

082-283 - WK 13 MARCH

## Instructional manual System usage

- 3) User Reference Manual
  - 9 List of services
  - 10 Error messages and Recovery
  - 10 Installation information -
  - Maintenance Manual

11 Different standards for Documentation  
 12 This software documentation standard is used in the organization for uniform practices for documentation preparation, interpretation, change and revision to ensure.

Documentation as per various standards in the contractual agreement between the software vendor and the customer.

Documentation comes in many forms eg specifications, reports, files, descriptions, plans, source code listings, change request etc. and can be in electronic or paper form.

Components of Software User documentation as described in IEEE 1063: Software User Documentation:

### Components of Software User documentation

- 1) Identification data (eg, Title Page)

- 2) Table of Contents
- 3) List of Illustrations
- 4) Introduction
- 5) Information for use of the documentation such as description of software etc.
- 6) Concept of Operations
  - Procedures
- 7) Information on software commands
- 8) Error messages and problem resolution
- 9) Glossary (to make the reader acquainted with unfamiliar terms)
- 10) Related information sources
- 11) Navigational features
- 12) Index
- 13) Search Capability (for electronic document)

During planning phase documents to be produced during the process of software development are identified.

- Name of the document
- Purpose
- Target audience
- Process to develop, review, produce, design and maintain.

The following form part of activities related to documentation of development phase

- All documents to be designed in accordance with applicable document standards for proper formats, content description, page no, figure/table.

- Source and accuracy of input data for document should be confirmed.
- Use of tools for automated document generation.
- The document prepared should be of proper format. Technical content and style should be in accordance to documentation standards.

<sup>11</sup> Master copy of the document is to be retained for future reference.

<sup>12</sup> Maintenance - As the software changes, the relevant documents are required to be modified. Documents must reflect all such changes accordingly.

## Documentation and Quality of Software

• Inaccurate, incomplete, out of date or missing documentation is a major contributor to poor software quality.

A maturity level and documentation process profile is generated from the responses to an assessment instrument.

One basic goal of software engineering is to produce the best possible working software along with the best possible supporting documentation. Empirical data show that software documentation (products and processes) are key components of software quality.

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Documentation developed during higher maturity levels produces higher quality software.

### Good Practices for Documentation -

101) Documentation is the design document. The time to document is before actually implementing any design.

2) Good documentation projects the quality of software. Good documentation on the other hand conveys a message of intelligence and professionalism.

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# Acceptance and Beta Testing :-

During this test real data is used for testing by the development team (acceptance testing (alpha testing)) or the customer (beta testing). The results of such testing will be reported back and handled by developers.

<sup>11</sup> User manual :- This document is complete at the end of software development process.

## Different Types of User Documentation :-

- 1 • Introductory manual: How to get started with the system?
- 2 • Functional description: Describes functionality of the system.
- 3 • Reference manual: Details about the system facility.
- 4 • System administrator guide: How to operate and maintain the system?
- 5 • Installation document: How to install the system?

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## Introduction

- Purpose
- Scope of project
- Glossary
- References
- Overview of Document

approach, resources and schedule of intended testing activities.

Schedules & Resources - An overview of the testing schedule in phases along with resources required for testing is specified.

Recording of Tests - It should very specifically name the item to be tested, the person who did the testing, reference of the test process/data and the results expected by the test, the date tested. A database could be used to keep track of testing.

Reporting test results - The summary of what has been tested successfully and the errors that still exist which are to be rectified is specified.

3) Verification Testing -

a) Unit Testing

b) Integrated Testing

1) Validation Testing -

System Testing - At this level requirements are validated as described in the SRS

- 1) 829-1998 IEEE Standard for Software Test Documentation
- 2) 1008-1997 (R1993) IEEE Standard for Software Unit Testing
- 3) 1012-1998 IEEE Standard for Software Verification and Validation

### The typical content of Test Design Document:

1) Introduction - Purpose: The purpose of this document and its intended audience are clearly stated

2) Scope: Specify what is not covered in the scope of the testing such as, supporting or not third party software.

Glossary: It gives definition of the technical terms used in this document.

References: They usually refer the System Requirement specification and the System Design Specification documents.

Overview of Document: Describe the contents and organization of the document.

2) Test plan: A test plan is a document that describes the scope,

Pseudocode - Pseudocode is a kind of structured English for describing algorithms in an easily readable and modular form. Pseudocode must use a restricted subset of English in such a way that it resembled a good high level programming language.

```
IF Hours worked > Max work hour THEN
    Display overtime message
```

```
ELSE
    Display regular time message
```

```
ENDIF
```

Exp of Pseudocode

Contents of a typical System Design Specification document Content

- 1) Introduction
- 2) System architecture description
- 3) Detailed description of components
- 4) Appendices

Test Design Document - During system development, this document provides the information needed for adequate testing. This document is generally supplemented by documents like schedules, assignments and results. This document provides valuable input for the maintenance phase. The standard practices on Software test and documentation