HARAMAYA UNIVERSITY

COLLEGE OF COMPUTING AND INFORMATICS

DEPARTMENT OF SOFTWARE ENGINEERING

SOFTWARE DESIGN DOCUMENT (SDD)

OUTLINE AND DESCRIPTION

Software design document (**SDD**) is a written report of a software product's design, describing its overall architecture. Such design documents are usually written by software designers or project managers and are given to the software development team to give them an overview of what needs to be built and how.

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CHAPTER ONE

1.1

DOCUMENT SCOPE

Describe what the SDD contains and how it is organized. Suggest a sequence for reading the document, beginning with this section and proceeding through the sections that are most appropriate to each reader type.

CHAPTER ONE

1.2

DOCUMENT PURPOSE

Full description of the main objectives of this SDD document in the context of this project

CHAPTER ONE

1.3

DOCUMENT CONVENTION

Describe any standards or typographical conventions that were followed when writing this SDD, such as fonts or highlighting that have special significance. Sometimes, it is useful to divide this section to several sections, e.g., Formatting Conventions, Naming Conventions, etc.

HINT: you can refer senior project document standard.

CHAPTER ONE

1.4

DOCUMENT AUDIENCE

Describe the different types of reader that the document is intended for, such as developers, project managers, marketing staff, users, testers, and documentation writers. In your case it would probably be you (as developer), the advisor (as project manager) and examiners (as testers).

CHAPTER TWO

2.1 SYSTEM OVERVIEW

This section is a summary of critical information relevant to the project, such as objective, problem statement, scope, significance, and technologies, and tools will be used to build the system. Explain overall workflow of your system. Use **high level context diagram** that can describe overall major activities in the system.

CHAPTER TWO

2.2 DESIGN GOALS

Design goal is achieving the non-functional requirement specified in the SRS document. Write a paragraphs that tells the reader how you achieve those non-functional requirements and why?

CHAPTER TWO

2.3 SUBSYSTEM DECOMPOSITION

A system that is part of a large system that can be execute independently of other subsystems. It is a collection of classes, associations, operations, events and constraints that are closely interrelated with each other. Decompose/divide your large system in to many subsystems. Define each subsystem and their relationship. Illustrate the subsystem relationship using **package diagram.**

CHAPTER TWO

2.4 4+1 ARCHITECTURE VIEW MODEL

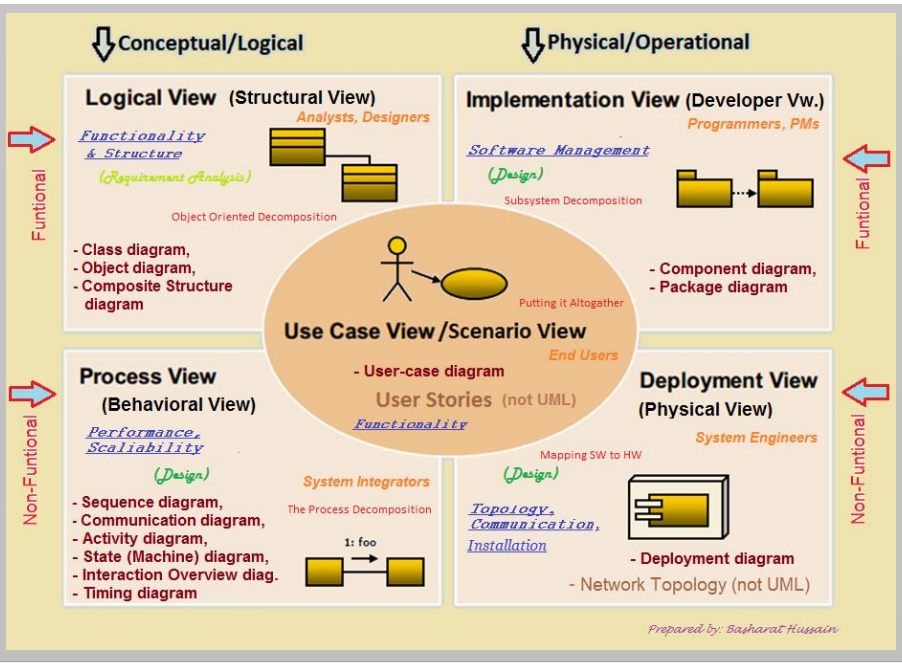
4+1 is a view model used for **describing the architecture of software-intensive systems, based on the use of multiple, concurrent views.** The views are used to describe the system from the viewpoint of different stakeholders, such as end-users, developers, system engineers, and project managers.

2.4.1. **Logical View:** The logical (Structural) view is concerned with the system's functionality as it pertains to end-users. Class diagrams and state diagrams are examples of UML diagrams that are used to depict the logical view.

2.4.2. **Process View:** The process (behavioral) view focuses on the system's run-time behavior and deals with the system's dynamic elements. It explains the system processes and how they communicate. The sequence diagram and activity diagram are all UML diagrams that can be used to describe a process view.

2.4.3. **Development View:** The development (Implementation) view depicts a system from the standpoint of a programmer and is concerned with software administration. It describes system components using the UML Component diagram.

2.4.4. **Physical View:** The physical (deployment) view portrays the system from the perspective of a system engineer. The physical layer, it is concerned with the topology of software components as well as the physical connections between these components. The deployment diagram is one of the UML diagrams used to depict the physical perspective.



CHAPTER THREE

3.1

LOGICAL DATA MODEL

Provide logical data model of your system that has been converted from conceptual data model (ER-Diagram). Logical data model should clearly show number of required tables, number of columns in each tables and datatype of each columns. It is a process of expressing entities and relationships in-terms of **appropriate format** (table in Relational database) that will be easy to design physical database.

CHAPTER THREE

3.2

PHYSICAL DATA MANGEMENT

Provide the actual database or other data management approach that used to store data. Structure of tables in the database that are created using DBMS or other data management approach.

Major Data Management Approach

- *Database*
- *File System*

CHAPTER THREE

3.3

DATA DICTIONARY

- Provide your database and table descriptions.
  - Attributes, data type and memory sizes in tabular form.
- Describe the structure of your data management approach (*if you use approach other than database*).

CHAPTER FOUR

4.1 OVERVIEW

Provide an overview about the contents in the chapter. Explain the purpose of including this chapter. Describe the functionality of the system from the user's perspective. Explain how the user will be able to use your system to complete all the expected features and the feedback information that will be displayed for the user.

CHAPTER FOUR

4.2 SCREEN IMAGE

Display screenshots of major features showing the interface from the user's perspective. These can be hand drawn or you can use an automated drawing tool. Just make them as accurate as possible.

CHAPTER FOUR

4.3 SCREEN IMAGE AND DESCRIPTION

A discussion of screen objects and actions associated with those objects. Use tabular form to explain screen Image and their description.

CHAPTER FIVE

5.1

REQUIREMENT MATRIX

Use a tabular format to show which system components satisfy each of the functional requirements from the SRS.

#	User Requirement	Component
1	UR01	C1
2	UR02	C2

REFERENCES

List referenced resources to prepare this document. Follow standards of listing reference in a document.

APPENDIX

This section is optional. Used to provide additional information (supporting details) that you need to explain more.

FOLLOWING GUIDELINE IS MANDATORY

HOWEVER, YOU WELCOME IF YOU A HAVE SUGGESTION TO BE ADDED IN SDD OUTLINE