

CSE 3421

Documentation

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Why This Lesson?



It is essential for ensuring usability and maintainability of a software

What is software documentation?

Software documentation is written text or illustration that either explains how the software operates or how to use it, and may mean different things to people in different roles.

Types of software documentation

- ▶ Requirements Specification
- ▶ Architecture/Design
- ▶ Technical
- ▶ End user
- ▶ Marketing

Requirement Specifications

Types of requirement specification

- ▶ Business Requirement Specification (BRS)
- ▶ Functional Requirement Specification (FRS)
- ▶ Software/ System Requirement Specification (SRS)

Business Requirement Specification

- ▶ BRS is a formal document, which specifies the needs given by the customer.
- ▶ It is generally developed by Business analysts based on other stakeholders specifications.
- ▶ It is usually created at the very beginning of the product's life cycle and describes the core product goals client is willing to achieve with certain software.
- ▶ It is sort of a high level document where all the client's requirements complete in all the details are together and accessible.

Functional Requirement Specification

- ▶ It is the document that describes all the functions that software or product has to perform.
- ▶ it's a step-by-step sequence of all operations required to develop a product from very start to end.
- ▶ It explains the details of how certain software components will behave during user interaction.
- ▶ it is considered the result of close collaboration between testers and developers.

Software Requirement Specification

- ▶ It is a document prepared by a team of system analysts that is used to describe the software.
- ▶ SRS includes **both functional and non-functional** requirements and uses cases as well.
- ▶ It is also used as a basis of agreement with the stakeholders (users/clients) on what the future product will do.
- ▶ It is a foundation for any project as it consists of a framework that will be followed by each team member.
- ▶ An SRS document helps team members from different departments stay on the same and make sure all the requirements are fulfilled.

Table of Contents for a SRS Document

1. Introduction

- 1.1 Purpose
- 1.2 Document Conventions
- 1.3 Intended Audience and Reading Suggestions
- 1.4 Project Scope
- 1.5 References

2. Overall Description

- 2.1 Product Perspective
- 2.2 Product Features
- 2.3 User Classes and Characteristics
- 2.4 Operating Environment
- 2.5 Design and Implementation Constraints
- 2.6 Assumptions and Dependencies

3. System Features

- 3.1 Functional Requirements

4. External Interface Requirements

- 4.1 User Interfaces
- 4.2 Hardware Interfaces
- 4.3 Software Interfaces
- 4.4 Communications Interfaces

5. Nonfunctional Requirements

- 5.1 Performance Requirements
- 5.2 Safety Requirements
- 5.3 Security Requirements
- 5.4 Software Quality Attributes

Architecture Documentation

This document provides a comprehensive architectural overview of the system, using a number of different architectural views to depict different aspects of the system. It may include-

- *ERD*
- *UML Diagram*
- *DFD*

Technical Documentation

Good practices

- ▶ Keep it simple and concise. Follow the DRY (Don't Repeat Yourself) principle.
- ▶ Keep it up to date at all times.
- ▶ Combine automated documentation tools (Doxygen, NDoc, Visual Expert, Javadoc etc) where possible

User-end Documentation

It refers to the documentation for a product or service provided to the end users. The user documentation is designed to assist end users to use the product or service. It may include-

- *Snapshots*
- *Diagrams*
- *Tutorial*
- *Steps*
- *Do's and don'ts*

Marketing Documentation

It refers to the promotional materials that excite potential customers to avail the product. It requires-

- *Exploit human psychology*
- *Study current trends*
- *Clear description of the product's features*
- *Logical comparison with the alternatives.*



Thank You