

Code of practice for

Documentation of computer-based systems

UDC 681.3.02:002

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The preparation of this British Standard was entrusted by the Office and Information Standards Committee (OIS/-) to Technical Committee OIS/15 upon which the following bodies were represented:

- Association of Computer Units in Colleges of Higher Education (ACUCHE)
- British Computer Society Ltd.
- British Telecommunications
- Business Equipment Trade Association
- Computing Services Association
- Department of Trade and Industry (National Physical Laboratory)
- Electricity Supply Industry in England and Wales
- Electronic Engineering Association
- HM Treasury (Central Computer and Telecommunications Agency)
- Institute of Data Processing Management
- Local Authorities Management Services and Computer Committee
- Ministry of Defence
- National Computing Centre Ltd.

This British Standard, having been prepared under the direction of the Office and Information Standards Committee, was published under the authority of the Board of BSI and comes into effect on 30 November 1984

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First published January 1978
First revision November 1984

The following BSI references relate to the work on this standard:
Committee reference OIS/15
Draft for comment 83/60835 DC

ISBN 0 580 13963 8

Amendments issued since publication

Amd. No.	Date of issue	Comments

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Foreword

This British Standard has been revised under the direction of the Office and Information Standards Committee and supersedes BS 5515:1978, which is withdrawn.

This revision differs from the 1978 edition in that the scope has been broadened to cover all types of computer-based system and the project life cycle (see **2.1**) has been extended to cover all stages, not just the development stage.

This British Standard is split into two sections for convenience, as follows:

- *Section 1: General;*
- *Section 2: Documentation produced at each stage of the project life cycle.*

Wherever a term is given in italics, it refers to the actual item of documentation.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 14, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Section 1. General

1 Scope

This British Standard provides guidance on the documentation of computer-based systems and is structured so that it relates to each of the project life cycle stages. It suggests in section 2 the type of information to be recorded at each stage and further detail is given in checklists in Appendix A. The checklists should be used to ensure that, if information is omitted from the documentation of a system, there has been a positive decision to do so and not an oversight.

The aim of the standard is to establish a basic framework of documentation for a computer-based system. Within this framework, organizations are encouraged to develop company documentation standards that will enable the information required to be produced to the appropriate level of detail.

Whether a system is large or small, complex or simple is relatively unimportant because some degree of documentation will always be required if the system is to be developed, installed and maintained successfully.

This standard does not cover the requirements for documenting the hardware design aspects of the system.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this British Standard the following definitions apply.

2.1 project life cycle

all of the activities associated with the stages of a project from the initial preparation of the *user requirement* to the final disposal of a computer-based system

2.2 user requirement stage

the stage of the project life cycle at which the user's requirements are recorded in sufficiently precise terms to enable alternative designs to be developed

2.3 feasibility study stage

the stage of the project life cycle at which there is an investigation into the economic justification of alternative solutions for satisfying the user's requirements, taking into account human and environmental resources

2.4 user specification stage

the stage of the project life cycle at which a detailed *user specification* is developed showing what the functional requirements are, stating what resources will be required, and providing a basis for specifying a system

2.5 system specification stage

the stage of the project life cycle at which the *user specification* requirements are incorporated into a *system specification* from which the system can be developed

2.6 system development stage

the stage of the project life cycle at which the programming and testing of the system to the *system specification* is undertaken, together with the completion of the *system manual* and the start of the implementation stage

2.7 acceptance stage

the stage of the project life cycle which consists of a series of system tests designed to demonstrate to the user that all the requirements in the *user requirement* have been satisfied

2.8 handover stage

the stage of the project life cycle which is the physical transition from the system development stage to the in-service support stage

2.9 in-service support stage

the stage of the project life cycle which covers all the activities throughout the operational life of the system necessary to sustain the system to an agreed material state and at a specified level of performance

2.10 disposal stage

the final stage of the project life cycle at which it is ensured that all appropriate action is taken when a system is no longer required

3 Purpose of producing documentation

Documentation of computer-based systems is required in order to:

- a) provide sufficient accurate information on which to make decisions on development and modification activities, and to help maintain project control and quality control;

- b) provide a basis for communication between project staff, users, and operations staff during development and modification activities;
- c) provide control in the operation of the system and help in the diagnosis and correction of errors.

4 Categories of information

There are two basic categories of information that are provided by documentation, i.e. administrative and technical.

The documentation of a computer-based system should be structured so that administrative and technical categories of information are grouped together when they both appear in one document. Information that is relevant to more than one document should only be contained in one document and cross-referenced to other documents as necessary.

5 Principles of documentation

When completed, documentation will consist of many documents created during the project life cycle. It is not possible to lay down specific rules for the sequence in which these documents should be produced. Organizations are advised to develop their own company standards within the framework of this standard in order that the documentation produced is consistent and avoids duplication.

It is important that all system design, data file and program specifications are completed before work starts on the coding and testing of programs. This provides a vital check point before work starts on the most expensive stage of the project.

It is also important to present to individuals only those parts of the documentation that concern them and to indicate the context of those parts within the overall documentation.

Careful attention should be paid to the layout of all documents. It is vital for ease of reference and control of amendments that a clear and unambiguous method of page referencing be adopted for maintained documents. Experience shows that there is positive advantage in introducing a documentation system that ensures that:

- a) each page has a unique identification with regard to the system, section, page within section, issue number and date of origination;
- b) each section is identified as complete;
- c) insertions and deletions are clearly identified and recorded.

If the system is developed on a host computer, consideration should be given to the use of automatic documentation techniques. Use of these techniques and the self-prompting and automatic recording features inherent in them will result in a set of up-to-date documentation.

If hard copy is required, it is recommended that a loose-leaf format or, alternatively, microform should be adopted. At program level, a printout of coding will normally be satisfactory providing it is durable and legible.

One copy of the documentation should be designated as the master copy, which will be updated by authorized personnel and from which all abstracts will be distributed.

Procedures to be followed for amendments to the system documentation should be agreed and clearly defined. It is essential that all project staff be conversant with and follow the correct procedures.

It is important to record the distribution of all maintained copies of the system documentation and their location together with the contents of all maintained subsets so that they can be updated in alignment with the master copy.

The checklists should be used to ensure that, if information is omitted from the documentation of a system, there has been a positive decision to do so and not an oversight.

6 Project life cycle

This clause identifies the various stages of the project life cycle of a computer-based system and the documentation requirements of each stage. The names given to each stage may differ from one user to another. The definitions and objectives, however, should make each stage readily recognizable.

In some situations it may be desirable to combine two or more of the stages and treat them as one. The emphasis given to one stage relative to another may vary considerably depending on the nature of the system and its environment.

Whether a system is large or small, complex or simple, it is essential that some consideration be given to each stage of the project life cycle if the system is to be developed, installed and maintained successfully.

The stages of the project life cycle are as given in Table 1. There is a chronological sequence to these stages although there may be an iterative process as a design evolves or as a result of phased development.