

Homework #4 Class Diagrams

1. Creating a domain model

From the Enterprise architect "Project Browser" window, right-click on the Restaurant package. Select "Add -> Add Diagrams..." then choose "UML Structural->Class" on "New Diagram" window. After creating a class diagram, you can right-click on it and select "Properties..." to change the diagram features such as name, description, and properties. To start adding components into the class diagram, if the drawing toolbar is not already shown, open the drawing toolbar by press "Alt+5". You can select a component, from the diagram tools in the drawing toolbar, to add into the class diagram. You can right-click on a component in the diagram and then select "Appearance..." from the menu if you want to customize the component appearance and select "Properties..." to add to it any further detail description.

- Draw the following domain model:

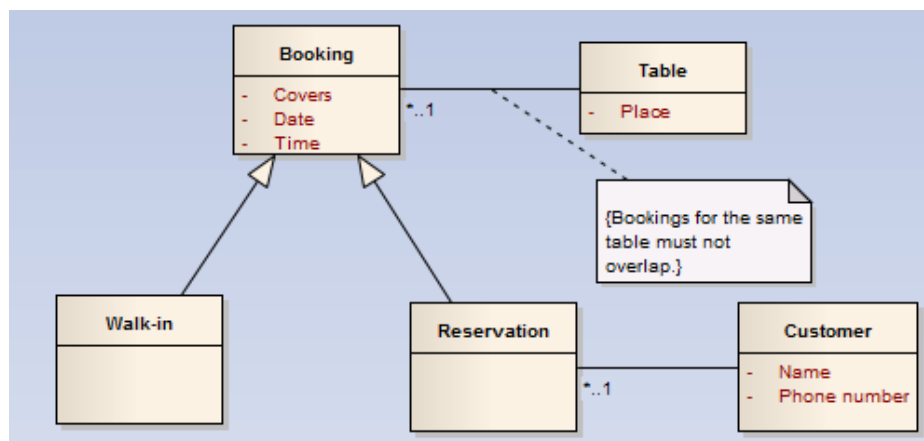


Figure 1

2. Completing the Analysis Model

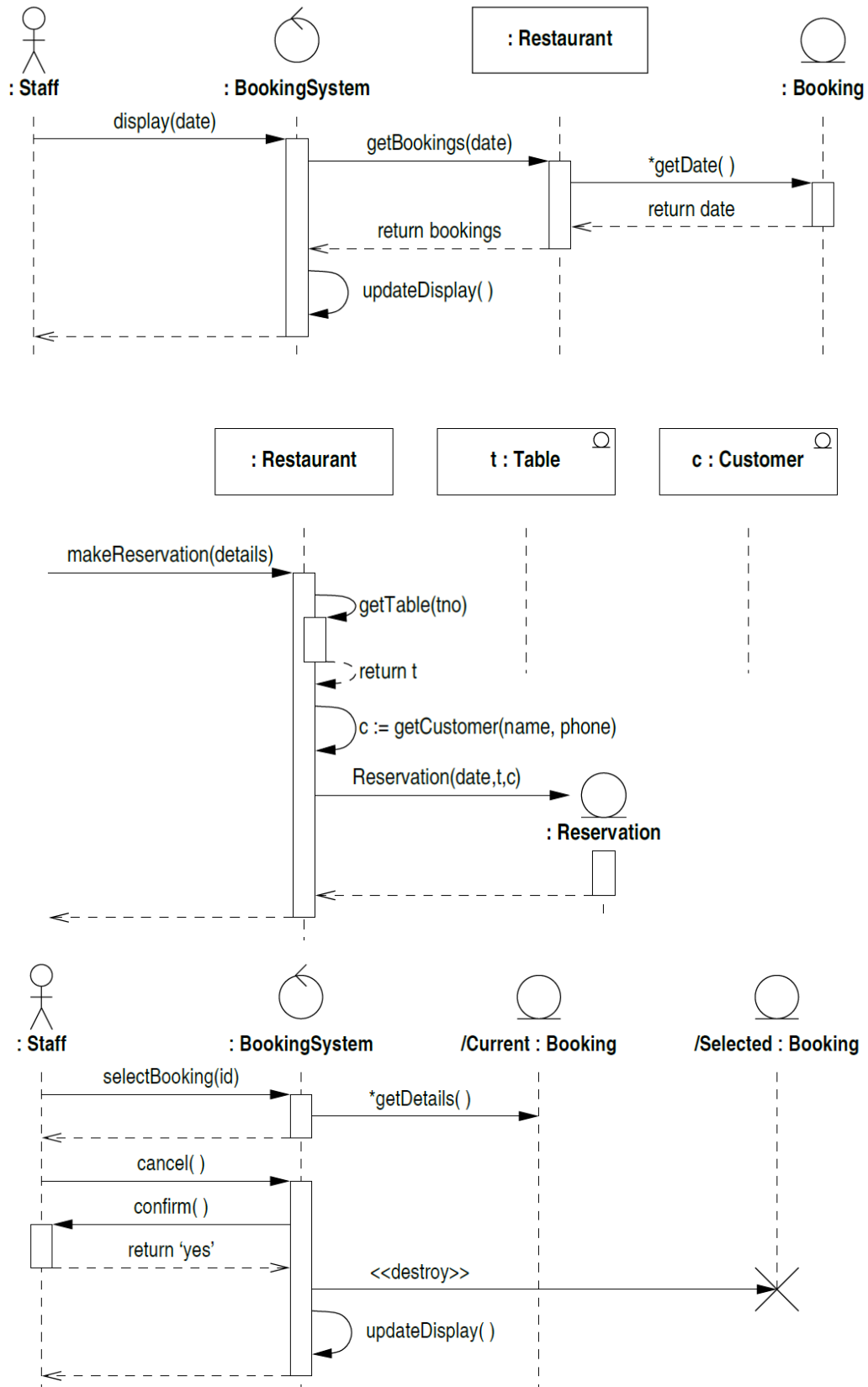
After analyzing each use case and realizing it, we usually get more understanding of the system from the use-case realization using interaction diagrams. Once we learn more from those diagrams, some changes may need to be applied to the domain model (such as incorporating new classes into the model) and we will incrementally refine the domain model further while doing the use-case realization. For example, each time we discover there is a message being sent to some objects of a class, we usually need to add a method to that class to support that message.

Use Case Realization: Restaurant System Analysis

The simplest case in booking system is probably the "Display bookings" case. From the interaction specified in the basic course of events, we can make the realization of the "Display bookings" use case and produce a sequence diagram to show the messages in the use case. When there are alternative and exceptional courses of events, it is usually preferable to show the realization of each course of events on a

separate sequence diagram. Alternatively, you can also use the collaboration diagram to conduct use case realization.

From the following sequence diagrams, we can refine the domain model further to obtain a class diagram in Figure 2.



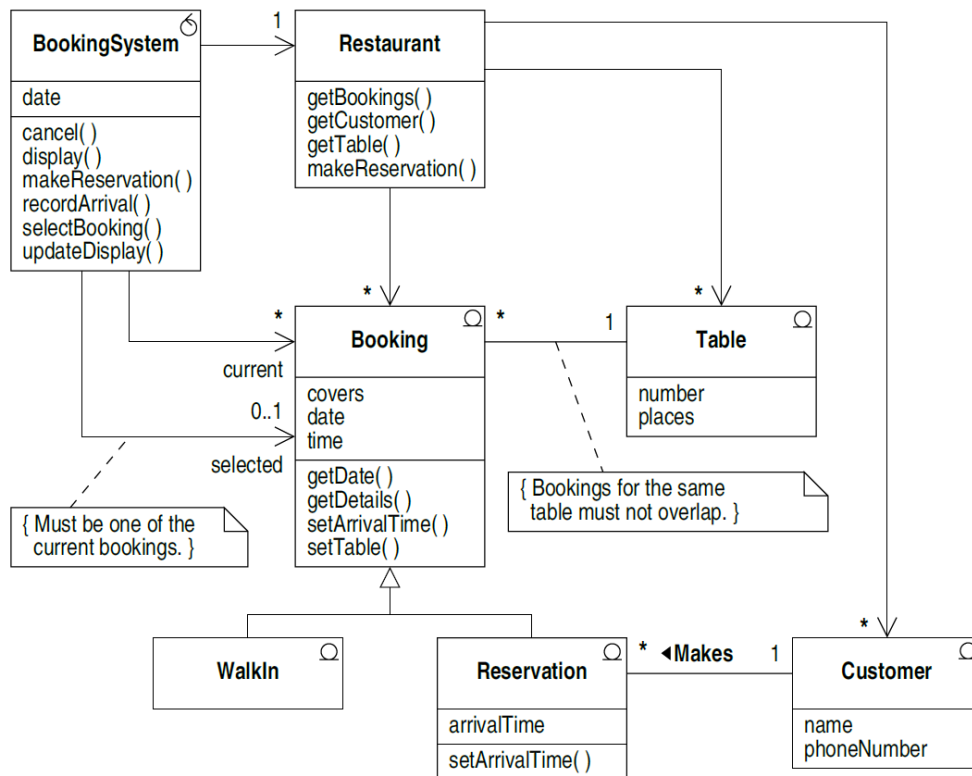
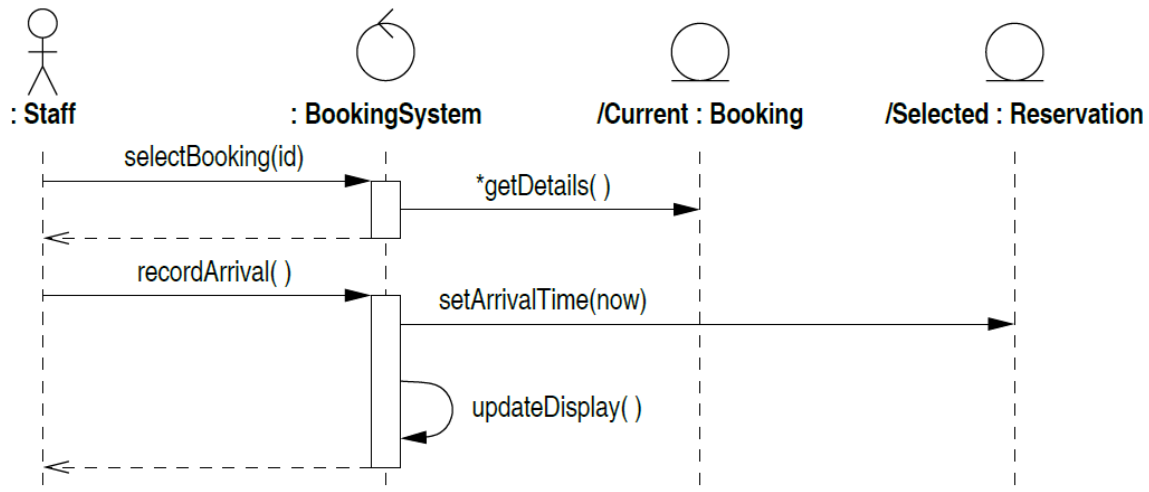


Figure 2

Exercises

1. Create a project in Enterprise Architect for the restaurant system. After that create the class diagram in Figure 1.
2. Create the class diagram as shown Figure 2 by modifying the class diagram you created in Exercise 1.