

Detailed Design of LDR Driver

Team X

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Introduction and functional overview

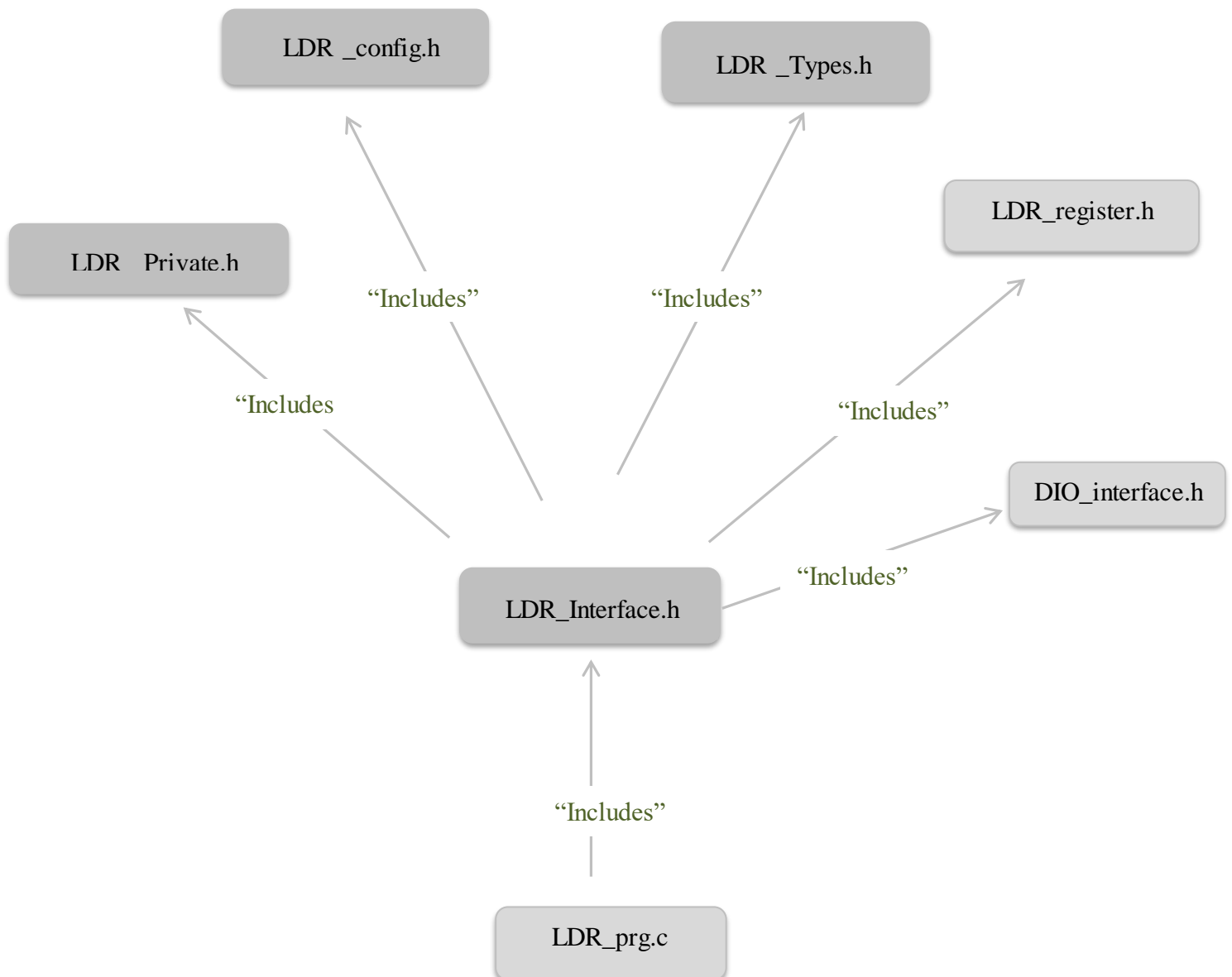
This document specifies the detailed design of LDR module.

The LDR driver port, pin and status

Dependencies to other modules

DIO driver as it's used to initialize the module's port and pin, also it reads the status of the sensor

File Structure



Requirement's traceability

Requirement	Description	Satisfied by
[SRS_LDR_4700]	The LDR Driver shall support symbolic names of sensor's port and pin	[DD_LDR_5800]
[SRS_LDR_4701]	The LDR Driver shall provide a service to initialize the sensor	[DD_LDR_5802]
[SRS_LDR_4702]	The LDR Driver shall provide a service to read status	[DD_LDR_5803]

API specification

Type definitions

1- [DD_RTC_5800]

Name	S_LDR
type	DIO Structure
Range	--
Description	It contains the LDR port and pin
Covered requirements	--

Function definitions

1-[DD_LDR_5701]

Service name:	LDR Init
Syntax:	E_ErrorType HAL_LDR_Init(void)
Sync/Async:	Synchronous
Re-entrancy:	Re-entrant

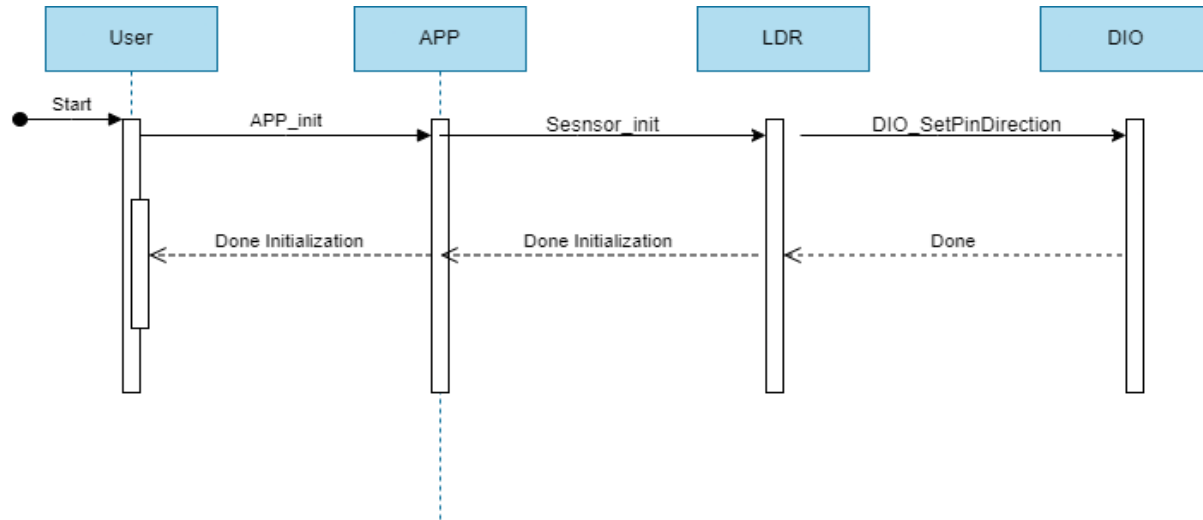
Parameters (in):	--
Parameters (out):	--
Parameters (inout):	--
Return type:	E_ErrorType
Description:	It initializes the configured port and pin of the sensor
Covered requirements:	Control Lightness

2-[DD_LDR_5702]

Service name:	LDR Read
Syntax:	E_ErrorType HAL_LDR_Read(void)
Sync/Async:	Synchronous
Re-entrancy:	Re-entrant
Parameters (in):	--
Parameters (out):	--
Parameters (inout):	--
Return type:	E_ErrorType
Description:	It reads the output of the sensor
Covered requirements:	Control Lightness

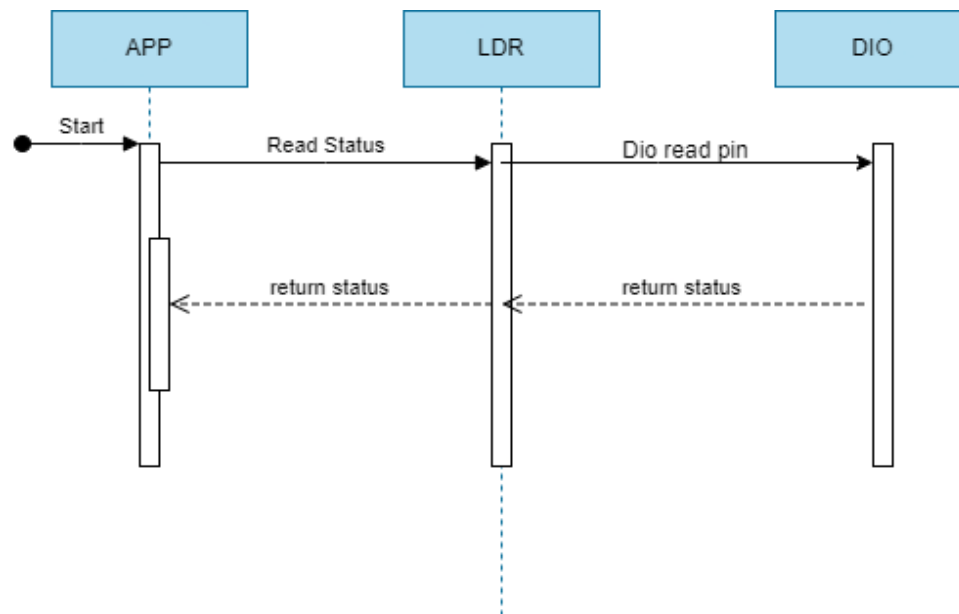
Sequence Diagrams

LDR Initialization



When user initializes the application, it initializes the LDR by calling DIO to set the LDR sensor pin.

LDR_Read



When the application starts it always monitor the movement to control lightness by reading the sensor.

