

Using the Labels of Priorities, Specifications, and Affiliations when Working in Task Management Programs

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Abstract. The article analyzes the specifics of the functional programs for managing strategic, tactical and operational tasks. A technique for prefixing operational task names with tactical labels of Priorities, Specifications and Affiliations is proposed. Label abbreviations are formed in such a way as to ensure the correct prioritization when sorting tasks in alphabetical order. The quadrants of the D.Eisenhower Priorities matrix are indicated by two-letter marks: important urgently (IF - Important, Fast); important indefinitely (IS - Important, Slow); not important, but promptly (UF - Unimportant, Fast); neither important nor urgent (US – Unimportant, Slow). The labels of the Specifications matrix for the information environment (RA, RI, SA, SI) are composed of mutually exclusive properties of the availability of the Network (I - Internet and A - Autonomous) and the presence of reduced or special functionality (R - Reduced and S - Special). Labels of the transport specification (TA, TB, TC, TP) allow you to sort tasks that require moving (T – Translocation) on an airplane (A), a bus (B), a car (C) and on foot (P - Pedestrian), respectively. Three-letter marks of Affiliations (belonging to an individual or legal entity) are formed from the first letters of the name, middle name and last name or name of the laboratory, company, project. Tactical marks accelerate decision-making when forming a daily list of operational tasks.

Keywords: Task, Planning, Management, Priority, Specification, Affiliation, Label, Operational, Tactical.

1 Introduction

1.1 Planning

Planning is a type of activity related to setting goals for future actions and ensuring the fulfillment of tasks through obtaining and rational allocation of resources. The effectiveness of planning depends on the correct definition of the goal and its corresponding tasks at the initial stage of action.

The goal answers the question “What needs to be achieved?” and provides for positive dynamics, a change in the current state of a certain entity towards improve-

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ment, satisfaction of needs or requirements. In setting real goals, the hierarchical systematization of actions, the implementation of which is necessary for success, is important. Tasks answer the question “What actions can achieve the goal?”. When the number of tasks increases from tens to several hundreds, their constant redistribution is required in accordance with the modification of target priorities and the availability of resources.

1.2 The Art of Task Management

The art of task administration is the ability to distinguish ensembles of parallel operations from a complex action (for example, by the similarity of the resources used) and assign them to the appropriate performers according to their capabilities. Task management programs affect the efficiency of their administration in accordance with the adequacy of the use of functionality in relation to scale and structure. The article summarizes 25 years of experience in administrative task management through software tools.

The effectiveness of the task is determined by the results of the initiation phase [1], during which the following occurs:

1. The definition of the novelty of the problem. If the task is not new, the algorithm for its solution is found in the group of tasks of the category “Instructions and work schemes”. If the task is new, then the analysis proceeds to Stage 2.
2. Establishing the structure of the task, its main stages and their stages (if any), determining the priority and specificity of the resources used.
3. Identification of parallel processes of different tasks and organization of their synchronous execution.
4. Identification of the task in accordance with the phases, stages and stages of achieving the goal (text, pictographic, color, sound).

To manage complex tasks with sequential ensembles of parallel operations (phases), strategic planning is used. Tactical planning is the allocation of resources within the ensemble of parallel operations of different tasks. Operational planning is necessary to form the correct linear sequence of stages of each task. Organization of task identification in accordance with priorities and specific features complements operational planning with tactical functionality. Experience shows that using the excessive functionality of programs to manage strategic tasks in operational activities is counterproductive. On the other hand, the efficiency of solving operational problems can be increased by using tactical planning tools.

2 Specificity of the Management Programs Functional for Strategic, Tactical, and Operational Tasks

Information tools for strategic planning should ensure the rational reallocation of resources, determine critical stages and argue for material remuneration or punishment of employees. To visualize strategic planning from the beginning of the 20th

century, Gantt diagrams [2] are used, which are widely used in modern professional project management programs [3]. Tactical priority management of tasks with various specifications of parallel resources used is effectively carried out in associative mapping programs [1, 4–6]. The organization of operational planning in applications for working with mail, events and tasks, such as the classic Microsoft Office Outlook, was simplified to create a list of tasks with optional “Important” notes, the ability to color categories and set reminders for the execution date. Since 1995, the functionality of such programs has been repeatedly modified, but it remains unsuitable for managing hundreds of tasks and synchronizing between various user devices. In the first decade of the 21st century, attempts were made to organize the synchronization of operational tasks between classical applications of desktop computers and mobile equipment, but they were far from utilitarian due to constant malfunctions that led to duplication of tasks or blocking work with data loss [7, 8]. For this reason, in the near future, classic programs with the operational management of events and tasks, such as Microsoft Office Outlook 2010, will cease to exist [9].

The situation began to change for the better after the emergence of “cloud” services of operational data exchange between cross-platform mobile devices according to the BYOD standard [10]. Modern cross-platform operational task management applications support Office 365, Exchange, Outlook.com, Gmail, Yahoo! and other popular services. Programs like Microsoft Office Outlook have been replaced by mobile applications such as Mail and Calendar [11] and the cloud services associated with them [12]. However, replacing tasks not tied to time with calendar events has proven to be ineffective in practice: untimely task reminders teach the user to ignore them. For operational task management, an application with specific functionality was required.

3 The Optimal Functionality of Programs for Managing Operational Tasks

On April 19, 2017, Microsoft introduced the new “To-Do” service for organizing personal tasks. The basic “To-Do” functionality was inherited from the Wunderlist service acquired by Microsoft together with the development team in June 2015 [13]. By the time the Wunderlist service was transformed, it already had 13 million users. The “To-Do” service [14] adapted to the cross-platform information environment provides real-time synchronization of tasks for Windows, Android, iPhone, iPad, as well as smart watches Apple Watch and Android Wear. The traditional functional of the task (deadline, reminder time, repeat, comment) is supplemented with the option of creating stages, the names of which may contain hyperlinks. Another important feature is adding files to tasks. By the beginning of 2019, the basic version of “To-Do” contained the folders “My Day”, “Important”, “Scheduled” and “Tasks”, which could be modified or supplemented by the user.

Many tasks with different priority, ownership and deadlines are created as a result of working with a daily set of correspondence. The technical task of copying the names of the created tasks from the messages of the mail manager and the formation

of links to them requires time. In May 2019, in order to increase the efficiency of working with core derivatives of tasks in the Microsoft To-Do task management program, a function was added to automatically create tasks with hyperlinks of the "Open in Outlook" type to messages of the same name marked when working in the mail manager. Such tasks are placed in a special folder "Marked Messages" and sorted by the time of creation. The names of these tasks in Microsoft To-Do can be modified by supplementing the labels of Priorities, Specifications, and Affiliations. Reciprocal communication is established between the marked messages in Outlook and the corresponding tasks in Microsoft To-Do, which provides bi-directional synchronization of the change in the execution status or the resumption of the task with the removal or reverse setting of the message label. To reliably synchronize the status of Outlook messages and related Microsoft To-Do tasks, it is recommended that both applications be started in advance before working with the content.

4 The Problem of Polymorphic Tasks Structuring

Based on the experience of 20 years of using task scheduling functionality in Microsoft Outlook [9] and paired mobile applications [8], the practical inefficiency of quickly selecting a daily set of tasks from many folders with a hierarchical structure was proved. Many important tasks do not have a deadline and their discovery for inclusion in the action plan involves a significant consumption of time resources.

To create a set of tasks in the "My Day" folder, the Microsoft To-Do service automatically offers upcoming tasks with a short deadline or reminder, expired and recently added tasks. Practical experience shows that the effectiveness of working with tasks is reduced if their daily number exceeds ten. Another problem is the polymorphism of tasks (affiliation, priority, specifics). Distribution by folder is not an option, because the logic of the distribution of tasks is violated when they are grouped in the "My Day" folder. To optimize the management of multiple polymorphic tasks, operational planning tools should be supplemented with tactical planning elements.

5 Priority Labels for the Eisenhower Matrix

In 2017, while optimizing the tactical methods of managing project activities, we adapted the D. Eisenhower time distribution matrix for use in the TheBrain associative map [1]. The classic decision matrix, named after its creator, Dwight D. Eisenhower (34th U.S. President), consists of 4 quadrants formed by combinations of projections of paired alternative properties of degree of importance (important / not important) and urgency (urgent / not urgent).

In order to ensure cognitive comfort when integrating the Eisenhower matrix into the associative map of the project, we proposed upgrading the original names of the quadrant to the two-letter abbreviations of the Priority labels (see **Fig. 1**): important urgently (IF – Important, Fast); important indefinitely (IS – Important, Slow); not important, but promptly (UF - Unimportant, Fast); neither important nor urgent (US - Unimportant, Slow). The experiments over the course of nine months showed that

inserting priority labels in front of the task name ensures their effective automatic sorting in the “My Day” folder of the Microsoft To-Do task management service. Sorted tasks have become easier to redistribute by time slices:

- IF – 14% of the time – 4 time slices – 1 hour (emergency problems)
- IS – 66% of the time – 20 time slices – 5 hours (self-development and transfer of experience)
- UF – 20% of the time – 6 time slices – 1.5 hours (delegated routine)
- US – 0% – extra-time – 2 time slices – 0.5 hours (unproductive loads).

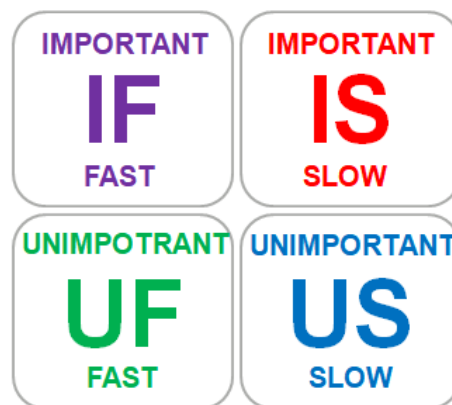


Fig. 1. Modified Eisenhower matrix with priority labels.

6 Specifications Labels

For the distribution of tasks depending on the possibility of Internet access and the availability of specific software and hardware functionality (media editors, accounting and management programs, qualified electronic signatures, cryptographic providers, etc.), we propose using the matrix of Specifications for the information environment.

On the sides of this matrix are mutually exclusive properties of Web accessibility (I – Internet access and A – autonomous work) and the presence of special functionality (R – reduced functionality and S – special functions). The intersection of the projections of pairs of mutually exclusive properties in the corresponding quadrants gives 4 variants of combinations of labels (see Fig. 2): RI — reduced access to the Network according to the functional; SI – access to the Network with special functionality; RA – autonomous work with reduced functionality; SA – autonomous work with special functionality.

To redistribute tasks in accordance with the Eisenhower decision-making matrix when the availability of the Internet and the hardware and software base changes, it is enough to supplement the tactical Priority labels at the beginning of the task name with Specifications labels.

In accordance with the characteristics of the resources required to accomplish the tasks, it is advisable to form appropriate sets of tactical labels of the Specifications. For example, the TP label allows you to group tasks that require walking (T - Translocation, P – Pedestrian), and the TC, TB, and TA labels – to associate tasks that require moving by car (C – Car), bus (B – Bus) and aircraft (A – Airplane), respectively.

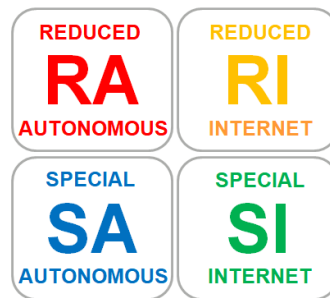


Fig. 2. Information Environment Specification Matrix

7 Affiliation Labels

If the fulfillment of tasks is associated with different individuals or legal entities and projects, it is advisable to place the three-letter abbreviation after the tactical marks of Priorities and Specifications, the Affiliation mark, formed from the first letters of the name, middle name or last name of the laboratory, company, project.

For example, tasks related personally to the author of this article are identified by the label “FOK”, administration tasks of the Laboratory for Multimedia Technologies and MASTER-MULTIMEDIA Ltd. differ by the “LMT” and “MML” marks, respectively; the tasks of managing the components of the Infocontinuum are labeled “ICM” (Infocontinuum Components Management). Experience shows that when using the standard functionality for grouping tasks through folders, the highest efficiency is achieved if their names correspond to affiliation marks. This circumstance is due to the relatively greater stability of the task affiliation property in comparison with the priority and technical specification. A change in the affiliation label may occur as a result of assigning tasks to other actors (the corresponding “Assigned” functionality appeared in the Microsoft To-Do program in the summer of 2019).

8 Task Title Optimization

The names of tasks can be formed automatically from the headers of the marked mail messages. In this case, it is enough to precede them with the corresponding labels of Priorities, Specifications and Affiliations. It is advisable to carry out the independent naming of tasks in a unified way and in such a way as to facilitate a full-text search that is sensitive to differences between uppercase and lowercase letters.

Experience has shown that for self-organization of the procedure for fulfilling the tasks of purchasing equipment, their names are recommended to start from the return date of the order (YYYYMMDD format), and then indicate the order number, supplier and the name of the purchased equipment with a bottom underscore. For example, the name of the task “UF TP FOK 20190422_N11080222_OnlineTrade_ROCK-T14-TravelCharger_Logitech-K375s-KeyBoard” means an urgent and important (UF) purchase by the author of this article (FOK) of the Travel charger ROCK-T14 and the Logitech K375s Keyboard (OnlineTrade store, number order 11080222 dated 04/22/2019) with a personal visit (TP) to the point of issue of orders. Such names are conveniently used to name the folders of the file system containing financial and other documents (manuals, photos of the delivery kit, etc.), as well as in the comments of accounting programs. As a result, all documents and transactions related to the task can be quickly found by the full-text search system by characteristic features.

9 Conclusion

The methodology for distributing operational tasks in the Microsoft To-Do program by supplementing their names with preliminary tactical labels of Priorities, Specifications and Affiliations was formed during nine months in the process of organizing the transfer of the resources of the Multimedia Technology Laboratory from the Faculty of Biology of Moscow State University to the MASTER-MULTIMEDIA Ltd (150 tasks), modernization of the hardware base of Infocontinuum [5] (50 tasks) and organization of activities of a self-employed individual (15 tasks).

Experience has shown that the addition of operational task names with tactical labels contributes to the effective achievement of goals by a variety of actors coordinating actions in both stationary and mobile conditions.

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