|  |  |
| --- | --- |
| **AEM TEMPLATE**  **SW Detailed Design (DD)**  **EXXXXXX** | |
| **Summary** | This is the Software Detailed Design Document |

|  |  |  |
| --- | --- | --- |
| **Author** | **Review** | **Approval** |
| Title: Name | See Project Master Document for the roles and Project Members List for the name of people | See Project Master Document for the roles and Project Members List for the name of people |
|  |  |  |
| **Distribution** | | |
| See Project Master Document for the roles and Project Members List for the name of people | See Project Master Document for the roles and Project Members List for the name of people | See Project Master Document for the roles and Project Members List for the name of people |

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# General Information

## Revision history \*

|  |  |  |  |
| --- | --- | --- | --- |
| **Revision** | **Date** | **Author(s)** | **Description/comment** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

*\* Template history is found in the CM tool used for templates*

## Purpose and Scope

The review of this document is done thanks to …

The purpose of this document is…

## Referenced documents

### External documents

|  |  |  |
| --- | --- | --- |
| **Id** | **Title** | **Reference** |
|  |  |  |
|  |  |  |
|  |  |  |

### Internal Documents

|  |  |  |
| --- | --- | --- |
| **Id** | **Title** | **Reference** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Terminology and definitions

The generic acronyms are available in the [AEM process and method wiki](https://alvteams.alv.autoliv.int/sites/aeuaeequalityassurance/AEM%20Process%20wiki/acronyms.aspx)

|  |  |
| --- | --- |
| **Terminology** | **Meaning** |
| AAU | Atomic architectural unit |
| SW | software |
|  |  |

# SW Module Detailed Design

## Overview

## Traceability

## Groups

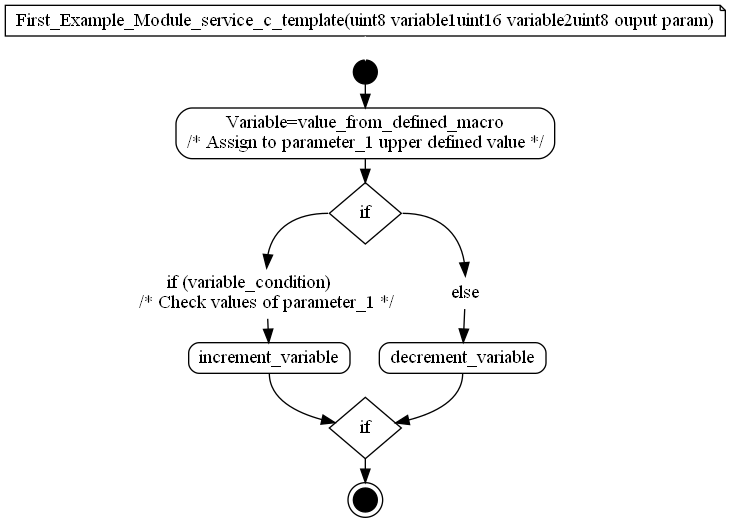
|  |
| --- |
| Group Name |
| First\_Example\_Module\_Group\_Example |
| **Description** |
| This is a new created group, this will create a new man3 file with group members described in that file. Members description of a group will contain only description from brief section in their original file. |
| **Functions** |
| First\_Example\_Module\_another\_service\_c\_template |
| **Variables** |
| u8AnotherVariableExample |
| u8AnotherVariableExample2 |
| u8AnotherVariableExample3 |
| **Macros** |
| DATATYPE\_ANOTHER\_MACRO\_DEFINED\_FROM\_C\_FILE |

# Features

## Services

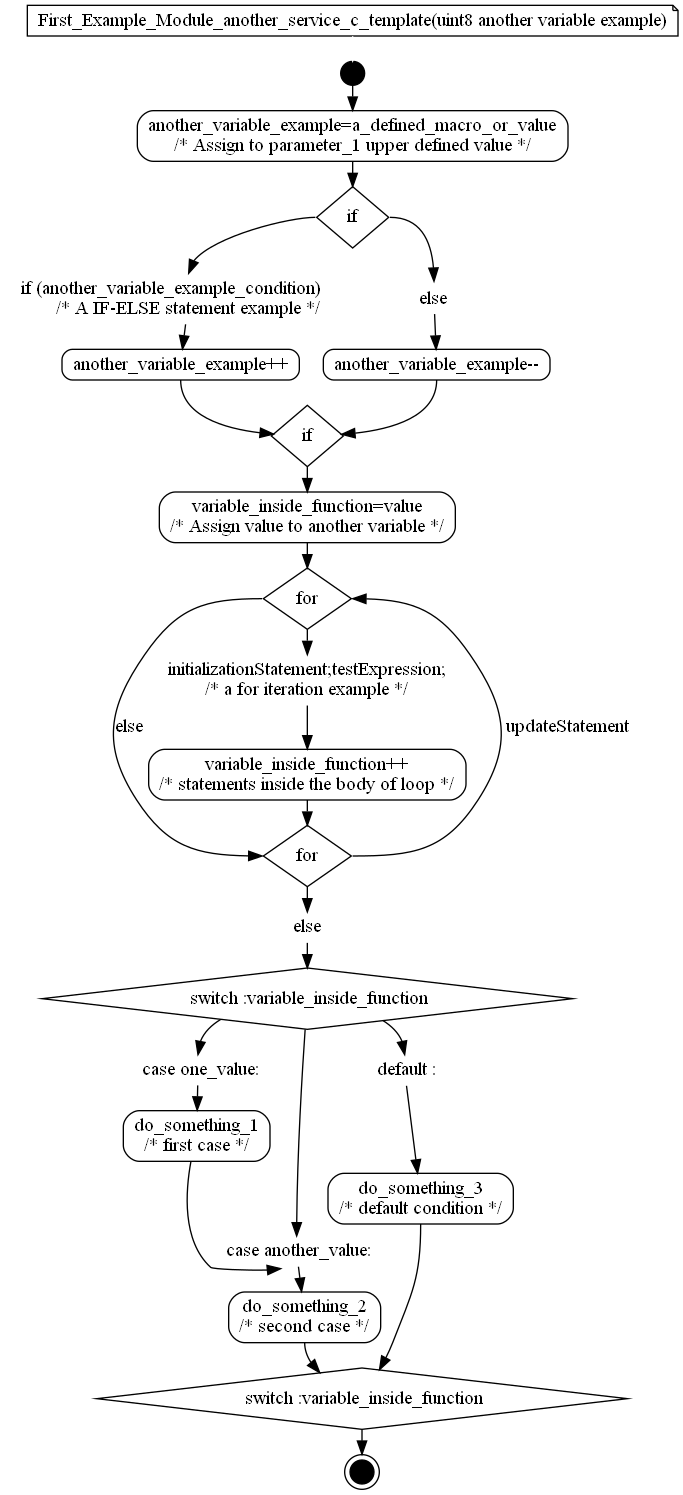
### First\_Example\_Module\_service\_c\_template

|  |  |  |  |
| --- | --- | --- | --- |
| Object | | | |
| An example of description for local function. Belongs to First\_Example\_Module. | | | |
| **Prototype** | | | |
| void First\_Example\_Module\_service\_c\_template (uint8 variable1, uint16 variable2, uint8 ouput\_param) | | | |
| **Exceptions** | | | |
| This function has no exceptions. | | | |
| **Precondition** | | | |
| This function has no preconditions. | | | |
| **Postcondition** | | | |
| This function has no postconditions. | | | |
| **Detailed Design Requirement** | | | |
| DSG\_First\_Example\_Module\_service\_c\_template | | | |
| **Architecture Requirement** | | | |
| ARCH\_TEST\_REQ | | | |
| **Input parameters** | | | |
| Name | Type | Description | Range |
| variable1 | uint8 | This is a description for variable1 | 0..255 |
| variable2 | uint16 | This is a description for variable 2 | 0, 1, 2 |
| **Output parameters** | | | |
| Name | Type | Description | Range |
| ouput\_param | uint8 | This is an ouput parameter. | OK, NOK, other\_values |
| **Return value** | | | |
| Type | Description | | |
| NA | This function has no return. | | |
| **Dynamic aspect** | | | |
| Who(callers) | Description | | |
| Write here who calls this function. | Write here a description caller of this function. | | |
| **Static aspect** | | | |
| \* | | | |
| **Constrains** | | | |
| Write here if you have any constraints. | | | |



### First\_Example\_Module\_another\_service\_c\_template

|  |  |  |  |
| --- | --- | --- | --- |
| Object | | | |
| An example of description for local function. Belongs to First\_Example\_Module. | | | |
| **Prototype** | | | |
| LOCAL void First\_Example\_Module\_another\_service\_c\_template (uint8 another\_variable\_example) | | | |
| **Exceptions** | | | |
| This function has no exceptions. | | | |
| **Precondition** | | | |
| This function has no preconditions. | | | |
| **Postcondition** | | | |
| This function has no postconditions. | | | |
| **Detailed Design Requirement** | | | |
| DSG\_First\_Example\_Module\_another\_service\_c\_template | | | |
| **Architecture Requirement** | | | |
| ARCH\_TEST\_REQ | | | |
| **Input parameters** | | | |
| Name | Type | Description | Range |
| another\_variable\_example | uint8 | This is a description for another\_variable\_example | 0..255 |
| **Output parameters** | | | |
| Name | Type | Description | Range |
| NA | NA | NA | NA |
| **Return value** | | | |
| Type | Description | | |
| NA | This function has no return. | | |
| **Dynamic aspect** | | | |
| Who(callers) | Description | | |
| Write here who calls this function. | Write here a description caller of this function. | | |
| **Static aspect** | | | |
| \* | | | |
| **Constrains** | | | |
| Write here if you have any constraints. | | | |



## Variabiles

### u8VariableExample

|  |  |  |
| --- | --- | --- |
| Type | Value |  |
| uint8 | ZERO | |
| **Description** | | |
| This variable is used to give an example descripton of a variable. | | |
| **Definition** | | |
| uint8 u8VariableExample = ZERO | | |
| **Initialization** | | |
| ZERO. | | |
| **Range** | | |
| 0..255 or anything. | | |

### u8AnotherVariableExample

|  |  |  |
| --- | --- | --- |
| Type | Value |  |
| uint8 | NA | |
| **Description** | | |
| A local variable description example that will also appear in group. | | |
| **Definition** | | |
| LOCAL uint8 u8AnotherVariableExample | | |
| **Initialization** | | |
| Not Initialised. | | |
| **Range** | | |
| A range example. | | |

### u8AnotherVariableExample2

|  |  |  |
| --- | --- | --- |
| Type | Value |  |
| uint8 | NA | |
| **Description** | | |
| A local variable description example that will also appear in group. | | |
| **Definition** | | |
| LOCAL uint8 u8AnotherVariableExample2 | | |
| **Initialization** | | |
| Not Initialised. | | |
| **Range** | | |
| A range example. | | |

### u8AnotherVariableExample3

|  |  |  |
| --- | --- | --- |
| Type | Value |  |
| uint8 | NA | |
| **Description** | | |
| A local variable description example that will also appear in group. | | |
| **Definition** | | |
| LOCAL uint8 u8AnotherVariableExample3 | | |
| **Initialization** | | |
| Not Initialised. | | |
| **Range** | | |
| OK, NOK. | | |

## Macros

### DATATYPE\_MACRO\_DEFINED\_FROM\_C\_FILE

|  |  |
| --- | --- |
| Name | Value |
| DATATYPE\_MACRO\_DEFINED\_FROM\_C\_FILE | ((uint8) 0x10) |
| **Definition** | |
| #define DATATYPE\_MACRO\_DEFINED\_FROM\_C\_FILE ((uint8) 0x10) | |
| **Description** | |
| Defined macro from C file. | |

### DATATYPE\_MACRO\_DEFINED\_FROM\_H\_FILE

|  |  |
| --- | --- |
| Name | Value |
| DATATYPE\_MACRO\_DEFINED\_FROM\_H\_FILE | ((uint8) 0x01) |
| **Definition** | |
| #define DATATYPE\_MACRO\_DEFINED\_FROM\_H\_FILE ((uint8) 0x01) | |
| **Description** | |
| Defined macro from H file. | |

### DATATYPE\_ANOTHER\_MACRO\_DEFINED\_FROM\_C\_FILE

|  |  |
| --- | --- |
| Name | Value |
| DATATYPE\_ANOTHER\_MACRO\_DEFINED\_FROM\_C\_FILE | ((uint8) 0x01) |
| **Definition** | |
| #define DATATYPE\_ANOTHER\_MACRO\_DEFINED\_FROM\_C\_FILE ((uint8) 0x01) | |
| **Description** | |
| Defined macro from C file that will appear in GROUP. | |

## Structures

### First\_Example\_Module\_Struct\_Define

|  |  |
| --- | --- |
| Definition | |
| First\_Example\_Module\_Struct\_Define | |
| **Description** | |
| This is a Struct description. | |
| **Fields** | |
| Name | Description |
| uint8 SomeMemberOfStructure | Definition of a member of structure. |

### First\_Example\_Module\_Union\_Define

|  |  |
| --- | --- |
| Definition | |
| First\_Example\_Module\_Union\_Define | |
| **Description** | |
| This is a union description. | |
| **Fields** | |
| Name | Description |
| uint8 FirstMemberOfUnion | Definition of a first member of union. |
| uint8 SecondtMemberOfUnion | Definition of a second member of union. |

# EEPROM

# Configuration

# Compilation Options