

**CPE416: Distributed Systems**

**CSC411: Distributed Computing**

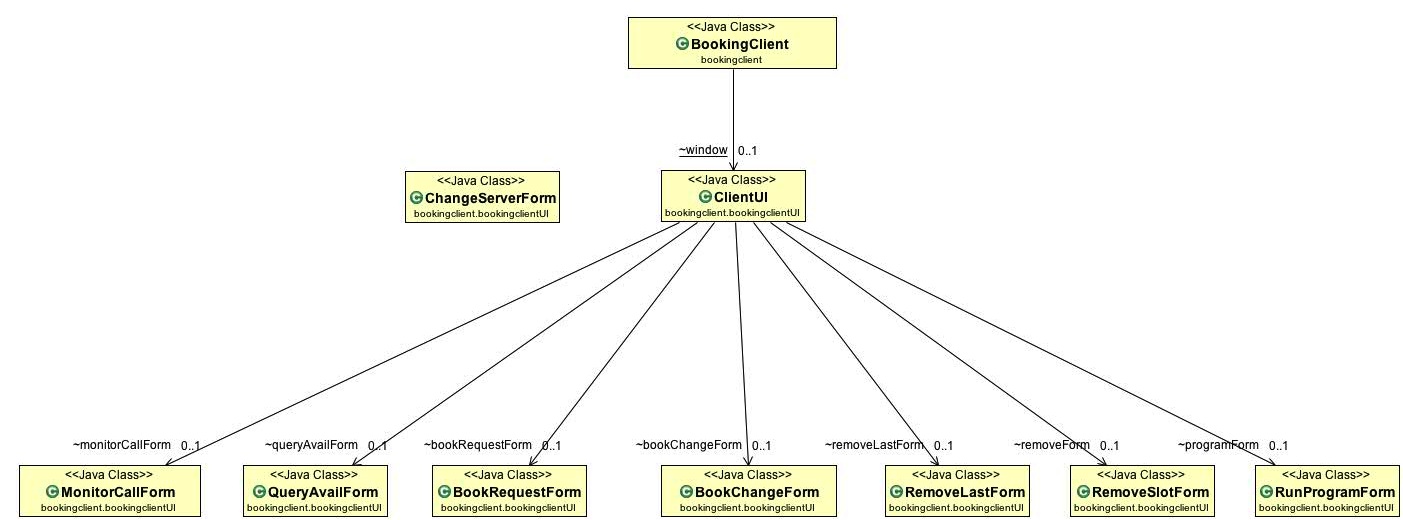
**Lab Report**

Hoang Tri Tam – 33%

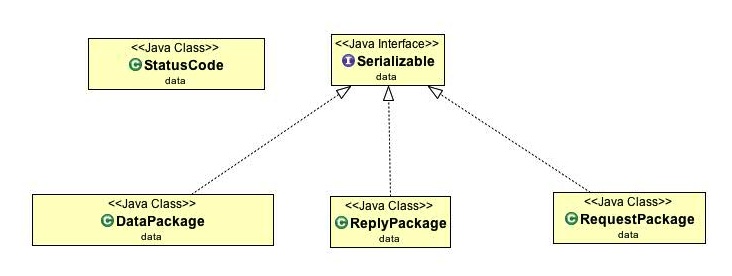
Linh Vu – 33%

Gaurav Gupta – 33%

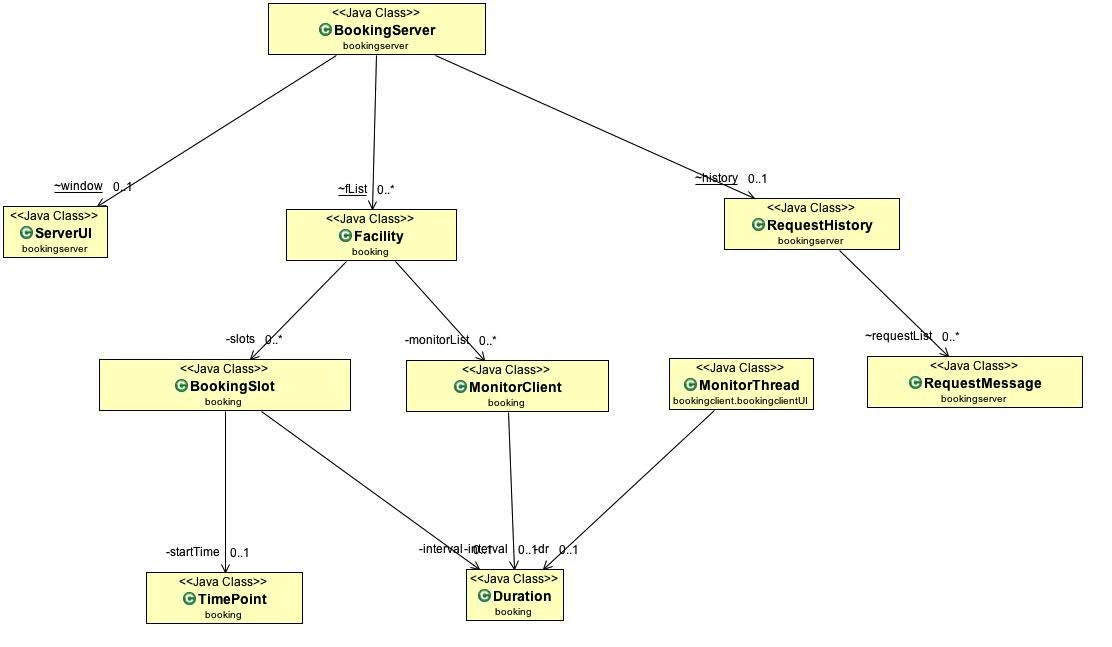
1. Software Design

Client

Interface



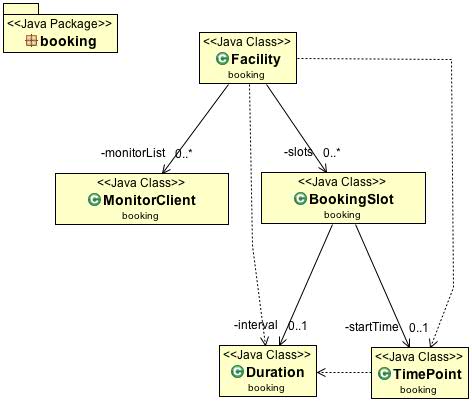
Server



2. Implementation Strategy

Package: Booking

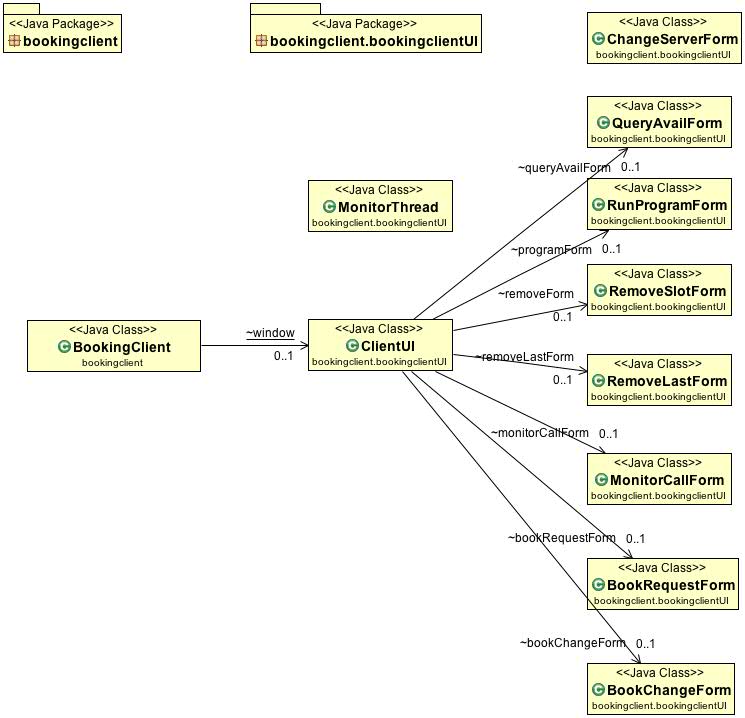
This package consists of the classes that form the data structures for the storage and computation of data.



**Classes:**

1. Duration: This class’ objects represent the basic unit of time duration in number of days, hours and minutes.
2. TimePoint: This class’ objects represent the basic unit of time point in number of days, hours and minutes. This class provides the functions to manipulate and compare time points.
3. BookingSlot: This class’ objects represent a booking slot in a facility. It contains the starting time (TimePoint), the interval (Duration), a confirmation ID and the client address of the client that booked this slot.
4. MonitorClient: The object of this class holds the information of a monitoring client namely client address and the end time of the monitor.
5. Facility: The object of this class represents a facility type. Its attributes include id and description of the facility, list of booking slots and list of clients who monitor this facility.

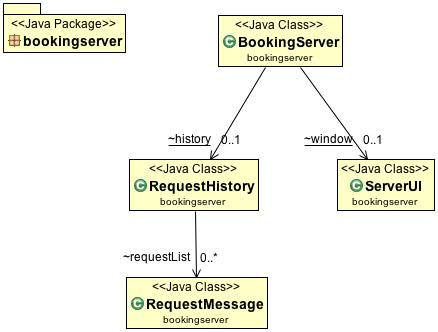
Package: Bookingclient



**Classes:**

1. BookingClient:
2. MonitorThread:
3. ClientUI:
4. BookChangeForm:
5. BookRequestForm:
6. MonitorCallForm:
7. RemoveLastForm:
8. RemoveSlotForm:
9. RunProgramForm:
10. QueryAvailForm:
11. ChangeServerForm:

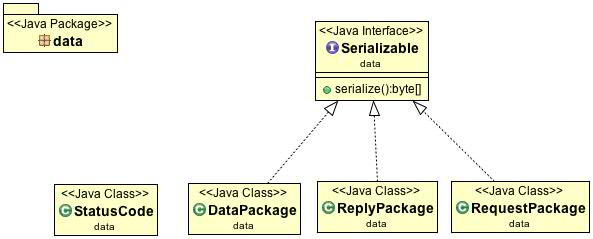
Package: Bookingserver



**Classes:**

1. BookingServer:
2. RequestHistory:
3. ServerUI:
4. RequestMessage:

Package: Data



**Interface:**

1. Serializable:

**Classes:**

1. StatusCode:
2. DataPackage:
3. ReplyPackage:
4. RequestPackage:
5. Services
6. Marshaling and Un-Marshaling
7. Fault Tolerance