

# Smart Scene 1.0 v1.3

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## Change Log

Version	Arthur	Role	Department	Date	Description	Affected Sections
1.3	Song Shurui  Richard Gao	Product Owner Intern  Product Owner	ECDX Signature Experience	2022-6-8	1. Removed 'Privacy Icon on Status Bar' from 'Guest Mode' 2. Removed Pre-condition 'Shift gear to P' from 'Personal Enjoyment' 3. Added 'Performance Requirements'	2.3 Detail function  3.1.2 Open privacy protection automatically  3.3.1 Personal Enjoyment Main Page  5 Performance Requirements

1.2	Song Shurui	Product Owner Intern	ECDX Signature Experience	2022-5-16	<ol style="list-style-type: none"> <li>Updated 'Reduce Media Volume Automatically', 'Open privacy protection automatically', 'Screen setting', 'Welcome message display', 'Demo Mode' and 'Exit Guest Mode' in 'Guest Mode'</li> <li>Updated 'Personal Enjoyment Main Page' and 'Exit Personal Enjoyment' in 'Personal Enjoyment'</li> </ol> <p>(All changes are marked in orange)</p>	2.2 Function Structure 2.3 Detail function 2.4.1 Guest Mode Flow Chart 3.1.1 Reduce Media Volume Automatically 3.1.2 Open privacy protection automatically 3.1.3 Screen setting 3.1.4 Welcome message display 3.1.5 Demo Mode 3.1.6 Exit Guest Mode 3.3.1 Personal Enjoyment Main Page 3.3.5 Exit Personal enjoyment
1.1	Richard Gao	Product Owner	ECDX Signature Experience	2022-2-10	<ol style="list-style-type: none"> <li>Added case for "Guest Mode" for programs with no "Demo Mode"</li> <li>Updated "Mobile phone projection" user experience in "Personal Enjoyment"</li> </ol> <p>(All changes are marked in blue)</p>	2.2 Function Structure 2.3 Detail function 3.1.4 Welcome message display 3.1.5 Demo Mode 3.3.4 Mobile phone projection
1.0	liu hailan	SW Engineer	PD EESE	2020-6-22		

# 1 General Information

## 1.1 Background

Smart Scene mode is used in different scenes, and it feels very smart to users. For example, as long as the copilot passenger sits in the car, media sound turns down automatically when media is playing. When both the driver and passenger are occupied and the engine is on, the guest mode is implicitly activated. When the speed is more than 5kpm, the split screen mode is automatically turned on, without requiring the user to actively trigger. And privacy protection will also be turned on automatically in this guest mode without requiring the user to take the initiative to start. In privacy protection, the user's phone details, navigation search history, and information details will be hidden. The system can open non-driving related functions to the passengers.

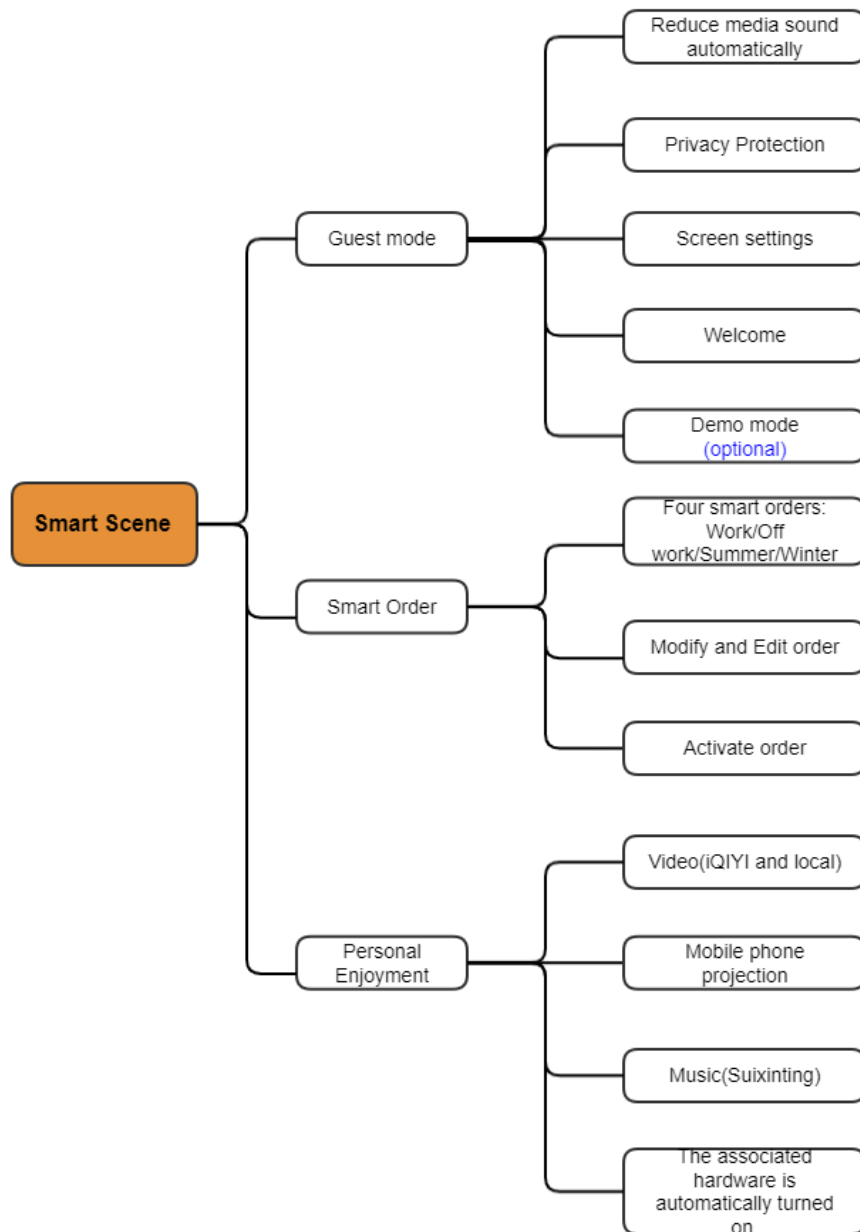
## 1.2 Scope of the document

*This requirement document serves as a guide to software team what will be developed for Smart Scene mode. The requirement is be used for the HMI team to design the whole User Interface. In particular, all User Interface Prototype in Chapter 3 is just used to describe requirements more clearly, HMI team does not need to follow this, just for reference. This document is also an important reference document for test team, they will design the test case according the requirement description, the description covers the correctness and performance for each function.*

# 2 Software Requirement Overview

## 2.1 Function overview

## 2.2 Function Structure



## 2.3 Detail function

All functions list below.

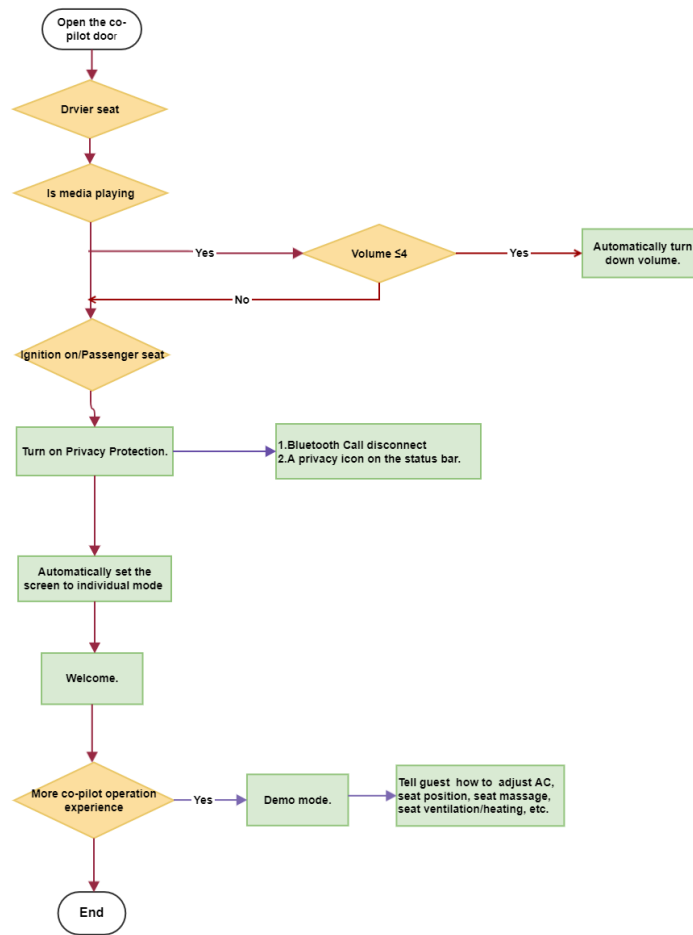
Module	Function	Sub-Function	Triggers	Function Description	Priority	Feasibility	comment
Guest Mode	Automatically reduce media sound	volume	1.Driver seat is occupied; 2.Opens the passenger's door.	Media is playing(Himalaya, FM, music and video):  Volume automatically turned down(10%/20%(default)/30% or 10%/30% (default)/50%)		Y	in house-team implementation
				No changes when there is on media playing		Y	in house-team implementation
				No changes when media volume 4			

	Privacy Protection	Phone	1.Ignition on; 2.Driver seat and passenger seat are occupied;	Bluetooth Phone Calls disconnection			need Feature Owner to confirm with Desay
	Screen setting		1.Ignition on; 2.Driver seat and passenger seat are occupied;	Automatically set the screen to individual mode.(default)			in house-team implementation
	Welcome		1.Ignition on; 2.Driver seat and passenger seat are occupied;	The welcome message displayed only in text is displayed using a pop-up.		Y	in house-team implementation
	Demo video (Optional))		1.Ignition on; 2.Driver seat and passenger seat are occupied;	<ol style="list-style-type: none"> <li>1. For programs with demo video, on the welcome screen, there are buttons to remind users to learn more about the co-pilot operation experience.</li> <li>2. For programs with no demo video, on the welcome screen, there is only one "close" button for closing the pop-up message. The message shall also self dismiss in 10 seconds (the counting down could be displayed next to the "close" button)</li> </ol>		The content of the demo video needs to be discussed.	
	Exit guest mode		The passenger seat is empty and passenger door close.	<ol style="list-style-type: none"> <li>1.The screen doesn't need to restore.</li> <li>2. Bluetooth Phone Calls is connected.()</li> <li>3. The privacy protection icon disappears.</li> </ol>			
Smart Order	Four smart orders		1.Ignition on.	There are four smart orders: work", "off work", "winter" and "summer".		Y	
	Modify and Edit order		1.Ignition on. 2.The account is logged in.	Modify and Edit order		Y	
	Activate order		1.Ignition on. 2.The account is logged in.	<ol style="list-style-type: none"> <li>1.User manually turn them on.</li> <li>2. These four orders are automatically turned on according to the trigger conditions.</li> </ol>		Y	
Personal Enjoyment			1.Engine on	1.User opens personal enjoyment in smart scene.			
				2.The system automatically enters split screen mode.			
				3.There are four entrances on the interface: iQIYI, local video, mobile phone projection and Suixinting.			
				4.The associated startup hardware: the sound effect, the ambient light, seat massage and the digital scent turn on automatically.			

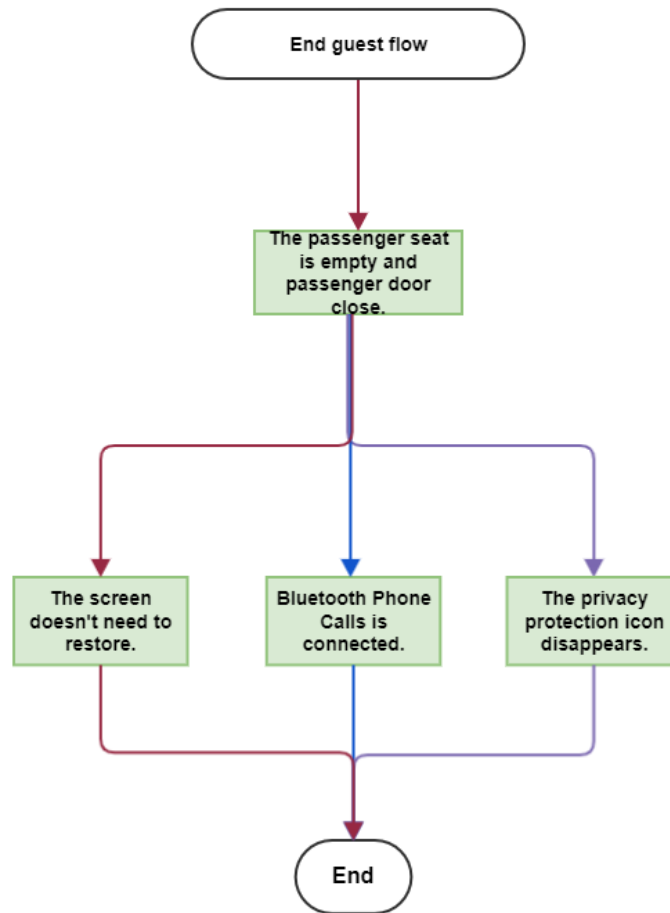
## 2.4 Function Flow Chart

### 2.4.1 Guest Mode Flow Chart

#### 2.4.1.1 Start flow chart

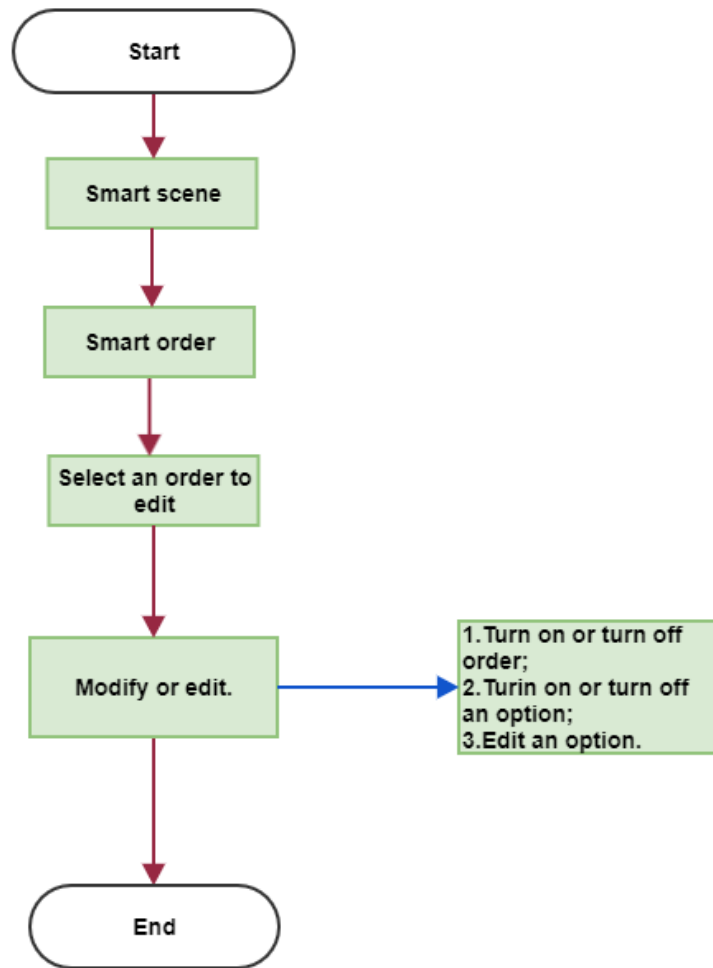


2.4.1.2 End flow chart



## 2.4.2 Smart Order Flow Chart

### 2.4.2.1 Modify and Edit order



## 3 User Case

### 3.1 Guest Mode

The guest mode is automatically triggered when ignition is on/driver and passenger seats are occupied. There is no need for the driver to activate this guest mode.

When guest mode starts, Bluetooth Call is automatically disconnected, there is an IVI notification, and the screen is automatically set to individual mode, and there is a welcome message pop-up, and guest quick panel guide.

Use Case ID	Guest Mode
Use Case	Guest mode is triggered implicitly.
Pre-Conditions	1. Ignition on.
Trigger	Driver and passenger seats are occupied.
Expected Behavior	Guest mode is triggered implicitly.
Post Conditions	N/A
Exceptions	N/A

#### 3.1.1 Reduce media volume automatically

Use Case ID	Reduce media volume automatically
Use Case	Media volume is automatically reduced in guest mode.
Pre-Conditions	Ignition on. Driver seat is occupied.
Trigger	The guest opens the passenger's door.
Expected Behavior	1.Media volume turn down automatically according to the user's settings when media playback. 2.No changes when media volume 4 3.No changes when no media is playing.
Post Conditions	N/A
Exceptions	N/A

### 3.1.2 Open privacy protection automatically

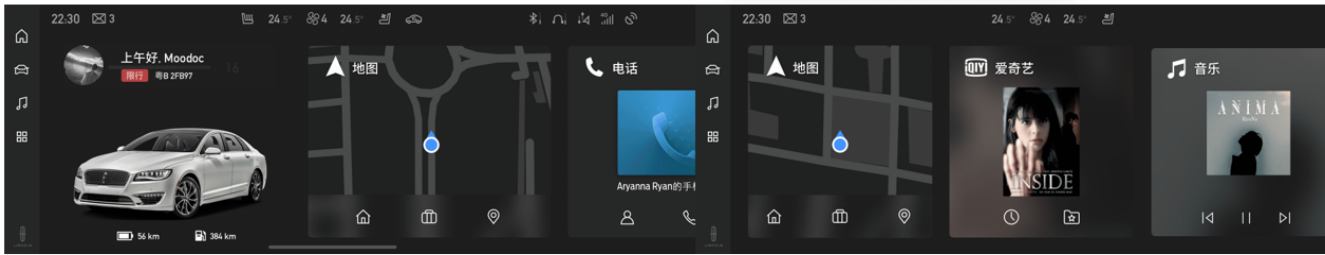
Use Case ID	Open privacy protection automatically.
Use Case	Privacy protection is automatically turned on in guest mode.
Pre-Conditions	1.Ignition on; 2.Driver seat and passenger seat are occupied.
Trigger	Automatically
Expected Behavior	1.Bluetooth Phone Calls is automatically disconnected.
Post Conditions	N/A
Exceptions	N/A



### 3.1.3 Screen setting

Use Case ID	Screen Setting
Use Case	Screen is automatically set to individual mode in guest mode.
Pre-Conditions	1.Ignition on; 2.Driver seat and passenger seat are occupied.
Trigger	Automatically
Expected Behavior	Screen is automatically set to individual mode when the screen is not individual mode.
Post Conditions	N/A
Exceptions	N/A





### 3.1.4 Welcome message display

Use Case ID	Welcome message display
Use Case	A pop-up displays a welcome message when the guest is seated in co-pilot.
Pre-Conditions	1.Ignition on; 2.Driver seat and passenger seat are occupied.
Trigger	Automatically
Expected Behavior	The welcome message displayed only in text is displayed using a pop-up. <ul style="list-style-type: none"> <li>a. For programs with demo video, on the welcome screen, there are buttons to remind users to learn more about the co-pilot operation experience.</li> <li>b. For programs with no demo video, on the welcome screen, there is only one "close" button for closing the pop-up message. The message shall also self dismiss in 10 seconds (the counting down could be displayed next to the "close" button)</li> </ul>
Post Conditions	N/A
Exceptions	N/A



### 3.1.5 Demo Mode (Optional)

Use Case ID	Demo Mode
Use Case	Guest wants to learn more about the co-pilot operation experience.
Pre-Conditions	1.Ignition on; 2.Driver seat and passenger seat are occupied.
Trigger	User clicks the "Continue to learn" button.
Expected Behavior	There is a demo video of the co-pilot operation experience.
Post Conditions	N/A
Exceptions	N/A
Notes	Quick panel is a system setting.

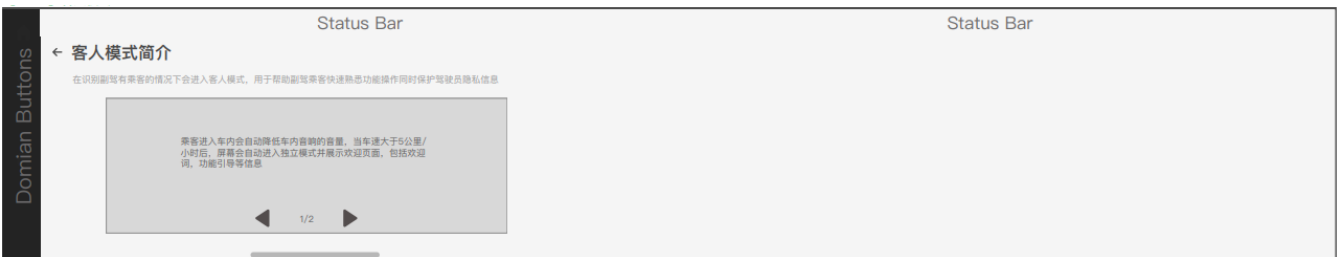
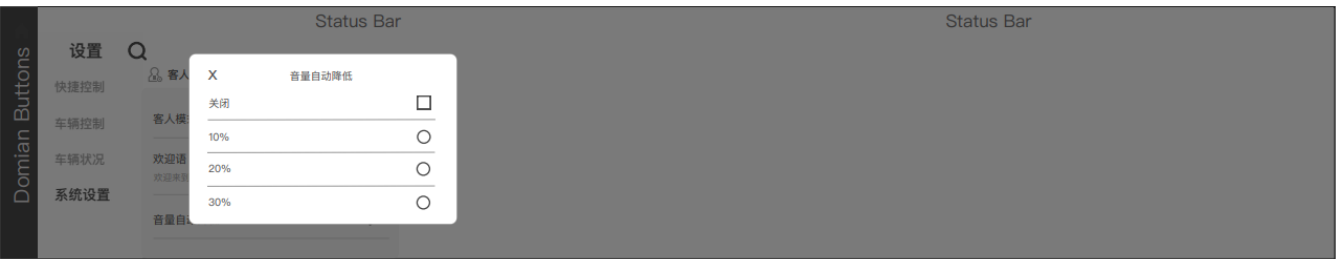
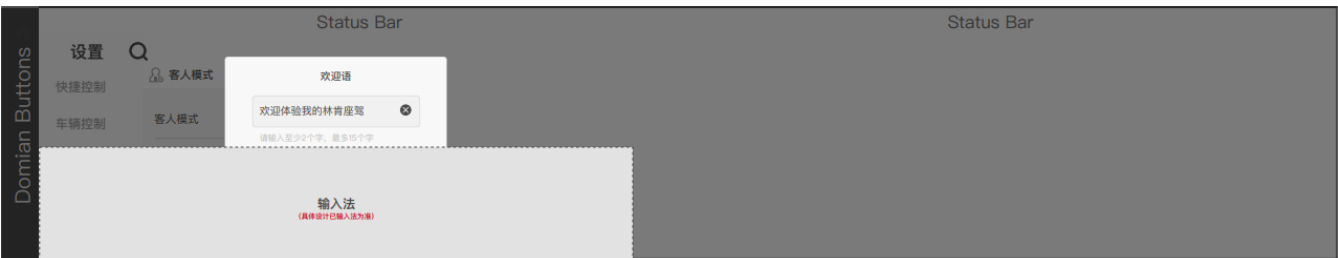
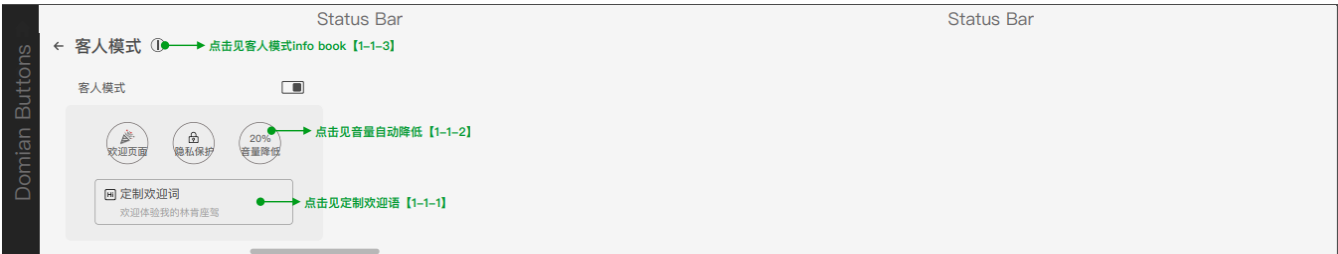


### 3.1.6 Exit Guest mode

Use Case ID	Guest mode setting page
Use Case	User wants to exit guest mode.
Pre-Conditions	1.Ignition on. 2.Guest mode is on.
Trigger	The passenger seat is empty and passenger door close.
Expected Behavior	1.The screen doesn't need to restore. 2. <b>Bluetooth Phone Calls</b> is connected. 3.The privacy protection icon disappears.
Post Conditions	N/A
Exceptions	N/A

### 3.1.7 Guest mode setting page

Use Case ID	Guest mode setting page
Use Case	User wants to adjust the default parameters of the guest mode.
Pre-Conditions	1.Ignition on.
Trigger	1. User select smart scene. 2. User select guest mode.
Expected Behavior	1.The user can turn on or off guest mode. 2.The user can click button to view a brief introduction of guest mode. 3.User can choose parameter settings according to their own preferences. <ul style="list-style-type: none"><li>User can turn welcome message on or off.</li><li>User can customize the welcome message.</li><li>User can select media volume reduction parameters.</li><li>User can turn privacy protection on or off.</li></ul>
Post Conditions	N/A
Exceptions	N/A



### 3.2 Smart Order

There is four smart orders: "work", "off work", "winter" and "summer".

When the account is not logged in, this smart order is not available.

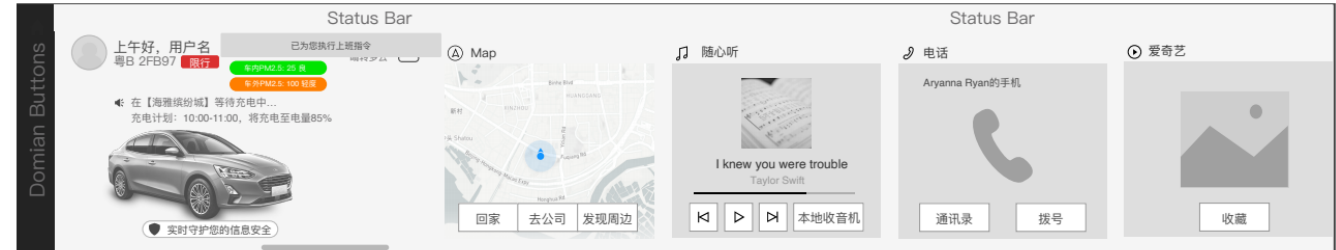
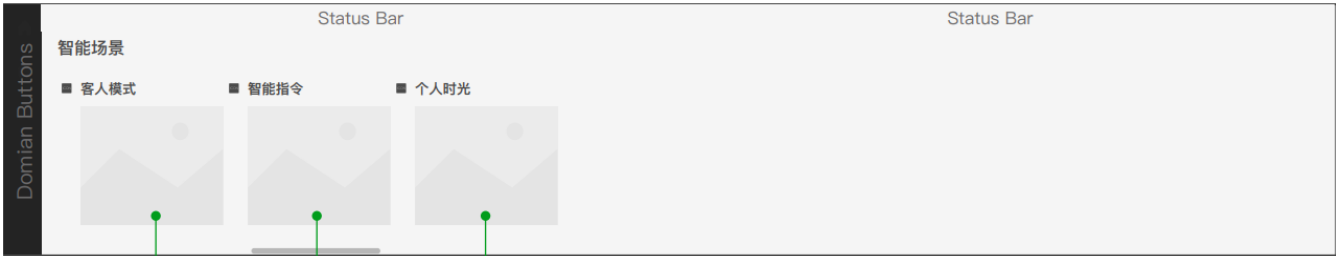
All orders are turned off by default and require the user to manually turn them on.

User can use them directly, or modify the setting parameters according to their own needs.

There are no voice commands.

3.2.1 Active Four smart order

Use Case ID	Four smart order
Use Case	There is four smart order to user to active.
Pre-Conditions	1.Ignition on. 2.The account is logged in.
Trigger	1.User selects smart scene, and selects these smart orders. User manually turn them on. 2. These four orders are automatically turned on according to the trigger conditions.
Expected Behavior	1.One order is automatically turned on. 2.There is a pop-up prompt in the IVI when the order is executed.
Post Conditions	N/A
Exceptions	N/A





### 3.2.2 Modify and Edit order

When the account is not logged in, this smart order is not available.

All setting options are set ash, and the pop-up indicates that the account is not logged in ,so the function cannot be used temporarily.

User can use them directly, or modify the setting parameters according to their own needs.

Use Case ID	Modify and Edit order
Use Case	Users can modify and edit order.
Pre-Conditions	1.Ignition on. 2.The account is logged in.
Main flow	1. User selects smart scene, and selects this smart order. 2. User can turn on or off the four smart orders. 3. Select an order to edit or modify. 4. Modify detailed parameters and start conditions, and edit the address, and so on.
Expected Behavior	An order is modified.
Post Conditions	N/A
Exceptions	N/A



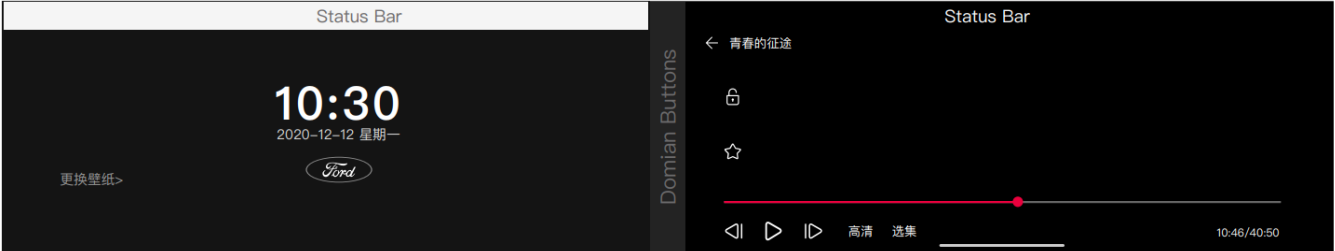


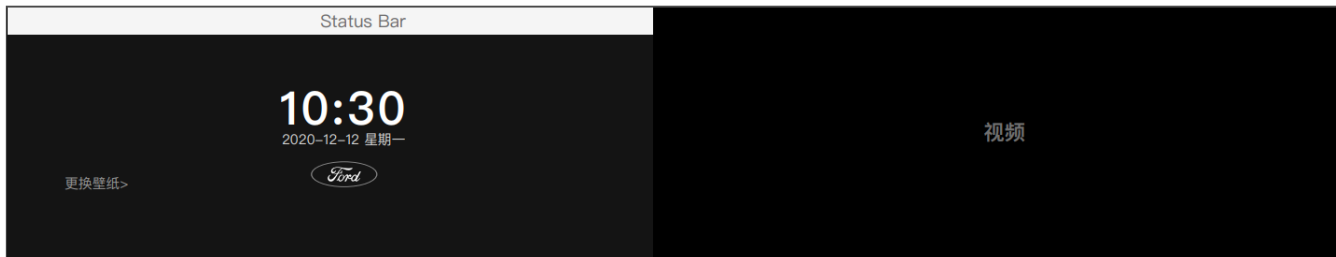
Use Case ID	Personal enjoyment main page
Use Case	User starts enjoying his/her personal moments.
Pre-Conditions	1.Engine on
Trigger	<ol style="list-style-type: none"> <li>1. User select smart scene, and select the card of personal enjoyment.</li> <li>2. User opens personal enjoyment via VPA.</li> </ol>
Expected Behavior	<p>1.The system automatically enters split screen mode. The left screen is Calm Screen and the right page is the home page of Personal Enjoyment.</p> <p>2.There are four entrances on the interface: iQIYI, local video, mobile phone screen projection and Suixinting.</p> <p>For example, user can select the iQIYI to enjoy his/her personal moments.</p> <p>3.The associated startup hardware: the sound effect, the ambient light, seat massage and the digital scent turn on automatically.</p>
Post Conditions	N/A
Exceptions	N/A



### 3.3.2 Activate iQIYI immersive experience

Use Case ID	Activate iQIYI immersive experience
Use Case	Users want to enjoy an immersive video experience.
Pre-Conditions	1.Engine on. 2.Shift gear to P
Main flow	1.User selects iQIYI card on main page of personal enjoyment. 2.Enter iQIYI main page. 2.User clicks a video to play.
Expected Behavior	1.A video is playing;
Post Conditions	N/A
Exceptions	N/A





### 3.3.3 Activate local video experience

Use Case ID	Activate local video experience(it's similar to iQIYI)
Use Case	Users want to enjoy an immersive video experience.
Pre-Conditions	1.Engine on. 2.Shift gear to P
Main flow	1.User selects local video card on main page of personal enjoyment. 2.Enter local video page. 3.User selects a video to play.
Expected Behavior	1.A video is playing.
Post Conditions	N/A
Exceptions	N/A



### 3.3.4 Mobile phone projection

Use Case ID	Mobile phone projection
Use Case	Users want to use mobile phone projection.
Pre-Conditions	1.Engine on. 2.Shift gear to P 3.Network is available.
Main flow	1.User selects mobile phone projection. 2.IVI shows the usage instructions of mobile phone projection. 3. User could see WiFi connection status on this screen ("Not connected: WiFi on"; "Not connected: WiFi off"; "Connected: "WiFi name") 4. User could see DLNA on/off status on this screen ("DLNA on: Phone Hotspot"; "DLNA on: Car Hotspot"; "DLNA off") 5. User could jump to related system settings pages from this screen (and jump back to this screen from them)
Expected Behavior	1.A video/picture from the phone is projected onto the IVI screen.
Post Conditions	N/A



Exceptions	N/A
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### 3.3.5 Personal Enjoyment Settings

Use Case ID	Personal enjoyment settings
Use Case	Users want to adjust the digital scent ,seat massage, sound effects and ambient light.
Pre-Conditions	1.Personal enjoyment is running.
Trigger	1. User swipe to call up the quick panel.
Expected Behavior	1. User can select different sound effects settings. 2.User can turn on or off digital scent. 3.User can turn on or off seat massage. 4.User can turn on or off ambient light. 5.User can choose to quit this personal enjoyment scene.
Post Conditions	N/A
Exceptions	N/A



### 3.3.5 Exit personal enjoyment

Use Case ID	Exit personal enjoyment
Use Case	Users want to exit a personal enjoyment.
Pre-Conditions	1.Personal enjoyment is running.

Trigger	<p>There are <b>four ways</b> to exit.</p> <p>1.User can exit it by the quick panel.<b>(Optional, for programs with quick panel only.)</b></p> <p>2.Automatically exit when full screen.</p> <p><b>3.The gear is not in P</b></p> <p><b>4.The user turns engine off.</b></p>
Expected Behavior	
Post Conditions	N/A
Exceptions	N/A



## 4 Interface Requirements

### 4.1 External Interface Requirements

## 5 Performance Requirements

No specific performance requirements for general reaction time and product launch time. Follow system level acceptance standards.

For Smart Order, it shall be initiated automatically within 10 seconds after IVI system booted up when all user-set conditions are met.

For vehicle programs with Smart Scene, it shall not take more than 20% of CPU (at peak, when running at foreground) and 30% of RAM (at peak, when running at foreground).