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Assistive products — Guidelines on cognitive accessibility — Daily time management

*Produits d'assistance — Lignes directrices relatives à l'accessibilité
cognitive — Gestion quotidienne*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 173, *Assistive products*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The time-dependent society of today places high demands on every citizen. How we use and manage our time is of great importance for daily life including employment and other domains of participation and well-being. There are cultural differences in how time is understood and used, and performance can vary in differing environments. Time management behaviours relate positively to perceived control of time, job satisfaction and health, and negatively to stress. Children, adolescents and adults living with various types of impairment might need support with daily time management. People with limited ability to manage time show a heightened dependence on others and greater need for support, exacerbating their inferior status and vulnerability. This introduction summarises the concepts and research that inform this document.

The evidence for the effectiveness of cognitive assistive products supporting daily time management (e.g. reminder systems for adults with acquired brain injury) is strong. Time devices can be both digital and analogue and include both mainstream products like smartphones or alarm clocks, and assistive products. Time devices can compensate for a lack of time management skills, and can increase independence and participation. It is known that assistive products are not always used as intended, and that non-use is frequently associated with a decrease of independence in everyday activities.

People with cognitive impairment who find electronic planning devices beneficial tend to use them. People with cognitive impairment and a low level of daily time management who use advanced electronic planning devices tend to be more influenced by environmental factors, such as support from professionals and services. Well-designed electronic planning devices that are matched to the individual user's needs result in greater dependency on those devices of the user. In other words, greater usability of assistive products for time management is associated with greater independence of the user. Research has also highlighted the necessity of adaptation of electronic planning devices to the individual user, regardless of whether it is a mainstream product or a specifically designed assistive product for time management. Therefore, the more that producers of time devices consider making the products easy to understand, easy to manage and motivating (i.e. usable), the more benefit for the individual user, for his/her environment and for society. It is highly recommended to actively engage people with cognitive impairments in the development and evaluation of products used in daily time management.

Although termed cognitive 'accessibility', this document will also adopt the concept of 'usability' to ensure that design principles are based on the unique experiences of users rather than on assumptions of human abilities. Usability reflects a combination of dimensions of effectiveness, efficiency and satisfaction, so it is necessarily a more individual and subjective assessment than accessibility, incorporating psychosocial factors and perceptions of how well an environment enables participation and inclusion. Within this document, usability functions as a framework for specifying design goals and evaluating their achievement.

This document specifies guidelines that are relevant to creating a daily time management support system. It focuses on identifying the critical variables in the design and construction of products (and common exceptions) that affect their usability for people with cognitive impairment. The document provides directions on how to think when manufacturing a product, when giving support and service, and when matching the product to the needs of the person and the environment regarding daily time management. This is done by presenting examples of user needs in relation to daily time management functions followed by design recommendations. The categories are:

- a) Time awareness;
- b) Orientation to time;
- c) Time management;
- d) Adapting to time demands.