Crystal Image through Imaging Innovation

PIXELPLUS

Application

PI5008K

Application

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Contents

1. Overview

This guide explains application layer (application .c)

This layer implement user Interface according to UI scenario.

This layer is implemented based on Pixelplus UI & Display, you need to understand Pixelplus UI Scenario and GUI structure in advance.

You can find these information in PI5008K_UI_Scenario.pptx and PI5008K_GUI_Design_Guideline.pptx.

2. Type

typedef void	PP_VOID;
typedef char	PP_CHAR;
typedef unsigned char	PP_U8;
typedef short	PP_S16;
typedef unsigned short	PP_U16;
typedef int	PP_S32;
typedef unsigned int	PP_U32;
typedef enum {PP_FALSE, PP_TRUE}	PP_BOOL;
#define null	PP_NULL
#define (-1)	PP_INVALID
#define (-1)	PP_FAILURE
#define (0L)	PP_SUCCESS

3. Enumeration

3.1. PP_SCENE_E

[Syntax]

```
typedef enum ppSCENE_E {
        eScene_Booting,
        eScene_LiveView,
        eScene_MainMenu,
        eScene_VehicleSetting,
        eScene_TriggerSetting,
        eScene_VideoSetting,
        eScene_CameraSetting,
        eScene_CameraPreview,
        eScene_CameraCapture,
        eScene_CalibSetting,
        eScene_ManualCalib,
        eScene_MovePoint,
        eScene_ViewGen,
        eScene_UpdateSetting,
        eScene_SystemInfo,
        eScene_Dialog,

        eScene_Max
} PP_SCENE_E;
```

[Description]

Scene enumeration

[Member]

Member	Description
eScene_Booting	Booting scene
eScene_LiveView	Live view scene
eScene_MainMenu	Main menu scene
eScene_VehicleSetting	Vehicle setting scene
eScene_TriggerSetting	Trigger setting scene

eScene_VideoSetting	Video setting scene
eScene_CameraSetting	Camera setting scene
eScene_CameraPreview	Front/Right/Left/Rear/Quad Preview menu scene of camera setting
eScene_CameraCapture	Capture menu scene of camera setting
eScene_CalibSetting	Auto/Manual calibration menu scene 및 Auto calibration scene
eScene_ManualCalib	Manual calibration scene
eScene_MovePoint	Move point scene of Manual calibration
eScene_ViewGen	View generation scene of Manual calibration
eScene_UpdateSetting	Update setting scene
eScene_SystemInfo	System info scene
eScene_Dialog	Dialog scene

3.2. PP_VIEW_MODE_E

[Syntax]

```
typedef enum ppVIEW_MODE_E {
    eViewMode_TopCam,
    eViewMode_Top3D,

    eViewMode_Max
} PP_VIEW_MODE_E;
```

[Description]

View Mode enumeration of Live View Scene

[Member]

Member	Description
eViewMode_TopCam	2D Top View + Cam View
eViewMode_Top3D	2D Top View + 3D View

3.3. PP_VIEW_MODE_TOPCAM_E

[Syntax]

```
typedef enum ppVIEW_MODE_TOPCAM_E {
```

```
    eViewMode_TopCam_Front,
    eViewMode_TopCam_Left,
    eViewMode_TopCam_Right,
    eViewMode_TopCam_Rear,
    eViewMode_TopCam_WideFront,
    eViewMode_TopCam_WideRear,

    eViewMode_TopCam_Max
} VIEW_MODE_TOPCAM_E;
```

[Description]

Cam View Mode enumeration of 2D Top View + Cam View Mode

[Member]

Member	Description
eViewMode_TopCam_Front	Front cam view
eViewMode_TopCam_Left	Left cam view
eViewMode_TopCam_Right	Right cam view
eViewMode_TopCam_Rear	Rear cam view
eViewMode_TopCam_WideFront	Wide front cam view
eViewMode_TopCam_WideRear	Wide rear cam view

3.4. PP_VIEW_MODE_TOP3D_E

[Syntax]

```
typedef enum ppVIEW_MODE_TOP3D_E {
    eViewMode_Top3D_Swing_0,
    eViewMode_Top3D_Swing_1,
    eViewMode_Top3D_Swing_2,
    eViewMode_Top3D_Swing_3,
    eViewMode_Top3D_Swing_4,
    eViewMode_Top3D_Swing_5,
    eViewMode_Top3D_Swing_6,
    eViewMode_Top3D_Swing_7,

    eViewMode_Top3D_Max
```

```
} PP_VIEW_MODE_TOP3D_E;
```

[Description]

3D View Mode enumeration of 2D Top View + 3D View Mode

[Member]

Member	Description
eViewMode_Top3D_Swing_0	swing 0 3d view mode
eViewMode_Top3D_Swing_1	swing 1 3d view mode
eViewMode_Top3D_Swing_2	swing 2 3d view mode
eViewMode_Top3D_Swing_3	swing 3 3d view mode
eViewMode_Top3D_Swing_4	swing 4 3d view mode
eViewMode_Top3D_Swing_5	swing 5 3d view mode
eViewMode_Top3D_Swing_6	swing 6 3d view mode
eViewMode_Top3D_Swing_7	swing 7 3d view mode

3.5. PP_MENU_E

[Syntax]

```
typedef enum ppMENU_E {
        eMenu_Vehicle,
        eMenu_Trigger,
        eMenu_Video,
        eMenu_Camera,
        eMenu_Calibration,
        eMenu_Update,
        eMenu_SystemInfo,

        eMenu_Max
} PP_MENU_E;
```

[Description]

Main menu enumeration

[Member]

Member	Description

eMenu_Vehicle	vehicle setting menu
eMenu_Trigger	trigger setting menu
eMenu_Video	video setting menu
eMenu_Camera	camera setting menu
eMenu_Calibration	calibration setting menu
eMenu_Update	update menu
eMenu_SystemInfo	system info menu

3.6. PP_VEHICLE_SETTING_E

[Syntax]

```
typedef enum ppVEHICLE_SETTING_E {
        eVehicle_Pgl,
        eVehicle_DnmBlending,
        eVehicle_Back,

        eVehicle_Max
} PP_VEHICLE_SETTING_E;
```

[Description]

Vehicle setting menu enumeration

[Member]

Member	Description
eVehicle_Pgl	Parking Guide Line menu
eVehicle_DnmBlending	Dynamic Blending menu
eVehicle_Back	Back menu

3.7. PP_PGL_E

[Syntax]

```
typedef enum ppPGL_E {
        ePgl_Off,
        ePgl_Rear,
        ePgl_Always,
```

```
        ePgl_Max
} PP_PGL_E;
```

[Description]

Enumeration for setting value of Parking Guide Line item of Vehicle Setting scene

[Member]

Member	Description
ePgl_Off	PGL off
ePgl_Rear	PGL Rear (only Backward)
ePgl_Always	PGL Always (Forward & Backward)

3.8. PP_DYNAMIC_BLENDING_E

[Syntax]

```
typedef enum ppDYNAMIC_BLEDNING_E {
        eDnmBlending_Off,
        eDnmBlending_On,

        eDnmBlending_Max
} PP_DYNAMIC_BLENDING_E;
```

[Description]

Enumeration for setting value of Dynamic Blending item of Vehicle Setting scene

[Member]

Member	Description
eDnmBlending_Off	Dynamic Blending Off
eDnmBlending_On	Dynamic Blending On

3.9. PP_TRIGGER_SETTING_E

[Syntax]

```
typedef enum ppTRIGGER_SETTING_E {
        eTrigger_ReverseSignal,
        eTrigger_ReverseView,
```

```
        eTrigger_TurnSignal,
        eTrigger_TurnView,
        eTrigger_EmergencySignal,
        eTrigger_EmergencyView,
        eTrigger_Back,

        eTrigger_Max
} PP_TRIGGER_SETTING_E;
```

[Description]

Trigger Setting Menu enumeration

[Member]

Member	Description
eTrigger_ReverseSignal	Reverse Signal menu
eTrigger_ReverseView	Reverse View menu
eTrigger_TurnSignal	Turn Signal menu
eTrigger_TurnView	Turn View menu
eTrigger_EmergencySignal	Emergency Signal menu
eTrigger_EmergencyView	Emergency View menu
eTrigger_Back	Back menu

3.10. PP_TRIGGER_SIGNAL_E

[Syntax]

```
typedef enum ppTRIGGER_SIGNAL_E {
        eSignal_Off,
        eSignal_On,

        eSignal_Max
} PP_TRIGGER_SIGNAL_E;
```

[Description]

Enumeration for setting value of Trigger Signal item of Trigger Setting scene

[Member]

Member	Description

eSignal_Off	Signal On
eSignal_On	Signal Off

3.11. PP_REVERSE_VIEW_E

[Syntax]

```
typedef enum ppREVERSE_VIEW_E {
        eReverse_View_Top3DRear,
        eReverse_View_TopRear,

        eReverse_View_Max
} PP_REVERSE_VIEW_E;
```

[Description]

Enumeration for setting value of Trigger view item of Trigger Setting scene

[Member]

Member	Description
eReverse_View_Top3Drear	Top + 3D Rear View mode
eReverse_View_TopRear	Top + Rear View mode

3.12. PP_TURN_VIEW_E

[Syntax]

```
typedef enum ppTURN_VIEW_E {
        eTurn_View_Top3DLeftFront,
        eTurn_View_Top3DRightFront,
        eTurn_View_Top3DLeft,
        eTurn_view_Top3DRight,

        eTurn_View_Max
} PP_TURN_VIEW_E;
```

[Description]

Enumeration for setting value of Turn Signal item of Trigger Setting scene

[Member]

Member	Description
eTurn_View_Top3DLeftFront	Top + 3D Left Front View Mode
eTurn_View_Top3DRightFront	Top + 3D Right Front View Mode
eTurn_View_Top3DLeft	Top + 3D Left View Mode
eTurn_view_Top3DRight	Top + 3D Right View Mode

3.13. PP_EMERGENCY_VIEW_E

[Syntax]

```
typedef enum ppEMERGENCY_VIEW_E {
        eEmergency_View_Top3DFront,
        eEmergency_View_TopFront,
        eEmergency_View_Top3DLeftFront,
        eEmergency_View_Top3DRightFront,

        eEmergency_View_Max
} PP_EMERGENCY_VIEW_E;
```

[Description]

Enumeration for setting value of Turn View item of Trigger Setting scene

[Member]

Member	Description
eEmergency_View_Top3DFront	Top + 3D Front View Mode
eEmergency_View_TopFront	Top + Front View Mode
eEmergency_View_Top3DLeftFront	Top + 3D Left Front View Mode
eEmergency_View_Top3DRightFront	Top + 3D Right Front View Mode

3.14. PP_VIDEO_SETTING_E

[Syntax]

```
typedef enum ppVIDEO_SETTING_E {
        eVideo_ScreenX,
        eVideo_ScreenY,
        eVideo_Brightness,
        eVideo_Contras,
        eVideo_Saturation,
```

```
        eVideo_Back,

        eVideo_Max
} PP_VIDEO_SETTING_E;
```

[Description]

Video setting menu enumeration

[Member]

Member	Description
eVideo_ScreenX	Screen X setting menu
eVideo_ScreenY	Screen Y setting menu
eVideo_Brightness	Brightness setting menu
eVideo_Contras	Contrast setting menu
eVideo_Saturation	Saturation setting menu
eVideo_Back	Back menu

3.15. PP_STEP_BOX_E

[Syntax]

```
typedef enum ppSTEPBOX_E {
        eStepBox_0,
        eStepBox_1,
        eStepBox_2,
        eStepBox_3,
        eStepBox_4,
        eStepBox_5,
        eStepBox_6,
        eStepBox_7,
        eStepBox_8,
        eStepBox_9,
        eStepBox_10,

        eStepBox_Max
} PP_STEP_BOX_E;
```

[Description]

Step Box enumeration

[Member]

Member	Description
eStepBox_0	Step 0 Box
eStepBox_1	Step 1 Box
eStepBox_2	Step 2 Box
eStepBox_3	Step 3 Box
eStepBox_4	Step 4 Box
eStepBox_5	Step 5 Box
eStepBox_6	Step 6 Box
eStepBox_7	Step 7 Box
eStepBox_8	Step 8 Box
eStepBox_9	Step 9 Box
eStepBox_10	Step 10 Box

3.16. PP_CAMERA_SETTING_E

[Syntax]

```
typedef enum ppCAMERA_SETTING_E {
        eCamera_FrontPreview,
        eCamera_RightPreview,
        eCamera_LeftPreview,
        eCamera_RearPreview,
        eCamera_QuadPreview,
        eCamera_Capture,
        eCamera_Back,

        eCamera_Max
} PP_CAMERA_SETTING_E;
```

[Description]

Enumeration for camera setting scene

[Member]

Member	Description
eCamera_FrontPreview	Front Preview Menu
eCamera_RightPreview	Right Preview Menu
eCamera_LeftPreview	Left Preview Menu
eCamera_RearPreview	Rea Preview Menu
eCamera_QuadPreview	Quad Preview Menu
eCamera_Capture	Capture Menu
eCamera_Back	Back Menu

3.17. PP_CALIB_SETTING_E

[Syntax]

```
typedef enum ppCALIB_SETTING_E {
        eCalib_Auto,
        eCalib_Manual,
        eCalib_Back,

        eCalib_Max
} PP_CALIB_SETTING_E;
```

[Description]

Calibration Setting menu enumeration

[Member]

Member	Description
eCalib_Auto	Auto Calibration Menu
eCalib_Manual	Manual Calibration Menu
eCalib_Back	Back Menu

3.18. PP_MANUAL_CALIB_SETTING_E

[Syntax]

```
typedef enum ppMANUAL_CALIB_SETTING_E {
        eManualCalib_Front,
        eManualCalib_Right,
        eManualCalib_Left,
```

```
        eManualCalib_Rear,
        eManualCalib_ViewGen,
        eManualCalib_Back,

        eManualCalib_Max
} PP_MANUAL_CALIB_SETTING_E;
```

[Description]

Manual Calibration menu enumeration

[Member]

Member	Description
eManualCalib_Front	Front camera 의 Manual Calibration menu
eManualCalib_Right	Right camera 의 Manual Calibration menu
eManualCalib_Left	Left camera 의 Manual Calibration menu
eManualCalib_Rear	Rear camera 의 Manual Calibration menu
eManualCalib_ViewGen	View Generation menu
eManualCalib_Back	Back menu

3.19. PP_MANUAL_CALIB_VIEW_E

[Syntax]

```
typedef enum ppMANUAL_CALIB_VIEW_E {
        eManualCalib_View_Normal,
        eManualCalib_View_Mirror,

        eManualCalib_View_Max
} PP_MANUAL_CALIB_VIEW_E;
```

[Description]

View Mode Setting enumeration for Manual calibration

[Member]

Member	Description
eManualCalib_View_Normal	Normal view mode
eManualCalib_View_Mirror	Mirror view mode

3.20. PP_UPDATE_MENU_E

[Syntax]

```
typedef enum ppUPDATE_MENU_E {
        eUpdate_FactoryReset,
        eUpdate_FwUpdate,
        eUpdate_Back,

        eUpdate_Max
} PP_UPDATE_MENU_E;
```

[Description]

Update menu enumeration

[Member]

Member	Description
eUpdate_FactoryReset	Factory Reset menu
eUpdate_FwUpdate	Firmware Update menu
eUpdate_Back	Back menu

3.21. PP_SYSTEM_INFO_E

[Syntax]

```
typedef enum ppSYSTEM_INFO_E {
        eSystemInfo_FWVer,
        eSystemInfo_LibVer,
        eSystemInfo_SencorID,
        eSystemInfo_ISPVer,
        eSystemInfo_Back,

        eSystemInfo_Max
} PP_SYSTEM_INFO_E;
```

[Description]

System info menu enumeration

[Member]

Member	Description
eSystemInfo_FWVer	Firmware version menu
eSystemInfo_LibVer	Library version menu
eSystemInfo_SencorID	Sensor ID menu
eSystemInfo_ISPVer	ISP version menu
eSystemInfo_Back	Back menu

3.22. PP_POPUP_E

[Syntax]

```
typedef enum ppPOPUP_E {
        ePopUp_DoNotOff,        // "Do not turn off the power"
        ePopUp_SaveDone,        // "Save Done"
        ePopUp_NoSaveDone,      // "Save Failed"
        ePopUp_NoInput,         // "No Camera Input"
        ePopUp_NoSDCard,        // "No SD Card"
        ePopUp_ShutDown,        // "System Shutdown"
        ePopUp_Calibration,     // "Calibration in Progress..."
        ePopUp_ViewGen,         // "View Beneration in Progress..."
        ePopUp_Done,            // "Done!"
        ePopUp_Failed,          // "Failed!"
        ePopUp_NoUpdate,        // "FW Update Filed!"
        ePopUp_Max
} PP_POPUP_E;
```

[Description]

Pop-Up Message enumeration

[Member]

Member	Description
ePopUp_DoNotOff	“Do not turn off the power”
ePopUp_SaveDone	“Save done”
ePopUp_NoSaveDone	“Save Failed”
ePopUp_NoInput	“No Camera Input”

ePopUp_NoSDCard	“No SD Card”
ePopUp_ShutDown	“System Shutdown”
ePopUp_Calibration	“Calibration in process”
ePopUp_ViewGen	“View generation in process”
ePopUp_Done	“Done”

3.23. PP_DIALOG_BOX_E

[Syntax]

```
typedef enum ppDIALOG_BOX_E {
        eDialog_ManualCalib,        // "Calibrate manually?"
        eDialog_SaveView,           // "Save view?"
        eDialog_CalibFailRetry,     // "Calibration failed. Retry?"
        eDialog_RunMenu,            // "Run the selected menu?"
        eDialog_Update,         // "Update FW?"

        eDialog_Max
} PP_DIALOG_BOX_E;
```

[Description]

Dialog Box enumeration

[Member]

Member	Description
eDialog_ManualCalib	“Calibrate manually?”
eDialog_SaveView	“Save view?”
eDialog_CalibFailRetry	“Calibration failed. Retry?”
eDialog_RunMenu	“Run the selected menu?”
eDialog_Update	“Update FW?”

3.24. PP_DIALOG_BTN_E

[Syntax]

```
typedef enum ppDIALOG_BTN_E {
        eDialog_Btn_Ok,
        eDialog_Btn_Cancel,
```

```
        eDialog_Btn_Max
} PP_DIALOG_BTN_E;
```

[Description]

Dialog Box 의 Button enumeration

[Member]

Member	Description
eDialog_Btn_Ok	“OK” button
eDialog_Btn_Cancel	“CANCEL” button

3.25. PP_CAR_DOOR_E

[Syntax]

```
typedef enum ppCAR_DOOR_E {
    eCar_OpenDoor,
    eCar_OpenDoor_LF,
    eCar_OpenDoor_LF_RF,
    eCar_OpenDoor_LF_RF_LR,
    eCar_OpenDoor_LF_RF_LR_RR,
    eCar_OpenDoor_LF_LR,
    eCar_OpenDoor_LF_LR_RR,
    eCar_OpenDoor_LF_RR,
    eCar_OpenDoor_RF,
    eCar_OpenDoor_RF_LR,
    eCar_OpenDoor_RF_LR_RR,
    eCar_OpenDoor_RF_RR,
    eCar_OpenDoor_LR,
    eCar_OpenDoor_LR_RR,
    eCar_OpenDoor_RR,

    eCar_OpenDoor_Max
} PP_CAR_DOOR_E;
```

[Description]

2D top view car open door enumeration

[Member]

Member	Description
eCar_OpenDoor	not open door
eCar_OpenDoor_LF	open Left-Front door
eCar_OpenDoor_LF_RF	open Left-Front & Right-Front door
eCar_OpenDoor_LF_RF_LR	open Left-Front & Right-Front & Left-Rear door
eCar_OpenDoor_LF_RF_LR_RR	open Left-Front & Right-Front & Left-Rear & Right-Rear door
eCar_OpenDoor_LF_LR	open Left-Front & Left-Rear door
eCar_OpenDoor_LF_LR_RR	open Left-Front & Left-Rear & Right-Rear door
eCar_OpenDoor_LF_RR	open Left-Front & Right-Rear door
eCar_OpenDoor_RF	open Right-Front door
eCar_OpenDoor_RF_LR	open Right-Front & Left-Rear door
eCar_OpenDoor_RF_LR_RR	open Right-Front & Left-Rear & Right-Rear door
eCar_OpenDoor_RF_RR	open Right-Front & Right-Rear door
eCar_OpenDoor_LR	open Left-Rear door
eCar_OpenDoor_LR_RR	open Left-Rear & Right-Rear door
eCar_OpenDoor_RR	open Right-Rear door

4. Structure

4.1. PP_SCENE_SUB_ELEM_S

[Syntax]

```
typedef struct ppSCENE_SUB_ELEM_S {
        PP_U32 id;
        PP_U32 valueNum;
        PP_U32 *value;
} PP_SCENE_SUB_ELEM_S;
```

[Description]

Structure for setting value of Items for a (menu)

For example, the structure for parking Guide Line of Vehicle Setting menu is as follows,

id = eVehicle_Pgl

valueNum = ePgl_Max

value = Selected value among of ePgl_Off / ePgl_Rear / ePgl_Always

The reason why value is pointer type, it refers to corresponding item of gMenuData.

[Member]

Member	Description
id	Sub Menu ID
valueNum	Max number of sub menu
*value	Value of sub menu

4.2. PP_SCENE_ELEM_S

Syntax]

```
typedef struct ppSCENE_ELEM_S {
        PP_SCENE_E id;
        PP_VOID (*uiFunc) (void *, PP_U32 IN event);
        PP_U32 selIdx;
        PP_U32 subNum;
        PP_SCENE_SUB_ELEM_S subElem[10];
} PP_SCENE_ELEM_S;
```

[Description]

Structure for a scene

For example, structure for Vehicle Setting Menu is as follows

id = eScene_VehicleSetting

*uiFunc = PPAPP_UI_VehicleSetting

selIdx = eVehicle_Pgl

subNum = eVehicle_Max

subElem = structure for sub menus PGL / Dynamic Blending / Back

[Member]

Member	Description
id	Scene ID
*uiFunc	scene function callback
selIdx	menu id
subNum	Number of item
subElem[10]	Structure for sub menu

4.3. PP_SCENE_S

Syntax]

```
typedef struct ppSCENE_S {
        PP_SCENE_ELEM_S     *elem;
        struct ppSCENE_S    *prev;
        struct ppSCENE_S    *next[10];
} PP_SCENE_S;
```

[Description]

Structure for relation between scenes

[Member]

Member	Description
elem	Current scene
prev	Previous scene
next	Next scene list

5. Variable

5.1. gPglAngle

[Syntax]

```
PP_S16 gPglAngle
```

[Description]

Angle of Parking Guide Line

5.2. gCarOpenDoor

[Syntax]

```
PP_CAR_DOOR_E gCarOpenDoor
```

[Description]

open door of 2D top view car

5.3. apps_pos_point_num

[Syntax]

```
PP_U32 apps_pos_point_num
```

[Description]

Number of feature point found during camera calibration

5.4. apps_pos_point

[Syntax]

```
PP_POS_S *apps_pos_point
```

[Description]

Pointer to coordinates of feature point found during camera calibration.

6. Function

6.1. PPAPP_UI_Initialize

[Syntax]

PP_SCENE_S *PPAPP_UI_Initialize (PP_VOID)

[Description]

This API is used to initialize UI

This API sets first scene and loads menu data from flash and set functions.

[Parameter]

Member	Description
PP_VOID	

[Return]

Member	Description
PP_SCENE_S	Structure for 1st scene

6.2. PPAPP_UI_GetScene

[Syntax]

PP_SCENE_S *PPAPP_UI_GetScene (PP_SCENE_E IN idx)

[Description]

Get scene structure

[Parameter]

Member	Description
idx	Target scene index

[Return]

Member	Description
PP_SCENE_S	scene structure

6.3. PPAPP_UI_LiveView

[Syntax]

PP_VOID PPAPP_UI_LiveView (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for Live View scene (eScene_LiveView)

[Parameter]

Member	Description
scene	live view scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.4. PPAPP_UI_InitLiveView

[Syntax]

STATIC PP_VOID PPAPP_UI_InitLiveView (PP_VOID)

[Description]

This API is used to initialize Live View. View and Live View Display is displayed.

This function is internal callback function after setting SVM View Setting.

[Parameter]

Member	Description
PP_VOID	

[Return]

Member	Description
PP_VOID	

6.5. PPAPP_View_ChangeImage

[Syntax]

STATIC PP_VOID PPAPP_View_ChangeImage (PP_VIEWMODE_E IN view)

[Description]

This callback function will be called after setting view when view mode is changed.

This function updates 2D / 3D Car Image, View Mode and PGL Display.

[Parameter]

Member	Description
view	View mode

[Return]

Member	Description
PP_VOID	

6.6. PPAPP_View_SetSectionCar

[Syntax]

PP_VOID PPAPP_View_SetSectionCar (PP_VIEWMODE_E IN view)

[Description]

This function displays car image using section ID and view type for input view mode.

[Parameter]

Member	Description
view	View mode

[Return]

Member	Description
PP_VOID	

6.7. PPAPP_View_SetSectionPgl

[Syntax]

PP_VOID PPAPP_View_SetSectionPgl (PP_VIEWMODE_E IN view)

[Description]

This function displays PGL image using section ID and view type for input view mode.

[Parameter]

Member	Description
view	View mode

[Return]

Member	Description
PP_VOID	

6.8. PPAPP_UI_CheckLayout

[Syntax]

STATIC PP_BOOL PPAPP_UI_CheckLayout (PP_VIEWMODE_E IN view)

[Description]

This API compares the view size of outline of UI and view size of input view mode.

If the size is different, the outline is not displayed.

[Parameter]

Member	Description
view	View mode

[Return]

Member	Description
PP_TRUE	view size is same
PP_FALSE	view size is different

6.9. PPAPP_UI_MainMenu

[Syntax]

PP_VOID PPAPP_UI_MainMenu (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

This function is callback function for Main Menu Scene (eScene_MainMenu)

[Parameter]

Member	Description
scene	Main menu scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.10. PPAPP_UI_VehicleSetting

[Syntax]

PP_VOID PPAPP_UI_VehicleSetting (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for Vehicle Setting Scene (eScene_VehicleSetting)

[Parameter]

Member	Description
scene	Vehicle setting scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.11. PPAPP_UI_TriggerSetting

[Syntax]

PP_VOID PPAPP_UI_TriggerSetting (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for Trigger Setting Scene (eScene_TriggerSetting)

[Parameter]

Member	Description

scene	Trigger setting scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.12. PPAPP_UI_VideoSetting

[Syntax]

PP_VOID PPAPP_UI_VideoSetting (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for Video Setting Scene (eScene_VideoSetting)

[Parameter]

Member	Description
scene	Video setting scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.13. PPAPP_Video_SetScreenX

[Syntax]

STATIC PP_VOID PPAPP_Video_SetScreenX (PP_U32 stepIdx)

[Description]

When Screen X menu of video setting is selected, corresponding API is called after stepIdx is converted to the actual value for DU block

[Parameter]

Member	Description
stepIdx	menu idx (step box range : 0~10)

[Return]

Member	Description
PP_VOID	

6.14. PPAPP_Video_SetScreenY

[Syntax]

STATIC PP_VOID PPAPP_Video_SetScreenY (PP_U32 stepIdx)

[Description]

When Screen Y menu of video setting is selected, corresponding API is called after stepIdx is converted to the actual value for DU block

[Parameter]

Member	Description
stepIdx	menu idx (step box range : 0~10)

[Return]

Member	Description
PP_VOID	

6.15. PPAPP_Video_SetBrightness

[Syntax]

STATIC PP_VOID PPAPP_Video_SetBrightness (PP_U32 stepIdx)

[Description]

When brightness menu of Video Setting is selected, corresponding API is called after stepIdx is converted to the actual value for DU block.

[Parameter]

Member	Description
stepIdx	menu idx (step box range : 0~10)

[Return]

Member	Description
PP_VOID	

6.16. PPAPP_Video_SetContrast

[Syntax]

STATIC PP_VOID PPAPP_Video_SetContrast (PP_U32 stepIdx)

[Description]

When contrast menu of Video Setting is selected, corresponding API is called after stepIdx is converted to the actual value for DU block.

[Parameter]

Member	Description
stepIdx	menu idx (step box range : 0~10)

[Return]

Member	Description
PP_VOID	

6.17. PPAPP_Video_SetSaturation

[Syntax]

STATIC PP_VOID PPAPP_Video_SetSaturation (PP_U32 stepIdx)

[Description]

When saturation menu of Video Setting is selected, corresponding API is called after stepIdx is converted to the actual value for DU block.

[Parameter]

Member	Description
stepIdx	menu idx (step box range : 0~10)

[Return]

Member	Description
PP_VOID	

6.18. PPAPP_UI_InitCameraSetting

[Syntax]

STATIC PP_VOID PPAPP_UI_InitCameraSetting (PP_VOID)

[Description]

Camera Setting Scene(eScene_CameraSetting)의 initialize

[Parameter]

Member	Description
PP_VOID	

[Return]

Member	Description
PP_VOID	

6.19. PPAPP_UI_CameraSetting

[Syntax]

PP_VOID PPAPP_UI_CameraSetting (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for Camera Setting Scene (eScene_CameraSetting)

[Parameter]

Member	Description
scene	Camera setting scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.20. PPAPP_UI_CameraCapture

[Syntax]

PP_VOID PPAPP_UI_CameraCapture (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for Camera Capture Scene (eScene_CameraCapture)

[Parameter]

Member	Description
scene	Camera capture scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.21. PPAPP_UI_CameraPreview

[Syntax]

PP_VOID PPAPP_UI_CameraPreview (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for Camera Preview Scene (eScene_CameraPreview)

[Parameter]

Member	Description
scene	Camera Preview scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.22. PPAPP_UI_CalibSetting

[Syntax]

PP_VOID PPAPP_UI_CalibSetting (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for Calibration Setting Scene (eScene_CalibSetting)

[Parameter]

Member	Description
scene	Calibration Setting scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.23. PPAPP_Calib_SearchPoint

[Syntax]

STATIC PP_VOID PPAPP_Calib_SearchPoint (PP_OFFCALIB_CAMERA_CAPTURE_CH_E camera_ch)

[Description]

Internal function called when calibration is selected in Calibration Setting menu.

This function calls API and sends to event to Calibration task

[Parameter]

Member	Description
camera_ch	Camera channel to be seached

[Return]

Member	Description
PP_VOID	

6.24. PPAPP_UI_ManualCalibSetting

[Syntax]

PP_VOID PPAPP_UI_ManualCalibSetting (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for Manual Calibration Setting Scene (eScene_ManualCalib)

[Parameter]

Member	Description
scene	Manual Calibration Setting scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.25. PPAPP_UI_InitManualCalibSetting

[Syntax]

STATIC PP_VOID PPAPP_UI_InitManualCalibSetting (PP_VOID)

[Description]

This function performs initialization for Manual Calibration Setting Menu

This function will be registered by SVM API and called after a certain amount of vsync after the execution of SVM API.

This function displays calibration setting menu scene.

[Parameter]

Member	Description
PP_VOID	

[Return]

Member	Description
PP_VOID	

6.26. PPAPP_UI_MovePoint

[Syntax]

PP_VOID PPAPP_UI_MovePoint (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for Move Point Scene (eScene_MovePoint)

[Parameter]

Member	Description
scene	Move Point scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.27. PPAPP_UI_ViewGeneration

[Syntax]

PP_VOID PPAPP_UI_ViewGeneration (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for View Generation Scene (eScene_ViewGen)

[Parameter]

Member	Description
scene	View Generation scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.28. PPAPP_UI_UpdateSetting

[Syntax]

PP_VOID PPAPP_UI_UpdateSetting (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for Update Setting Scene (eScene_UpdateSetting)

[Parameter]

Member	Description
scene	Update Setting Scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.29. PPAPP_UI_SystemInfo

[Syntax]

PP_VOID PPAPP_UI_SystemInfo (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for System Info Scene (eScene_SystemInfo)

[Parameter]

Member	Description
scene	System Infor scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.30. PPAPP_UI_Dialog

[Syntax]

PP_VOID PPAPP_UI_Dialog (PP_SCENE_S* IN scene, PP_U32 IN event)

[Description]

Callback function for Dialog Box Scene (eScene_Dialog)

[Parameter]

Member	Description
scene	Dialog Box scene structure
event	event (UI task command)

[Return]

Member	Description
PP_VOID	

6.31. PPAPP_Menu_SaveData

[Syntax]

PP_RESULT_E PPAPP_Menu_SaveData (PP_VOID)

[Description]

Function store Setting Menu Data to flash memory

[Parameter]

Member	Description
PP_VOID	

[Return]

Member	Description
eSUCCESS	Success to store
eERROR_FAILURE	Fail to store
eERROR_NOT_FOUND	There is no header for Setting Menu Data in Flash memory

6.32. PPAPP_Menu_LoadData

[Syntax]

PP_RESULT_E PPAPP_Menu_LoadData (PP_VOID)

[Description]

Function to read Setting Menu Data from flash memory

[Parameter]

Member	Description

PP_VOID	

[Return]

Member	Description
eSUCCESS	Success
eERROR_FAILURE	Fail
eERROR_NOT_FOUND	There is no header for Setting Menu Data in Flash memory

6.33. PPAPP_Menu_ResetData

[Syntax]

PP_VOID PPAPP_Menu_ResetData (PP_VOID)

[Description]

Initialize Set Menu Setting Data using initial value.

[Parameter]

Member	Description
PP_VOID	

[Return]

Member	Description
PP_VOID	

6.34. PPAPP_Menu_SetData

[Syntax]

PP_VOID PPAPP_Menu_SetData (PP_VOID)

[Description]

Set the value of items of all Menu using Menu Setting Data.

For example, if screen X, screen Y, brightness, contrast, saturation value is read from flash or are initialized, these items will be set by calling corresponding APIs.

[Parameter]

Member	Description

PP_VOID	

[Return]

Member	Description
PP_VOID	

6.35. PPAPP_Menu_GetCheckSum

[Syntax]

STATIC PP_U32 PPAPP_Menu_GetCheckSum (PP_VOID)

[Description]

This function is used to check the validity of Data.

This function returns sum of all menu setting data except 32byte for Check Sum.

This function is used inside PPAPP_Menu_SaveData()and PPAPP_Menu_LoadData.

[Parameter]

Member	Description
PP_VOID	

[Return]

Member	Description
value	check sum value

7. Revision History

Version	Date	Description
v 0.1	2018.06.07	Draft
v 0.2	2018.07.31	Update
v 0.3	2018.11.16	Update