System Design Specification

Project – Evaluation Component 02- Version 1.0

2/25/2018
Department of Physical Science – Faculty of Applied Sciences

RAJARATA UNIVERSITY OF SRI LANKA

Guidelines for Preparing System Design Specification (SDS)

SDS document should satisfy the following properties.

1. SDS document should elaborate the details with respect to the design phase of the software.
2. Your design decisions should tally with the Software Requirements Specification (SRS) which you have already submitted under EC01.

The SDS should elaborate the information according to the following chapters:

1. Introduction
2. Architectural Design
3. UI Design
4. Data Management
5. Hardware Design (if available)
6. Approval

Following sections briefly explain the expected information under each chapter.

1. Introduction
Problem to be addressed
Objectives of the Project
Project Deliverables
System design approach (Process models, Patterns ex. MVC, SCRUM)
Standards to be followed
Organization of the SDS

2. Architectural Design
System architecture
Objects and communication
Processes and special algorithms
State machines
Tools, techniques, libraries, 3rd party tools and implementation environment

3. UI Design
PACT (People, Activities, Contexts, Technologies) analysis
UI Design consideration and approaches
Design tools, techniques, templates
Input Design aspects
Output Design aspects
Dialogue design aspects
Hosting/ installation environment

4. Data Management
Data requirements
Design tools, techniques
Conceptual database design

Logical database design
Schema refinement
Physical database design
Security design

5. Hardware Design (if available)
Hardware components and detailed design
State machines
Hardware component communication and interfaces

6. Research Design
Study objectives based literature review
Formalizing high-level implementation components
Data extractions, sample design, test data sets, training data sets
Non-functional aspects
Proposed validation methods and measurements

7. Approval
You have to submit your SDS upon the recommendation of your respective supervisor(s). In this endeavor, your supervisor(s) is considered as the Tech Lead of the software to be developed.

Signature of the team members:

Registration Number	Index Number	Name	Signature

Date: ………………………….

Approval of the supervisor(s)

I agree / disagree with the design aspects stipulated in this Software Design Specification

Name: ……………………………………………………..

Department/ Organization: ……………………………………….

Signature: …………………………………………………

References
Add references in accordance with IEEE style.

Important Note

Use suitable CASE tools to model the diagrams and mention the names of the used CASE tools after the reference section.

Sections of the Design Document

Formatting Guidelines

Font

The general text should be in size of 12 point and Times New Roman font.

- Chapter heading :All Capital—14 Font size, Bold, Right Justified
- Section heading :Sentence case-12 Font size, Bold
- Sub-section heading :Sentence case-12 Font size, Bold
- Body text :Sentence case - 12 Font size
- Tables and Illustrations : Font size may be varied while maintaining legibility

Pagination

Pages should be numbered consecutively throughout the SDS. Preliminary pages (i.e., abstract, acknowledgement, table of contents, list of figures, list of tables and list of abbreviations) that precede the main text should be numbered with lower case roman numerals beginning with (i). Appendices that follow the list of references should be numbered with upper case roman numerals starting with (I). Number the main text, starting with the "Chapter 1– Introduction", consecutively beginning with the Arabic number one (1). All page numbers should be placed on the bottom right edge of the page.

Tables, Figures and Illustrations

Tables are grids consisting of columns and rows that present numerical or verbal facts by categories. Figures include charts, graphs, diagrams, photographs, maps, musical examples, drawings and other images. All these types of non-textural material are collectively referred to as illustrations.

Possible tables and figures should be placed close to their first references in the text.

Tables and figures should be numbered (e.g., Table 3.4, Figure 5.6 etc) and titles should be given indicating enough information so that they can be understood without referring to the text.

Do not include table/figures that are not referred to in the text. See sample figure and table given in the following Figure 1 and Figure2.
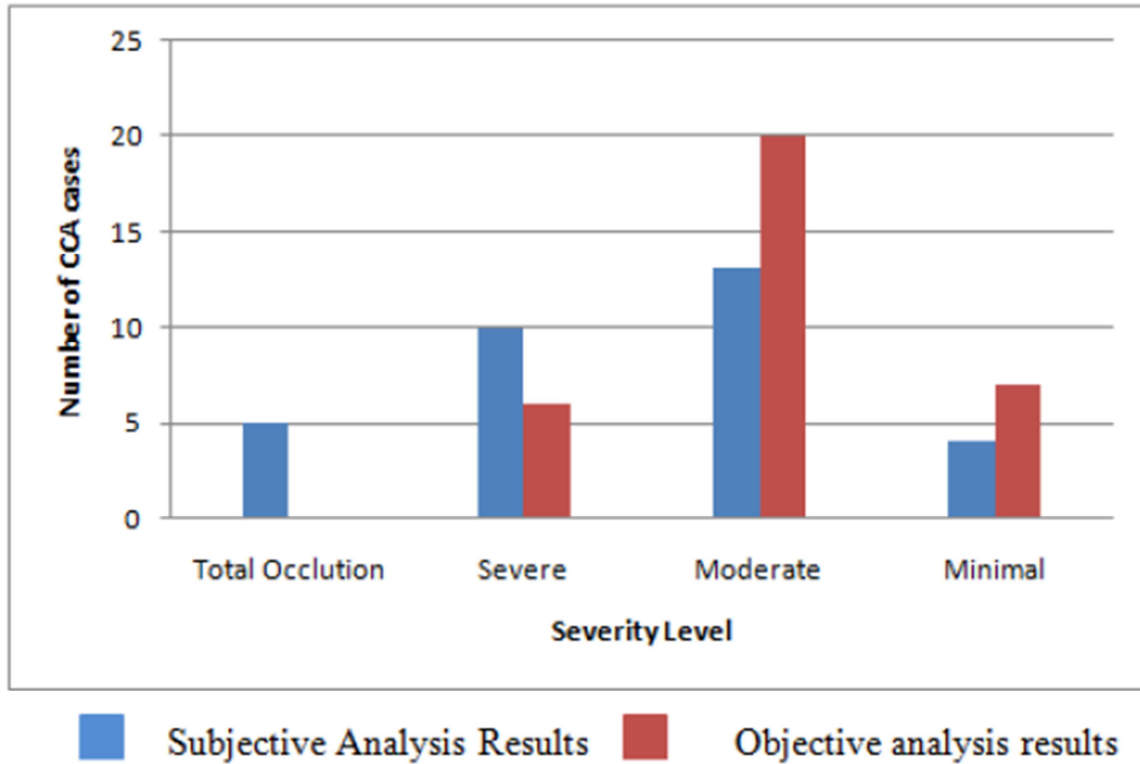

Figure 6.15: Summary of stenosis analysis results.

Figure 1: Sample figure.

Table 2.3: Results of the angiographic versus functional severity of CA stenosis obtained by Tonino et al [23].

		Angiogram Severity		
		50% to 70% Category $n=670, 47\%$	71% to 90% Category $n=513, 39\%$	91% to 99% Category $n=96, 15\%$
FFR Severity	FFR>0.80 Functionally non – significant stenosis	402 cases, 65%	104 cases, 20%	7 cases, 4%
	FFR<=0.80 Functionally significant stenosis	218 cases, 35%	409 cases, 80%	189 cases, 96%

n = number of cases

Figure 2: Sample table.

Formulae

Formulae should be printed leaving ample space around the formulae. Subscripts and superscripts should be clear. Meanings of all symbols should be given immediately after the equation in which they are first used. Equations should be numbered serially at the right hand side within parentheses.

References

All references cited in the SDS should appear in the reference list, and all references in the reference list should appear as citations. The reference list should be formatted to comply with IEEE reference style.

See the following links for details and examples for IEEE reference style:

https://www.ieee.org/documents/ieeecitationref.pdf

All web references should give the complete URL and the date of access, in addition to the standard reference details.

Appendices

Detailed information or data which may increase the usefulness of the SDS for examiners and subsequent readers, but which are too detailed for inclusion in the main body of the SDS may be included as appendices. Appendices must meet standards with respect to margins and be formatted according to the remainder of the SDS, though text may be single spaced.

Style

Simplicity and directness of writing style is recommended. The SDS should be free of spelling, grammatical and punctuation errors.

Binding

The final corrected copy of the SDS must be free from typographical, grammatical and other errors when submitted.
The supervisor approved SDS should be soft bound (tape binding) for submission.

Additional Supplements

Each member should submit an individual report detailing his/her contribution to the SDS.

Organization of the SDS

The SDS should contain the following parts in the given order.

- Cover page – See Appendix A
- Abstract
- Acknowledgement
- Table of contents
- List of figures (if any)
- List of tables (if any)
- List of abbreviations (if any)
- List of appendices (if any)
- The body of the SDS
- References
- Appendices (if any)

3 cm

System Design Specification
of
Smart Pattern Recognition Method for Human
Facial Recognition

(Font size 22)

2 cm

Team Logo

Team Name		
Index Number	Registration Number	Name with Initials

YYYY/MM/DD

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