

LOW LEVEL DESIGN

<Name of the Project>

Project ID:

Version n.n

Date: dd-mmm-yy

Confidentiality:

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# Introduction

## Purpose

<Describe the purpose of the Low Level Design here as applicable to this project>

Example:

*The purpose of this document is to provide a Low Level Design for of the <name of the product/system>, using the <name of the selected solution architecture>. The LLD is intended to expand on the HLD and define the individual components and their details. The LLD shall be the input for the scripting of the source codes for the product to function.*

## Scope

<Describe the scope of the LLD, listing the coverage of the LLD>

Example:

*The scope of this LLD includes:*

* *Identifying the detailed components that will go into each module defined in the HLD of the <name of the product/system>*
* *Identifying re-usable components, if any.*
* *Defining the interfaces that are essential for the module to perform.*
* *Defining the sequence of integrating the components to build the modules*
* *Identifying the scenarios for Unit testing for the components.*
* *Details of the UI design*

## References

<Provide references to all the input work products, standards etc., which are essential for the preparation of the LLD.>

Example:

*The work products, which are used for developing the LLD, are:*

* *High Level Design <name of the product/system>*
* *System Requirement Specifications (SRS)*
* *Functional requirement Document (FRD)*
* *Any other input used for preparing the LLD for this project*
* Any customer-supplied components that are used.

## Standards

<Identify the design standards, if any, that is used for the LLD>

Example:

* Coding standards

## Stakeholders

<List the names / roles of the personnel who need to use the HLD or who need to provide input for the HLD >

Example:

*The stakeholders for this HLD include:*

* *Project Manager (PM)*
* *Subject Matter Expert (SME)*
* *Customer*
* *Quality Assurance Executive*
* *Project Team*
* *Configuration Controller*
* *SEPG*
* *Purchase*

## Abbreviation / Definitions

|  |  |  |
| --- | --- | --- |
| **S No** | **Abbreviations** | **Definitions** |
| 1 | LLD | Low Level Design |
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# Overview

<In this section, describe in brief, the HLD that is, and how it is represented.

Provide a summary of the Coding language, design approach, design issues, tools and external libraries that are considered.

Provide a diagram, if applicable>

# Goals and Constraints

<This section describes the software requirements and objectives that have some significant impact on the LLD. Provide a diagram, if applicable >

Example:

*The key design goals for this LLD are:*

* *Usability*
* *Stability*
* *Platform independence*
* *Performance*
* *Maintainability*
* *Scalability,*
* *Reliability,*
* *Compatibility*
* *Etc.,*

# Low Level Design

<The LLD should address all or many of the following areas. These are only general guidelines. Further, specific product or project may call for additional details in the LLD. Hence what is given below is only a sample approach. Each product may have details specific to the product/system>

## Comprehensibility

<Present the design concepts in a simple, unambiguous language, ensuring ease of understanding for the users, who are essentially the coders and testers. Don’t leave anything to the imagination of the coders/testers>

Example:

*Poor Cohesion - The Control Module detects incoming messages and passes them on to the appropriate message server, runs any time initiated tasks due, checks for failed communications links and attempts to resume communications.*

*Good Cohesion - The Control Module runs tasks a predefined times of the day.*

## Coupling

<Describe the various modules, their functions and their interaction. Provide a diagram as applicable. Also list the bought-out software (COTS), if any, that are needed. Provide specifications, versions of hardware to be procured >

## Modifiability

<Provide the purpose the various modules satisfy in the design>

• Security

• Exception Handling

• Session Management

• Package structure

• Any other details

## Extendibility

<Identify the bought-out hardware components (COTS), if any, that are selected for the product/system to function. Provide specifications, versions of software to be procured >.

## Reusable components

<Identify the reusable components that are to be used from the Reusable Components Library, maintained by the SEPG>

## COTS components

<If there are any components to be procured commercially, identify them with detailed specs. This may include any customer-supplied components>

## Error Handling

<Describe the error handling mechanism in detail>

## Database

<Include the Database design, showing the structure, details of the database. If required, this may be a separate document; and then provide a link to the same.

The database attributes mapping with Low-level design modules/entity.

Concurrency levels are identified

Isolation levels are identified

Avoiding repeating same program step in multiple modules, instead modularize them.

## Interfacing

<The LLD has to address the interface requirements as required by the HLD modules. Give details of various modules and hardware with which the components will interact. Give details on how, the interfacing will happen and also the constraints.>

## Integration

<Integrating various components/COTs to build the modules is essential component of the LLD process. >

### Integration Preparation

<Describe the preparations that are to be done before the integration activities are initiated>

### Integration Sequence

<Describe the sequence in which the integration of various modules should be done in order to build the module before integration testing>

# Annexure

<Provide list of any essential items / formats / guidelines or tools that were used or required to understand this LLD

Also include the Peer Review report findings which validate the LLD

Provide link to the relevant coding standards>