

1. *“Experts cannot be double booked. In other words, a service by a single expert cannot be available to multiple clients on the same day and time.”*

context Expert:

inv: self.serviceRequests->forAll(sr1, sr2 | sr1 <> sr2 implies sr1.time <> sr2.time or sr1.date <> sr2.date)

2. *“A consulting service for an auction visit may be available during a time that is within the availability of the auction house.”*

context ServiceRequest

inv: self.type = 'AuctionVisit' implies self.time.start >= self.auction.time.start and self.time.end <= self.auction.time.end

3. *“A client does not have multiple requests on the same day and time .” (either same or overlapping); for example, a request for service on Monday 3pm – 4pm and another also on Monday 3:30pm - 4:30pm should not be acceptable.”*

context Client

inv: self.serviceRequests->forAll(r1, r2 | r1 <> r2 implies r1.date <> r2.date or r1.time.end <= r2.time.start or r2.time.end <= r1.time.start)