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DIGITAL SOLUTION FOR CONNECTING VOLUNTEERS WITH ORPHANAGES AND NURSING HOMES

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Abstract. This article presents an overview and analysis of the digital solution "HelpingHands", developed for effective communication and cooperation of volunteers with orphanages and nursing homes. The Helping Hands solution is an innovative platform that provides an opportunity for volunteers and organizations to establish effective interaction to support those who need help. The article describes the functionality of HelpingHands, the platform provides convenience of interaction between volunteers and organizations, which contributes to more effective coordination of volunteer work. The goal of HelpingHands is to facilitate the volunteering process and improve the lives of children in orphanages and elderly people in nursing homes. The article emphasizes the importance of this digital solution in providing communication between volunteers and institutions, contributing to the creation of a strong and supported volunteer network for charity and social support.

Keywords: volunteering, digital platform, orphanages, nursing homes, social support, interaction of volunteers, organizations, network of volunteers, cooperation, charity, innovative solutions

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ЕРІКТІЛЕРДІ БАЛАЛАР МЕН ҚАРТТАРҒА КҮТІМ ЖАСАУ ОРТАЛЫҚТАРЫМЕН БАЙЛАНЫСТЫРУДЫҢ ЦИФРЛЫҚ ШЕШІМІ

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Аннотация. Бұл мақала еріктілердің балалар үйлерімен және қарттар үйлерімен тиімді байланысы мен ынтымақтастығы үшін әзірленген "HelpingHands" цифрлық шешіміне шолу мен талдауды ұсынады. Helping Hands шешімі еріктілер мен ұйымдарға көмекке мұқтаж адамдарды қолдау үшін тиімді өзара әрекеттесу мүмкіндігін қамтамасыз ететін инновациялық платформа болып табылады. Мақалада HelpingHands функционалдығы сипатталған, платформа еріктілер мен ұйымдар арасындағы өзара әрекеттесудің ыңғайлылығын қамтамасыз етеді, бұл еріктілер жұмысын тиімдірек үйлестіруге ықпал етеді. HelpingHands-тің мақсаты-еріктілік процесін жеңілдету және балалар үйлеріндегі балалар мен қарттар үйіндегі қарттардың өмірін жақсарту. Мақала қайырымдылық пен әлеуметтік қолдау үшін күшті және қолдау көрсетілетін еріктілер желісін құруға ықпал ете отырып, осы цифрлық шешімнің еріктілер мен мекемелер арасындағы байланысты қамтамасыз етудегі маңыздылығын көрсетеді.

Түйін сөздер: еріктілік, цифрлық платформа, балалар үйі, қарттар үйі, әлеуметтік қолдау, еріктілердің өзара әрекеті, ұйымдар, еріктілер желісі, ынтымақтастық, қайырымдылық, инновациялық шешімдер

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ЦИФРОВОЕ РЕШЕНИЕ ДЛЯ ВЗАИМОДЕЙСТВИЯ ВОЛОНТЕРОВ С ЦЕНТРАМИ ЗАБОТЫ О ДЕТЯХ И ПОЖИЛЫХ ЛЮДЯХ

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Аннотация. Данная статья представляет обзор и анализ цифрового решения "HelpingHands", разработанного для эффективной связи и сотрудничества волонтеров с детскими домами и домами престарелых. Решение Helping Hands представляет собой инновационную платформу, обеспечивающую возможность волонтерам и организациям установить эффективное взаимодействие для поддержки тех, кто нуждается в помощи. Статья описывает функционал HelpingHands: платформа обеспечивает удобство взаимодействия между волонтерами и организациями, что способствует более эффективной координации волонтерской работы. Статья подчеркивает значимость данного цифрового решения в обеспечении связи между волонтерами и учреждениями, способствуя созданию сильной волонтерской сети для благотворительности и социальной поддержки.

Ключевые слова: волонтерство, цифровая платформа, детские дома, дома престарелых, социальная поддержка, взаимодействие волонтеров, организации, сеть волонтеров, сотрудничество, благотворительность, инновационные решения

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Introduction

"HelpingHands" is a digital platform that has laid the foundations for more effective interaction between volunteers and institutions working with orphanages and nursing

homes. The platform aims to overcome the existing problems facing volunteering and simplify the process of finding and participating in important social projects. Orphanages and nursing homes play a crucial role in our society, serving as a refuge for those who need care, support and, above all, sincere compassion. These institutions provide shelter to vulnerable groups of the population who are looking for love and health, education and emotional well-being.

The relevance of our platform is to create an IT solution to meet the urgent need to connect volunteers to nursing homes and orphanages, optimize the recruitment process of volunteers and improve the quality of care and support provided.

The goal of this project is to offer an innovative solution that will bridge this communication gap and increase the effectiveness of volunteer activities. Our work is focused on developing the HelpHands platform, a digital ecosystem that connects volunteers with orphanages and nursing homes. This innovative platform is designed to optimize the process of recruiting and managing volunteers, which ultimately improves the quality of care and support provided to residents and beneficiaries. The main mission of the HelpHands platform is to solve this problem with the help of technology to create a more interconnected, compassionate and effective society that meets the needs of those who most deserve care and support.

The object of the study is a system for finding volunteers for nursing homes and orphanages using information technology.

The subject of this research is the development, implementation and evaluation of the platform as an innovative tool that uses information technology to improve the experience of volunteering and the quality of care and support provided to children and the elderly.

The novelty of this research lies in the creation of a specialized platform that not only acts as a digital bridge connecting volunteers with agencies, but also offers a user-friendly interface and functions adapted to the needs of users.

Material and methods

1. Literature review

Analysis of the article "User-Centered Development of a Web Platform Supporting Community-Based Health Care Organizations for Older Persons in Need of Support " (2021)

Ensuring dignified aging and providing care for older persons in need of support has become increasingly relevant. Community-based health care (CBHC) organizations play a crucial role in developing sustainable strategies for organizing and delivering care to older individuals. Digitalization is key to enhancing the efficiency and effectiveness of these organizations. This literature review examines the article "User-Centered Development of a Web Platform Supporting Community-Based Health Care Organizations for Older Persons in Need of Support: Qualitative Focus Group Study," which is part of the European Active and Assisted Living (AAL) project known as "ICareCoops." The article explores the concepts, approaches, and workflows of CBHC organizations to gain a comprehensive understanding of their services and the requirements for supporting them through information and computer technology (ICT) solutions.

One of the central aspects of the study is its commitment to a user-centered approach. By involving various stakeholders, including care receivers, their significant others, and care providers, the research recognizes the importance of considering the needs and preferences of the end users in the development of ICT solutions for CBHC organizations. This aligns with best practices in information systems development, emphasizing user engagement and co-design as critical factors for successful implementation.

The study reveals that the needs and requirements of the three stakeholder groups vary significantly. Care receivers prioritize accessibility and ease of use, emphasizing the importance of user-friendly interfaces. Significant others are concerned with the platform's ability to facilitate communication and coordination, supporting their involvement in the care process. In contrast, care providers and managers focus on the platform's ability to streamline operations, optimize resource allocation, and enhance service quality. These diverse perspectives underscore the complexity of designing a web platform that can satisfy the demands of all stakeholders.

The article "User-Centered Development of a Web Platform Supporting Community-Based Health Care Organizations for Older Persons in Need of Support" presents a comprehensive exploration of the requirements and needs of stakeholders involved in CBHC organizations. By adopting a user-centered approach and using focus groups to capture insights, the study provides valuable input for the development of web platforms that can enhance the provision of care for older individuals. The research highlights the complexity of meeting the diverse needs of care receivers, significant others, and care providers, emphasizing the importance of customization and adaptability in information system design for this domain. Furthermore, the use of user stories is a practical and effective means of translating user requirements into technical specifications, ensuring that the resulting web platform meets the expectations of all stakeholders. This study contributes to the broader field of information systems by emphasizing the importance of user engagement and user-centric design in the development of healthcare-related ICT solutions, ultimately striving for more dignified and efficient care for aging populations.

Analysis of the article "Effective Volunteerism: Helping Child Caregivers in Developing Countries - An Information System Perspective" (2016)

This literature review explores the article titled "Effective Volunteerism: Helping Child Caregivers in Developing Countries," which focuses on the application of mental health consultation to child caregivers in developing countries. The article outlines a method of volunteering that is characterized by episodic visits and the establishment of long-term relationships.

The article emphasizes the significance of the consultant's role in providing mental health consultation to child caregivers in developing countries. The consultant serves as a knowledgeable guide who imparts essential information and skills to the caregivers. This role aligns with the principles of information systems, where information is seen as a valuable resource for decision-making and problem-solving. The consultant acts as a source of information, offering guidance on effective caregiving practices, strategies to address mental health issues, and resources that can be utilized by caregivers. Their role can be likened to that of an information system that facilitates the flow of valuable information to end-users.

The article underscores the importance of establishing long-term relationships with caregivers as a key element of effective volunteerism. In the context of information systems, the development of enduring relationships is essential for the exchange of information. A long-term connection allows for the accumulation of knowledge, trust, and the transfer of information over time. This aligns with the notion of information systems that aim to create databases and repositories of knowledge for ongoing use. Moreover, maintaining long-term relationships enhances the sustainability and impact of the volunteer work, which is crucial for the effectiveness of the proposed method.

The article "Effective Volunteerism: Helping Child Caregivers in Developing Countries" offers a valuable method for mental health consultation in developing countries, focusing on episodic visits and long-term relationships with caregivers. From an information system perspective, the article's emphasis on the consultant's role, the establishment of long-term relationships, the method's adaptability in different settings, and the recognition of challenges all align with the core principles of information systems.

The proposed method exemplifies how information can be effectively harnessed to improve the well-being of neglected and traumatized children in developing countries. It highlights the importance of a well-structured and sustained approach that can be further enriched by the principles of information systems, enabling the efficient exchange of knowledge and resources to benefit child caregivers and, ultimately, the children they care for.

2. Comparative analysis

There are several platforms similar to ours that connect volunteers and organizations.

1. VolunteerMatch is an organization that connects volunteers with non-profit organizations. Volunteers can use the app to find offers tailored to their location, industry, and skills, as well as additional volunteer training resources.

2. Idealist.org is an online community that connects volunteers with community organizations. Here you can not only become a volunteer but also find job or internship offers from non-profit organizations.

3. BeMyNeighbor.org is a website that matches volunteers with elderly neighbors who need help with transportation, yard work, and socializing.

4. DoSomething.org is an organization that provides opportunities for young people who want to volunteer, address social issues, and offer prizes and scholarships for their work.

5. Catchafire.org is a website that connects volunteers with specific skills and experience to non-profit organizations.

Table 1 – "Comparative analysis"

Feature/ Aspect	Helping Hands	VolunteerMatch	Idealist.org	BeMy-Neighbor.org	DoSomething. org	Catchafire. org
User Regis-tration	Stream-lined regis-tration process	Well-established and trusted plat-form Lengthy registration process	Simple and intuitive regis-tration Limited advanced fea-tures	User-friendly registration Limited cus-tomization	Easy sign-up process Limited profile customization	User-friend-ly registra-tion Limited user custom-ization

Volunteer Search	Comprehensive search options	Extensive database of volunteer opportunities Overwhelming choice	Vast database with diverse opportunities Limited advanced search options	Easy-to-navigate search functionality Less diverse opportunities	Search based on interests Limited advanced search options	Search based on skills and interests Less diverse opportunities
Institution Profiles	Specia-lized for orpha-nages and nursing homes	Offers a wide range of organizations May lack a specialized focus	Hosts a variety of nonprofit organizations May lack a specialized focus	Broad spectrum of institutions Limited focus	Focus on social impact May lack a specialized focus	Focus on skills-based volunteering Limited focus
Secure Messaging	In-platform communication for user	In-platform messaging for ease of communication Basic messaging features	Integrated messaging for user interaction Limited advanced features	In-app chat for easy communication Limited features	Messaging for coordination Limited customization	In-platform messaging for collaboration Limited customization
Admin Panel	Efficient management and moderation	Robust admin tools for organization management Complex admin interface	Admin features for organization management Limited customization	User-friendly admin panel Limited customization	Admin tools for platform management Limited customization	Admin dashboard for managing projects Limited customization
Scalability	Built with scalability in mind for future expansion	Proven scalability and reach May experience slower growth	Expansive network and scalability Potential for information overload	Potential for growth and scaling Limited regional reach	National reach and growth potential Limited focus on specific sectors	Scalability and expansion possibilities Limited focus on skills-based volunteering
Social Impact	Focused on elderly care and children in need	Broader focus with extensive reach Less specialization	Supports various social causes May lack specific sector focus	Focus on local community engagement Less global impact	Empowers young activists Limited focus on specialized skills	Focus on skills-based volunteering May lack a broad focus

Differences for each platform:

1. VolunteerMatch has a much larger volunteer base than HelpingHands, but it is not designed specifically for orphanages and nursing homes.

2. Idealist.org offers a wider range of volunteer opportunities than HelpingHands, but it may lack the specialization and personalized support that HelpingHands offers to orphanages and nursing homes.

3. BeMyNeighbor.org is focused on connecting volunteers with elderly neighbors, and HelpingHands is focused on connecting volunteers with orphanages and nursing homes.

4. DoSomething.org is focused on empowering young people to make a difference through volunteering, while HelpingHands is focused on connecting volunteers with orphanages and nursing homes.

5. Catchafire.org connects nonprofits with qualified volunteers who can provide free services, while HelpingHands focuses on connecting volunteers with orphanages and nursing homes.

Advantages of HelpingHands over other applications:

HelpingHands is specially designed for orphanages and nursing homes. This means it can offer a more personalized and supportive experience for both volunteers and agencies. HelpingHands uses technology to make it easier for volunteers to find and contact orphanages and nursing homes. This helps increase the number of volunteers who can meet the needs of these institutions. Our platform provides a variety of tools and resources to support volunteer management. This helps children's homes and care homes make the most of their volunteer workforce. The platform also collects and analyzes data. This data can be used to improve the platform and better understand the needs of volunteers and institutions. Overall, HelpingHands is a unique and innovative platform that offers several advantages over other similar applications.

3. Survey-based preference research

A survey was conducted to collect information from volunteers and orphanages/ nursing homes about their needs and experiences with volunteering platforms. Information obtained from the survey will be used to develop the functionality and overall design of the platform.

The survey asked questions for volunteers and organizations. The questions were based on their experiences as well as what problems they encountered with their needs and what would be the most effective application for them. For volunteers, motivation has been shaped by a variety of interests in health, education, and mental health, often discovered through social media and community events. They strive for simplified discovery and secure communication, valuing HelpingHands potential features such as user-friendliness and real-time notifications.

Agencies need volunteers for health care, education, and support, and face challenges in recruiting and retaining employees. Desired platform features include robust databases, efficient matching, and administrative panels. They include increased care and a wider network of volunteers through HelpingHands. Agencies value technology platforms for increased visibility and smoother volunteer interactions.

Survey results:

According to the survey results, a significant number of volunteers are motivated by the opportunity to gain specialized experience that has a positive impact on society. Challenges often include finding suitable volunteer opportunities. Volunteers noted that it is important for a platform like HelpingHands to have features such as a user-friendly interface, advanced search capabilities, and secure communication tools. And nursing homes and orphanages are having great difficulty finding volunteers. Agencies have expressed strong support for a platform like HelpingHands, noting the potential benefits of streamlined volunteer recruitment and management. Key features that agencies find valuable include a user-friendly dashboard, volunteer candidate management tools, and secure communication channels.

Problem statements

Research tasks for the Helping Hands application represent a variety of research areas necessary for more effective development and improvement of the platform.

The first task is related to understanding the specific needs of orphanages and nursing homes. This includes research to determine what types of help and support these institutions need. Such an analysis will help to identify where volunteer assistance can have the greatest effect and which areas require special attention.

Another area of research is the study of motivation and preferences of volunteers. We plan to understand what motivates people to join the volunteering program and what types of help or time they are willing to provide. This will allow us to more accurately adapt the offers for volunteers and make the participation process more attractive.

Our task is also to analyze technological needs. We want to study the existing technological solutions in the field of volunteering and their effectiveness. This will allow us to determine how to improve the accessibility and usability of our platform for volunteers and organizations.

These are just some of the aspects that we plan to explore within the framework of the Helping Hands project. These tasks will help us create more effective strategies for involving volunteers and improving the functioning of the platform aimed at supporting vulnerable groups of society.

As part of the research for the Helping Hands project, a number of hypotheses and proposed solutions are proposed aimed at improving the operation of the application and involving more volunteers and institutions.

The first hypothesis is the need for a deeper understanding of the needs of orphanages and nursing homes. To do this, it is planned to conduct a series of interviews with the heads of these institutions in order to identify specific areas where volunteer assistance will be most useful and meaningful. This will allow us to focus our efforts on providing the most valuable services.

The second hypothesis suggests that the motivation of volunteers plays a key role in their participation. It is planned to organize focus groups and conduct surveys for volunteers in order to identify their main incentives and preferences in choosing types of assistance. This will help to adapt the volunteering program, making it more attractive to potential participants.

The third hypothesis is related to the study of existing technologies and platforms in the field of volunteering. The analysis will determine which solutions already exist and identify their advantages and disadvantages. This will help to create a more convenient and effective "Helping Hands" platform.

The fourth hypothesis assumes that the collection and analysis of data on user experience and the effectiveness of the platform will identify areas for improvement. It is planned to analyze the data to assess the impact of the application on user satisfaction and the quality of services provided.

Solutions to confirm these hypotheses include conducting interviews and surveys with the management of institutions, focus groups for volunteers, as well as analyzing technological solutions on the market. In addition, it is supposed to collect data on user

experience to analyze their impact on the effectiveness of the platform. These steps will be useful to identify the most effective strategies for improving the app and attracting more volunteers and institutions.

Application architecture logic

Deployment diagram:

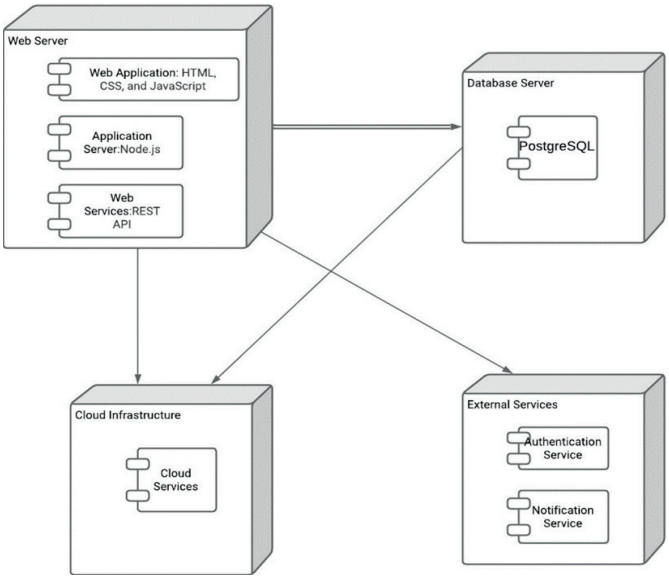

Figure 2 - "Deployment diagram"

Component diagram:

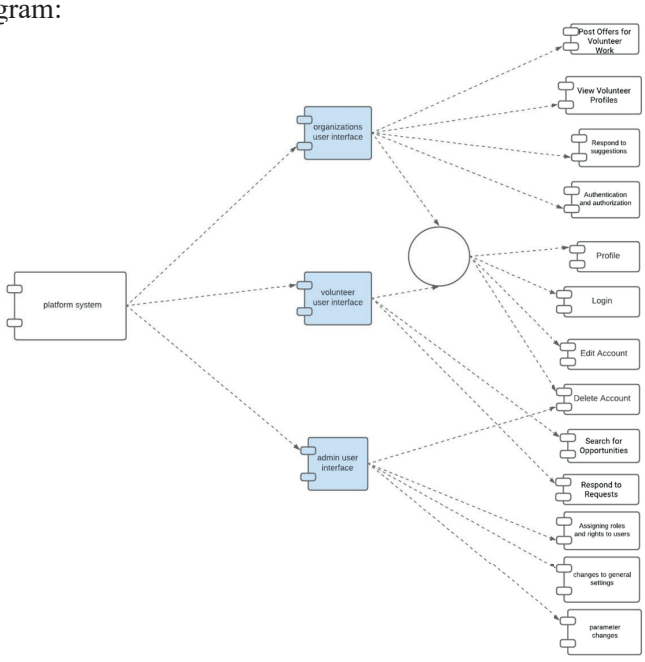

Figure 3 - "Component diagram"

Main features of the application

The main features of the HelpHands app include the following:

User Profiles: Users can create and manage profiles using personal information, skills, and qualifications.

Volunteer Search: The platform offers robust search functions that allow volunteers to find suitable positions based on location, experience, and availability.

Facility Profiles: Children's homes and nursing homes can create profiles to publish their needs, preferences, and requirements.

Admin Panel: The application includes an admin panel for efficient management, moderation, and control.

Scalability: The HelpingHands app is designed with scalability in mind, allowing it to potentially expand to other regions and service categories in the future.

Confirmation of research results

Based on surveys and interviews with potential volunteers, orphanages and nursing homes, as well as organizations, we have confirmed that there is a significant demand for such an application. There is a need to develop and launch the "Helping Hands" application to connect volunteers with organizations and places that require volunteer help.

Basic needs of volunteers: The study revealed that volunteers are looking for volunteering opportunities that match their skills, interests and specialization. The application should provide tools for personalized search and selection of volunteer activities.

Needs of orphanages and nursing homes: Orphanages and nursing homes have expressed a need for volunteers with specific skills and experience, such as medical services, psychological support and educational activities. The application should provide an opportunity for organizations to place requests for volunteer assistance with specific requirements.

The analysis of competitors showed that there are other platforms and applications for volunteering, but they may not fully meet the needs of the target audience. There is a potential to improve and add functionality to make the "Helping Hands" application more attractive and user-friendly.

During the study, it became clear that both volunteers and organizations value security and trust when working with the application. When developing an application, special attention should be paid to the aspects of security and user identification. Organizations and volunteers expressed expectations from the application related to convenience, efficiency and ease of use. The application should be intuitive and provide useful tools for organizing and searching for volunteer activities.

In general, the "Helping Hands" application has the potential to become a valuable resource for volunteers and organizations, the application provides an effective solution to the needs and problems of your audience and provides convenience and security for all users.

Conclusion

The HelpingHands platform is an innovative solution aimed at improving communication and collaboration between volunteers and institutions, in particular

orphanages and nursing homes. This platform aims to enable seamless interaction between volunteers and organizations, thereby facilitating more effective coordination of volunteer work and ultimately improving the quality of care and support offered to those in need.

Key results:

Building bridges: Research highlights the urgent need to improve interactions between volunteers and agencies, which is vital for a strong volunteer network that supports social causes.

Development goals: The project was aimed at creating HelpingHands, a specialized digital system connecting volunteers with orphanages and nursing homes, optimizing staffing, and improving the quality of care.

Research results: literature review, comparative analysis, and surveys provided key information on the needs of volunteers and institutions. The results highlighted the need for a dedicated, user-friendly platform.

Problem Statements and Hypotheses: Research objectives focus on understanding institutional needs, volunteer motivation, technology requirements, and user experience. Hypotheses focused on institutional understanding, volunteer motivation, technology analysis, and data-driven improvements.

Application Architecture: HelpingHands includes user profiles, robust volunteer matching, facility profiles, admin panels, and scalability for future expansion.

Research Validation: Surveys and interviews confirmed the demand for HelpingHands. The findings emphasized personalized searches, secure communications, and user-friendly tools for volunteers and agencies.

Future directions:

The development and launch of the HelpingHands app will address the specific needs of volunteers and agencies, offering tools for personalized volunteer searches and requests.

Continuous improvement and additional functionality must be considered to enhance the appeal and usability of the application.

Focusing on safety, trust, convenience, and efficiency is critical for both volunteers and organizations when using the app.

At its core, the HelpingHands app is a potentially valuable resource that effectively addresses the needs and concerns of its audience while providing convenience and safety for all users.

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