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DATA ITEM DESCRIPTION

1. TITLE

SYSTEM DESIGN DESCRIPTION - LIGHT (SDD-L)

2. IDENTIFICATION NUMBER

PPI-007604-2
17 November 2020

3. DESCRIPTION/PURPOSE OF THE SDD-L

3.1 The System Design Description – Light (SDD-L) describes the conceptual) design of a product that is the subject of the SDD-L. The SDD-L is intended to be used for recording and explaining the design of the product, for the benefit of the designers, design reviewers, maintainers, and modifiers, as applicable.

The SDD-L may be supplemented by Interface Design Descriptions (IDDs) (see PPA-004611) for descriptions of design decisions relating to external interfaces. Alternatively, such decisions may be included in the SDD-L.

3.2 Throughout subsequent sections of this DID, the term "product" should be interpreted to mean an end-use product, subsystem, assembly, or component, as applicable to the item which is the subject of the SDD-L. The resulting document may be titled accordingly.

4. APPLICATION/INTERRELATIONSHIP

4.1 This Data Item Description (DID) contains the format and content preparation instructions for the data product generated by the performance of design of a solution to the requirements and goals applicable to a product. The solution description is at the architectural level of detail, viz the level which defines a concept of implementation, the set of product solution elements and their interfaces (external and internal to the solution), the key characteristics of each solution element, and the concept of interoperation of solution elements to satisfy solution requirements.

4.3 Alternative to the SDD-L, a System/Subsystem Design Description (SSDD) to DID PPA-003461 may be used. The SSDD describes the architectural (conceptual) design for more complex systems/products.

5. PREPARATION GUIDELINES

5.1 General Instructions

The term “document” in this DID means data and its medium, regardless of the manner in which the data are recorded.

5.2 Content Requirements

Content requirements begins on page 3. The numbers shown designate the paragraph numbers to be used in the document. Each such number is understood to have the prefix "5.2" within this DID. For example, the paragraph numbered 1.1 is understood to be paragraph 5.2.1.1 within this DID.

continued next page

6. SOURCE

5. PREPARATION GUIDELINES *continued*

5.3 Acronyms

Acronyms used in this DID shall be interpreted as follows:

CC Creative Commons
DID Data Item Description
IDD Interface Design Description
PPI Project Performance International
SDD-L System Design Description – Light
SSDD System/Subsystem Design Description

5.4 Abbreviations

Abbreviations used in this DID shall be interpreted as follows:

SI International System of Units

5.5 Foreword

This Data Item Description (DID) for a System Design Description – Light (SDD-L) is intended for small, relatively simple products.

The benefits of the use of a SDD-L in the right circumstances include:
a. a reduction in the risk arising from inconsistent understanding of the design by product designers
b. economies arising from easier reuse and adaptation of design
c. economies in design verification through more rapid understanding by design reviewers
d. improved design, as a consequence of designers having to explain the design.

5.6 SDD-L Requirements

Content requirements begin on page 3. The numbers shown designate the paragraph numbers to be used in the document.

TABLE OF CONTENTS

1. SCOPE

This section should be divided into the following paragraphs.

1.1 Identification

This paragraph should contain a full identification of the product to which the SDD-L applies, including, as applicable, identification number(s), title(s), abbreviation(s), and version number(s). Where the product to which the SDD-L applies includes variants of the product, the above information should be provided for each variant.

1.2 Background and Intended Use of the Product

This paragraph should briefly state the intended use of the product to which the SDD-L applies, relating the product to any larger product, of which the subject product is to form a part. The paragraph should describe the general nature of the product, place the SDD-L in context of the history and future of the product, and identify relevant stakeholders, especially intended user(s).

1.3 Product Overview

This paragraph should summarize the conceptual solution for the product as described in the remainder of the SDD-L.

1.4 SDD-L Document Overview

This paragraph should summarize the purpose and contents of the SDD-L and should describe any security or privacy considerations associated with its use.

2. APPLICABLE AND REFERENCED DOCUMENTS

This section should list the number, title, revision and date of each document referenced in the SDD-L. This section should also identify the source of each document not available through normal channels.

2.1 Applicable Documents

This paragraph should list each document, which is invoked in whole or in part within the SDD-L as a part of the conceptual solution description.

2.2 Other Referenced Documents

This paragraph should list each document which is referenced in the SDD-L but which does not comprise a part of the conceptual solution description.

3. DEFINITIONS, ACRONYMS AND ABBREVIATIONS

This section should be divided into the following paragraphs.

3.1 Definitions

This paragraph should list alphabetically and define each word or term used in the SDD-L for which reliance on dictionary definitions or usage in a relevant technical or user community is not appropriate. As a guide, terms which are not likely to be in the vocabulary of the intended users of the SDD-L, terms which have multiple dictionary meanings but only a single SDD-L meaning, specialist technical terms and terms which are used with special meanings should be defined in this paragraph.

Alternatively, or additionally, this paragraph may specify by name and issue a suitable technical dictionary or other reference publication to be used in the interpretation of terms used in the SDD-L and which meets the criteria above for definition of terms.

3.2 Acronyms

This section should list alphabetically each acronym used in the document, together with the acronym's expanded meaning.

3.3 Abbreviations

This section should list alphabetically each abbreviation used in the document, together with the abbreviation's expanded meaning, except that abbreviations within the International System (SI) system of units should not be listed.

4. PRODUCT-WIDE SOLUTION CONCEPTS

This section should be divided into paragraphs as needed to present product-wide conceptual solution decisions (if any), that is, conceptual solution decisions affecting the selection and specification of solution elements.

Examples of system-wide conceptual solution decisions are decisions relating to common platforms, components or interfaces within the decision envelope permitted by product requirements and as influenced by any product goals.

5. PRODUCT SOLUTION CONCEPT

The paragraph titles and numbering below, of 5.1 to 5.5, may be departed from if desired, to better suit the nature of the product, provided that the information as specified is presented in a clear and logical way.

5.1 Identification of Product Elements

This paragraph should identify the solution elements of the product.

5.2 Implementation Intentions of Product Elements

This paragraph should describe, typically in table format, the implementation intentions for each product element. Example implementation intentions are:

a. Development by company
b. Development by contractor
c. Existing – owned by company
d. Existing – to be purchased
e. Existing – fee for use
f. Minor modification to existing item.

5.3 Product Solution Overview

This paragraph should show the static relationships of the elements, especially the "is connected to" relationships, with any significant flows across connections (interfaces) shown.

If the product is essentially mechanical, the product solution overview may take the form of an exploded parts diagram, showing the parts and their spatial relationship to other parts.

5.4 Role of Each Element

This paragraph should describe for each element in alphabetical order, the role of that element in the overall solution, describing as necessary the interoperation of the element with other elements.

6. NOTES

This section should contain any general information that aids in understanding or using the SDD-L (for example, background information, evaluation of conceptual solution alternatives, rationale).

A. ANNEXES

Annexes may be used to provide information published separately for convenience in document maintenance (e.g., charts, databases). As applicable, each annex should be referenced in the main body of the document where the data would normally have been provided. Annexes may be bound or prepared digitally as separate documents for ease of use. Annexes should be lettered alphabetically (A, B, etc.).

Appendices may be used to annexes. Appendices should be numbered numerically (1, 2, etc.).