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## **USABILITY TESTING FOR USER INTERFACES**

The paper analyzes the problems of improving the quality of software, namely usability testing as one of the areas of ensuring this quality, analyzes publications that consider such methods as:

- electrooculography;
- electroretinography;
- mouse tracking;
- eye tracking

etc. and concludes that improving the quality of software directly depends on how effective the usability testing process will be [1].

An analysis of traditional tools and methods for testing software products was carried out and, as a result, mouse tracking technology and eye tracking technology were proposed as an alternative solution to the problem of improving the quality of software products.

Also, the criteria and metrics for assessing the usability of web applications were determined, and an analytical approach consisting of a comprehensive analysis of the research object was proposed as a methodological basis, classification and comparative analysis methods were also used, and the results were analyzed using standard statistical methods.

An assessment of the importance and necessity of usability testing of websites was also carried out.

The work considered generally accepted rules and recommendations in the field of usability testing, analyzed both quantitative and qualitative methods of analysis and evaluation of usability testing.

In order to study the object of study in more detail, the ergonomic interaction between the user and the information system, namely, with the web resource, was considered, important categories of users depending on a number of indicators were considered and analyzed, special attention was paid to the analysis of quality assessment criteria using existing standards and recommendations.

A thorough analysis of the usability testing process of software interfaces was carried out in order to analyze and evaluate methods for improving the quality of software and optimization by reducing the time of the usability testing process [2].

Also, conditions were prepared for an experimental study of the results considered theoretically based on eye tracking technology.

Today, a tendency for large-scale shifts has clearly emerged, both in scientific and applied areas, where the ergonomics of software is increasingly playing a key role.

This is the commercial attractiveness of software products, as well as the degree of their penetration into the market and the subjective satisfaction of users when working with these products.

The practical side of this study is closely related to the significant evolution of technological support, the rapid development of the Internet and the expansion of the scope of application of computer interfaces for a wide variety of user nomenclature [3].

A significant increase in the number of tasks that must be served by an ever-expanding range of users is due to an increasingly noticeable trend associated with computerization and the gradual replacement of personal information exchange between users and information systems in most professional areas.

Active improvement of standards that are designed to regulate the ergonomics of software is an important condition for achieving the required level of accessibility in the information environment.

Accessibility orchestration is organically integrated into a wider range of design and development processes, covering a methodical description of accessibility requirements, a quantitative assessment of accessibility indicators and the formulation of a distinguishable criterion for verification within the framework of user interaction [5].

The process of determining the degree of usability of software is of utmost importance, which is due to the complexity of the interaction between the user and the software, as well as other components of the software product.

Thus, any software product or device can have different degrees of usability for the user in different use cases, which plays a significant role, especially in scenarios involving different segments of users with certain disabilities [6].

In order to improve the quality and efficiency of the usability testing process, a comparative analysis of testing methods was carried out, namely:

- eye tracking method;
- mouse tracking method.

Using these technologies, the required conditions for performing experimental studies of theoretical results were established.

It was noted that, based on both the results of foreign and domestic studies, the selected method based on eye tracking is more effective for usability testing, primarily due to the significant, both quantitative and qualitative results obtained in one testing session.

It should be noted that the usability testing processes using the mouse tracking method and the eye tracking method have significant.

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## **АВТОМАТИЗАЦІЯ ДИЗАЙНУ ЗА ДОПОМОГОЮ ШТУЧНОГО ІНТЕЛЕКТУ: ГЕНЕРАЦІЯ ДИЗАЙНІВ**

Актуальність теми полягає у швидкому розвитку технологій штучного інтелекту (ШІ) та їх впровадженні в усі сфери життя, включаючи дизайн. У сучасному світі компанії та дизайнерські агентства стикаються з необхідністю швидко створювати якісні та адаптивні графічні рішення для різних платформ і форматів, враховуючи при цьому зростаючі вимоги до персоналізації контенту.

Таким чином, автоматизація дизайну за допомогою ШІ є не лише інноваційним підходом, але й відповідає потребам сучасного бізнесу, підвищуючи продуктивність, знижуючи витрати та допомагаючи створювати більш персоналізований і якісний контент.

Мета дослідження – огляд сучасних можливостей ШІ в автоматизації дизайну, розгляд переваг та викликів.

ШІ не лише змінює підхід до створення дизайну, але й сприяє появі нових стандартів в індустрії. Завдяки інтелектуальним алгоритмам дизайнери можуть швидко створювати візуальні макети, прототипи, а також отримувати рекомендації, що базуються на даних про поведінку користувачів [1].

ШІ революціонізує процес проектування завдяки використанню алгоритмів машинного навчання. Наприклад, ці системи аналізують величезну кількість даних про історію модних тенденцій, уподобання споживачів і навіть культурні впливи. Це дозволяє дизайнерам передбачити, які візерунки та стилі стануть популярними в майбутньому, уникаючи ризиків, пов'язаних із сліпим дизайном. Крім того, генеративні моделі штучного інтелекту можуть створювати оригінальні моделі та концепції, які можуть використовуватися дизайнерами як натхнення. Цей інструмент стимулює творчість, допомагаючи