1. **Introduction**

This section provides and overview of the entire requirement document. This document describes all data, functional and behavioral requirements for software.

* 1. Goals and Objectives

- Overall goals and software objectives are described.

* 1. Statement of Scope

- A description of the software is presented. Major inputs, processing functionality, and outputs are described without regard to implementation.

* 1. Software Context

- The software is placed in a business or product line context. Strategic issues relevant to context are discussed. The intent for the read is to understand the ‘big picture.’

* 1. Major Constraints

- Any business or product line constraints that will impact the manner in which the software is to be specified, designed, or implemented or tested are noted here.

1. **Usage Scenario**

This section provides a usage scenario for the software. It organized information collected during requirements elicitation into use-cases.

* 1. User Profiles

- The profiles of all user categories are described here.

* 1. Use-Cases

- All use-cases for the software are presented.

* 1. Special Usage Considerations

- Special requirements associated with the user of the software are presented.

1. **Data Model and Description**

This section describes information domain for the software.

* 1. Data Description

Data objects that will be managed/manipulated by the software are described in this section.

* + 1. Data Objects

- Data objects and their major attributes are described.

* + 1. Relationships

- Relationships among data objects are described using and ERD- like form. No attempt is made to provide details at this stage.

* + 1. Complete Data Model

- An ERD for the software is developed.

* + 1. Data Dictionary

- A reference to the data dictionary is provided. The dictionary is maintained in electronic form

1. **Functional Model and Descriptions**

A description of each major software function, along with data flow or class hierarchy (OO) is presented.

* 1. Description for Function n (PSPEC)

- A detailed description of each software function is presented

* + 1. Processing Narrative (PSPEC) for function n

- A processing narrative for function n is presented.

* + 1. Function n flow diagram

- A diagram showing the flow of information through the function and the transformation it undergoes is presented.

* + 1. Function n Interface Description

- A detailed description of the input and output interfaces for the function is presented.

* + 1. Function n Transforms

- A detailed description for each transform (subfunction) for function n is presented. Section 4.1.4 is repeated for each of the k transforms.

* + - 1. Transform k Description
      2. …
    1. Performance Issues

- Special performance required for the subsystem is specified.

* + 1. Design Constraints

- Any design constraints that will impact the subsystem are noted.

* 1. Software Interface Description

- The software interfaces to the outside world are described.

* + 1. External Machine Interfaces

- Interfaces to other machines (computers or devices) are described.

* + 1. External System Interfaces

- Interfaces to other systems, products, or networks are described.

* + 1. Human Interface

- An overview of any human interfaces to be designed for the software is presented

* 1. Control Flow Description

- The control flow for the system is presented with reference to Section 5.0 of this document.

1. **Behavioral Model and Description**

A description of the behavior of the software is presented.

* 1. Description for Software Behavior

- A description of the behavior of the software is presented.

* + 1. Events

- A listing of events (control, items) that will cause behavioral change within the system is presented.

* + 1. States

- A listing of states (modes of behavior) that will result as a consequence of events is presented.

* 1. State Transition Diagrams

- Depict the overall behavior of the system.

* 1. Control Specifications (CSPEC)

- Depict the manner in which control is managed by the software.

1. **Restrictions, Limitations, and Constraints**

Special issues which impact the specifications, design, or implementation of the software are noted here.

1. **Validation Criteria**

The approach to software validation is described.

* 1. Classes of Tests

- The types of tests to be conducted are specified, including as much detail as possible at this stage. Emphasis here is on black-box testing.

* 1. Expected Software Response

- The expected results from testing are specified.

* 1. Performance Bounds

- Special performance bounds are specified.

1. **Appendices**

Presents information that supplements the Requirements Specification

* 1. System Traceability Matrix

- A matrix that traces stated software requirements back to the system specifications

* 1. Product Strategies

- If the specification is developed for a product, a description of relevant product strategy is presented here.

* 1. Analysis Metrics to be Used

- A description of all analysis metrics to be used during the analysis activity is noted here.

* 1. Supplementary Information