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GOALDIARY TIME MANAGEMENT PLATFORM

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This article discusses the development of the time management information system. The target platform audience is students of Polotsk State University. A conceptual solution based on data processing and transmission technologies is proposed using the following technologies: TypeScript, Angular, Java, Spring, PostgreSQL. It describes the architectural approaches and solutions to solve the problem.

Today, in the era of information technology, everyone has the opportunity to use the Internet to get almost any knowledge, at the same time the volume of incoming information increases significantly and the amount of free time is limited. Only a highly organized person can do everything planned. Of course, making a to-do list and proper planning increases the awareness of their implementation. However, it is not always possible to complete tasks. In such cases, it is necessary, for example, to change tactics in order not to sink into stress or look at the tasks as a whole. Therefore, organizing planning in everyone's life is always a relevant task.

The aim of the work is to create a GoalDiary time management platform for the convenient scheduling of tasks in different areas of human activity and monitoring the quality of their completion.

Each individual is different and the values differ as well, dividing life into conditional areas of activity. Based on this, one of the tasks to achieve this goal is to plan the goals and objectives (keeping a diary) of a single individual and build, let's call it, its "balance wheel", as well as to obtain a report on the productivity of its activities in the form of a diagram (by category, for a time period and the ratio of planned/done).

To solve this problem, the GoalDiary time management platform has been developed using the following technologies:

- TypeScript;
- Angular;
- Java11;
- Spring Boot, Spring Security, Spring Webflux;
- R2DBC;
- PostgreSQL;
- Flyway.

A special feature of this system is the ability to divide all tasks into three types: daily tasks, weekly tasks, and monthly tasks. Each created task must be linked to a particular category that reflects the scope of the user's life. Categories are created by the user and are represented by the following types: public and private. The choice of the category type affects the formation of the productivity report. A color indication is provided, which is defined by the user.

It is important to note that the user is offered a comprehensive rating for all categories, while other users of the system can only see statistics based on public categories. Also, each participant is provided with a number of different options for specifying contact information: email addresses, mobile phone numbers, instant messaging services used, links to profiles in social networks, etc.

As for the productivity analysis, it is presented in three blocks.

The first one is a line chart, the abscissa axis indicating the days of the specified month, and the ordinate axis indicating the number of tasks. Each user category has its line, the points of which vary according to the number of completed tasks of the specified category on the dates of the given month. Such analytics reflect productivity in a complex: not only by day, but also by the life areas of the last user. A sample of these statistics is shown in figure 1.

The second type of analysis is represented by two sectors diagrams. In both diagrams, these sectors represent categories (areas of the user's life) and reflect the number of tasks associated to them according to the filtering conditions. On the first diagram, the filtering conditions are the date the task was set – it is in the specified month. On the second diagram, this filter condition is the completion date of the task in the specified month. Visually, these charts are similar, but there are still differences since it is not always possible to complete all tasks at 100%. This type of analysis allows you to evaluate productivity by category as a whole.

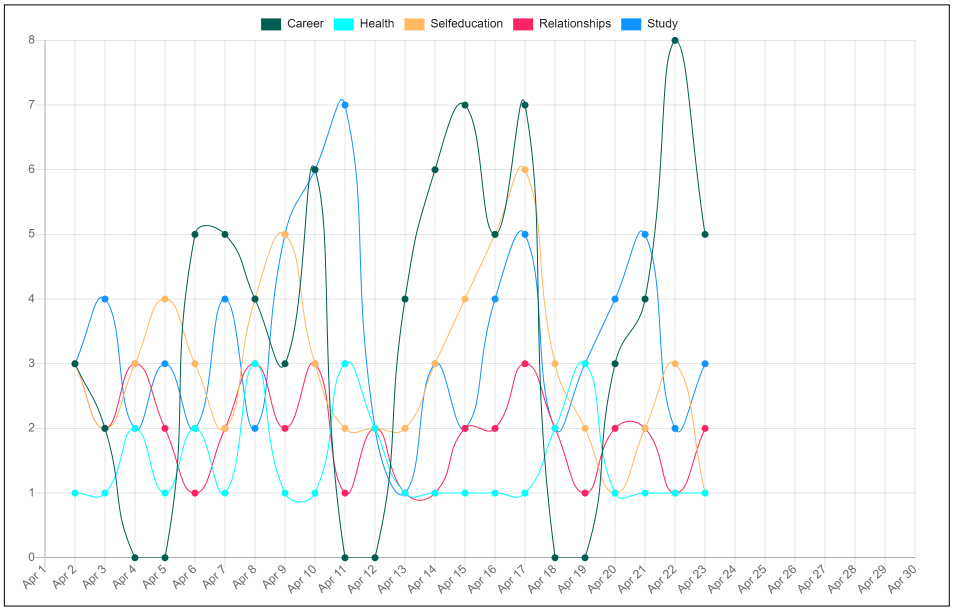

Fig 1. – Final statistics of the month

The third type of analysis is represented by a table showing the current month in the form of a familiar calendar. A special feature is the calculation of efficiency by day: the ratio of the number of tasks done to the number of tasks set. The higher the value of the resulting coefficient, the brighter the shade of green the day is highlighted, and vice versa – the lower the value, the day is marked with a brighter shade of red only. This type of analysis allows you to evaluate the productivity of each day of the month separately. A sample of these statistics is shown in figure 2.

Fig 2. – Statistics of total productivity by days

The proposed time management system developed by GoalDairy is not only about productivity. It provides its functionality to anyone, just go through the registration procedure. The developed system also includes elements of social interaction, implemented through the possibility of searching for other participants and viewing their profile. A profile can reflect public productivity statistics – what a person is willing to share with the world, thereby demonstrating their skills and willingness to develop.

The application of this system is especially useful for students who are just starting their professional growth – readiness for self-development is an important factor in obtaining a position in the profession with today's employers. The developed application can help students in time management, personal productivity, and employers in finding promising employees.

At the moment, this software is being finalized and tested.

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