Rental Car Software System

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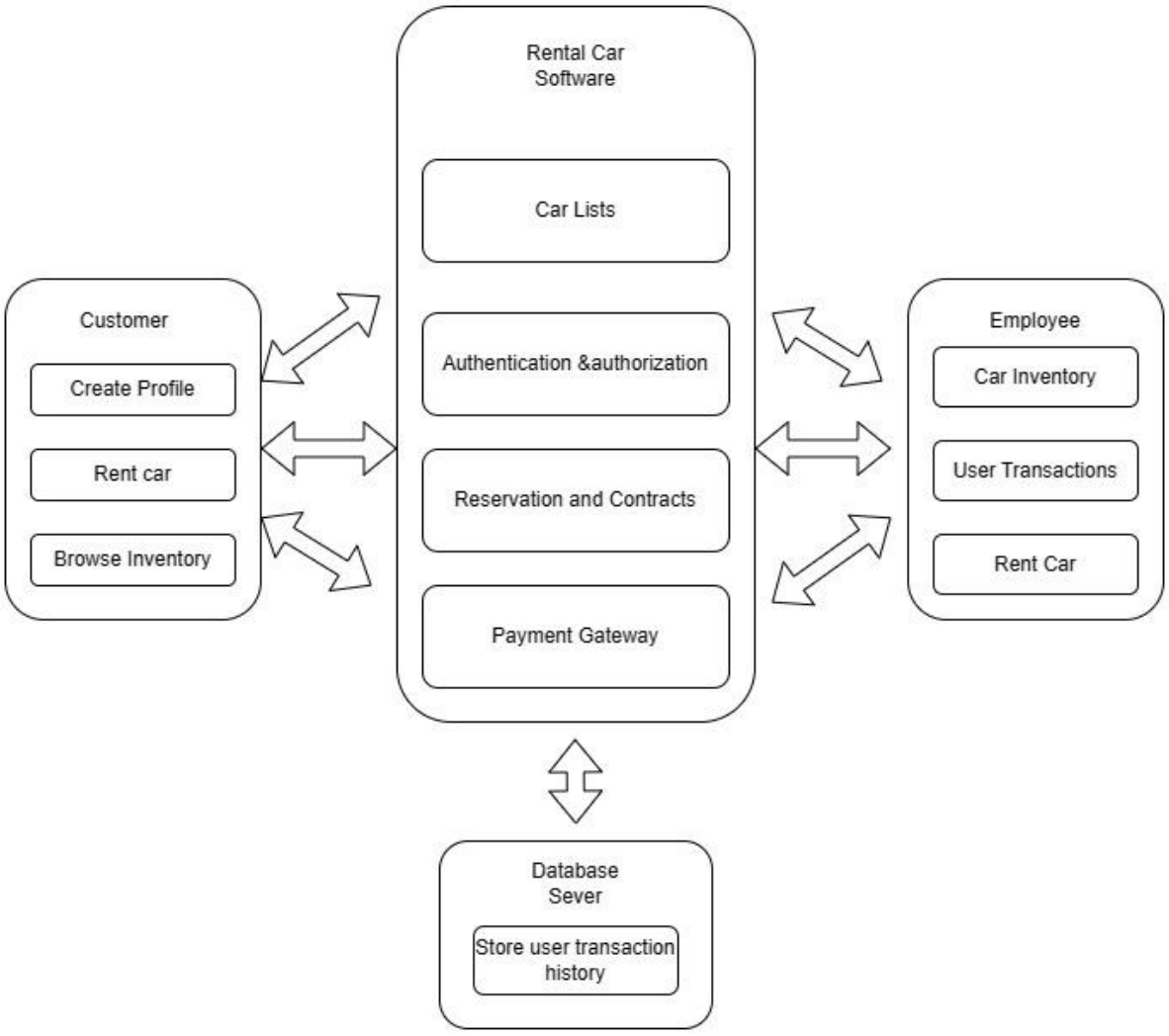
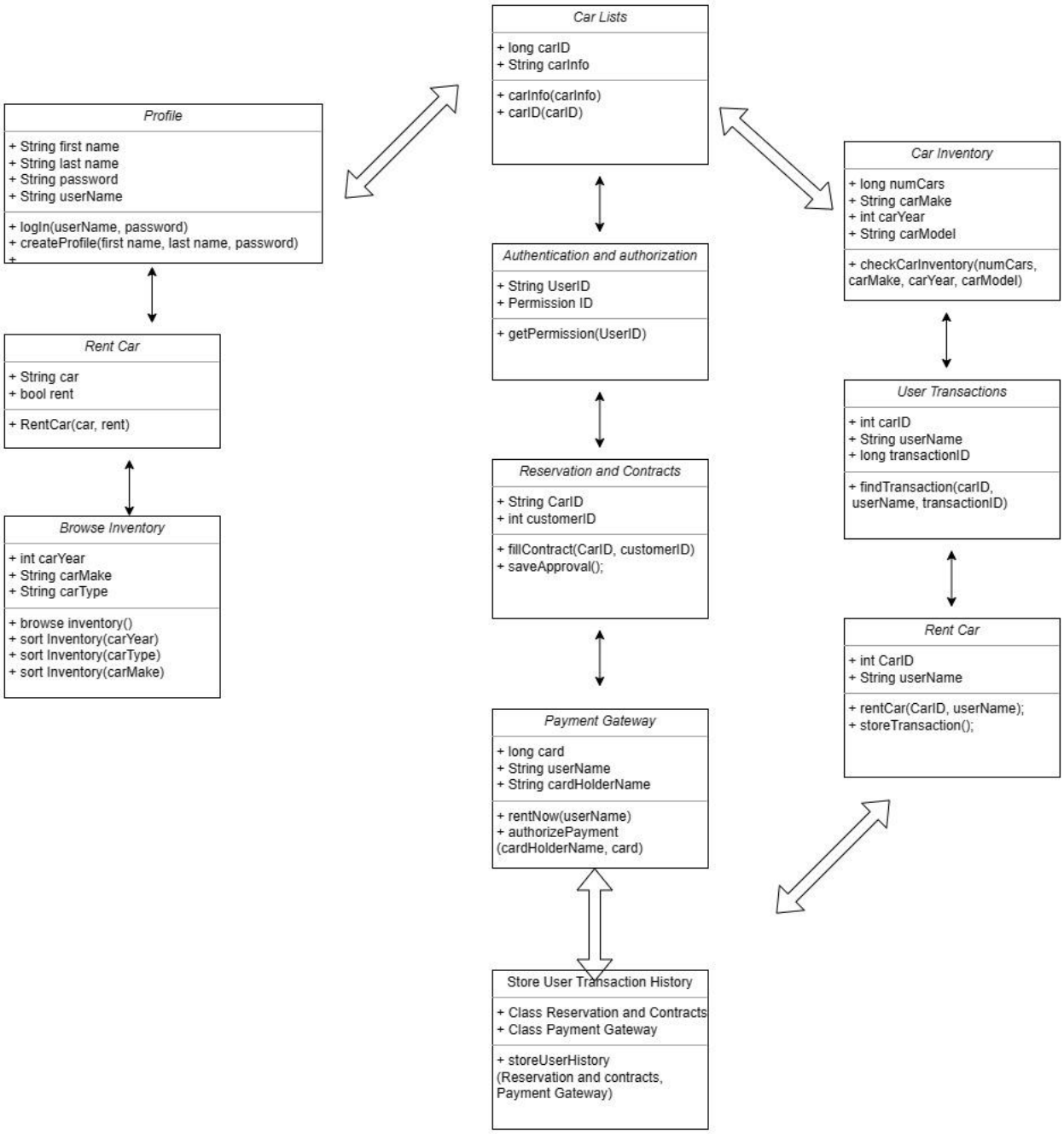
Brief overview of system:

Main software system we are developing is the Rental Car software system. The purpose of this software is to provide people with ease of access by renting cars and putting cars. The goal of the application/website is for the need and desire to simplify the rental process, which is painstakingly slow now due to all the physical paperwork that needs to be processed and stored. The services the software system will provide a seamless experience for renting a car through either on a user's phone, on a user's computer, or even in person at the rental centers. The other affected party will be for the employees based on the seamless experience of modifying, processing, and adjusting orders for customers in person if needed.

SWA diagram:



UML Class diagrams:



Class In-Depth Descriptions:

Class: Profile
Functions: log in and create profile
Variables: 4 strings for first name, last name, password, and user name.
Description: Profile embodies all functions regarding profile creation or log in for the user to access site on their own time and when needed.

Class: Rent Car
Functions: rent car
Variables: string car, boolean rent
Description: Basic function for user to choose if they want to rent a car.

Class: Browse Inventory
Functions: browse inventory, sort inventory (by year), sort inventory (by type), sort inventory (by make)
Variables: car year, car make, car type
Description: Class is meant to allow customer to browse the inventory however they would like by whatever parameters they prefer.

Class: Car Lists
Functions: car info, car ID
Variables: car info, and long carID
Description: based on the general variables regarding the car, the software will be able to save and list available cars for both user and employee.

Class: Authentication and authorization
Functions: fill contract, save approval
Variables: carID, customer id
Description: functions to fill the contract and save the approval. SaveApproval will generate new variables within function to return and save under transaction history.

Class: Reservation and Contracts
Functions: fill contract
Variables: car id, customer id
Description: class is meant to reserve and generate contracts for the customer and store them in the database.

Class: Payment Gateway
Functions: rent now, authorize payment
Variables: card, user name, card holder name
Description: payment gateway is meant to process payments when vehicles are rented.

Class: Store User Transaction History
Functions: store user history
Variables: classes for (reservation and contracts) and (payment gateways)
Description: Functions to store all the transactions regarding the rental of vehicles.

Class: Car Inventory
Functions: check car inventory
Variables: num cars, car make, car year, car model
Description: meant to show employee the car inventory available for customers to choose from.

Class: User Transactions
Functions: find transaction
Variables: carID, username, transaction id
Description: meant for employees to be able to find customer transactions if desired.

Class: Rent Car
Functions: rent car, store transaction
Variables: car id, user name
Description: Functions to allow employee access to rent cars for customer and streamline the process.

Development Plan:

We plan to have an SWA diagram, UML diagram, and an overview of the system by October 13, 2023. Hooman is responsible for creating the SWA diagram and description. It describes the architecture of the system and guides us during the building process. Victor will create the UML diagram that goes into further detail about the system. It covers the classes and objects that need to be coded to create the system.