



# <Project Name>

## Software Design Description

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# 1 Introduction

## 1.1 Purpose

*This subsection should*

- a) Define the purpose of the SDD
- b) Specify the intended audience for the SDD

## 1.2 Scope

*This subsection should*

- a) Identify the software product(s) to be produced by name (e.g. Call Recording, Report generator etc.)
- b) Explain what the S/W products **will and**, if necessary, **will not do**
- c) Describe the application of the S/W being specified including relevant benefits, objectives and goals
- d) Be consistent with similar statements in high-level specifications (e.g. User Needs, SRS etc.), if they exist

## 1.3 Product / System Overview

*An overview or summary of the functions that the software will perform. A block diagram showing the different functions/components and their relationships may be placed (copy of what is documented in SRS).*

## 1.4 User Characteristics

*This subsection of the SDD should describe those general characteristics of the intended users of the product/system including educational level, experience, and technical expertise etc. that will affect the specific requirements & design. It should not be used to state specific requirements, but rather should provide the reasons why & how it affects certain specific requirements and its design.*

## 1.5 Definitions, Acronyms & Abbreviations

*This subsection should provide the definitions of all terms, acronyms, and abbreviations required to properly interpret the SRS. This information may be provided by reference to one or more appendixes in the SRS or by reference to other documents*

## 1.6 Design and Implementation Constraints

*This subsection of the SDD should provide a general description of any other items that will limit the developer's options for designing the system. These include:*

- a) Regulatory policies;*
- b) Hardware limitations (e.g., signal timing requirements);*
- c) Interfaces to other applications;*
- d) Parallel operation;*
- e) Audit functions;*
- f) Control functions;*
- g) Higher-order language requirements;*
- h) Signal handshake protocols (e.g., XON-XOFF, ACK-NACK);*
- i) Reliability requirements;*
- j) Criticality of the application;*
- k) Safety and security considerations.*

## 1.7 Assumptions and Dependencies

*List any assumed factors (as opposed to known facts) that could affect the requirements or design specified in this document. These could include third-party or commercial components that you plan to use, issues around the development or operating environment, or constraints. The project could be affected if these assumptions are incorrect, are not shared, or change. Also identify any dependencies the project has on external factors, such as software components that you intend to reuse from another project or external vendors.*

## 1.8 References

*This subsection should*

- a) Provide a complete list of all documents referenced elsewhere in the SDD*
- b) Identify each document by title, report number (if applicable), and publishing organization*
- c) Specify the sources from which the reference can be obtained. This information may be provided by reference to an appendix or to another document*

## 2 High Level Design (System Architecture)

*Provide a high level architecture diagram showing different components and their interactions and then give a description. UML component and deployment diagram can be included here to show various components and their interconnection and deployment environment of each component.*

## 3 Low Level Design (Detail Design)

### 3.1 Analysis Model

*Provide analysis model elements like sequence diagrams and collaboration diagrams showing various analysis objects, messages passed between these objects and their collaboration for realizing each use case. Separate sub sections can be added for each use case.*

### 3.2 Design Model

*Provide design model elements like class diagram and state transition diagrams showing the structure of various classes and their collaboration including attributes and methods of all classes. State transition diagrams could be given for main objects in the system showing the state transitions of these objects on executing various use cases.*

*It is recommended to provide pseudo code for specifying the program flow and logic of at least complex and important methods in each class.*

## 4 Database Design

### 4.1 ER Model

*Identify various data entities and their relationships and develop a data model using Entity Relationship modelling.*

### 4.2 Database Object Definitions

*Give database table definitions including primary key, foreign keys, unique keys, indexes, list of stored procedures (if any) etc.*

## 5 Appendices

*Provide reference or links to the following related documents: (a) SRS (b) Requirement Traceability Matrix.*