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DEVELOPMENT OF UX/UI DESIGN OR AN INTERACTIVE ELECTRONIC DIARY TO SUPPORT MENTAL HEALTH

A concept, structure, and UX/UI design were developed, based on which a prototype of an interactive electronic diary for supporting mental health 'Zhyttia' was created.

Keywords: interactive edition; electronic diary; UX/UI design; software application; interface; mental health; psychological support; user experience.

Introduction

As a result of the Russian-Ukrainian war, constant stress and anxiety associated with air raids, shelling, and the loss of loved ones and acquaintances affect mental health and mental state. Mental health includes emotional, psychological, and social well-being. According to research [1], people with good mental health: learn better and absorb new information; are prone to creative pursuits; have a high level of productivity, etc.

According to WHO research, one in eight people in the world has mental health problems, and the coronavirus pandemic and global stressors have exacerbated this problem [2]. In Ukraine, the situation has worsened especially due to the Russian-Ukrainian war: at the beginning of 2025, 68 % of Ukrainians experienced a deterioration in their mental state compared to the pre-

war period. And according to a study by the Ukrainian medical information system Helsi, only 3 % of respondents consider their condition to be very good, while 46.8 % assess it as very bad. In the realities that have arisen after the start of the full-scale invasion, 63 % of respondents aged 18 to 65 experience anxiety and stress almost every day [3]. Today, the topic of mental health has ceased to be taboo in society, but on the contrary, has become the subject of widespread discussion. In this regard, digital applications that help people better understand themselves and their emotions, track mood changes, identify sources of stress, and respond to internal signals in a timely manner are gaining particular popularity.

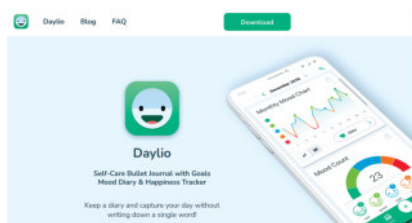
The current segment of digital applications for supporting mental health shows a rapid growth in their number for mobile devices and web



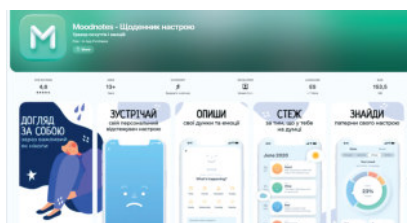
platforms, and digital mental health goes beyond traditional telemedicine, encompassing not only websites, mobile applications, but also virtual reality and artificial intelligence [4].

A convenient format for self-observation that allows you to analyze your thoughts and emotions is an electronic diary, which opens up new opportunities for interactivity, data visualization, and personalization of the user experience. Applications for supporting psychological well-being Daylio (Fig. 1, a) [5], Moodnotes (Fig. 1, b) [6], Reflectly (Fig. 1, c) [7], Jour (Fig. 1, d) [8], etc., have limited use — only on a mobile device. In addition, not all of these applications have a well-thought-out logic of construction.

Domestic applications for supporting mental health have also appeared in Ukraine: the ‘Rozмова’ platform (Fig. 2, a) [9], which helps to quickly select a psychotherapist based on personal parameters; the ‘Silence’ application offers users more than 80 meditation sessions, courses for beginners and experienced practitioners, breathing practices, and a timer for individual sessions (Fig. 2, b) [10].



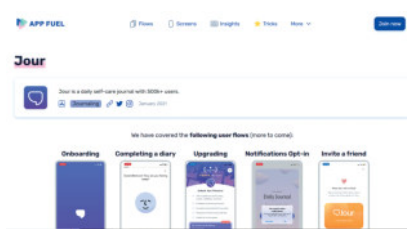
a



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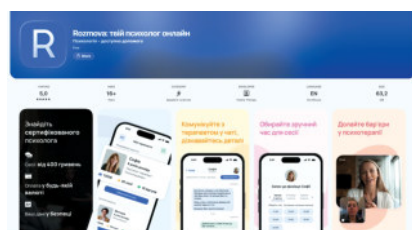


c



d

Fig. 1. Interface of applications for supporting psychological well-being



a



b

Fig. 2. Interface of Ukrainian applications for supporting psychological well-being



Therefore, mood diaries satisfy users' needs for convenient self-monitoring of emotional state and self-reflection, and meet the principles of modern electronic publications — simplicity of the interface and structured presentation of information.

In terms of technology, service creation faces a number of challenges: the lack of unified standards for this type of electronic interactive products, difficulties in harmoniously combining design, psychological, and technical solutions. These problems lead to the search for new approaches to design that take into account both publishing and digital aspects.

Therefore, the development of an English-language innovative platform for supporting psychological well-being called 'Zhyttia' is relevant, which will allow users in any country in the world to keep an electronic mood diary, record their emotions and level of anxiety, add notes and photos, keep a habit tracker, as well as view the dynamics of their emotional state through convenient filters and conduct self-reflection.

Methods

The fundamental method for creating modern digital products is human-centered design (HCD), which is aimed at comprehensive research and study of the existing user experience and finding opportunities to improve it by creating convenient, useful and effective digital solutions: web services, applications and other software. To implement this approach, a proto-persona was developed, i.e. a collective image of a representative of our target audience (see Fig. 3).

The proto-persona template (Fig. 3) gives us the opportunity to increase the level of empathy for the existing user audience, understand all their problems and obstacles that they face every day, and most importantly, when designing solutions, rely on the experience of the target audience, taking into account their needs and expectations.

During the development of the electronic diary, special attention was paid to the selection of technologies that ensure technical reliability, productivity, scalability, and modernity of the product.

The design of the interactive electronic diary layout was carried out taking into account modern principles of UX/UI design, with an emphasis on ease of use, intuitive navigation and emotional comfort of the user. The main goal is to create an environment that does not overload with information, but on the contrary, calms and helps to focus on one's own feelings. Typical user scenarios were taken into account when choosing design principles. The platform interface is built on the basis of design principles (UCD, user-centered design) — sequential cycles of design, testing and improvement of the interface based on user feedback. This allows you to identify and eliminate potential usability problems even before launching the application, ensuring its compliance with the real needs of users [11]. The interface is designed in such a way as to ensure that basic actions are performed in a few clicks and attention is paid to such important aspects as accessibility and consistency of interface elements. Applying UCD principles helps create a



product that not only meets functional requirements, but also provides a positive user experience, which is a key factor in the success of modern applications.

For the layout of the electronic diary, the online service for designing digital products Figma was chosen, which, among other things, allows you to design modern web services, allowing you to create interfaces with a high level of detail; simultaneously work on the layout, comment on changes, track the history of edits; receive precise parameters of elements, indents, colors, fonts, and CSS code directly from the layout, which allows you to avoid layout errors, save time, and ensure the most accurate correspondence between the layout and the implemented interface.

The software Visual Studio Code (VS Code) was chosen for the development of the service, as it supports cross-platform and is highly customizable thanks to extensions and plugins. The program provides fast and convenient work with code, syntax highlighting, auto-completion, and integration with version control systems [12].

To implement the client part, React.js was chosen — a JavaScript library for building interfaces, which allows you to create a component structure, when each part of the interface is represented by a separate element with its own logic and styles. This approach facilitates development and testing, and significantly simplifies project scaling in case of expanding functionality. React has an optimized interface



Fig. 3. Proto-person of the future electronic diary



update mechanism thanks to the use of virtual DOM, which significantly increases site performance even with a large number of interactions. The server logic of the project is planned to be implemented using Node.js — a JavaScript runtime environment due to its asynchronous non-blocking request processing model, which allows you to work effectively with a large number of simultaneous connections, reducing the load on the server. Together with Node.js, the Express.js framework was chosen, which provides a convenient way to organize routing, process HTTP requests, con-

nect middleware, and build a REST API. MySQL — a database management system with clear relationships between tables, which ensures high reliability and integrity of information, was used to store and process data. Thanks to support for SQL queries and transactions, MySQL allows you to work effectively with large amounts of data, scales well and supports distributed architectures, which allows for efficient operation as the number of users or the volume of information grows.

Fig. 4 shows the algorithm of the design creation process for the electronic diary 'Zhyttia'.

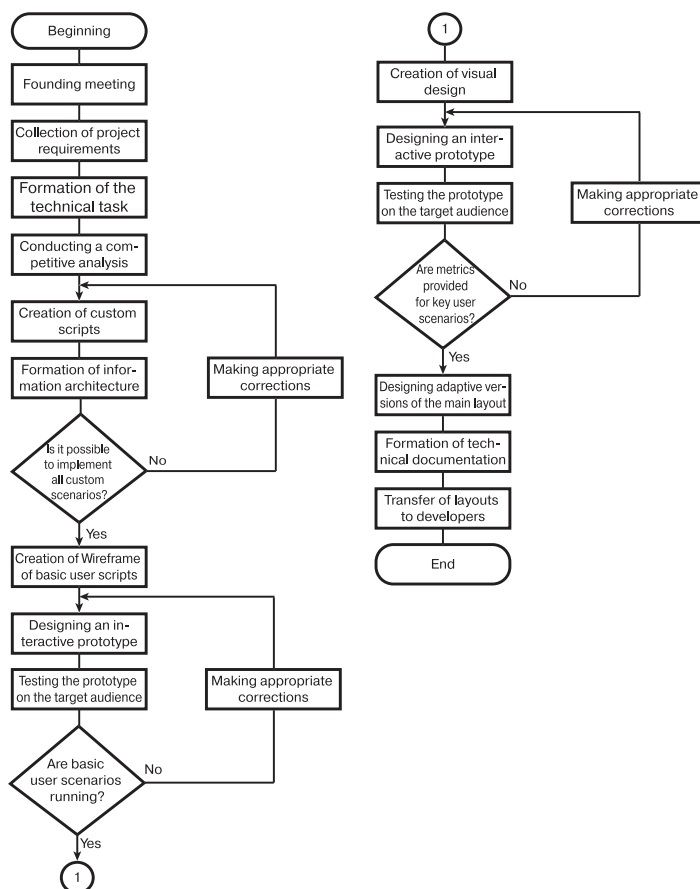


Fig. 4. Algorithm for creating UX/UI design for an electronic diary



Results and Discussion

The main idea of the interactive diary 'Zhyttia' is to create a digital space where users can focus on themselves, tracking their mood, anxiety level and habits. It will also be possible to record their own thoughts, upload photos to commemorate important moments. The web service will not contain social elements such as likes or comments, since its mission is an internal dialogue, not external recognition.

User scenarios are a key stage in designing a future interactive diary, allowing you to model typical actions of a web service visitor, identify important interaction points, and ensure intuitive user experience. Developing scenarios helps ensure a logical sequence of actions and minimize the number of steps to the main goal — capturing an emotional state. The developed scenarios are shown in Fig. 5.

In accordance with the main scenarios, the information structure of the future electronic diary has been developed (see Fig. 6).

Taking into account the above developments, namely: proto-person, interaction scenarios and in-

formation structure, low-detailed schemes of the main screens of the electronic diary (Wireframes) were designed, which will ensure the passage of the main scenario. Fig. 7 shows the wireframe of the registration screens, the main screen, the records screen and the records history screen.

The name of the electronic diary 'Zhyttia' is symbolic and corresponds to the idea of a product aimed at supporting mental health. The platform aims to help the user better understand themselves, track their own emotions, anxiety, mood, which are inseparable components of everyday life. The choice of writing the name in Latin is due to the desire to make the brand modern, recognizable in the digital environment and accessible to speakers of different languages. This form of writing is suitable for a unique domain, is easily perceived in the interface, while maintaining a connection with the Ukrainian language and culture. The platform logo is an image of a daisy along with the name 'Zhyttia', which symbolizes the sun, simplicity, peace and natural beauty — exactly the emotions that the application seeks to evoke — comfort or peace in difficult times.

As a user, I want access to a landing page where I can see the benefits of the platform and how it works	As a user, I want to securely register and log in to access my personal mood diary	As a user, I want to customize my account settings so that I can adapt the platform to my needs
As a user, I want to create daily mood logs to track my emotional state over time	As a user, I want to add notes and photos to my mood notes to better understand my day	As a user, I want to view an archive of my previous entries to develop the skill of self-reflection

Fig. 5. Basic scenarios of an electronic diary user



The design combines muted colors, a logical structure, and simplified navigation. All functionality is focused on making the user comfortable — both aesthetically and emotionally.

In the future, the platform's functionality may be expanded, which will help increase its efficiency and attract new users. One of the promising areas of development is the implementation of analytics of the user's emotional state with visualization of changes in mood and anxiety levels in the form of graphs

and charts. This feature will allow the user to track the dynamics of their state, as well as better understand the impact of daily events on emotional well-being. Another useful feature will be integration with the calendar and notifications, which will allow the user to set reminders to fill out a diary or perform routine self-care practices.

An interactive diary is a personal electronic periodical with the ability to archive data. Its main function is to keep a digital diary, which involves entering data by the user

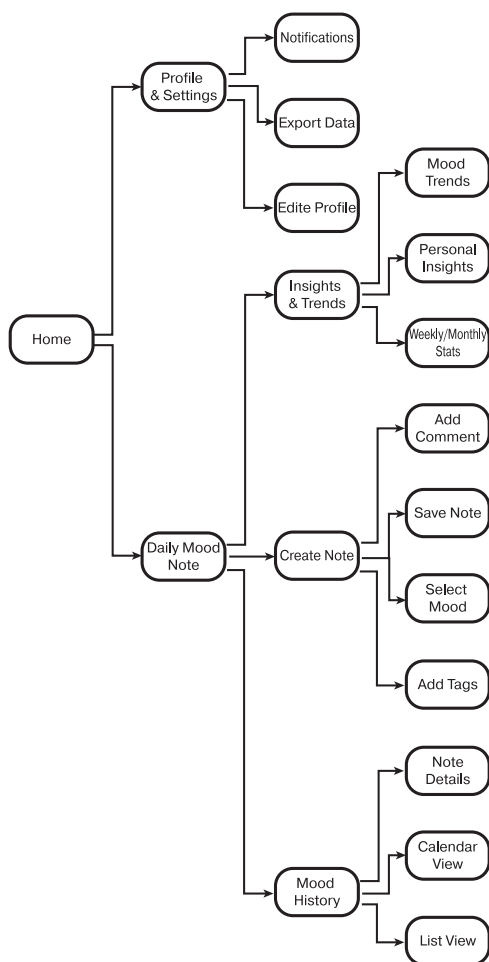


Fig. 6. Information structure of the electronic diary

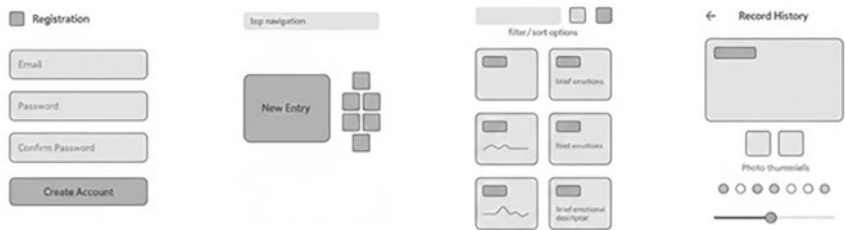


Fig. 7. Low-detailed diagrams of the main screens of the electronic diary (Wireframes)

(mood, emotional state, photos, notes). The technical characteristics of the diary are presented in Table.

To form a unified visual concept, a moodboard was created (Fig. 8) — a visual selection of stylistic solutions and colors that reflect the overall mood, idea, and aesthetics of the application. Spe-

cial attention was paid to the emotional part — the moodboard conveys a sense of security, comfort, and support, which are key values of an interactive diary.

The visual style of the electronic diary is a pastel color palette that combines aesthetic appeal and psychological comfort (Fig. 9). The main goal is to create a favorable visual

Technical characteristics of the electronic diary

Characteristic	Indicators
Name	Zhyttia
Site type	Multi-page
Site view	Interactive electronic diary
If a printed equivalent is available	Independent electronic edition
By the type of the basic information	Software product
For the technology of use	Online edition
By the type of interaction with the user	Non-deterministic edition
Input format:	
Text	.docx
Illustrative	.png, .gif
Resolution	1920×1080 px default; adaptive
Color design, hex	#66AC8C, #8ECAAF, #E2FFF1, #DBB2EF, #F8ECFF, #000000, #F7F6F6, #FFFFFF
Font design	Fredoka one, Nunito
Final format	HTML



Fig. 8. Moodboard

environment that does not overload the vision, calms and helps the user focus on their own emotions.

The selected colors create a visually pleasing composition, avoiding aggressive or overly saturated shades. The main goal is to evoke a sense of security, comfort and trust, which is important for an inter-

active edition related to mental health. Scientific research in the field of psychology confirms the positive effect of mint, lavender and generally pastel shades on the emotional state of the user: they reduce anxiety, promote relaxation and improve concentration [13].

To ensure the proper level of readability of text information, a study of the contrast of color combinations was conducted using the site [14]. For the analysis, a tool was used that allows you to select colors for the background and text (Foreground and Background color picker), evaluate their brightness (Brightness), calculate the brightness difference (Brightness Difference), and also determine the readability indicator of the text (Readability Difference with font size adjustment). When combining colors, the tool automatically calculates the results. If the level of readability of the text is high, and the brightness difference between the background and text is more than 125 units, then the color combination can be considered successful. Fig. 10, 11 show the results of checking the contrast between the main

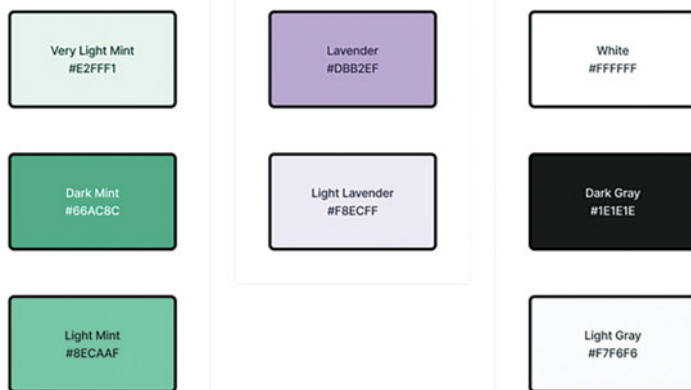


Fig. 9. Color palette of the interactive diary

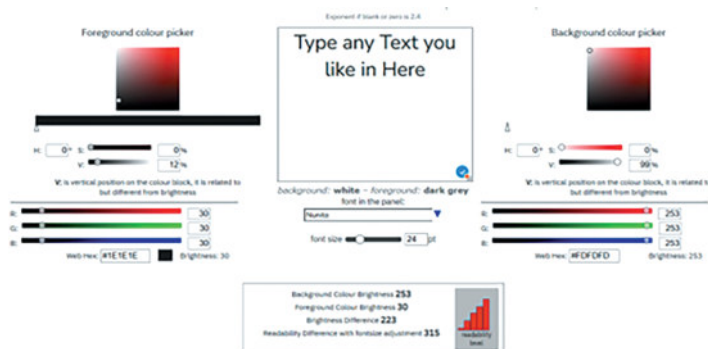


Fig. 10. Contrast analysis between the color of the text and the main background



Fig. 11. Contrast analysis between text and button color

color of the text and the background. All tested combinations have a sufficient level of contrast, which allows for comfortable perception of information.

To create an attractive interface, Fredoka One was chosen as a decorative font for the logo and supporting elements. It is a soft and rounded font from the sans-serif



Fig. 12. Set of graphic elements of the interface of the diary web service for maintaining mental health

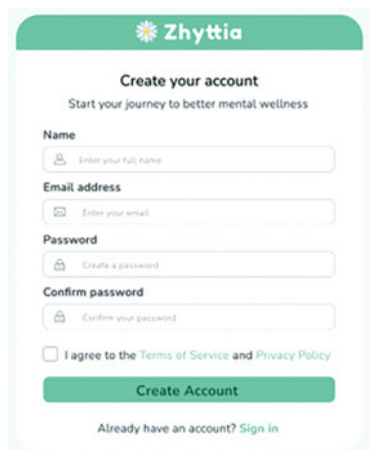


Fig. 13. Registration page design

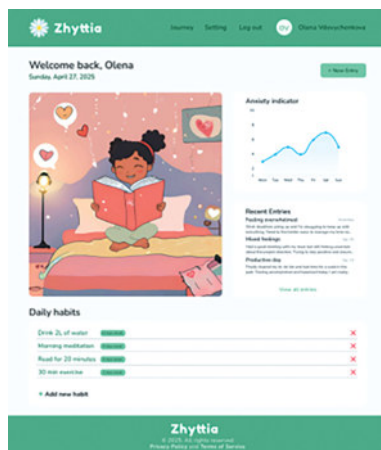
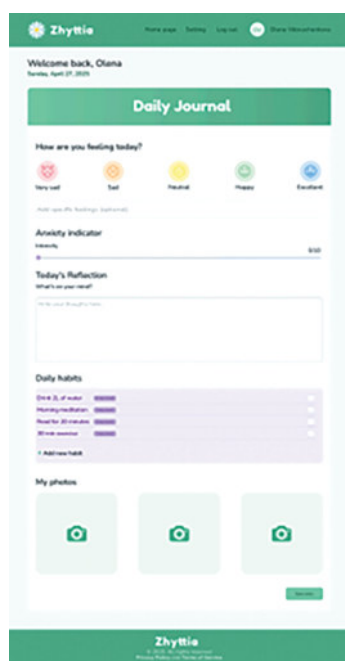


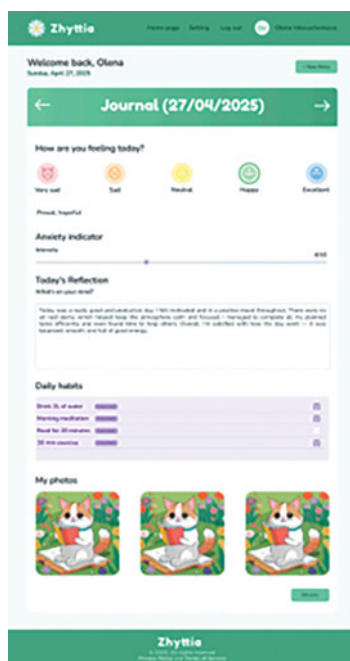
Fig. 14. Home page design

family. The letters are thick, rounded, with soft contours. Readability is good at a large font size and is not suitable for large text arrays. That is why this font was used as a decorative font with a size of 40 pixels or more.

The main font Nunito is a geometric sans-serif that combines high readability with ease of perception. Fig. 12 shows a set of graphical elements of the website interface. The Nunito font is applied with Light,



a



b

Fig. 15. Design of the records page



Regular, Medium and Semi-Bold styles in sizes from 15 to 52 pixels.

Further design of the diary was carried out by visualizing the previously designed low-detailed diagrams of the main application screens (Wireframes) with the developed graphic elements, so Fig. 13–16 presents the layouts of the registration page, home page, entry pages, and entry history.

Conclusions

Based on market analysis and target audience, a concept was formed, as well as an information structure of an interactive electronic diary was developed. The choice of a priority direction allowed us to focus on three main characteristics of the application — security, functionality and ease of registration. Based on the collected data, a product prototype was developed taking into account the principles of UX/UI design. In-depth re-

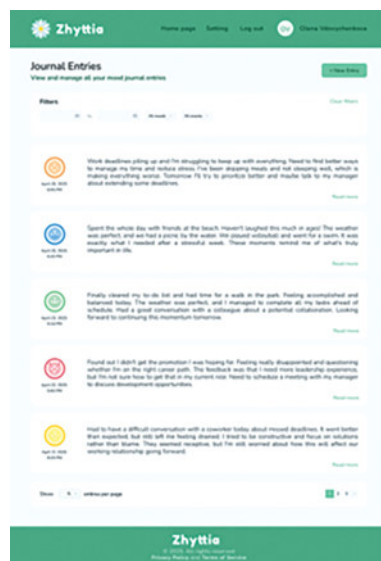


Fig. 16. Design of the record history page

search into modern requirements for equipment, development technologies and cost-effectiveness will allow us to create an intuitive, visually attractive and technologically sound electronic diary.

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Розробка UX/UI дизайну інтерактивного електронного щоденника для підтримки ментального здоров'я



Проаналізовано вплив російсько-української війни на ментальне здоров'я та психічний стан людини. Виокремлено сучасний сегмент найбільш популярних світових та вітчизняних цифрових застосунків для підтримки ментального здоров'я, що свідчить про стрімке зростання їх кількості для мобільних пристроїв та вебплатформ, а цифрове ментальне здоров'я виходить за межі традиційної телемедицини, охоплюючи не тільки вебсайти, мобільні застосунки, а й віртуальну реальність та штучний інтелект.

Встановлено, що зручним форматом самоспостереження, що дозволяє аналізувати свої думки та емоції є електронний щоденник, який відкриває нові можливості для інтерактивності, візуалізації даних та персоналізації користувацького досвіду завдяки простоті інтерфейсу та структурованій подачі інформації.

Розроблено концепцію, структуру та UX/UI дизайн, на основі яких створено прототип англomовної інноваційної платформи — інтерактивного електронного щоденника для підтримки ментального здоров'я «Zhyttia», що дозволить користувачам у будь-якій країні світу вести електронний щоденник настрою, записувати свої емоції та рівень тривожності, додавати нотатки й фотографії, вести трежер звичок, а також переглядати динаміку свого емоційного стану через зручні фільтри та проводити саморефлексію.

Для створення сучасного цифрового продукту на основі людино-центрованого дизайну розроблено прото-персону (збірний образ представника відповідної цільової аудиторії) та інформаційну структуру прототипу, низькодеталізовані схеми основних екранів (Wireframes) застосунку.

Для макетування електронного щоденника обрано онлайн-сервіс проєктування цифрових продуктів Figma; для розробки сервісу обрано програмне забезпечення Visual Studio Code; для реалізації клієнтської частини обрано React.js — JavaScript-бібліотеку для побудови інтерфейсів; обрано відповідну пастельну палітру кольорів, що поєднує естетичну привабливість та психологічний комфорт, для останнього дослідним шляхом обрано читабельну гарнітуру відповідних кеглів.

Поглиблене дослідження сучасних вимог до обладнання, технологій розробки та економічної ефективності дозволило створити інтуїтивно зрозумілий, візуально привабливий і технологічно обґрунтований прототип продукту з урахуванням принципів UX/UI дизайну.

Ключові слова: інтерактивне видання; електронний щоденник; UX/UI дизайн; вебсервіс; вебсайт; інтерфейс; ментальне здоров'я; психологічна підтримка; користувацький досвід.

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