



**НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ
ПОЛТАВСЬКА ПОЛІТЕХНІКА
ІМЕНІ ЮРІЯ КОНДРАТЮКА**

ЗБІРНИК МАТЕРІАЛІВ

**77-ї НАУКОВОЇ КОНФЕРЕНЦІЇ ПРОФЕСОРІВ,
ВИКЛАДАЧІВ, НАУКОВИХ ПРАЦІВНИКІВ,
АСПІРАНТІВ ТА СТУДЕНТІВ УНІВЕРСИТЕТУ**

16 травня – 22 травня 2025 р.

References:

1. Next.js. URL: <https://nextjs.org>.
2. MongoDB. URL: <https://www.mongodb.com>.
3. TailwindCSS. URL: <https://tailwindcss.com>.
4. SSR. URL: <https://dou.ua/forums/topic/41585>.

UDC 004.9

*O. Haitan, Senior lecturer,
I. Pastushchyn, Student of the 401-TN group,
National University «Yuri Kondratyuk Poltava Polytechnic»*

INFORMATION SYSTEM FOR TEAM COLLABORATION: IMPLEMENTATION OF TASK MANAGEMENT BASED ON MODERN WEB TECHNOLOGIES

In the modern world, teamwork is a key factor in the successful implementation of projects across various industries. Teamwork is a form of activity based on the cohesive interaction of team members in order to achieve common goals, and it involves the combination of each participant's knowledge, skills, experience and resources. Thanks to this approach, this form of work allows the completion of various tasks on the way to project implementation more quickly and effectively. However, due to the growing prevalence of team-based work, the need for tools that can ensure the effective organization of related processes is also increasing. Throughout the research, it was discovered that there are a variety of methodologies, technologies and solutions that can aid in organizing teamwork. The use of information systems is becoming especially relevant, with a vivid example of their implementation being task management systems, particularly web-based ones, which enable quick control of the team's work processes within projects, regardless of their physical location [1].

Popular methodologies that support effective task management include Agile, Waterfall, Scrum, Kanban, Scrumban and numerous others. Each of them provides its own approaches and principles that enable organization of work processes for the most productive achievement of goals. For example, the Waterfall methodology is characterized by a straightforward, cascading approach to task completion. At the same time, the Agile methodology includes a much more flexible approach, focusing on responding to changes. The more specific approaches like Scrum, Kanban and Scrumban have their own principles regarding the actual organization of work, but are generally centered around the core values of the Agile methodology [2].

According to a study by the consulting company Gartner, collaborative work management (CWM) systems, which may include project and task management systems, are becoming more widespread due to the ability to provide flexible planning, coordination and monitoring of teamwork. Such systems make it possible to organize cooperation in a single environment, automate repetitive processes and quickly respond to changes in task execution. The growing need for adaptive and accessible platforms to support the hybrid format of work drives the development of a market in which, alongside major industry players, new, more highly specialized tools appear [3].

The most popular available tools for task management were examined, including Jira, Asana, Clickup, Trello and Todoist. These platforms offer different approaches to task organization, such as Kanban boards, lists, calendars and Gantt charts. All of them have their advantages and disadvantages related to functionality, price, ease of use and other factors. For example, Clickup stands out with its extensive functionality, but has a steep learning curve and a complex pricing policy, which makes it less accessible for small teams and beginners. Jira is well-suited for teams focused on Agile and Scrum methodologies, but has a high entry threshold, cost, excessive level of customization, which can hinder its effectiveness, especially for small teams. Asana offers an intuitive interface and a wide choice of integrations, but has limitations in functionality, such as, for example, the lack of full-fledged time tracking. Trello is a convenient tool for small teams thanks to its simplicity and Kanban's approach, but it does not support more advanced analytics or visualizations (for example, Gantt charts). Todoist is geared towards small teams and individual users, but it offers limited customization and integration options, and some essential features (like notifications) are available only in the paid version.

Based on the conducted analysis, it can be concluded that despite the wide representation of available task management tools, none of them is a universal solution for all user categories. Most popular task managers are focused on medium and large teams, have a complex structure, restrictions in their free versions, or high costs for paid plans. This creates challenges for smaller teams and individual users who may not require excessive functionality but still expect flexibility, ease of use, as well as affordability. In such cases, a more reasonable solution may be the development of a custom task tracker tailored to the specific needs of a team or user. A custom-built solution can help to avoid unnecessary expenses on third-party software and concentrate functionality on what is essential.

Thus, the development and implementation of an information system using modern web technologies for task management in a teamwork environment is a relevant and promising solution. Such a system can serve as an appropriate option for various categories of users, ensuring efficient organization of workflows and simplifying task management.

References:

1. Омельченко Г.Ю. Командна робота як основний фактор формування soft skills // Global science: prospects and innovations. Proceedings of the 5th International scientific and practical conference. Cognum Publishing House. Liverpool, United Kingdom. 2023. С. 584-590. URL: <https://sci-conf.com.ua/v-mizhnarodna-naukovo-praktichna-konferentsiya-global-science-prospects-and-innovations-28-30-12-2023-liverpul-velikobritaniya-arhiv/>.
2. Team Asana. Project management methodologies: 12 popular frameworks. URL: <https://asana.com/resources/project-management-methodologies>.
3. Dungay D. Gartner Collaborative Work Management Magic Quadrant. URL: <https://www.uctoday.com/collaboration/gartner-collaborative-work-management-magic-quadrant-2024/>.

УДК 004.9

Білокінь П.І., студент групи 501-ТК,
Попов Є.О., студент групи 501-ТН,
Гайтан О. М., старший викладач,

Національний університет «Полтавська політехніка імені Юрія Кондратюка»

ШТУЧНИЙ ІНТЕЛЕКТ І КОМП'ЮТЕРНИЙ ЗІР ЯК ІНСТРУМЕНТИ РОЗШИРЕННЯ МОЖЛИВОСТЕЙ НЕЗРЯЧИХ ЛЮДЕЙ

В Україні проживає близько 600 000 людей з порушеннями зору, з яких близько шостої частини є повністю незрячими [1]. І це статистика до початку повномасштабного вторгнення. Від початку повномасштабного вторгнення у 2022 році спостерігається тенденція до збільшення осіб з порушенням зору в Україні. За даними НЗСУ, у 2021 р. кількість осіб з втратою або погіршенням зору нараховувала 17 478 осіб, у 2022-му зросла до 19 551. І лише за 7 місяців 2023 р. лікарі вже засвідчили понад 19 тисяч таких діагнозів, що вже більше, ніж за весь 2022-й рік [2]. На кінець 2025-го року статистика буде, на жаль, тільки погіршуватися.

Ці люди щодня стикаються з труднощами у пересуванні, доступі до інформації та соціальній взаємодії. Традиційні методи компенсації, такі як шрифт Брайля або супровід зрячих людей, не завжди забезпечують необхідний рівень автономії [3]. Сучасні технології, такі як штучний інтелект (ШІ) та комп'ютерний зір, відкривають нові можливості для подолання цих бар'єрів.

У прямій залежності від сприйняття об'єктів пізнання знаходяться уявлення, які відображають раніше сприйняті властивості та ознаки об'єктів. Вивчення уявлень сліпих вітчизняними дослідниками