Research & Vehicle Technology
"Infotainment Systems Product Development"

Feature – First Row Seats InterfaceClient1

Infotainment Subsystem Part Specific Specification (SPSS)

Version 1.0
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FORD CONFIDENTIAL

<u>Revision History</u>

Date	Ver	Notes	
January 14, 2022	**1.0**	**Initial Release**	

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1 Overview

The First Row Seats feature allows a user to make first row driver and passenger seat adjustment requests from the First Row HMI (FRSInterfaceClient1), as well as provide status information on those adjustments. This includes:

- Driver Seat Adjustments of the:
    - o Upper Thoracic
    - o Left Thigh Extension
    - o Right Thigh Extension
    - o Headrest
- Passenger Seat Adjustments of the:
    - o Upper Thoracic
    - o Left Thigh Extension
    - o Right Thigh Extension
    - o Calf Raise Extension
    - o Headrest
- Chauffeur Switch, which allows Pan/Recline control of the First Row Passenger Seat
- Status update and Menu Synchronization between First Row HMI (FRSInterfaceClient1) and First Row Seat modules (FRSDriverPositionServer, FRSPassengerPositionServer)

1.1 Terms and Definitions

Abbreviation	Description
CAN	Controller Area Network
DID	Data Identifier
FNV3	Fully Networked Vehicle 3rd Generation
FRS	First Row Seat
SPSS	Subsystem Part Specific Specification
SRS	Second Row Seat

Term	Description

2 Architectural Design

2.1 FRS-CLD-REQ-464910/A-First Row Seats InterfaceClient1

The First Row Seats InterfaceClient1 (FRSInterfaceClient1) is responsible for the tasks listed below:
- Receive seat status information from FRSDriverPositionServer and FRSPassengerPositionServer
- Transmit seat adjustment requests to FRSDriverPositionServer and FRSPassengerPositionServer
- Transmit Chauffeur adjustment requests to FRSPassengerPositionServer
- Display seat status information for First Row Driver and Passenger Seats
- Synchronize screen menu changes with FRSDriverPositionServer and FRSPassengerPositionServer

Please review the implementation guide/ block diagram to locate the First Row Seats InterfaceClient1 class.

2.2 FRS-CLD-REQ-464912/A-First Row Seats Driver Position Server

The First Row Seats Driver Position Server (FRSDriverPositionServer) is responsible for the tasks listed below:
- Transmit driver seat status information to FRSInterfaceClient1
- Receive driver seat adjustment requests from FRSInterfaceClient1
- Synchronize screen menu changes with FRSInterfaceClient1
- Perform/actuate driver seat adjustments

Please review the implementation guide/ block diagram to locate the First Row Seats Driver Position Server class.

2.3 FRS-CLD-REQ-464913/A-First Row Seats Passenger Position Server

The First Row Seats Passenger Position Server (FRSPassengerPositionServer) is responsible for the tasks listed below:
- Transmit passenger seat status information to FRSInterfaceClient1
- Receive passenger seat adjustment requests from FRSInterfaceClient1
- Receive Chauffeur adjustment requests from FRSInterfaceClient1
- Synchronize screen menu changes with FRSInterfaceClient1
- Perform/actuate passenger seat adjustments
- Perform/actuate Chauffeur adjustments

Please review the implementation guide/ block diagram to locate the First Row Seats Passenger Position Server class.

2.4 Physical Mapping of Classes

The table below shows an example of how the logical classes that make up the First Row Seats feature can be mapped into physical modules. This mapping is an example only and does not necessarily carryover to other carlines or vehicle architectures.

Logical Class	Physical Module (ECU)
FRSInterfaceClient1	Phoenix
FRSDriverPositionServer	DSM
FRSPassengerPositionServer	PSM/SCMB

2.5 FRSInterfaceClient1 Interface

2.5.1 FRS-IIR-REQ-464840/A-FRSInterfaceClient1_Rx

2.5.1.1 MD-REQ-027149/A-IgnitionStatus_St (TcSE ROIN-225464-1)

Message Type: Status

Signal used to indicate ignition state.

Name	Literals	Value	Description
Type	-	-	Indicates ignition state
	Unknown	0x0	
	Off	0x1	
	Accessory	0x2	
	Run	0x4	
	Start	0x8	
	Invalid	0xF	

2.5.1.2 MD-REQ-465313/A-SeatSetMenuDriver_St
Message Type: Status

Signal used to identify the menu header highlighter in the Driver seat settings HMI screen from hardswitch input.

Name	Literals	Value	Description
Type	-	-	Indicates menu header highlighter in the Driver seat settings HMI
	Inactive	0x0	
	Massage_Menu	0x1	
	Seat_Back_Menu	0x2	
	Seat_Cushion_Menu	0x3	
	Headrestraint_Menu	0x4	
	Unused	0x5-0x7	

2.5.1.3 MD-REQ-465314/A-SeatSetMenuPassenger_St
Message Type: Status

Signal used to identify the menu header highlighter in the Passenger seat settings HMI screen from hardswitch input.

Name	Literals	Value	Description
Type	-	-	Indicates menu header highlighter in the Passenger seat settings HMI
	Inactive	0x0	
	Massage_Menu	0x1	
	Seat_Back_Menu	0x2	
	Seat_Cushion_Menu	0x3	
	Headrestraint_Menu	0x4	
	Unused	0x5-0x7	

2.5.1.4 MD-REQ-465315/A-SeatDeviceSetDriver_St
Message Type: Status

Signal used to identity the submenu option highlighter in the Driver seat settings HMI screen from hardswitch input.

Name	Literals	Value	Description
Type	-	-	Indicates the submenu option highlighter in the Driver seat settings HMI screen
	Inactive	0x00	
	Upper_Thoracic	0x01	
	Left_Thigh_Extension	0x02	
	Right_Thigh_Extension	0x03	
	Calf_Raise_Extension	0x04	

	Upper_Lumbar	0x05	
	Mid_Lumbar	0x06	
	Lower_Lumbar	0x07	
	Back_Bolsters	0x08	
	Cushion_Bolsters	0x09	
	Headrest	0x0A	
	Lumbar	0x0B	
	Pattern_1	0x0C	
	Pattern_2	0x0D	
	Pattern_3	0x0E	
	Pattern_4	0x0F	
	Pattern_5	0x10	
	Pattern_6	0x11	
	Pattern_7	0x12	
	Pattern_8	0x13	
	Pattern_9	0x14	
	Pattern_10	0x15	
	Unused	0x16-0x1F	

2.5.1.5   MD-REQ-465316/A-SeatDeviceSetPassenger_St

Message Type: Status

Signal used to identity the submenu option highlighter in the Passenger seat settings HMI screen from hardswitch input.

Name	Literals	Value	Description
Type	-	-	Indicates the submenu option highlighter in the Passenger seat settings HMI screen
	Inactive	0x00	
	Upper_Thoracic	0x01	
	Left_Thigh_Extension	0x02	
	Right_Thigh_Extension	0x03	
	Calf_Raise_Extension	0x04	
	Upper_Lumbar	0x05	
	Mid_Lumbar	0x06	
	Lower_Lumbar	0x07	
	Back_Bolsters	0x08	
	Cushion_Bolsters	0x09	
	Headrest	0x0A	
	Lumbar	0x0B	
	Pattern_1	0x0C	
	Pattern_2	0x0D	
	Pattern_3	0x0E	
	Pattern_4	0x0F	
	Pattern_5	0x10	
	Pattern_6	0x11	
	Pattern_7	0x12	
	Pattern_8	0x13	
	Pattern_9	0x14	
	Pattern_10	0x15	
	Unused	0x16-0x1F	

2.5.1.6   MD-REQ-465317/A-SeatThoracicAdjustDriverPosition_St

Message Type: Status

Signal used to identify thoracic adjustment position status from Driver seat.

Name	Literals	Value	Description
Type	-	-	Units: percent
	Min	0x0	Resolution: 10
	Max	0xE	Range: (from 0 to 140)
	Faulty	0xF	

2.5.1.7 MD-REQ-465318/A-SeatThoracicAdjustPassengerPosition_St

Message Type: Status

Signal used to identify thoracic adjustment position status from Passenger seat.

Name	Literals	Value	Description
Type	-	-	Units: percent
	Min	0x0	Resolution: 10
	Max	0xE	Range: (from 0 to 140)
	Faulty	0xF	

2.5.1.8 MD-REQ-465319/A-SeatLeftThighExtensionDriverPosition_St

Message Type: Status

Signal used to identify Left thigh extension adjustment position status from Driver seat.

Name	Literals	Value	Description
Type	-	-	Units: percent
	Min	0x0	Resolution: 10
	Max	0xE	Range: (from 0 to 140)
	Faulty	0xF	

2.5.1.9 MD-REQ-465320/A-SeatLeftThighExtensionPassengerPosition_St

Message Type: Status

Signal used to identify Left thigh extension adjustment position status from Passenger seat.

Name	Literals	Value	Description
Type	-	-	Units: percent
	Min	0x0	Resolution: 10
	Max	0xE	Range: (from 0 to 140)
	Faulty	0xF	

2.5.1.10 MD-REQ-465321/A-SeatRightThighExtensionDriverPosition_St

Message Type: Status

Signal used to identify Right thigh extension adjustment position status from Driver seat.

Name	Literals	Value	Description
Type	-	-	Units: percent
	Min	0x0	Resolution: 10
	Max	0xE	Range: (from 0 to 140)
	Faulty	0xF	

2.5.1.11 MD-REQ-465322/A-SeatRightThighExtensionPassengerPosition_St

Message Type: Status

Signal used to identify Right thigh extension adjustment position status from Passenger seat.

Name	Literals	Value	Description
Type	-	-	Units: percent
	Min	0x0	Resolution: 10
	Max	0xE	Range: (from 0 to 140)
	Faulty	0xF	

2.5.1.12 MD-REQ-465323/A-SeatCalfRaisePassengerPosition_St

Message Type: Status

Signal used to identify Calf Raise adjustment position status from Passenger seat.

Name	Literals	Value	Description
Type	-	-	Units: percent
	Min	0x00	Resolution: 1
	Max	0x7D	Range: (from 0 to 125)
	No data exists	0x7E	
	Faulty	0x7F	

2.5.1.13 MD-REQ-465324/A-SeatLumbarPositionDriver_St

Message Type: Status

Signal used to identify Lumbar adjustment position status from Driver seat.

Name	Literals	Value	Description
Type	-	-	Units: percent
	Min	0x00	Resolution: 1
	Max	0x7D	Range: (from 0 to 125)
	No data exists	0x7E	
	Faulty	0x7F	

2.5.1.14 MD-REQ-465325/A-SeatLumbarPositionPassenger_St

Message Type: Status

Signal used to identify Lumbar adjustment position status from Passenger seat.

Name	Literals	Value	Description
Type	-	-	Units: percent
	Min	0x00	Resolution: 1
	Max	0x7D	Range: (from 0 to 125)
	No data exists	0x7E	
	Faulty	0x7F	

2.5.1.15 MD-REQ-465326/A-SeatMassageDriver_St

Message Type: Status

Signal used to identify massage status from Driver seat module.

Name	Literals	Value	Description
Type	-	-	Indicates massage status from Driver seat module.
	Null	0x0	
	Low	0x1	

	Medium	0x2	
	High	0x3	
	Off	0x4	

2.5.1.16 MD-REQ-465327/A-SeatMassagePassenger_St

Message Type: Status

Signal used to identify massage status from Passenger seat module.

Name	**Literals**	**Value**	**Description**
Type	-	-	Indicates massage status from Passenger seat module.
	Null	0x0	
	Low	0x1	
	Medium	0x2	
	High	0x3	
	Off	0x4	

2.5.1.17 MD-REQ-465328/A-SeatSetNotificationDriver_Rq

Message Type: Request

Signal used to display more seat settings option in the screen for Driver side.

Name	**Literals**	**Value**	**Description**
Type	-	-	Display more seat settings option in the screen for Driver side.
	Inactive	0x0	
	Pop_1	0x1	
	Pop_2	0x2	
	NotUsed	0x3	

2.5.1.18 MD-REQ-465329/A-SeatSetNotificationPassenger_Rq

Message Type: Request

Signal used to display more seat settings option in the screen for Passenger side.

Name	**Literals**	**Value**	**Description**
Type	-	-	Display more seat settings option in the screen for Passenger side.
	Inactive	0x0	
	Pop_1	0x1	
	Pop_2	0x2	
	NotUsed	0x3	

2.5.2   FRS-IIR-REQ-464841/A-FRSInterfaceClient1_Tx

2.5.2.1   *MD-REQ-465330/A-SeatSetMenuDriver_Rq*

Message Type: Request

Signal used to identify the menu header highlighter in the Driver seat settings HMI screen from HMI input.

Name	Literals	Value	Description
Type	-	-	Indicates menu header highlighter in the Driver seat settings HMI
	Inactive	0x0	
	Massage_Menu	0x1	
	Seat_Back_Menu	0x2	
	Seat_Cushion_Menu	0x3	
	Headrestraint_Menu	0x4	
	Unused	0x5-0x7	

2.5.2.2   *MD-REQ-465331/A-SeatSetMenuPassenger_Rq*

Message Type: Request

Signal used to identify the menu header highlighter in the Passenger seat settings HMI screen from HMI input.

Name	Literals	Value	Description
Type	-	-	Indicates menu header highlighter in the Passenger seat settings HMI
	Inactive	0x0	
	Massage_Menu	0x1	
	Seat_Back_Menu	0x2	
	Seat_Cushion_Menu	0x3	
	Headrestraint_Menu	0x4	
	Unused	0x5-0x7	

2.5.2.3   *MD-REQ-465332/A-SeatDeviceSetDriver_Rq*

Message Type: Request

Signal used to identity the submenu option highlighter in the Driver seat settings HMI screen from HMI input.

Name	Literals	Value	Description
Type	-	-	Indicates the submenu option highlighter in the Driver seat settings HMI screen
	Inactive	0x00	
	Upper_Thoracic	0x01	
	Left_Thigh_Extension	0x02	
	Right_Thigh_Extension	0x03	
	Calf_Raise_Extension	0x04	
	Upper_Lumbar	0x05	
	Mid_Lumbar	0x06	
	Lower_Lumbar	0x07	
	Back_Bolsters	0x08	
	Cushion_Bolsters	0x09	
	Headrest	0x0A	
	Lumbar	0x0B	
	Pattern_1	0x0C	

Pattern_2	0x0D	
Pattern_3	0x0E	
Pattern_4	0x0F	
Pattern_5	0x10	
Pattern_6	0x11	
Pattern_7	0x12	
Pattern_8	0x13	
Pattern_9	0x14	
Pattern_10	0x15	
Unused	0x16-0x1F	

2.5.2.4   MD-REQ-465333/A-SeatDeviceSetPassenger_Rq

Message Type: Request

Signal used to identity the submenu option highlighter in the Passenger seat settings HMI screen from HMI input.

Name	Literals	Value	Description
Type	-	-	Indicates the submenu option highlighter in the Passenger seat settings HMI screen
	Inactive	0x00	
	Upper_Thoracic	0x01	
	Left_Thigh_Extension	0x02	
	Right_Thigh_Extension	0x03	
	Calf_Raise_Extension	0x04	
	Upper_Lumbar	0x05	
	Mid_Lumbar	0x06	
	Lower_Lumbar	0x07	
	Back_Bolsters	0x08	
	Cushion_Bolsters	0x09	
	Headrest	0x0A	
	Lumbar	0x0B	
	Pattern_1	0x0C	
	Pattern_2	0x0D	
	Pattern_3	0x0E	
	Pattern_4	0x0F	
	Pattern_5	0x10	
	Pattern_6	0x11	
	Pattern_7	0x12	
	Pattern_8	0x13	
	Pattern_9	0x14	
	Pattern_10	0x15	
	Unused	0x16-0x1F	

2.5.2.5   MD-REQ-465334/A-SeatHeadrestAdjustDriver_Rq

Message Type: Request

Signal used to adjust position of Head Restraint of Driver seat from HMI.

Name	Literals	Value	Description
Type	-	-	Adjust position of Head Restraint of Driver seat from HMI.
	Inactive	0x0	
	Forward	0x1	
	Backward	0x2	
	Up	0x3	

| | Down | 0x4 | |
| | Unused | 0x5-0x7 | |

2.5.2.6   MD-REQ-465335/A-SeatHeadrestAdjustPassenger_Rq

Message Type: Request

Signal used to adjust position of Head Restraint of Passenger seat from HMI.

Name	Literals	Value	Description
Type	-	-	Adjust position of Head Restraint of Passenger seat from HMI.
	Inactive	0x0	
	Forward	0x1	
	Backward	0x2	
	Up	0x3	
	Down	0x4	
	Unused	0x5-0x7	

2.5.2.7   MD-REQ-465336/A-SeatDeviceAdjustDriver_Rq

Message Type: Request

Signal used to control the Driver seat device adjustments. Increase/decrease seat command for power adjustments from HMI.

Name	Literals	Value	Description
Type	-	-	Adjust driver seat device from HMI.
	Inactive	0x0	
	Increase	0x1	
	Decrease	0x2	
	Not Used	0x3	

2.5.2.8   MD-REQ-465337/A-SeatDeviceAdjustPassenger_Rq

Message Type: Request

Signal used to control the Passenger seat device adjustments. Increase/decrease seat command for power adjustments from HMI.

Name	Literals	Value	Description
Type	-	-	Adjust passenger seat device from HMI.
	Inactive	0x0	
	Increase	0x1	
	Decrease	0x2	
	Not Used	0x3	

2.5.2.9   MD-REQ-465338/A-SeatCushionReclinerPassenger_Rq

Message Type: Request

Signal used to control the cushion/recliner of first row passenger seat from HMI.

Name	Literals	Value	Description
Type	-	-	Adjust driver cushion/recliner from HMI.
	Inactive	0x0	
	Cushion Forward	0x1	
	Cushion Backward	0x2	

Recliner Forward	0x3	
Recliner Backward	0x4	
Unused	0x5-0x7	

2.5.2.10 MD-REQ-465339/A-SeatMassageDriver_Rq
Message Type: Request

Signal used to identify Driver seat massage request from HMI.

Name	Literals	Value	Description
Type	-	-	Driver seat massage request from HMI.
	Null	0x0	
	Low	0x1	
	Medium	0x2	
	High	0x3	
	Off	0x4	

2.5.2.11 MD-REQ-465340/A-SeatMassagePassenger_Rq
Message Type: Request

Signal used to identify Passenger seat massage request from HMI.

Name	Literals	Value	Description
Type	-	-	Passenger seat massage request from HMI.
	Null	0x0	
	Low	0x1	
	Medium	0x2	
	High	0x3	
	Off	0x4	

3   General Requirements

3.1   FRS-REQ-465058/A-First Row Seats - Adjustment Configuration

The FRSInterfaceClient1 shall have a configurable parameter/DID to allow the First Row Seats Adjustment to be enabled/disabled.

- When the parameter indicates that First Row Seats Adjustment is Present, all the functionality and signals defined in FUN-REQ-464902 shall be supported.
- When the parameter indicates that First Row Seats Adjustment is Not Present, none of the functionality defined in FUN-REQ-464902 shall be supported.
  - The default value for this parameter shall be Not Present.

3.2   FRS-REQ-465059/A-Chauffeur Switch - Configuration

The FRSInterfaceClient1 shall have a configurable parameter/DID to allow the Chauffeur Switch to be enabled/disabled.

- When the parameter indicates that Chauffeur Switch is Present, all the functionality and signals defined in FUN-REQ-464903 shall be supported.
- When the parameter indicates that Chauffeur Switch is Not Present, none of the functionality defined in FUN-REQ-464903 shall not be supported.
  - The default value for this parameter shall be Not Present.

3.3   FRS-REQ-465060/A-First Row Seats Adjustment - Powermode Conditions

The FRSInterfaceClient1 shall allow/perform the First Row Seats Adjustment functionality as long as the HMI display is available (irrespective of IgnitionStatus_St).

3.4   FRS-REQ-465061/A-Chauffeur Switch - Powermode Conditions

The FRSInterfaceClient1 shall only perform the Chauffeur Switch functionality as long as the HMI display is available (irrespective of IgnitionStatus_St).

4 Functional Definition

4.1 FRS-FUN-REQ-464902/A-Seat Adjustment

4.1.1 Use Cases

4.1.1.1 *FRS-UC-REQ-464981/A-User makes First Row Driver Seat adjustments via FRSInterfaceClient1*

Actors	FRSInterfaceClient1, FRSDriverPositionServer
Pre-conditions	Powermode conditions are met
Scenario Description	User opens the Seat Comfort menu and makes a driver seat adjustment on the FRSInterfaceClient1
Post-conditions	The FRSInterfaceClient1 sends active screen to the FRSDriverPositionServer The FRSInterfaceClient1 sends the respective setting request to the FRSDriverPositionServer The FRSDriverPositionServer makes the adjustment and sends status update to FRSInterfaceClient1 The FRSInterfaceClient1 displays the updated setting value
List of Exception Use Cases	
Interfaces	CAN, HMI

4.1.1.2 *FRS-UC-REQ-464982/A-User makes First Row Driver Seat adjustments via FRSDriverPositionServer*

Actors	FRSInterfaceClient1, FRSDriverPositionServer
Pre-conditions	Powermode conditions are met
Scenario Description	User opens the Seat Comfort menu and makes a driver seat adjustment on the FRSDriverPositionServer
Post-conditions	The FRSDriverPositionServer makes the adjustment and sends status update to FRSInterfaceClient1 The FRSInterfaceClient1 displays the updated setting value
List of Exception Use Cases	
Interfaces	CAN, HMI

4.1.1.3 *FRS-UC-REQ-464983/A-User makes First Row Passenger Seat adjustments via FRSInterfaceClient1*

Actors	FRSInterfaceClient1, FRSPassengerPositionServer
Pre-conditions	Powermode conditions are met
Scenario Description	User opens the Seat Comfort menu and makes a passenger seat adjustment on the FRSInterfaceClient1
Post-conditions	The FRSInterfaceClient1 sends active screen to the FRSPassengerPositionServer The FRSInterfaceClient1 sends the respective setting request to the FRSPassengerPositionServer

	The FRSPassengerPositionServer makes the adjustment and sends status update to FRSInterfaceClient1 The FRSInterfaceClient1 displays the updated setting value
List of Exception Use Cases	
Interfaces	CAN, HMI

4.1.1.4 FRS-UC-REQ-464984/A-User makes First Row Passenger Seat adjustments via FRSPassengerPositionServer

Actors	FRSInterfaceClient1, FRSPassengerPositionServer
Pre-conditions	Powermode conditions are met
Scenario Description	User opens the Seat Comfort menu and makes a passenger seat adjustment on the FRSPassengerPositionServer
Post-conditions	The FRSPassengerPositionServer makes the adjustment and sends status update to FRSInterfaceClient1 The FRSInterfaceClient1 displays the updated setting value
List of Exception Use Cases	
Interfaces	CAN, HMI

4.1.2   Requirements

4.1.2.1   Driver

4.1.2.1.1   FRS-REQ-465062/A-First Row Driver Menu Not Active

When the seat comfort menu for the driver's side is not displayed on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatSetMenuDriver_Rq = "Inactive" to the FRSDriverPositionServer.

4.1.2.1.2   FRS-REQ-465063/A-First Row Driver Header Select

While any header is selected on the FRSInterfaceClient1, the corresponding menu shall open and the FRSInterfaceClient1 shall:
- Make active the last active/selected menu item, and send SeatDeviceSetDriver_Rq to the FRSDriverPositionServer accordingly (set to that last active value)
- If last active cannot be determined, or if this is the first time the user has entered the menu, make active the default menu item, and send SeatDeviceSetDriver_Rq to the FRSDriverPositionServer accordingly (set to the default value)
    - o   The default values shall be TBD

4.1.2.1.3   FRS-REQ-465064/A-First Row Driver Massage Header Selection

While the "Massage" menu is displayed on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatSetMenuDriver_Rq = "Massage_Menu" to the FRSDriverPositionServer.

4.1.2.1.4   FRS-REQ-465065/A-First Row Driver Headrest Header Selection

While the "Headrest" menu is displayed on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatSetMenuDriver_Rq = "Headrestraint_Menu" to the FRSDriverPositionServer.

4.1.2.1.5   FRS-REQ-465067/A-First Row Driver Seat Cushion Header Selection

While the "Seats" menu is displayed on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatSetMenuDriver_Rq = "Seat_Cushion_Menu" to the FRSDriverPositionServer.

Note: The header options have been reduced to one single Seats menu, of which "Seat_Cushion_Menu" shall be used to represent this header. "Seat_Back_Menu" shall no longer be used.

4.1.2.1.6   FRS-REQ-465068/A-First Row Driver Lower Lumbar Selection

When "Lower Lumbar" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetDriver_Rq = "Lower_Lumbar" to the FRSDriverPositionServer.

4.1.2.1.7   FRS-REQ-465069/A-First Row Driver Middle Lumbar Selection

When "Middle Lumbar" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetDriver_Rq = "Middle_Lumbar" to the FRSDriverPositionServer.

4.1.2.1.8   FRS-REQ-465070/A-First Row Driver Upper Lumbar Selection

When "Upper Lumbar" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetDriver_Rq = "Upper_Lumbar" to the FRSDriverPositionServer.

4.1.2.1.9   FRS-REQ-465071/A-First Row Driver Lumbar Adjustment Request Increase

While the user presses the Right Arrow (requests to increase) with either the "Upper Lumbar", "Middle Lumbar", OR "Lower Lumbar" selected, the FRSInterfaceClient1 shall send SeatDeviceAdjustDriver_Rq = "Increase" to the FRSDriverPositionServer.

4.1.2.1.10   FRS-REQ-465072/A-First Row Driver Lumbar Adjustment Request Decrease

While the user presses the Left Arrow (requests to decrease) with either the "Upper Lumbar", "Middle Lumbar", OR "Lower Lumbar" selected, the FRSInterfaceClient1 shall send SeatDeviceAdjustDriver_Rq = "Decrease" to the FRSDriverPositionServer.

4.1.2.1.11   FRS-REQ-465073/A-First Row Driver Back Bolster Selection

When "Back Bolster" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetDriver_Rq = "Back_Bolster" to the FRSDriverPositionServer.

4.1.2.1.12   FRS-REQ-465074/A-First Row Driver Cushion Bolster Selection

When "Cushion Bolster" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetDriver_Rq = "Cushion_Bolster" to the FRSDriverPositionServer.

4.1.2.1.13   FRS-REQ-465075/A-First Row Driver Bolster Adjustment Request Increase

While the user presses the Right Arrow (requests to increase) with either the "Back Bolster" or "Cushion Bolster" selected, the FRSInterfaceClient1 shall send SeatDeviceAdjustDriver_Rq = "Increase" to the FRSDriverPositionServer.

4.1.2.1.14   FRS-REQ-465076/A-First Row Driver Bolster Adjustment Request Decrease

While the user presses the Left Arrow (requests to decrease) with either the "Back Bolster" or "Cushion Bolster" selected, the FRSInterfaceClient1 shall send SeatDeviceAdjustDriver_Rq = "Decrease" to the FRSDriverPositionServer.

4.1.2.1.15   FRS-REQ-465077/A-First Row Driver Thoracic Selection

While "Thoracic Adjustment" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetDriver_Rq = "Upper_Thoracic" to the FRSDriverPositionServer.

4.1.2.1.16   FRS-REQ-465078/A-First Row Driver Left Thigh Extension Selection

When the "Left Thigh Extension Adjustment" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetDriver_Rq = "Left_Thigh_Extension" to the FRSDriverPositionServer.

4.1.2.1.17   FRS-REQ-465079/A-First Row Driver Right Thigh Extension Selection

While "Right Thigh Extension Adjustment" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetDriver_Rq = "Right_Thigh_Extension" to the FRSDriverPositionServer.

4.1.2.1.18 FRS-REQ-465080/A-First Row Driver Selected Adjustment Increase Req

While the user presses the right arrow (requests to increase) with either the "Right Thigh", "Left Thigh", or "Thoracic" support selected, the FRSInterfaceClient1 shall send:
- SeatDeviceAdjustDriver_Rq = "Increase"
- SeatDeviceSetDriver_Rq = "Right_Thigh_Extension", "Left_Thigh_Extension", or "Upper_Thoracic"

4.1.2.1.19 FRS-REQ-465081/A-First Row Driver Selected Adjustment Decrease Req

While the user presses the left arrow (requests to decrease) with either the "Right Thigh", "Left Thigh", or "Thoracic" support selected, the FRSInterfaceClient1 shall send:
- SeatDeviceAdjustDriver_Rq = "Decrease"
- SeatDeviceSetDriver_Rq = "Right_Thigh_Extension", "Left_Thigh_Extension", or "Upper_Thoracic"

4.1.2.1.20 FRS-REQ-465082/A-First Row Driver Headrest Selection

When "Headrest Adjustment" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetDriver_Rq = "Headrest" to the FRSDriverPositionServer.

4.1.2.1.21 FRS-REQ-465083/A-First Row Driver Headrest Adjustment Up

While the user presses the up arrow on the headrest menu, the FRSInterfaceClient1 shall send:
- SeatHeadrestAdjustDriver_Rq = "Up"
- SeatDeviceSetDriver_Rq = "Headrest"

4.1.2.1.22 FRS-REQ-465084/A-First Row Driver Headrest Adjustment Down

While the user presses the down arrow on the headrest menu, the FRSInterfaceClient1 shall send:
- SeatHeadrestAdjustDriver_Rq = "Down"
- SeatDeviceSetDriver_Rq = "Headrest"

4.1.2.1.23 FRS-REQ-465085/A-First Row Driver Headrest Adjustment Forward

While the user presses the right arrow on the headrest menu, the FRSInterfaceClient1 shall send:
- SeatHeadrestAdjustDriver_Rq = "Forward"
- SeatDeviceSetDriver_Rq = "Headrest"

4.1.2.1.24 FRS-REQ-465086/A-First Row Driver Headrest Adjustment Backward

While the user presses the left arrow on the headrest menu, the FRSInterfaceClient1 shall send:
- SeatHeadrestAdjustDriver_Rq = "Backward"
- SeatDeviceSetDriver_Rq = "Headrest"

4.1.2.1.25 FRS-REQ-465087/A-First Row Driver Massage Pattern (n) Selection

When "Massage Pattern (n)" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetDriver_Rq = "Pattern_n" to the FRSDriverPositionServer, where n is the selected Pattern Number.

4.1.2.1.26 FRS-REQ-465088/A-First Row Driver Massage Intensity Selection High

When "Massage Pattern (n)" is selected and the selected intensity is "High", the FRSInterfaceClient1 shall send SeatMassageDriver_Rq = "High" to the FRSDriverPositionServer.

4.1.2.1.27 FRS-REQ-465089/A-First Row Driver Massage Intensity Selection Medium

When "Massage Pattern (n)" is selected and the selected intensity is "Medium", the FRSInterfaceClient1 shall send SeatMassageDriver_Rq = "Medium" to the FRSDriverPositionServer.

4.1.2.1.28 FRS-REQ-465090/A-First Row Driver Massage Intensity Selection Low

When "Massage Pattern (n)" is selected and the selected intensity is "Low", the FRSInterfaceClient1 shall send SeatMassageDriver_Rq = "Low" to the FRSDriverPositionServer.

4.1.2.1.29 FRS-REQ-465091/A-First Row Driver Massage Intensity Selection Off

When "Massage Pattern (n)" is selected and the selected intensity is "Off", the FRSInterfaceClient1 shall send SeatMassageDriver_Rq = "Off" to the FRSDriverPositionServer.

4.1.2.1.30 FRS-REQ-465092/A-Display Prompt 1 from First Row Driver Side

The FRSInterfaceClient1 shall display driver prompt message 1 when it receives SeatSetNotificationDriver_Rq = "Pop_1".

4.1.2.1.31 FRS-REQ-465093/A-Display Prompt 2 from First Row Driver Side

The FRSInterfaceClient1 shall display driver prompt message 2 when it receives SeatSetNotificationDriver_Rq = "Pop_2".

4.1.2.1.32 FRS-REQ-465094/A-First Row Driver Lumbar Percentage Display

The FRSInterfaceClient1 shall update the driver side status/fill bar for the lumbar as indicated via SeatLumbarPositionDriver_St.

- If SeatLumbarPositionDriver_St = "No data exists", the FRSInterfaceClient1 shall display a faulty state to the user.
- If SeatLumbarPositionDriver_St = "Faulty", the FRSInterfaceClient1 shall display a faulty state to the user.

4.1.2.1.33 FRS-REQ-465095/A-First Row Driver Thoracic Percentage Display

The FRSInterfaceClient1 shall update the driver side status/fill bar for the thoracic as indicated via SeatThoracicAdjustDriverPosition_St.

- If SeatThoracicAdjustDriverPosition_St = "Faulty", the FRSInterfaceClient1 shall display a faulty state to the user

4.1.2.1.34 FRS-REQ-465096/A-First Row Driver Left Thigh Extension Percentage Display

The FRSInterfaceClient1 shall update the driver side status/fill bar for the Left Thigh Extension as indicated via SeatLeftThighExtensionDriverPosition_St.

- If SeatLeftThighExtensionDriverPosition_St = "Faulty", the FRSInterfaceClient1 shall display a faulty state to the user.

4.1.2.1.35 FRS-REQ-465097/A-First Row Driver Right Thigh Extension Percentage Display

The FRSInterfaceClient1 shall update the driver side status/fill bar for the Right Thigh Extension as indicated via SeatRightThighExtensionDriverPosition_St.

- If SeatRightThighExtensionDriverPosition_St = "Faulty", the FRSInterfaceClient1 shall display a faulty state to the user.

4.1.2.1.36 FRS-REQ-465098/A-First Row Driver Calf Rest Percentage Display

The FRSInterfaceClient1 shall update the driver side status/fill bar for the Calf Rest as indicated via SeatCalfRaiseDriverPosition_St.

- If SeatCalfRaiseDriverPosition_St = "No data exists", the FRSInterfaceClient1 shall display a faulty state to the user.
- If SeatCalfRaiseDriverPosition_St = "Faulty", the FRSInterfaceClient1 shall display a faulty state to the user.

4.1.2.1.37 FRS-REQ-474217/A-First Row Driver Menu Activation from FRSDriverPositionServer

Upon receiving SeatSetMenuDriver_St from the FRSDriverPositionServer, the FRSInterfaceClient1 shall display the respective Menu:
- When SeatSetMenuDriver_St = Massage_Menu, the Massage Menu shall be displayed
- When SeatSetMenuDriver_St = Seat_Cushion_Menu, the Seats Menu shall be displayed
- When SeatSetMenuDriver_St = Headrestraint_Menu, the Headrest Menu shall be displayed

Note: SeatSetMenuDriver_St = Seat_Back_Menu shall not be used (this menu is no longer available).

4.1.2.1.38 FRS-REQ-474218/A-First Row Driver Device Activation from FRSDriverPositionServer

When displaying a Menu per REQ-474217, the FRSInterfaceClient1 shall highlight/activate the device/selection as indicated via SeatDeviceSetDriver_St from the FRSDriverPositionServer:

SeatDeviceSetDriver_St	Device/Selection to Highlight	Menu/Header
(0x01) - Upper_Thoracic	Upper Thoracic	Seats
(0x02) - Left_Thigh_Extension	Left Thigh Extension	Seats
(0x03) - Right_Thigh_Extension	Right Thigh Extension	Seats
(0x04) - Calf_Raise_Extension	Calf Raise Extension	Seats
(0x05) - Upper_Lumbar	Upper Lumbar	Seats
(0x06) - Mid_Lumbar	Middle Lumbar	Seats
(0x07) - Lower_Lumbar	Lower Lumbar	Seats
(0x08) - Back_Bolsters	Back Bolsters	Seats
(0x09) - Cushion_Bolsters	Cushion Bolsters	Seats
(0x0A) - Headrest	Headrest	Headrest
(0x0B) - Lumbar	Lumbar	Seats
(0x0C) - Pattern 1	Massage Pattern 1	Massage
(0x0D) - Pattern 2	Massage Pattern 2	Massage
(0x0E) - Pattern 3	Massage Pattern 3	Massage
(0x0F) - Pattern 4	Massage Pattern 4	Massage
(0x10) - Pattern 5	Massage Pattern 5	Massage
(0x11) - Pattern 6	Massage Pattern 6	Massage
(0x12) - Pattern 7	Massage Pattern 7	Massage
(0x13) - Pattern 8	Massage Pattern 8	Massage
(0x14) - Pattern 9	Massage Pattern 9	Massage
(0x15) - Pattern 10	Massage Pattern 10	Massage

If the values for Menu and Device do not correspond to the table above per SeatSetMenuDriver_St and SeatDeviceSetDriver_St (i.e. an invalid combination), the FRSInterfaceClient1 shall act upon SeatDeviceSetDriver_St and make the expected/corresponding Menu active for the indicated Device.

If the values for Menu and Device correspond to an adjustment/function that is configured Off, the FRSInterfaceClient1 shall ignore the request.

4.1.2.1.39   FRS-REQ-474219/A-First Row Driver Menu & Device - Conflicting Inputs

If the FRSInterfaceClient1 receives both user input via the touch display and FRSDriverPositionServer statuses via SeatSetMenuDriver_St and SeatDeviceSetDriver_St, the FRSInterfaceClient1 shall give the FRSDriverPositionServer statuses higher priority and act upon their values when updating the display.

4.1.2.2   Passenger

4.1.2.2.1   FRS-REQ-465099/A-First Row Passenger Menu Not Active

While the seat comfort menu for the passenger's side is not displayed on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatSetMenuPassenger_Rq = "Inactive" to the FRSPassengerPositionServer.

4.1.2.2.2   FRS-REQ-465100/A-First Row Passenger Header Select

While any header is selected on the FRSInterfaceClient1, the corresponding menu shall open and the FRSInterfaceClient1 shall:
- Make active the last active/selected menu item, and send SeatDeviceSetPassenger_Rq to the FRSPassengerPositionServer accordingly (set to that last active value)
- If last active cannot be determined, or if this is the first time the user has entered the menu, make active the default menu item, and send SeatDeviceSetPassenger_Rq to the FRSPassengerPositionServer accordingly (set to the default value)
   - The default values shall be TBD

4.1.2.2.3   FRS-REQ-465101/A-First Row Passenger Massage Header Selection

While the "Massage" menu is displayed on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatSetMenuPassenger_Rq = "Massage_Menu" to the FRSPassengerPositionServer.

4.1.2.2.4   FRS-REQ-465102/A-First Row Passenger Headrest Header Selection

While the "Headrest" menu is displayed on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatSetMenuPassenger_Rq = "Headrestraint_Menu" to the FRSPassengerPositionServer.

4.1.2.2.5   FRS-REQ-465104/A-First Row Passenger Seat Cushion Header Selection

While the "Seats" menu is displayed on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatSetMenuPassenger_Rq = "Seat_Cushion_Menu" to the FRSPassengerPositionServer.

Note: The header options have been reduced to one single Seats menu, of which "Seat_Cushion_Menu" shall be used to represent this header. "Seat_Back_Menu" shall no longer be used.

4.1.2.2.6   FRS-REQ-465105/A-First Row Passenger Lower Lumbar Selection

While "Lower Lumbar" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetPassenger_Rq = "Lower_Lumbar" to the FRSPassengerPositionServer.

4.1.2.2.7   FRS-REQ-465106/A-First Row Passenger Middle Lumbar Selection

While "Middle Lumbar" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetPassenger_Rq = "Middle_Lumbar" to the FRSPassengerPositionServer.

4.1.2.2.8   FRS-REQ-465107/A-First Row Passenger Upper Lumbar Selection

While "Upper Lumbar" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetPassenger_Rq = "Upper_Lumbar" to the FRSPassengerPositionServer.

4.1.2.2.9   FRS-REQ-465108/A-First Row Passenger Lumbar Adjustment Request Increase

While the user presses the Right Arrow (requests to increase) with either the "Upper Lumbar", "Middle Lumbar", OR "Lower Lumbar" selected, the FRSInterfaceClient1 shall send SeatDeviceAdjustPassenger_Rq = "Increase" to the FRSPassengerPositionServer.

4.1.2.2.10   FRS-REQ-465109/A-First Row Passenger Lumbar Adjustment Request Decrease

While the user presses the Left Arrow (requests to decrease) with either the "Upper Lumbar", "Middle Lumbar", OR "Lower Lumbar" selected, the FRSInterfaceClient1 shall send SeatDeviceAdjustPassenger_Rq = "Decrease" to the FRSPassengerPositionServer.

4.1.2.2.11   FRS-REQ-465110/A-First Row Passenger Back Bolster Selection

When "Back Bolster" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceAdjustPassenger_Rq = "Back_Bolster" to the FRSPassengerPositionServer.

4.1.2.2.12   FRS-REQ-465111/A-First Row Passenger Cushion Bolster Selection

When "Cushion Bolster" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceAdjustPassenger_Rq = "Cushion_Bolster" to the FRSPassengerPositionServer.

4.1.2.2.13   FRS-REQ-465112/A-First Row Passenger Bolster Adjustment Request Increase

While the user presses the Right Arrow (requests to increase) with either the "Back Bolster" or "Cushion Bolster" selected, the FRSInterfaceClient1 shall send SeatDeviceAdjustPassenger_Rq = "Increase" to the FRSPassengerPositionServer.

4.1.2.2.14   FRS-REQ-465113/A-First Row Passenger Bolster Adjustment Request Decrease

While the user presses the Left Arrow (requests to decrease) with either the "Back Bolster" or "Cushion Bolster" selected, the FRSInterfaceClient1 shall send SeatDeviceAdjustPassenger_Rq = "Decrease" to the FRSPassengerPositionServer.

4.1.2.2.15   FRS-REQ-465114/A-First Row Passenger Thoracic Selection

While "Thoracic Adjustment" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetPassenger_Rq = "Upper_Thoracic" to the FRSPassengerPositionServer.

4.1.2.2.16 <u>FRS-REQ-465115/A-First Row Passenger Left Thigh Extension Selection</u>

When the "Left Thigh Extension Adjustment" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetPassenger_Rq = "Left_Thigh_Extension" to the FRSPassengerPositionServer.

4.1.2.2.17 <u>FRS-REQ-465116/A-First Row Passenger Right Thigh Extension Selection</u>

While "Right Thigh Extension Adjustment" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetPassenger_Rq = "Right_Thigh_Extension" to the FRSPassengerPositionServer.

4.1.2.2.18 <u>FRS-REQ-465117/A-First Row Passenger Calf Rest Selection</u>

While "Calf Rest Adjustment" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetPassenger_Rq = "Calf_Raise_Extension" to the FRSPassengerPositionServer.

4.1.2.2.19 <u>FRS-REQ-465118/A-First Row Passenger Selected Adjustment Increase Req</u>

While the user presses the right arrow (requests to increase) with either the "Thoracic", "Left Thigh Extension Adjustment", "Right Thigh Extension Adjustment" or "Calf Rest" selected, the FRSInterfaceClient1 shall send:
- SeatDeviceAdjustPassenger_Rq = "Increase"
- SeatDeviceSetPassenger_Rq = "Calf_Raise_Extension", "Left_Thigh_Extension", "Right_Thigh_Extension", or "Upper_Thoracic"

4.1.2.2.20 <u>FRS-REQ-465119/A-First Row Passenger Selected Adjustment Decrease Req</u>

While the user presses the left arrow (requests to decrease) with either the "Thoracic", "Left Thigh Extension Adjustment", "Right Thigh Extension Adjustment" or "Calf Rest" selected, the FRSInterfaceClient1 shall send:
- SeatDeviceAdjustPassenger_Rq = "Decrease"
- SeatDeviceSetPassenger_Rq = "Calf_Raise_Extension", "Left_Thigh_Extension", "Right_Thigh_Extension", or "Upper_Thoracic"

4.1.2.2.21 <u>FRS-REQ-465120/A-First Row Passenger Headrest Selection</u>

While "Headrest Adjustment" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetPassenger_Rq = "Headrest" to the FRSPassengerPositionServer.

4.1.2.2.22 <u>FRS-REQ-465121/A-First Row Passenger Headrest Adjustment Up</u>

While the user presses the up arrow on the headrest menu, the FRSInterfaceClient1 shall send:
- SeatHeadrestAdjustPassenger_Rq = "Up"
- SeatDeviceSetPassenger_Rq = "Headrest"

4.1.2.2.23 <u>FRS-REQ-465122/A-First Row Passenger Headrest Adjustment Down</u>

While the user presses the down arrow on the headrest menu, the FRSInterfaceClient1 shall send:
- SeatHeadrestAdjustPassenger_Rq = "Down"
- SeatDeviceSetPassenger_Rq = "Headrest"

4.1.2.2.24 <u>FRS-REQ-465123/A-First Row Passenger Headrest Adjustment Forward</u>

While the user presses the right arrow on the headrest menu, the FRSInterfaceClient1 shall send:
- SeatHeadrestAdjustPassenger_Rq = "Forward"
- SeatDeviceSetPassenger_Rq = "Headrest"

4.1.2.2.25 <u>FRS-REQ-465124/A-First Row Passenger Headrest Adjustment Backward</u>

While the user presses the left arrow on the headrest menu, the FRSInterfaceClient1 shall send:
- SeatHeadrestAdjustPassenger_Rq = "Backward"
- SeatDeviceSetPassenger_Rq = "Headrest"

4.1.2.2.26 <u>FRS-REQ-465125/A-First Row Passenger Massage Pattern (n) Selection</u>

While "Massage Pattern (n)" is selected on the FRSInterfaceClient1, the FRSInterfaceClient1 shall send SeatDeviceSetPassenger_Rq = "Pattern_n" to the FRSPassengerPositionServer, where n is the selected Pattern Number.

4.1.2.2.27 FRS-REQ-465126/A-First Row Passenger Massage Intensity Selection High

While "Massage Pattern (n)" is selected and the selected intensity is "High", the FRSInterfaceClient1 shall send SeatMassagePassenger_Rq = "High" to the FRSPassengerPositionServer.

4.1.2.2.28 FRS-REQ-465127/A-First Row Passenger Massage Intensity Selection Medium

While "Massage Pattern (n)" is selected and the selected intensity is "Medium", the FRSInterfaceClient1 shall send SeatMassagePassenger_Rq = "Medium" to the FRSPassengerPositionServer.

4.1.2.2.29 FRS-REQ-465128/A-First Row Passenger Massage Intensity Selection Low

While "Massage Pattern (n)" is selected and the selected intensity is "Low", the FRSInterfaceClient1 shall send SeatMassagePassenger_Rq = "Low" to the FRSPassengerPositionServer.

4.1.2.2.30 FRS-REQ-465129/A-First Row Passenger Massage Intensity Selection Off

While "Massage Pattern (n)" is selected and the selected intensity is "Off", the FRSInterfaceClient1 shall send SeatMassagePassenger_Rq = "Off" to the FRSPassengerPositionServer.

4.1.2.2.31 FRS-REQ-465130/A-Display Prompt 1 from First Row Passenger Side

The FRSInterfaceClient1 shall display passenger prompt message 1 when it receives SeatSetNotificationPassenger_Rq = "Pop_1".

4.1.2.2.32 FRS-REQ-465131/A-Display Prompt 2 from First Row Passenger Side

The FRSInterfaceClient1 shall display passenger prompt message 2 when it receives SeatSetNotificationPassenger_Rq = "Pop_2".

4.1.2.2.33 FRS-REQ-465132/A-First Row Passenger Lumbar Percentage Display

The FRSInterfaceClient1 shall update the passenger side status/fill bar for the lumbar as indicated via SeatLumbarPositionPassenger_St.

- If SeatLumbarPositionPassenger_St = "No data exists", the FRSInterfaceClient1 shall display a faulty state to the user.
- If SeatLumbarPositionPassenger_St = "Faulty", the FRSInterfaceClient1 shall display a faulty state to the user.

4.1.2.2.34 FRS-REQ-465133/A-First Row Passenger Thoracic Percentage Display

The FRSInterfaceClient1 shall update the passenger side status/fill bar for the Thoracic as indicated via SeatThoracicAdjustPassengerPosition_St.

- If SeatThoracicAdjustPassengerPosition_St = "Faulty", the FRSInterfaceClient1 shall display a faulty state to the user.

4.1.2.2.35 FRS-REQ-465134/A-First Row Passenger Left Thigh Extension Percentage Display

The FRSInterfaceClient1 shall update the passenger side status/fill bar for the Left Thigh Extension as indicated via SeatLeftThighExtensionPassengerPosition_St.

- If SeatLeftThighExtensionPassengerPosition_St = "Faulty", the FRSInterfaceClient1 shall display a faulty state to the user.

4.1.2.2.36 FRS-REQ-465135/A-First Row Passenger Right Thigh Extension Percentage Display

The FRSInterfaceClient1 shall update the passenger side status/fill bar for the Right Thigh Extension as indicated via SeatRightThighExtensionPassengerPosition_St.

- If SeatRightThighExtensionPassengerPosition_St = "Faulty", the FRSInterfaceClient1 shall display a faulty state to the user.

4.1.2.2.37 FRS-REQ-465136/A-First Row Passenger Calf Rest Percentage Display

The FRSInterfaceClient1 shall update the passenger side status/fill bar for the Calf Rest as indicated via
SeatCalfRaisePassengerPosition_St.

- If SeatCalfRaisePassengerPosition _St = "No data exists", the FRSInterfaceClient1 shall display a faulty state to the user.
- If SeatCalfRaisePassengerPosition _St = "Faulty", the FRSInterfaceClient1 shall display a faulty state to the user.

4.1.2.2.38 FRS-REQ-474220/A-First Row Passenger Menu Activation from FRSPassengerPositionServer

Upon receiving SeatSetMenuPassenger_St from the FRSPassengerPositionServer, the FRSInterfaceClient1 shall display the respective Menu:
- When SeatSetMenuPassenger_St = Massage_Menu, the Massage Menu shall be displayed
- When SeatSetMenuPassenger_St = Seat_Cushion_Menu, the Seats Menu shall be displayed
- When SeatSetMenuPassenger_St = Headrestraint_Menu, the Headrest Menu shall be displayed

Note: SeatSetMenuPassenger_St = Seat_Back_Menu shall not be used (this menu is no longer available).

4.1.2.2.39 FRS-REQ-474221/A-First Row Passenger Device Activation from FRSPassengerPositionServer

When displaying a Menu per REQ-474220, the FRSInterfaceClient1 shall highlight/activate the device/selection as indicated via SeatDeviceSetPassenger_St from the FRSPassengerPositionServer:

SeatDeviceSetPassenger_St	**Device/Selection to Highlight**	**Menu/Header**
(0x01) - Upper_Thoracic	Upper Thoracic	Seats
(0x02) - Left_Thigh_Extension	Left Thigh Extension	Seats
(0x03) - Right_Thigh_Extension	Right Thigh Extension	Seats
(0x04) - Calf_Raise_Extension	Calf Raise Extension	Seats
(0x05) - Upper_Lumbar	Upper Lumbar	Seats
(0x06) - Mid_Lumbar	Middle Lumbar	Seats
(0x07) - Lower_Lumbar	Lower Lumbar	Seats
(0x08) - Back_Bolsters	Back Bolsters	Seats
(0x09) - Cushion_Bolsters	Cushion Bolsters	Seats
(0x0A) - Headrest	Headrest	Headrest
(0x0B) - Lumbar	Lumbar	Seats
(0x0C) - Pattern 1	Massage Pattern 1	Massage
(0x0D) - Pattern 2	Massage Pattern 2	Massage
(0x0E) - Pattern 3	Massage Pattern 3	Massage
(0x0F) - Pattern 4	Massage Pattern 4	Massage
(0x10) - Pattern 5	Massage Pattern 5	Massage
(0x11) - Pattern 6	Massage Pattern 6	Massage
(0x12) - Pattern 7	Massage Pattern 7	Massage
(0x13) - Pattern 8	Massage Pattern 8	Massage
(0x14) - Pattern 9	Massage Pattern 9	Massage
(0x15) - Pattern 10	Massage Pattern 10	Massage

If the values for Menu and Device do not correspond to the table above per SeatDeviceSetPassenger_St and
SeatSetMenuPassenger_St (i.e. an invalid combination), the FRSInterfaceClient1 shall act upon
SeatDeviceSetPassenger_St and make the expected/corresponding Menu active for the indicated Device.

If the values for Menu and Device correspond to an adjustment/function that is configured Off, the FRSInterfaceClient1 shall ignore the request.

4.1.2.2.40 FRS-REQ-474222/A-First Row Passenger Menu & Device - Conflicting Inputs

If the FRSInterfaceClient1 receives both user input via the touch display and FRSPassengerPositionServer statuses via
SeatSetMenuPassenger_St and SeatDeviceSetPassenger_St, the FRSInterfaceClient1 shall give the
FRSPassengerPositionServer statuses higher priority and act upon their values when updating the display.

4.1.3   White Box View

4.1.3.1   Activity Diagrams

4.1.3.2   Sequence Diagrams

4.2 FRS-FUN-REQ-464903/A-Chauffeur Switch

4.2.1 Use Cases

4.2.1.1 *FRS-UC-REQ-464985/A-User selects Chauffeur Switch via FRSInterfaceClient1*

Actors	FRSInterfaceClient1, FRSPassengerPositionServer
Pre-conditions	Powermode conditions are met
Scenario Description	User opens the Chauffeur Switch and makes an adjustment on the FRSInterfaceClient1 (Pan, Recline)
Post-conditions	The FRSInterfaceClient1 sends the respective setting request to the FRSPassengerPositionServer The FRSPassengerPositionServer makes the adjustment and sends status update to FRSInterfaceClient1 The FRSInterfaceClient1 displays the updated setting value
List of Exception Use Cases	
Interfaces	CAN, HMI

4.2.2 Requirements

4.2.2.1 *FRS-REQ-465137/A-First Row Chauffeur No Selection*

While no button is pressed on the chauffeur menu, the FRSInterfaceClient1 shall send SeatCushionReclinerPassenger_Rq = "Inactive" to the FRSPassengerPositionServer.

4.2.2.2 *FRS-REQ-465138/A-First Row Chauffeur Pan Backward Selection*

While the user presses the "Pan Backward" button on the chauffeur menu, the FRSInterfaceClient1 shall send SeatCushionReclinerPassenger_Rq = "Cushion Backward" to the FRSPassengerPositionServer.

4.2.2.3 *FRS-REQ-465139/A-First Row Chauffeur Pan Forward Selection*

While the user presses the "Pan Forward" button on the chauffeur menu, the FRSInterfaceClient1 shall send SeatCushionReclinerPassenger_Rq = "Cushion Forward" to the FRSPassengerPositionServer.

4.2.2.4 *FRS-REQ-465140/A-First Row Chauffeur Recline Backward Selection*

While the user presses the "Recline Backward" button on the chauffeur menu, the FRSInterfaceClient1 shall send SeatCushionReclinerPassenger_Rq = "Recliner Backward" to the FRSPassengerPositionServer.

4.2.2.5 *FRS-REQ-465141/A-First Row Chauffeur Recline Forward Selection*

While the user presses the "Recline Forward" button on the chauffeur menu, the FRSInterfaceClient1 shall send SeatCushionReclinerPassenger_Rq = "Recliner Forward" to the FRSPassengerPositionServer.

4.2.3 White Box View

4.2.3.1 *Activity Diagrams*

4.2.3.2 *Sequence Diagrams*

5 Appendix: Reference Documents

Reference #	Document Title
1	
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