

# e-Tourism Cloud app – “Kharkov by our eyes”

Vladimir Sayenko, Yuliia Neczyporuk

Kharkiv National University of Radio Electronics (KhNURE)

Kharkiv, Ukraine

visank@gmail.com, yuliia.neczyporuk@nure.ua

**Abstract**—A cloud app “Kharkov by our eyes” is suggested. It is a simple service of e-Tourism category. It allows getting information about interesting places of the city and getting a collection of beautiful photos from the Internet community.

## I. INTRODUCTION

e-Tourism is a requested service at the digital information services market. Nowadays there is a huge number of different apps for this area. The app can be presented as a set of simple web pages or as a complicated smart service. The detailed overview of such solutions is shown in [1, 2]. There were several key questions for developing and using such services.

The first question is related to complexity and intellectualization of service (smart service). In our opinion the service shouldn't be complex. It seems to us almost all recent IT technologies have already been tested and developed [3, 4, 7]. But at the same time some such modern smart system becomes as a “thing-in-itself” and has a small area of customers. So what's the problem? The problem is because of requirements for complex technologies and high capacity Internet channel.

Yes, we live in the 21<sup>st</sup> century, but available resources and required modern resources are often correlated as 80/20. If a user has outdated smartphone model or Internet connection is unsatisfactory, then a smart system operate slowly or even doesn't operate. Currently, the situation with outdated smartphones and poor throughput is frequent. Thus, the choice of simple solutions in developing of such information services is fully grounded.

The second question is a service placement. On which provider's platform is it to be placed? A ordinary hosting requires costs (if it is paid) or overloaded with advertising if it is free. A performance power of the basic hosting servers is often poor too. Very often accesses to such web resources depend on the user's localization. Today the ideal solution for the accessing is the choice of Cloud space and resources. Considering, that we have free access to IBM Cloud Bluemix, our application was placed there.

The third question – what's a new tourist service could be offer on the server? The subject of the paper is a continuation of the work is presented in [3]. In [3] the service solution allows any citizen of the city to post information about their own wonderful place. It is interesting from the point of view of those who live in the city. One more interesting thing is the publication of the beautiful views of the city or region. But if we use only our own photos, then the information becomes

dead because it will be unchangeable. A user likes dynamics of such information. In the same time, there are many photos, which are taken by citizens. It can be sufficiently beautiful photos and often they are posted for friends in social networks. We propose to publish such photos on our site, that's why we called it “Kharkov by our eyes”. This idea isn't new. This is successfully done on Google map, but our solution is composed to localize such photos and group them (systematize) on topics. And also we indicate the author, place and time. The author's link is saved too. Such approach stimulates users in the formation of the gallery. As a result, the simple, interesting application with general access is suggested.

## II. MAIN PART

The app is made as a simple web-service by use JAVA programming language and uses servlets. The servlets helps to respond the users' actions and redirect to requested pages.

The logic architecture includes user interface, main body, interactive content, gallery content. The user interface is implemented by use JSP (Java Server Pages) technology. JSP is a part of the J2EE platform and is a convenient way of generating dynamic content in pages that are output by a Web app [5].

Interactive content includes gallery and a panel for placing a link in a social network. This content is created by use Bootstrap – free set of tools for creating websites and web applications [6].

To store and update the content of the gallery a relational database MySQL was used. It supports fast responses to users requests. To provide fast loading of images in the gallery, AJAX was used. Due to this approach in updating data, the web page does not restart completely, but only the requested field changes. Also, photos from the gallery were converted from the format .png to .jpeg. This significantly decreased the weight of images (in 2-3 times), that had a positive impact on page loading time.

The app is a pilot version and has some restrictions for mobile usage. The scaling functions are in developing so some smartpfone browsers have restrictions to view gallery content.

The main page of web-application is shown at Fig. 1. Each window has a link to the next page. A user can see thumbnails of images presented in the different topics (sights of the city) of the gallery.



Fig.1. The main window of the web application.

When clicking the link, the user sees the page with photos and a general description of sight (Fig. 2). Under the description, the source of information is indicated. To view the image in full format, it is necessary to click on it to open the gallery.



Fig.2. The page of one the topic of the gallery (Square “Strelka” window).

If the user wants to share the link in a social network, he can use the panel “Share with”, which is located on the left of each page (Fig. 3).

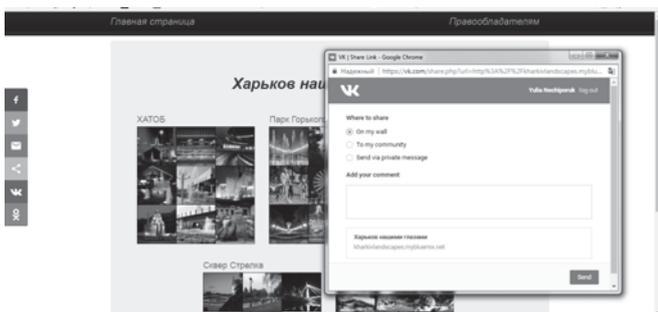


Fig. 3. “Share with” page.

The example of the link to the social network is shown at Fig. 4.

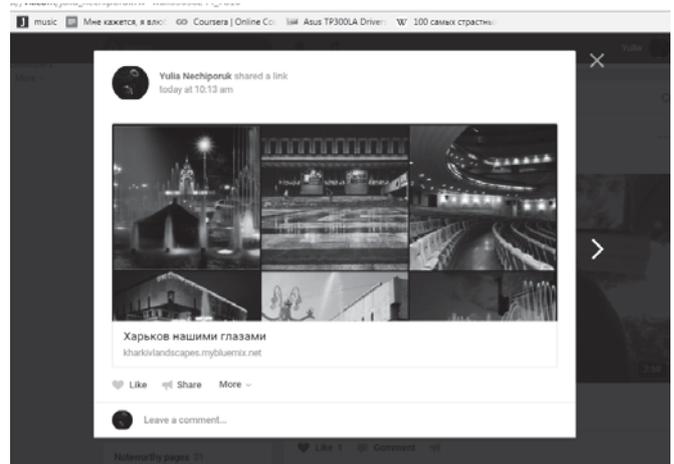


Fig. 4. “Link on the web-app” window.

### III. CONCLUSION

It can be concluded, that the application “Kharkov by our eyes” is a good tourist assistant. A special point is that the supplement of the system can be completely free for any user, although the result is moderated.

This application is interesting for using in social networks too. And this task is the direction of further development.

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