

Linguistic peculiarities of technical documents

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Creating a new software begins with the development of a special document called Software Requirements Specification (SRS). It is a complete description of the behavior of a system to be developed and may include a set of use cases that describe interactions the users will have with the software. In addition it also contains non-functional requirements. Non-functional requirements impose constraints on the design or implementation (such as performance engineering requirements, quality standards, or design constraints). A composition of a SRS consists of: SRS Title Page, List of Figures, Content, Main Body, Notes, Appendixes, Index (IEEE Std 830–1998). Main body consists of mainly 3parts: Introduction (Purpose, Scope, Definitions, Acronyms, Abbreviations, References), Overview), Overall Description (Product Perspective, Product Functions, User Characteristics, Constraints, Assumptions and Dependencies), Specific Requirements (Interface Requirements, Functional Requirements, Non-Functional Requirements, Design Constraints, Database Requirements) [1]. There was made a linguistic analysis of 120 authentic texts of SRS which showed that sentences coherence of specification is based on special use of lexical, grammatical and stylistic means.

An important role in the formation of lexical coherence perform conjunctions (*since, with, or, but, and, although, because*), pronouns (*that, which, who*), cliché's clauses (*the purpose of this document is to, the expected audience of this document is, it will also serve as*). They help to produce new information consistently.

Terminology facilitates a lexical coherence of the text, sequence and logical presentation of the information. As it is noted by Sudovtsev V. A. the term for the specialist is like a concept [3]. Terms in SRS create the scientific-technical style:

identification, spec writer, authentication, portability, output, input, database, use case and so on. The repetition of the terms in a SRS allows to create a single semantic content.

Means of informativity are the words of three lexical layers: stylistically-neutral words such as: *provides, explains, defines, reviews, describes*; words of general nature: *assurance description, requirement, function, diagram, usability* and highly specialized vocabulary – professional terms and their derivatives related to a certain specialty: *register bits, handler, memory controller, fully dressed use case, polymorphis, incapsulation, Domain Name Service, IP address, Rivest Cipher.*

An important role is played by different methods of text presentation: division into sections and subsections, certain pictograms, different selection of prints, ways of placing text fragments. It facilitates the process of content perception and provides text with visual conciseness. These include reductions, abbreviations, acronyms (IEEE – Institute of Electrical and Electronics Engineer, DB – Data Base), symbols, determinations.

The use of a number of grammatical means contributes into the text connectivity: the Present Simple and the Future Simple in active and passive voice, the Infinitive, the Participle, the Gerund. Such a phenomenon of modality as "hedging" is typical for the SRS [2], that is some author's distance from his expression using modal verbs. This gives the text the character of formality. The modality of the SRS is implemented by the frequent use of modal verbs *must, mustn't, shall, shouldn't, can, can't, have to*:

Transmitters should have positional beacons for them sent on correct position, and auxiliary elements like receivers could have their positions either real, or actually placed near the primary Tx location.

Syntax of the SRS also affects the connectivity of the text and should be taken into account while developing the methods of teaching ESP writing. The sentences of the SRS have an impersonal style. The position of the subject is occupied by "it" or "there": *There is no special protection built into this system.*

In the description of the requirements for the program such pronouns as *who*, *which*, *that* are met. It helps to combine the sentences:

This document is intended for any individual user, developer, tester, project manager or documentation writer that needs to understand the basic system architecture and its specifications.

As for the syntactic features of scientific texts, the sentences are long and the indirect speech is of the predominant use. It is an attempt to convey in one sentence more information. Sometimes one sentence covers all conditions of the agreement. In simple sentences usually a) subject goes before the predicate, followed by the subordinate clause; b) definition goes before the term; c) circumstance is closer to the signified word; d) introductory words are at the beginning of the sentences:

The graphics and layout of the screens is shown here merely to illustrate the underlying functionality.

The complex sentences with such conjunctions as *and*, *but*, *because*, *so* help to keep consistency in the information presentation:

The developer who wants to add new requirements into the existing program, must firstly consult this document and update the requirements with appropriate manner so as to not destroy the actual meaning of them and pass the information correctly to the next phases of the development process.

The SRS fits a large amount of information in one sentence and the result is a complicated syntactic structure:

Each screen in WhatTimeIsIt.com is known by a canonical name which will always appear, in this document, with an underline, so you know we're referring to a screen by name, for example, Home Page.

The language quality characteristics of the SRS are: complete, consistent, accurate, modifiable, ranked testable, traceable, unambiguous, valid, verifiable. It should be efficient, and of high quality, so that it does not affect the entire project plan. The SRS is said to be of high quality when the developer and user easily understand the prepared document.

REFERENCES:

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