Lab 1

Object-Oriented Design, IV1350

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1 Introduction

The first lab is about getting familiar with a UML modeling tool called Astra by creating a domain model and a system sequence diagram. Going to lectures and following modeling instructions helped me a lot to be able to practice on creating a model and a diagram. It was hard at first but I was able to manage the structure of the modeling.

2 Method

The Creation of domain model, shown in figure 3.1, started with organizing a category list to find class candidates for the domain model. I gathered every important character and object in the vehicle inspection procedures which were specified in the lab instructions and organized them in a category list. I also eliminated unnecessary categories and combined other ones for example “garage” and “garage door”. When I was done with the category list it was time to put all important candidates into the UML modeling tool called Astra as classes.
After putting every candidate on its own class I started connecting all inspection steps to its rightful classes. It was somehow difficult to connect some classes to each other while making the model look good for example “Inspector” and “Payment system” classes where in different places on the model and I had to connect them to each other without disturbing other connections. In the end I was able to finish the domain model without sacrificing any connection between classes.

In the last task I created a system sequence diagram shown in figure 3.2. The three main lifelines where program, inspector and payment system. The Program handled everything from the garage opening to giving inspection instructions to the inspector. The Inspectors lifeline was more about confirming that everything proceeded correctly and of course inspect a vehicle and determine its outcome. Payment system was only needed to handle payment procedures, even if it’s a small part off a vehicle inspection procedure, it’s still an important part. It wasn’t hard to create a SSD because I already had everything I needed from the domain model.

3 Result

The purpose of domain modeling is to capture the important aspects of problem solving. It gives a conceptual framework of the things in the problem space. By creating a model, you will be able to focus on the important parts of your construction.
Below you can see a domain model and a system sequence diagram about how a vehicle inspection is handled.

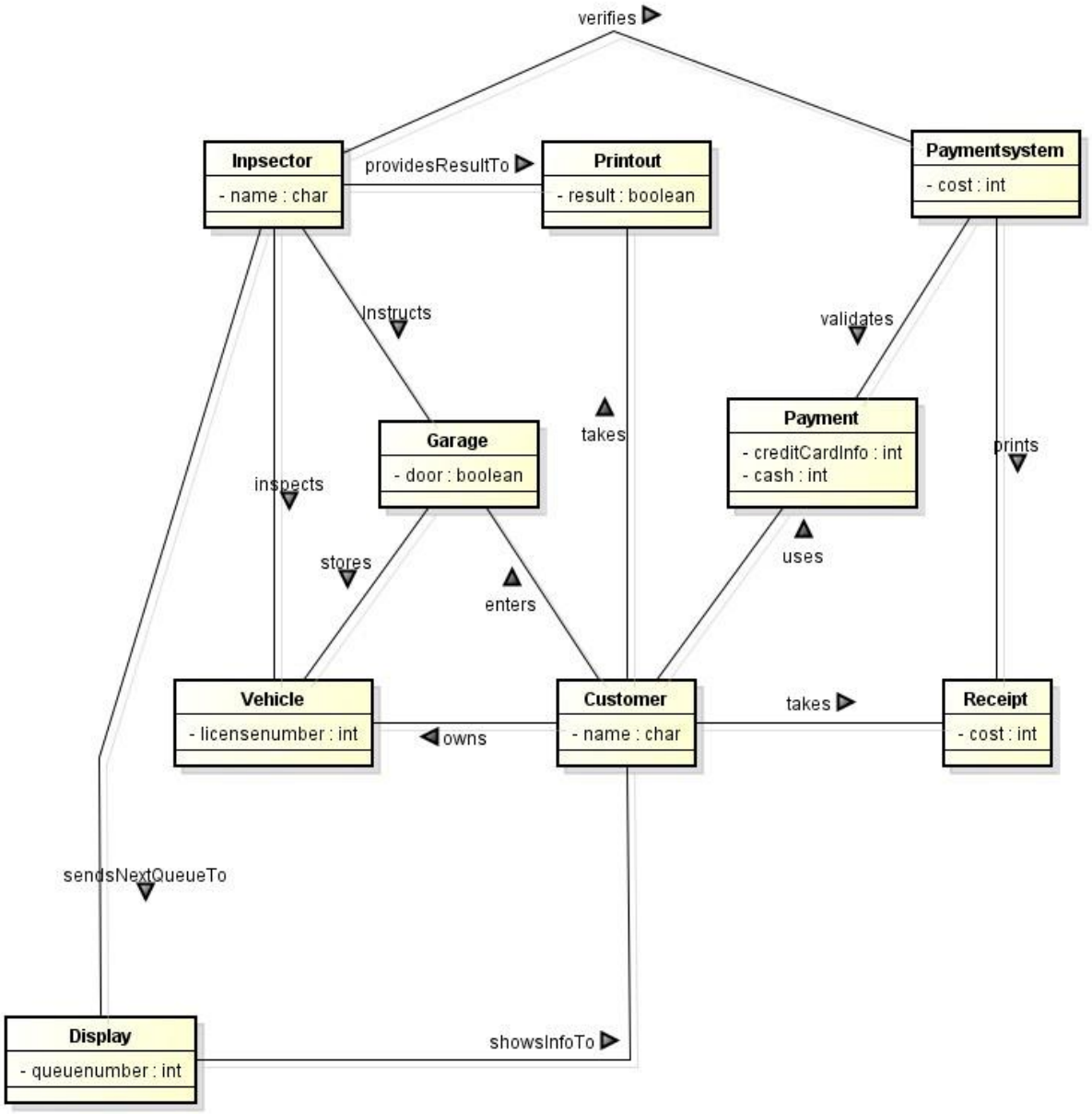

Figure 3.1: A simple domain model of a vehicle inspection

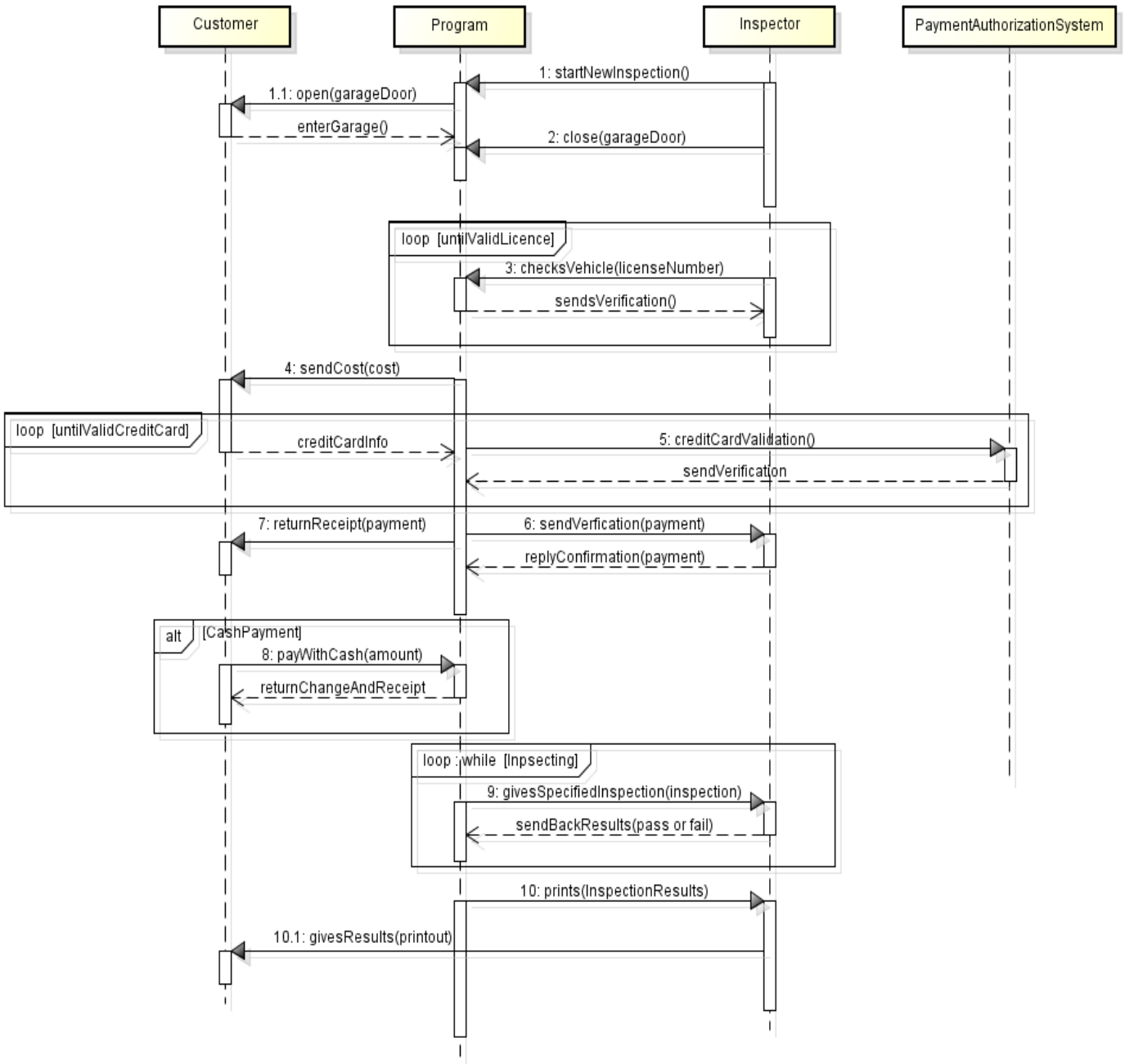

Figure 3.2: A system sequence diagram on a vehicle inspection.