

Modeling a technical solution for finding housing during the period of martial law in Ukraine

Polianskyi Vladyslav Oleksandrovykh, Lecturer
ORCID ID 0000-0001-7178-2132

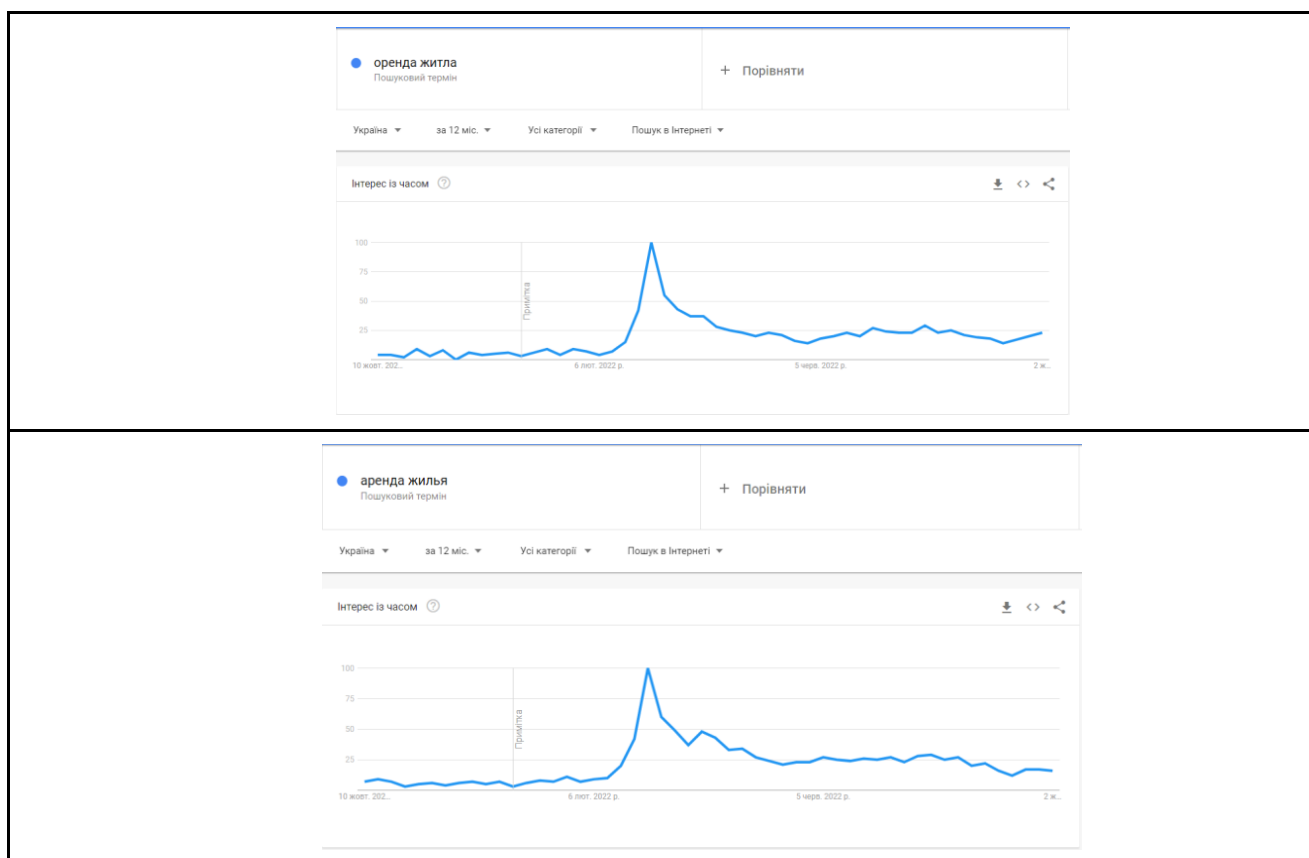
Simon Kuznets Kharkiv National University of Economics
e-mail: vladislav.polya94@gmail.com

Lohvynov Oleksii Ihorovych, Senior Developer
Software engineering firm «DataArt»
e-mail: alexcorporation10@gmail.com

Due to full-scale military operations in 2022, the typical way of life of all citizens on the territory of Ukraine changed dramatically. Issues related to migration processes, which became a reflection of security problems, were on the agenda. Many Ukrainian citizens were forced to leave their homes and become external or internal migrants.

These processes became challenges for the authors of the work, who experienced difficult structural changes on their own experience. Due to the imperfection of current technical solutions, the search for a new home has become a long-term and ineffective process for us. The experience was the basis for formation and implementation of a practical idea and technical solution for a convenient and quick search for housing in Ukraine.

First of all, we assessed the demand for information on housing search. For this purpose, the Google Trends tool was used and an analysis of the key queries - "house rent", "apartment rent" in Ukrainian and Russian languages was carried out. The results shown in Fig. 1, confirmed our opinion about the rapid growth of demand for housing in safe regions of Ukraine.



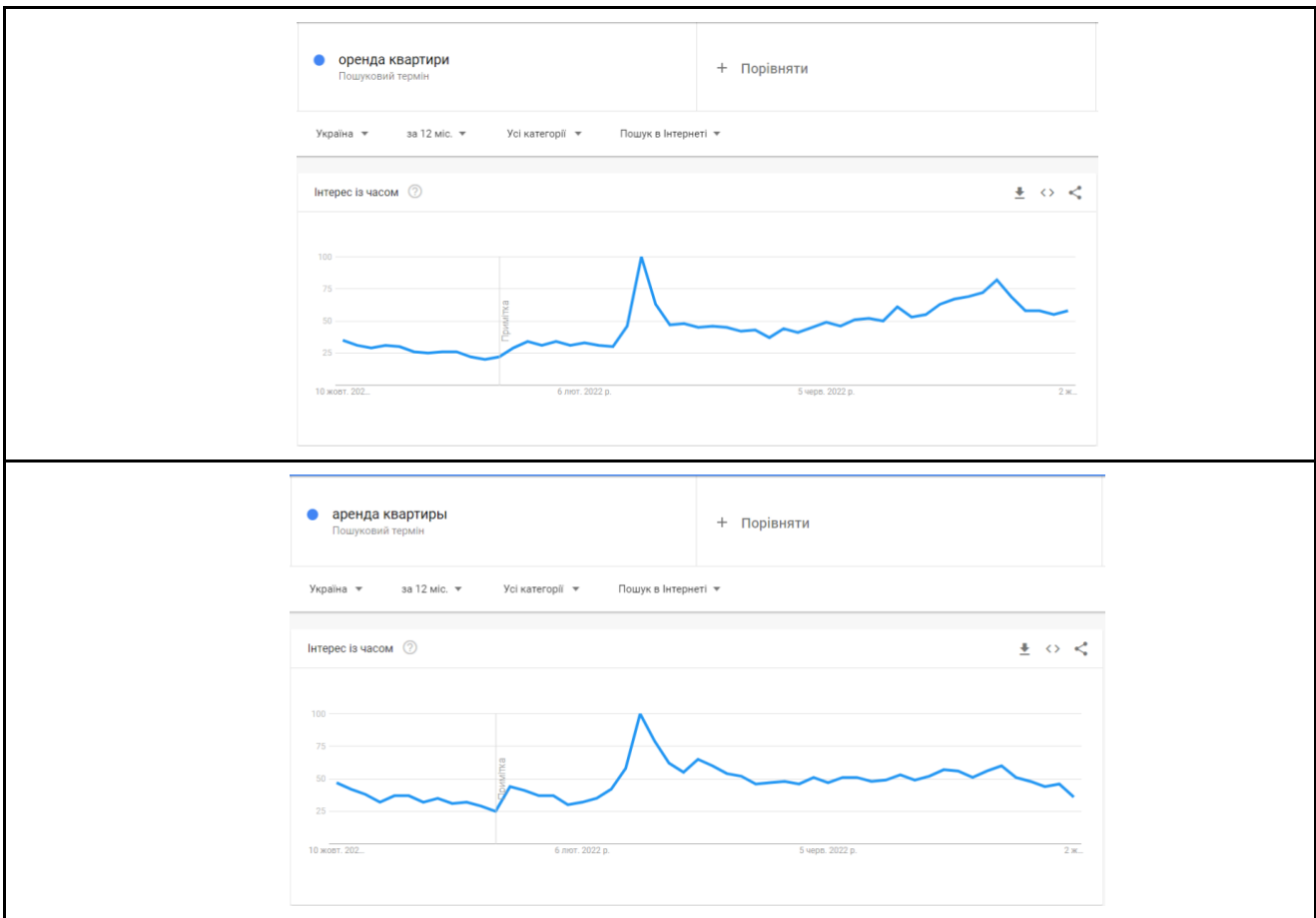


Fig. 1. Dynamics of the popularity of typical housing search queries for the period October 2021 - September 2022. Source: Google Trends [1]

Next, we faced the question of where people would be able to use our product. We took as a basis the results of the study [2] and realized that the majority of people in Ukraine use Telegram application.

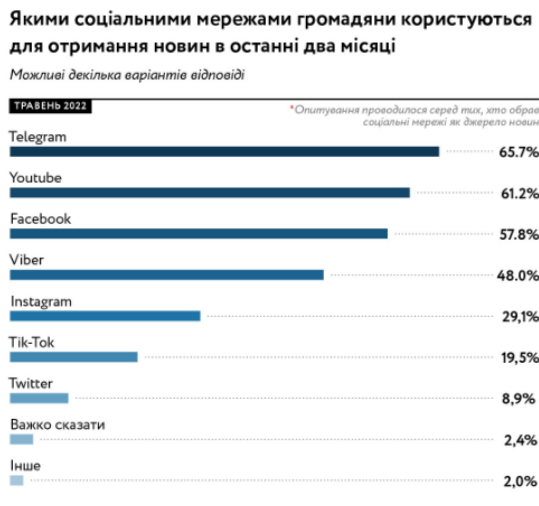


Fig. 2. Statistics of the social networks/messengers in Ukraine at the beginning of the war. Source: oporaua.org [2]

Taking this information into account, we decided to build a Telegram bot model as an effective housing search mechanism in Ukraine.

We outlined the purpose of our application, which allows users to instantly respond to the publication of ads for housing rent in various locations of Ukraine for free and with minimal settings. The bot provides structured information about rental opportunities; the user instantly receives data on new ads according to the specified parameters, which increases the probability of renting the best option, ahead of other searchers without a technical solution.

The final basis was the bot <https://t.me/FindPropertyBot>.

It is designed for short-term or long-term housing search. At the initial launch, users select the city, type of rental and other filters (by budget or specifies keywords such as "with children", "with animals") and start a search that finds suitable options for the given characteristics. It is important that when a new option of an apartment with relevant parameters appears on the Internet, users will receive a notification and they will be able to react promptly.

A significant advantage of this bot is its absorbing characteristics of many sources. So a potential home seeker no longer needs to search for information about new apartments. The bot does everything automatically.

Also, the bot is absolutely free.

The first results of work - for the period May-September 2022, more than 15 thousand people used the bot for their own purposes. The number of unique ads that have already passed through the bot database for the period May-September 2022 - more than 250 thousand ads.

The bot covered almost all of Ukraine - it's 21 regions, where separate cities are selected for search in each region. The bot does not work in Donetsk, Luhansk, Kherson, part of Zaporizhzhya regions and Crimea. The detailed geography of housing search in the bot is presented in Fig. 3.



Fig. 3. @FindPropertyBot application geography (October 2022). *Source: author's development*

So, @FindPropertyBot has become a simple, effective and timely solution for finding housing in Ukraine. It has already been evaluated by several thousand users, this technical innovation is an effective, multimedia application.

References:

1. *Google Тренди*. Trends.google.com.ua. Retrieved November 18, 2023, from <https://trends.google.com.ua>
2. *Медіаспоживання українців в умовах повномасштабної війни. Опитування ОПОРИ*. ОПОРА - Громадянська мережа - вибори в Україні - Election in Ukraine. Retrieved November 18, 2023, from https://oporaua.org/report/polit_ad/24068-mediaspozhyvannia-ukrayintsiv-v-umovakh-povnomasshtabnoyi-viini-opituvannia-opori