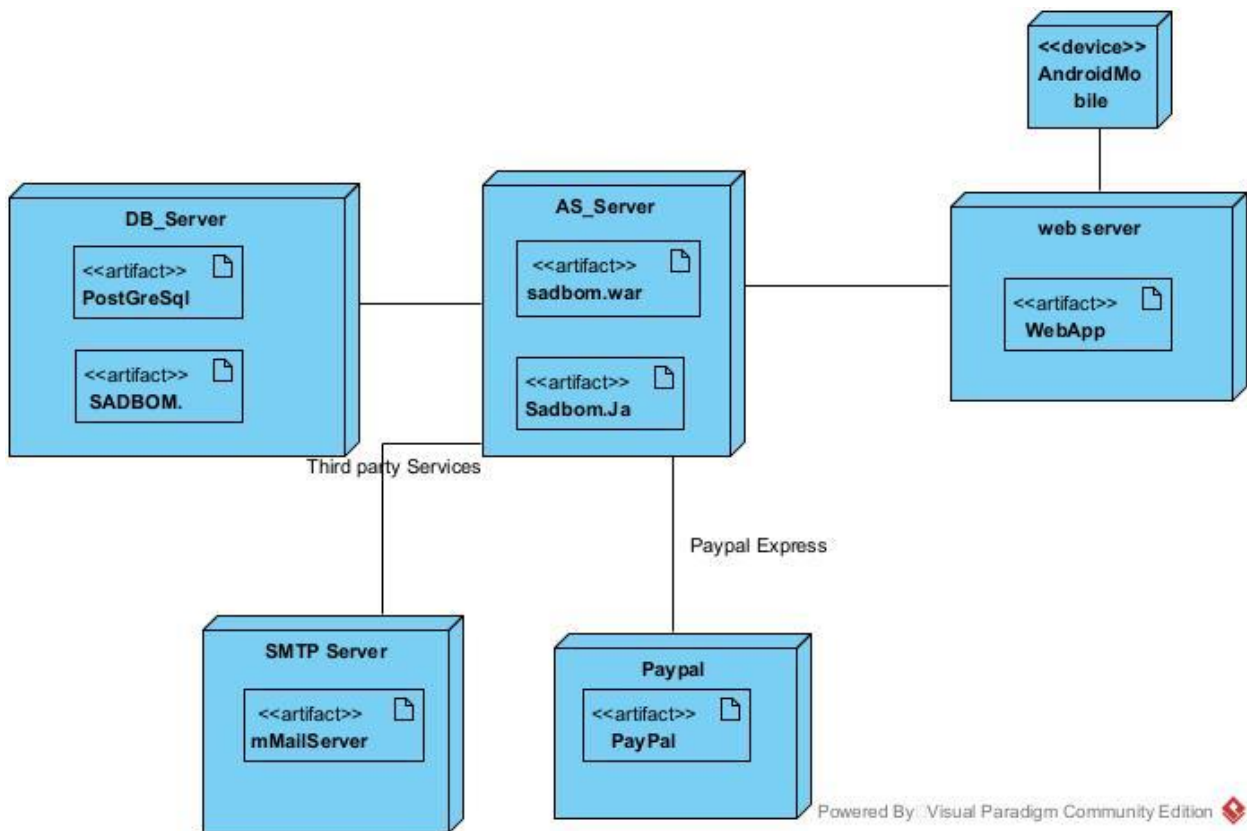


Question 3

Deployment Diagram

Deployment diagram is made for the given case study for SADBOM by using Professional Tool Visual Paradigm. All servers and artifacts are used as per to the case study.



Question 4

Testing

All use cases are defined with setup, outcome and used data.

Use case ID: 22	Use case: MakePhoneReservation
Brief Description: Receptionist books a seat taking details over the phone from a customer (member of the public) or a SADS member.	
Primary actors: Receptionist	
Secondary actors: None.	
Preconditions: 3) System is operational. 4) The Receptionist has logged in to SADBOMS URL and chosen to make a phone reservation.	
Main flow: 5) The use case starts when the Receptionist selects "MakePhoneReservation" functionality. 6) The system sets the variable session.patron = false 7) if a member is making a phone reservation 3.1. The Receptionist activates the dialog "Member validation" extension point : ApplyConcessionaryPrice 8) include(ViewAvailability) 5) While (further reservations needed). 5.1. The Receptionist selects one of the available seats. 5.2. if(session.patron = true) Set Price = concessionaire price 5.2. else Set Price = normal price 5.3. The system books the seat, updates the seating view 5.4. The system returns a unique reservation number 6) The system saves all bookings.	
Postconditions: 2) All new bookings saved.	
Alternative flows: Cancel	
Setup: Prior to this system was in waiting state for reservation	
Outcome: Seat is reserved for the performance on the asked date.	
Data Used: The personal details for the user is used for the data.	

Use case ID: 22	Use case: MakePhoneReservation : Cancel
Brief Description: Receptionist aborts making a phone reservation.	
Preconditions: System is operational. The Receptionist has logged in to SADBOMS URL and chosen to make a phone reservation.	
Alternative flow: 3) The flow may start at any step of the main flow. 4) The system aborts the bookings made in the main flow (if any) and restores the seating plan to what it was prior to the beginning of the main flow.	
Postconditions: None.	
Setup: Prior to this system was in waiting state for reservation	
Outcome: Seat reservation would be cancel and seat status would be updated to available.	
Data Used: The personal details for the user is used for the data. Reservation ID would be used.	

Use case ID: 23	Use case: ApplyConcessionaryPrice
Segment 1 brief description: The receptionist checks if a member is a patron and is entitled to paying a Concessionary price for tickets.	
Primary actors: Receptionist	
Secondary actors: None.	
Segment 1 Preconditions: System is operational. The user has activated the dialog "Member Validation".	
Segment 1 flow:	

<ol style="list-style-type: none"> 1) SADBOMS asks the user to specify the membership ID and provide validation details (e.g. their name). 2) The user specifies the membership ID and validation details. 3) The system validates the member. 4) If (a valid member and they are a patron) <ol style="list-style-type: none"> 4.1. The system sets the variable session.patron = true 5) Else <ol style="list-style-type: none"> 5.1. The system sets the variable session.patron = false
Segment 1 postcondition: <ol style="list-style-type: none"> 1) The variable session.patron is set.
Setup: Prior to this system was in waiting state for reservation with the price
Outcome: Customer with membership would have concession in price.
Data Used: The personal details for the user member is used for the data. MembershipID would be used.

Use case ID: 23	Use case: ViewAvailability
Brief Description: User specifies the date of performance and obtains on screen the seating plan with the seats available.	
Primary actors: Receptionist, Online user	
Secondary actors: None.	
Preconditions: System is operational. The user has accessed the SADBOMS URL and has chosen to retrieve the seating plan.	
Main flow: <ol style="list-style-type: none"> 1) The system asks the user to specify the date of the performance they would like to view. 2) The user specifies the required date. 3) The system retrieves the seating plan for the chosen performance and displays it on the screen. 4) The system set the session variable session.noPerformance = false. 	
Postconditions: <ol style="list-style-type: none"> 2) The seating plan is displayed on the screen. 3) Sets the session variable session,noPerformance = false. 	
Setup: Prior to this system was in waiting state for reservation with the price	
Outcome: Customer with membership would have concession in price.	
Data Used: The personal details for the user member is used for the data. MembershipID would be used.	

Use case ID: 23	Use case: ViewAvailability : NoScheduledPerformance
Brief Description: An exceptional situation is handled of the user specifying a date when no performance is scheduled.	
Primary actors: Receptionist, Online user	
Secondary actors: None.	
Preconditions: System operational, user has specified a performance date to view the seating plan.	
Setup: Prior to this system was in waiting state for reservation with the price	
Outcome: Customer with membership would have concession in price.	
Data Used: The personal details for the user member is used for the data. MembershipID would be used.	

3) The system set the session variable session.noPerformance = true.
Setup: Prior to this system was in waiting state for reservation with the price
Outcome: Customer with membership would have concession in price.
Data Used: The personal details for the user member is used for the data. MembershipID would be used.

Use case ID: 24	Use case: MakeOnlineReservation
Brief Description: A user makes an on-line booking.	
Primary actors: Customer, SADS Member	
Secondary actors: None.	
Preconditions: System is operational. The user has accessed the SADBOMS URL and has chosen to make an online reservation.	
Main flow: <ol style="list-style-type: none"> 1) The use case starts when the user activates the functionality "MakeOnlineReservation". 2) include(ViewAvailability) 3) The user selects one of the available seats. 4) if(session.patron = true) // session.patron is set in Login. Set Price = Concessionary price else Set Price = normal price 5) The system books the seat and updates the seating view 6) The system returns a unique reservation number 7) include(MakeOnlinePayment) 8) The system emails the reservation details/tickets to the user⁴. 9) The system saves all bookings. 	
Postconditions: The new booking saved. Reservation details/tickets emailed to the customer.	
Setup: Prior to this system was in waiting state for reservation with the price	
Outcome: Customer with membership would have concession in price.	

Data Used: The personal details for the user member is used for the data. MembershipID would be used.

Use case ID: 24	Use case: MakeOnlineReservation : Cancel
Brief Description: A user aborts an on-line booking.	
Primary actors: Receptionist, Online user	
Secondary actors: None.	
Preconditions:	

The system is operational. The user has accessed the SADBOMS URL and chosen to make online reservation.	
Alternative flow: <ol style="list-style-type: none"> 1) The flow may start at any step of the main flow. 2) The user aborts the reservation. 3) The system cancels the bookings made in the main flow (if any) and restores the seating plan to what it was prior to the beginning of the main flow. 	
Postconditions: None.	

Use case ID: 24	Use case: MakeOnlineReservation : Timeout
Brief Description: Online payment has timed out (the on-line payment has taken longer than 30 min).	
Primary actors: Receptionist, Online user.	
Secondary actors: None.	
Preconditions: <ol style="list-style-type: none"> 1) System is operational. 2) The user has started an online payment after an online booking of a seat. 3) 30 min have passed since the beginning of the online payment. 	
Alternative flow: <ol style="list-style-type: none"> 1) The alternative flow starts when 30 min have passed since the start of step 6 of the main flow and the step 6 has not been completed. 2) The system aborts the bookings made in the main flow (if any) and restores the seating plan to what it was prior to the beginning of the main flow. 	
Postconditions: The booking made in the same session is removed.	

Use case ID: 24	Use case: MakeOnlineReservation : NoPerformance
Brief Description: The online user has chosen a day without scheduled performances.	
Primary actors: Receptionist, Online user.	
Secondary actors: None.	
Preconditions: <ol style="list-style-type: none"> 1) System is operational. 2) The user has completed. viewAvailability 3) The variable session. noPerformance = true. 	
Alternative flow: <ol style="list-style-type: none"> 1) The alternative flow starts after step 2 of the main flow. 2) The system aborts the online booking. 	
Postconditions: None.	

Use case ID: 24	Use case: MakeOnlineReservation : PaymentIncomplete
Brief Description: Online payment did not complete successfully (either the user cancelled it or the payment transaction was rejected by the payment processor).	

Primary actors: Receptionist, Online user.

Secondary actors: None.

Preconditions:

- 1) System is operational.
- 2) The user has started an online payment after an online booking of a seat.
- 3) The variable session.payment_complete = false.

Alternative flow:

- 1) The alternative flow starts after step 6 of the main flow.
- 2) The system aborts the booking made in the main flow and restores the seating plan to what it was prior to the beginning of the main flow.

Postconditions:

None.

