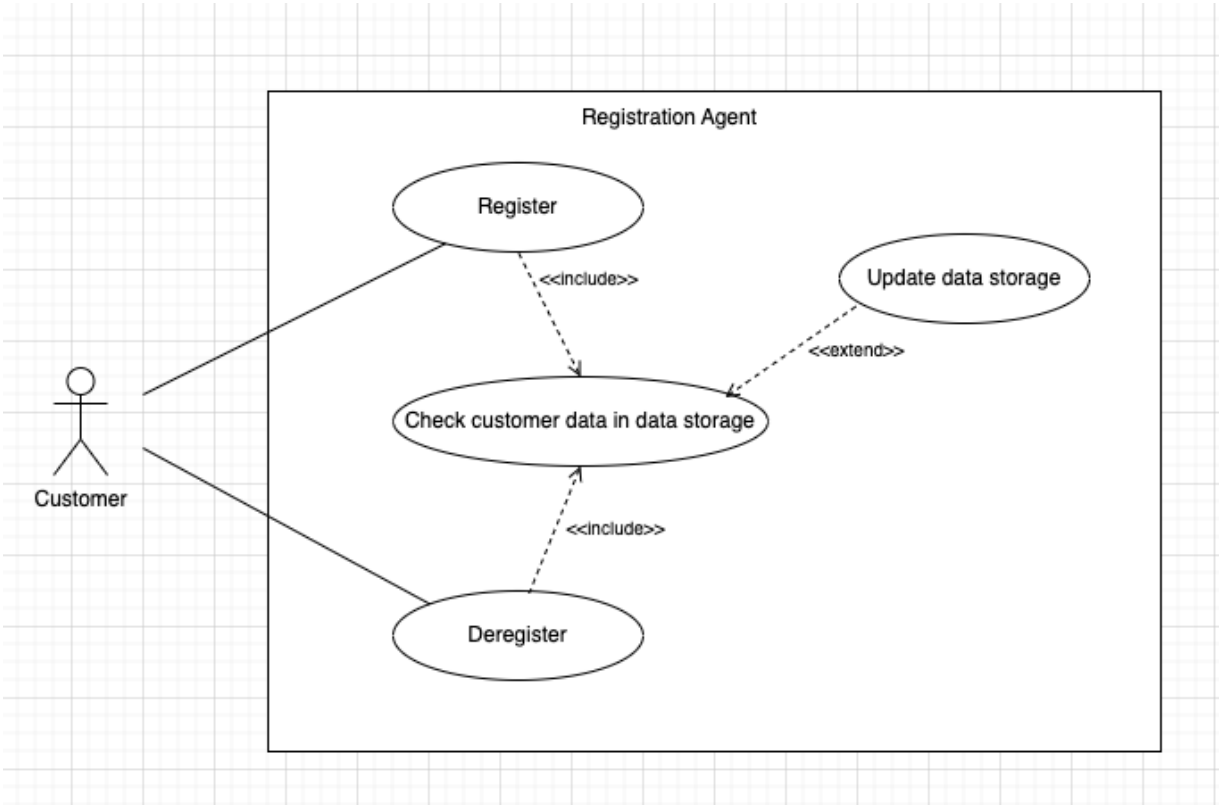
1.2 Vehicle Management Agent



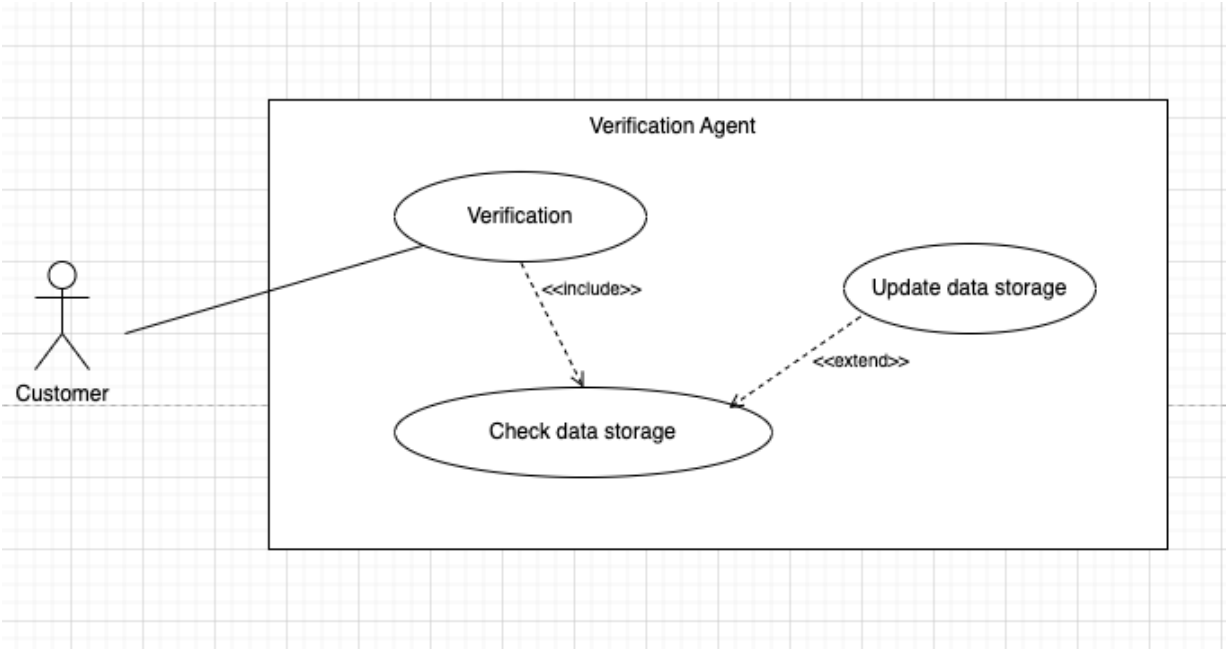
1.3 Payment Agent



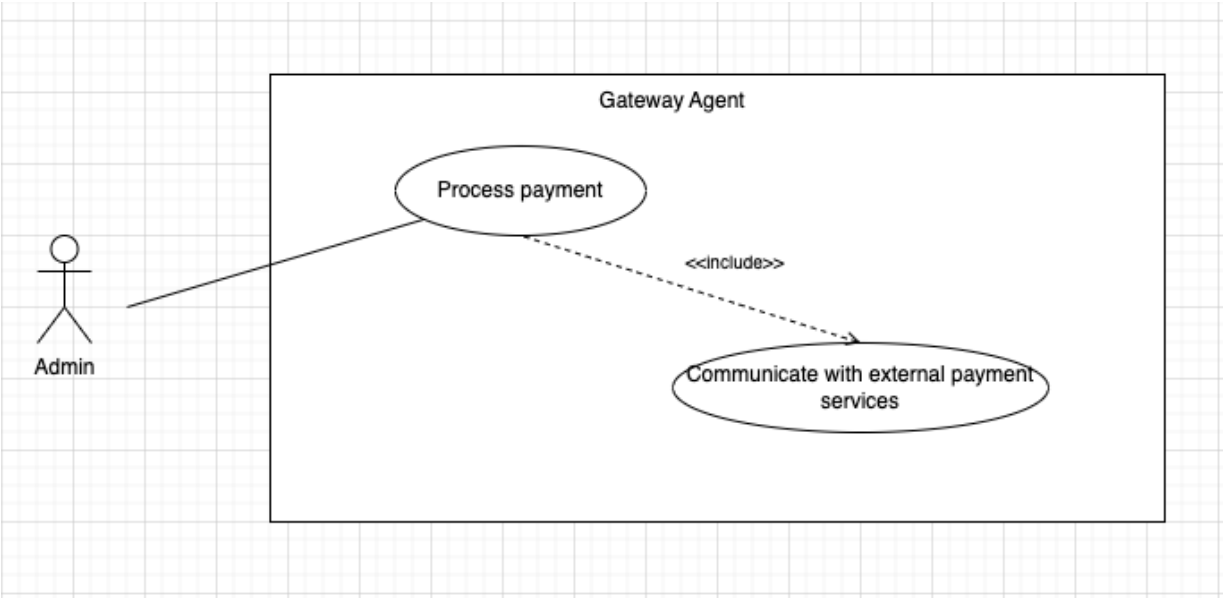
1.4 Registration Agent



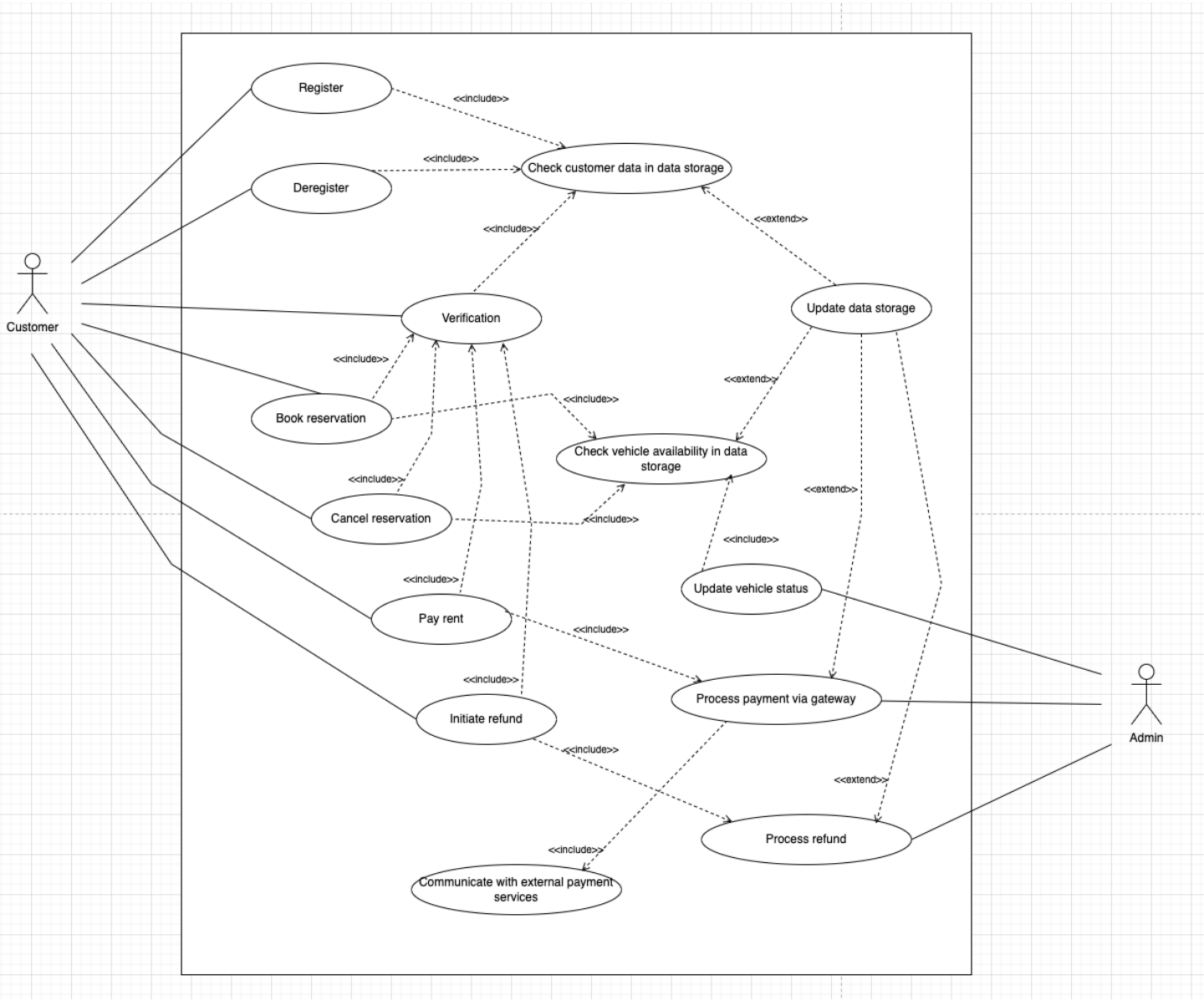
1.5 Verification Agent



1.6 Gateway Agent



1.7 Use case diagram for the whole system

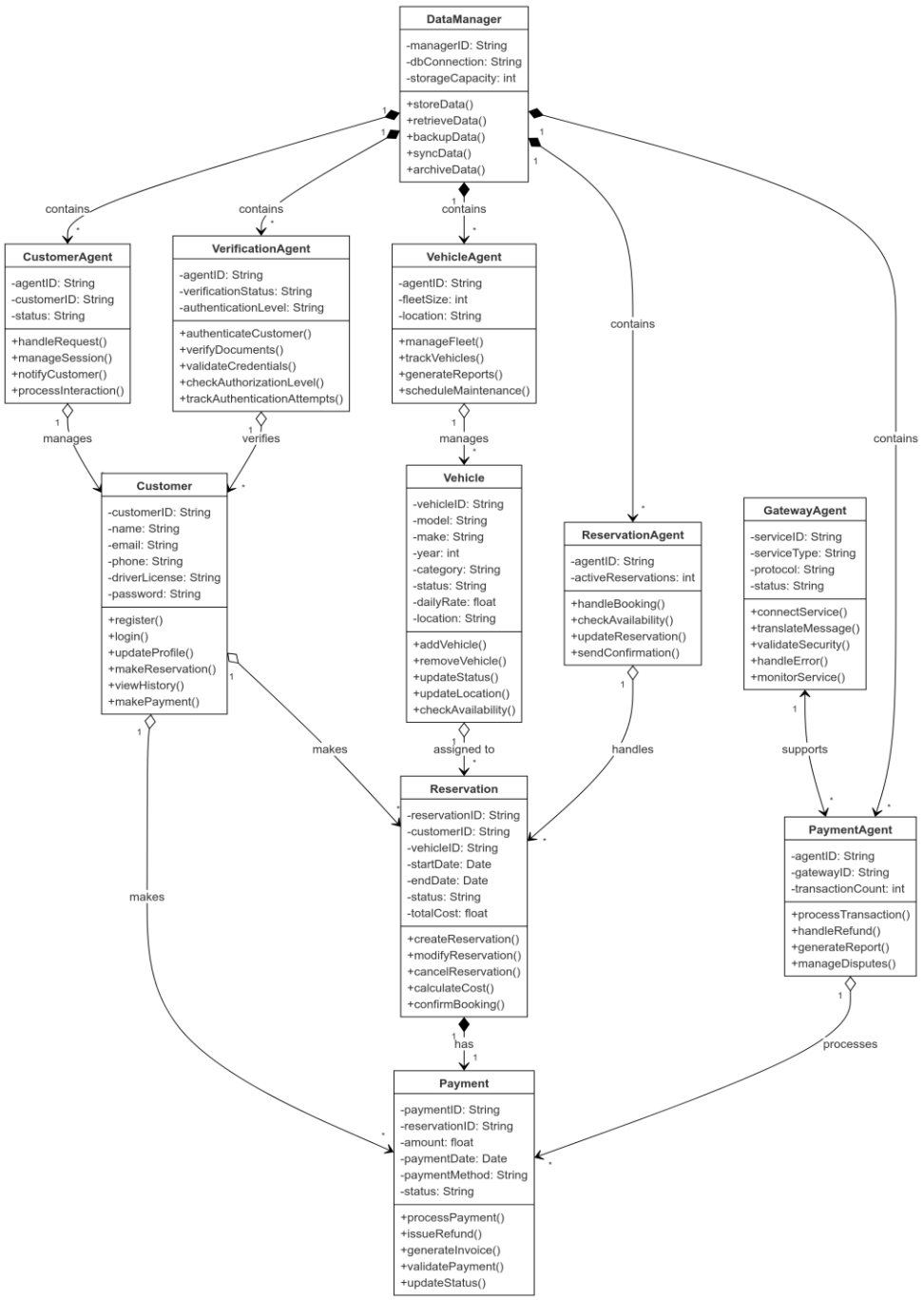


2 Detailed Class Diagram

2.1 Definition

A class diagram in the Unified Modelling Language is a static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations, and the relationships among objects.

2.2 Detailed Class Diagram

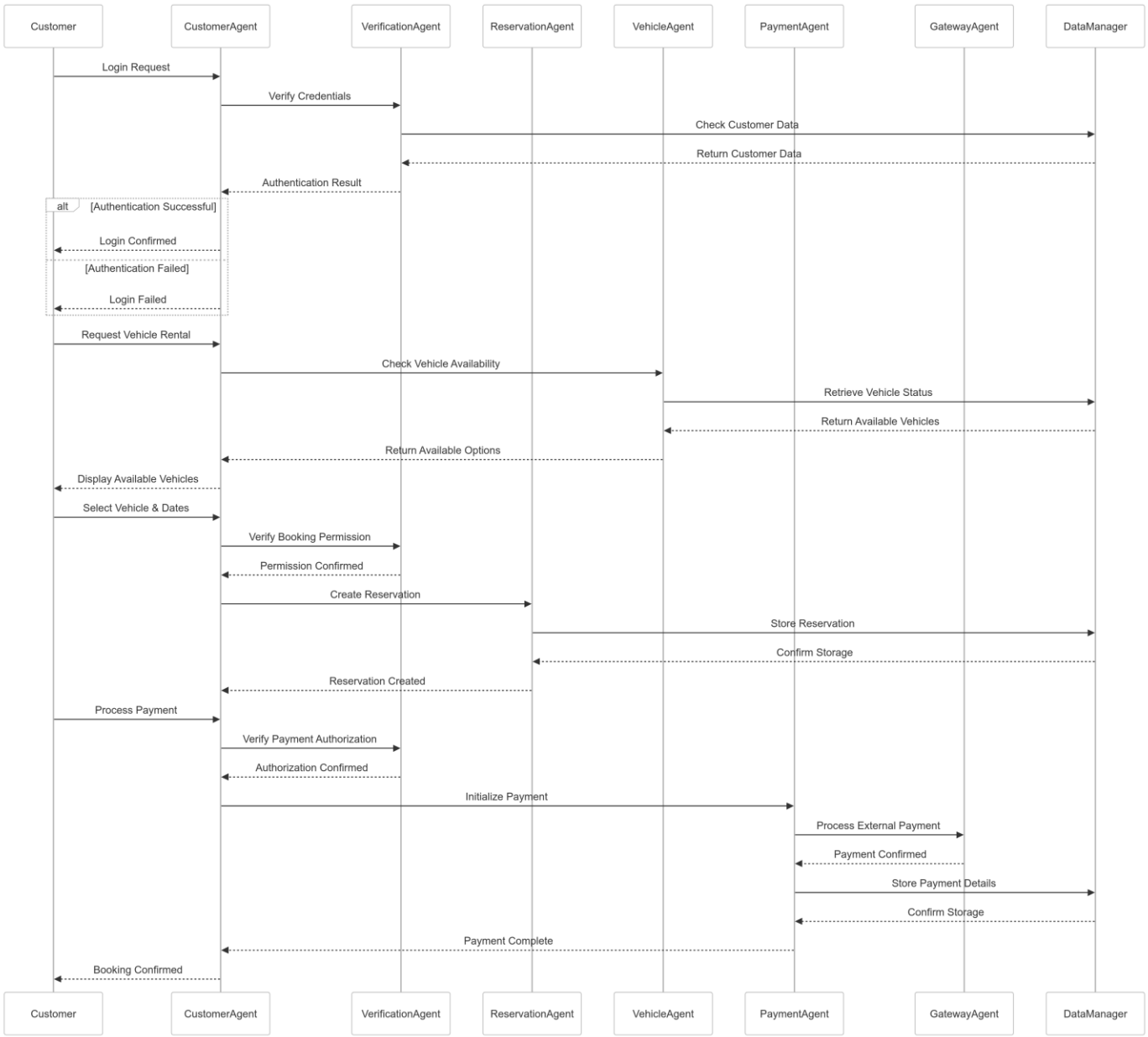


3. Message Sequence Chart

3.1 Agent Communication

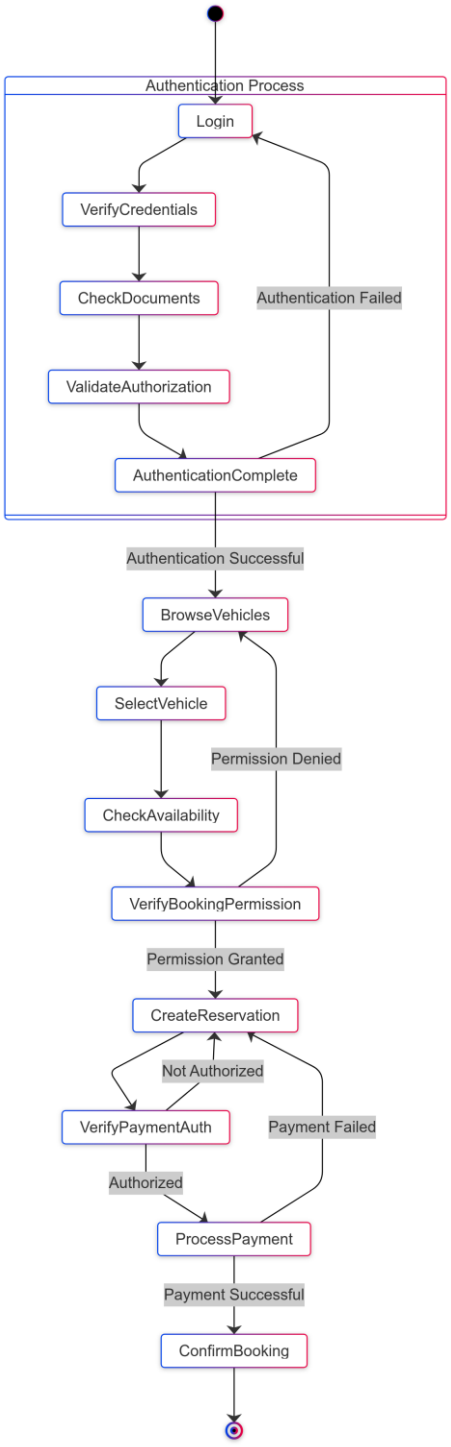
The inter-agent communication is based on the FIPA standards using the ACL (agent communication language). In FIPA, we have the privilege to transport and encode the inter-agent messages among various remote platforms.

3.2 Interaction Chart

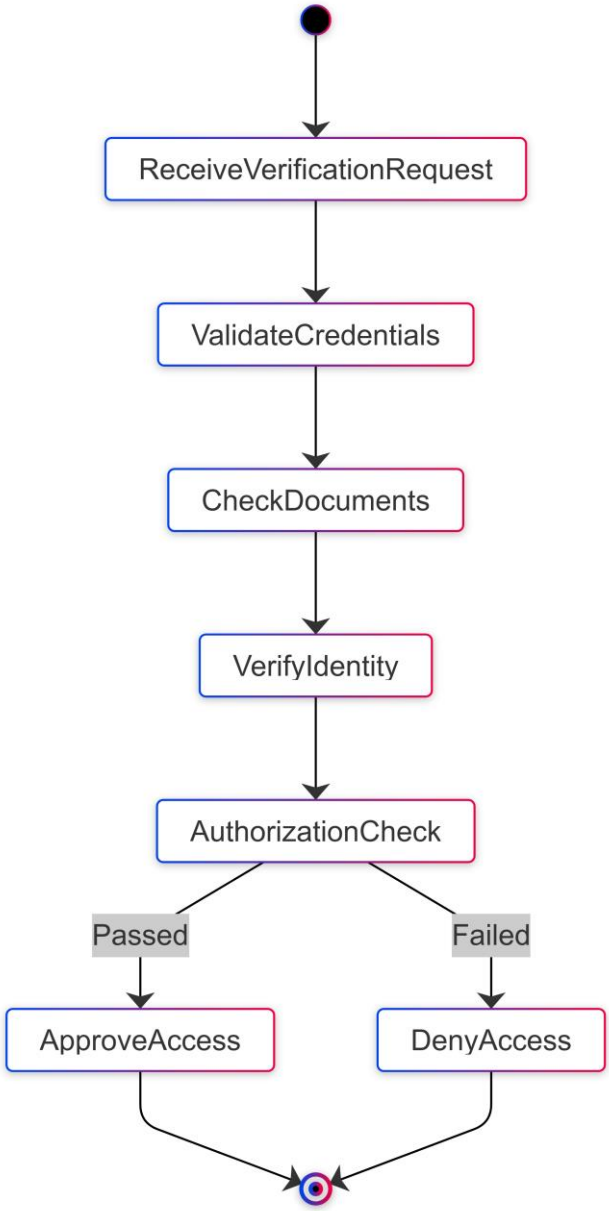


3.3 Activity Diagrams

3.3.1. Rental Booking Process Activity



3.3.2. Verification Process Activity



4. Data/Knowledge Sharing Specification

4.1 E-R Diagram