

***lpu237 android mapper working flow.***

restriction – support only one device.

**normal flow**

flow	event	class	working	thread	description
		method			
FN00	Start up.	StartupActivity	push_request - Request_update_list ERROR – EP01	main	
		onCreate			
FN01		ManagerDevice	<ul style="list-style-type: none"> <li>if lpu237 is detected, request it's permission.</li> <li>if bootloader is detected, request it's permission.</li> <li>no device : EP04.</li> </ul>	worker	_run_update_list will detect lpu237.
		_run_update_list			
FN02	request lpu237's permission	ManagerDevice	push_request - Request_get_info_for_list ERROR : EP01	main	display by system for getting permission. If user does not give a permission, re-request permission.
		_callback_normal _lpu237_permission			
FN03		ManagerDevice	send intent GET_INFO_FOR_LIST.	worker	
		_run_get_info_for_list			
FN04		ManagerDevice	<ul style="list-style-type: none"> <li>RESULT TRUE : send intent - ACTIVITY_STARTUP_DISPLAY_DEVICE_LIST</li> <li>RESULT FALSE : EP01</li> </ul>	main	
		_callback_normal _get_info_for_list			
FN05		StartupActivity	update device list view.	main	display the basic information of the detect device.
		onReceive			
FN06	select "connect" button	StartupActivity	select device 0. start MainActivity.	main	
		m_listener_dlg_connect_yes			
FN07	select device	StartupActivity	select device 0. start MainActivity.	main	
		DeviceRecyclerAdapter: onListItemClick			
FN08	start MainActivity	MainActivity	push_request - Request_get_parameters ERROR : EP01	main	
		onCreate			
FN09		ManagerDevice		worker	
		_run_get_parameters			
FN10		ManagerDevice	send intent - ACTIVITY_MAIN_COMPLETE_GET_PARAMETERS	main	
		_callback_normal _get_parameters			
FN11		MainActivity	<ul style="list-style-type: none"> <li>RESULT TRUE : posted initialization.</li> <li>RESULT FALSE : EP01</li> </ul>	main	ready for use. idle status.
		_callback_get_parameter			
FN12	select "Update" button	MainActivity	push_request - Request_set_parameters ERROR : EP00	main	
		m_button_apply. onClick			
FN13		ManagerDevice		worker	
		_run_set_parameters			
FN14		ManagerDevice	<ul style="list-style-type: none"> <li>RESULT TRUE : send intent - ACTIVITY_MAIN_COMPLETE_SET_PARAMETERS</li> <li>RESULT FALSE : EP08</li> </ul>	main	display update ok dialog.
		_callback_normal _set_parameters			

**Update Firmware flow in normal mode.**

flow	event	class	working	thread	description
		method			
FU00	select "Update" button	PageDevice	display dialog box for selection rom- file.	main	
		OnClick			
FU01		PageDevice	push_request - Request_start_bootloader ERROR : EP00	main	
		fileSelected			
FU02		ManagerDevice	save parameters. <b>enable bootloader</b>	worker	ERROR : EP00 in _callback_started_bootloader
		_run_start_bootloader			
FU03	attached usb	ManagerDevice	push_request - Request_update_list ERROR : EP03	main	
		_callback_boot_usb_attached			
FU04		ManagerDevice	<ul style="list-style-type: none"> <li>if lpu237 is detected, request lpu237's permission.</li> <li>if bootloader is detected, request bootloader's permission.</li> <li>no device : EP03</li> </ul>	worker	_run_update_list will detect bootloader.
		_run_update_list			
FU05	request bootloader's permission	ManagerDevice	finish MainActivity. select bootloader 0. set_rom_file. start UpdateActivity.	main	display by system for getting permission. If user doesn't give a permission, re-request permission.
		_callback_boot _bootloader_permission			
FU06	start UpdateActivity	UpdateActivity	push_request - Request_firmware_erase ERROR : EP03	main	
		onCreate			
FU07		ManagerDevice		worker	ERROR : EP06
		_run_firmware_erase			
FU08		ManagerDevice	push_request - Request_firmware_write ERROR : EP02	main	
		_callback_boot _erase_firmware			
FU09		ManagerDevice	send intent WRITE_SECTOR(sectors2~7) or send intent WRITE_COMPLETE(sectors1)	worker	loop sectors2~7 and 1. ERROR : EP06
		_run_firmware_write			
FU10	WRITE_SECTOR intent	ManagerDevice	push_request - Request_firmware_write ERROR : EP03	main	called sectors2~7.
		_callback_boot _write_sector			
FU11	COMPLETE intent	ManagerDevice	push_request - Request_run_app ERROR : EP03	main	
		_callback_boot _write_complete			
FU12		ManagerDevice		worker	ERROR : EP06
		_run_run_app			
FU13		ManagerDevice	clear bootloader list	main	
		_callback_boot_started_app			
FU14	attached usb	ManagerDevice	push_request - Request_update_list ERROR : EP03	main	
		_callback_boot_usb_attached			

FU15		ManagerDevice	<ul style="list-style-type: none"><li>● if lpu237 is detected, request lpu237's permission.</li><li>● if bootloader is detected, request bootloader's permission.</li><li>● no device : EP03</li></ul>	worker	_run_update_list will detect lpu237.
		_run_update_list			
FU16	request lpu237's permission	ManagerDevice	push_request - Request_get_parameters ERROR : EP01	main	display by system for getting permission. If user doesn't give a permission, re-request permission.
		_callback_boot _lpu237_permission			
FU17		ManagerDevice		worker	ERROR : EP06
		_run_get_parameters			
FU18		ManagerDevice	push_request - Request_recover_parameters ERROR : EP01	main	
		_callback_boot _get_parameters			
FU19		ManagerDevice		worker	ERROR : EP07
		_run_recover_parameter			
FU20		ManagerDevice	disable bootloader. display fw_download_ok dialog.	main	
		_callback_boot _recover_parameter			
FU21	select "ok"	ManagerDevice	finish UpdateActivity. push_request - Request_get_info_for_list with StartupActivity context.	main	ERROR : EP01 in push_request.
		m_listener_dlg _fw_download_ok			
repeat FN03~FN14.					

**Update firmware flow at startup.**

flow	event	class	working	thread	description
		method			
FN00 – start StartupActivity					
FU04 - _run_update_list , detect bootloader.					
FS00	request bootloader's permission	ManagerDevice	select bootloader 0 display fw download yes or no dialog.	main	display by system for getting permission. If user doesn't give a permission, re-request permission. If user selects "no" or cancel in "fw download dialog", EP05
		_callback_normal_bootloader_permission			
FS01	select "yes"	ManagerDevice	enable bootloader start UpdateActivity.	main	
		m_listener_dlg_fw_download_yes			
FS02	start UpdateActivity	UpdateActivity	display dialog box for selection rom- file.	main	If user selects cancel in file- selection dialog, EP05
		onCreate			
FS03	select rom file.	UpdateActivity	showFwSelectDialog. ERROR : EP05	main	
		fileSelected			
FS04	select firmware.	UpdateActivity	onClick. push_request - Request_firmware_erase ERROR : EP03	main	If user selects cancel in firmware-selection dialog, EP05
		showFwSelectDialog			
FU07 - _run_firmware_erase					
FU08 - _callback_boot_erase_firmware					
FU09 - _run_firmware_write					
FU10 - _callback_boot_write_sector					
FU11 - _callback_boot_write_complete					
FU12 - _run_run_app					
FU13 - _callback_boot_started_app					
FU14 - _callback_boot_usb_attached					
FU15 - _run_update_list					
FS05	request lpu237's permission	ManagerDevice	disable bootloader. display fw_download_ok dialog.	main	display by system for getting permission. If user doesn't give a permission, re-request permission.
		_callback_boot_lpu237_permission			
FU21 – finish UpdateActivity & refresh device list of StartupActivity.					
repeat FN03~FN14.					

**error processing**

case	process	etc
EP00	display error message dialog. if press "ok" or cancel, app remains the current status.	
EP01	display error message dialog. if press "ok" or cancel, terminate app.	
EP02	display error message dialog. ( Including "A/S" message ) if press "ok" or cancel, terminate app.	
EP03	display error message dialog. ( Including "Reboot" message ) if press "ok" or cancel, terminate app.	
EP04	display "no device" message dialog. if press "ok" or cancel, terminate app.	
EP05	display "need a firmware download" message dialog. if press "ok" or cancel, terminate app.	
EP06	display error message to UpdateActivity. app remains the current status.	
EP07	display error message in "Update Complete" dialog. app doesn't consider a error in this case.	
EP08	display "Save parameter" dialog with error message.	